

El Cerrito

## TECHNICAL ADVISORY COMMITTEE MEETING NOTICE & AGENDA

Hercules

**DATE & TIME:** Thursday, April 13, 2023 • 9:00 AM – 10:20 AM

**LOCATION:** WCCTAC Offices • 6333 Potrero Ave. at San Pablo Avenue, El Cerrito, CA 94530

**TRANSIT OPTIONS:** Accessible by AC Transit #72, #72R, #72M & El Cerrito del Norte BART Station

Pinole

1. **CALL TO ORDER and MEMBER ROLL CALL**

*Estimated Time\*:* 9:00 AM, (5 minutes)

2. **PUBLIC COMMENT**

*Estimated Time\*:* 9:05 AM, (5 minutes)

Richmond

*The public is welcome to address the TAC on any item that is not listed on the agenda. Please fill out a speaker card and hand it to staff. Please limit your comments to 3 minutes. Pursuant to provisions of the Brown Act, no action may be taken on a matter unless it is listed on the agenda, or unless certain emergency or special circumstances exist. The WCCTAC TAC may direct staff to investigate and/or schedule certain matters for consideration at a future TAC meeting.*

San Pablo

3. **CONSENT CALENDAR**

*Estimated Time\*:* 9:10 AM, (5 minutes)

**A. Minutes from March 9, 2023, meeting**

*Recommendation:* Approve as presented

*Attachment:* Yes

Contra Costa  
County

**B. Annual STMP Fee Adjustment for FY 2023-2024**

Per the STMP Master Cooperative Agreement, STMP fees are adjusted each year to account for inflation. The fee adjustment goes into effect on July 1. TAC members are responsible for distributing the adjusted fees to appropriate staff and ensuring they are incorporated into each participating agencies fee schedule. WCCTAC staff annually shares this information with the WCCTAC Board for information purposes and provides it to the TAC.

*Recommendation:* Information with TAC member assistance with implementation requested

AC Transit

BART

*Attachment:* Yes, Draft April 28, 2023, WCCTAC Board staff report regarding FY 23-24 STMP Fee Adjustment

4. **STANDING ITEMS**

**A. Technical Coordinating Committee (TCC) Report**

*Description:* TCC representatives will report on the last TCC meeting. 1.) Yvetteh Ortiz, Alan Panganiban and Leah Greenblat are serving as TCC representatives with Mike Roberts and

WestCAT

John Nemeth serving as alternates. Ortiz's and Greenblat's terms have expired but could serve again. The TAC will be asked to nominate and recommend two appointees for the WCCTAC Board to consider and make the formal appointments. 2.) The CCTA will be holding a STIP Call for Projects and at the TCC meeting CCTA staff asked TCC members and/or WCC-TAC TAC members for two volunteers from each RTPC to serve on the review committee. The committee will meet in mid-to late June for one day; no additional work is anticipated. TCC member Panganiban has volunteered, and one additional West County representative is needed.

*Recommendation:* 1.) Seek nominations and forward a recommendation to the WCCTAC Board recommending the appointment of two TCC representatives. 2.) Seek one additional volunteer to serve on a STIP application review committee.

*Attachment:* No

*Presenter/Lead Staff:* WCCTAC's TCC Representatives & WCCTAC Staff

*Estimated Time\*:* **9:15 AM** (10 minutes)

#### **B. Staff and TAC Member Announcements**

*Description:* TAC members or WCCTAC staff can make comments or announcements.

*Recommendation:* Receive update.

*Attachment:* No

*Presenter/Lead Staff:* WCCTAC Staff and TAC Members

*Estimated Time\*:* **9:25 AM** (5 minutes)

### **5. REGULAR AGENDA ITEMS**

#### **A. STMP Cycle 2 Call for Projects**

*Description:* The WCCTAC Board authorized a \$5.3M STMP Call for Projects and directed WCCTAC staff to answer TAC questions, review the scoring criteria with the TAC and develop a schedule with the TAC.

*Recommendation:* Provide feedback as needed.

*Attachments:* Yes, staff report

*Presenter/Lead Staff:* Leah Greenblat, WCCTAC Staff

*Estimated Time\*:* **9:30 AM**, (30 minutes)

#### **B. I-80 Design Alternatives Assessment Meeting Follow-up**

*Description:* On March 30, MTC held its fifth and final TAC meeting for the I-80 DAA. This agenda item is intended to provide WCCTAC TAC members an opportunity to discuss and identify any follow-up items from the MTC meeting.

*Recommendation:* Discuss I-80 DAA study outcomes and possible next steps.

*Attachments:* No

*Presenter/Lead Staff:* Leah Greenblat, WCCTAC Staff

*Estimated Time\*:* **10:00 AM**, (10 minutes)

**C. Bike to Work Day and Summer Bike Challenge**

*Description:* WCCTAC staff will give an update about Bike to Work Day (Thursday, May 18) and the Summer Bike Challenge, which will provide family biking events in every city in Contra Costa this summer.

*Recommendation:* Information only

*Attachments:* No.

*Presenter/Lead Staff:* Coire Reilly, WCCTAC Staff

*Estimated Time\*:* **10:10 AM**, (10 minutes)

**6. ADJOURNMENT**

*Description / Recommendation:* Adjourn to the next regular meeting of the TAC on Thursday, May 11, 2023. The next meeting of the WCCTAC Board is Friday, April 28, 2023.

*Estimated Time\*:* **10:20 AM**

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- In compliance with the Americans with Disabilities Act of 1990, if you need special assistance to participate in the WCCTAC TAC meeting, or if you need a copy of the agenda and/or agenda packet materials in an alternative format, please contact Valerie Jenkins at 510.210.5930 prior to the meeting.
- If you have special transportation requirements and would like to attend the meeting, please call the phone number above at least 48 hours in advance to make arrangements.
- Handouts provided at the meeting are available upon request and may also be viewed at WCC-TAC's office.
- Please refrain from wearing scented products to the meeting, as there may be attendees susceptible to environmental illnesses. Please also put cellular phones on silent mode during the meeting.
- A meeting sign-in sheet will be circulated at the meeting. Sign-in is optional.

El Cerrito

Hercules

Pinole

Richmond

San Pablo

Contra Costa  
County

AC Transit

BART

WestCAT

**WCCTAC TAC Meeting Action Minutes**

**MEETING DATE:** March 9, 2023

**MEMBERS PRESENT:** Robert Sarmiento, Contra Costa County; Allan Panganiban, San Pablo; Nathan Landau, AC Transit; Mike Roberts, Hercules; Denee Evans, Richmond

**GUESTS:** Jarrett Mullen (El Cerrito)

**STAFF PRESENT:** John Nemeth, Coire Reilly, Leah Greenblat, Joanna Pallock

**ACTIONS LISTED BY:** WCCTAC Staff

ITEM	ITEM/DISCUSSION	ACTION/SUMMARY
1.	Call to Order	The meeting was called to order at 9:01 AM
2.	Public Comment	None.
3.	Consent Calendar: A. Minutes from January 12, 2022, Meeting.	Denee Evans moved, and Nathan Landau seconded, and the TAC unanimously approved the Consent Calendar.
<b>Regular Agenda Items</b>		
4A.	Proposed Amendments to the WCCTAC Joint Powers Agreement	John Nemeth, WCCTAC staff, provided background information on the origin of the proposed amendments to the Joint Powers Agreement. The proposed changes include updating references to Measure J and positions at WCCTAC, changing the name of WCCTAC and removing the sentence prohibiting WCCTAC Directors from being compensated. TAC members raised concerns about the fiscal impacts to member agencies if stipends were to be offered. In terms of process, the TAC recommended sending a draft to the city managers/Administrators and legal counsels asking for feedback prior to finalizing the draft

ITEM	ITEM/DISCUSSION	ACTION/SUMMARY
		JPA and circulating it to elected officials for Council/Board vote. TAC members recommended including information in a staff report to the Board about what other RTPCs do in terms of compensation, what are the practices of member agencies and how a WCCTAC stipend would be funded. TAC members also suggested possible new names for WCCTAC.
4B.	Update on San Pablo Avenue Multimodal Corridor Study Phase 2 and Tempo Bus Rapid Transit Tour	Leah Greenblat, WCCCTAC staff, explained that staff recently learned of an MTC Parking Grant and was reviewing whether was a potential funding source to advance SPA Ph. 2 recommendations.
4C.	Request by Chevron to Appeal Payment of STMP Fee	Leah Greenblat, WCCTAC staff shared that WCCTAC had received communication from Chevron regarding payment of STMP fees. WCCTAC responded with an explanatory letter is awaiting a response to determine if an appeal needs to be agendized before the WCCTAC Board.
<b>Standing Items:</b>		
5A.	Technical Coordinating Committee Report	There was no TCC meeting.
5B.	Staff and TAC Member Announcements	<p>Jarrett Mullen shared that El Cerrito was conducting a poll asking residents about funding a library near the El Cerrito Plaza. He also said that El Cerrito was working on an east-west bicycle facility corridor study between BART and the Bay Trail. Additionally, along with BART they are studying strategies to create a transportation management association.</p> <p>Denee Evans shared that Richmond and MCE are identifying brown fields to clean up and build electric charging stations.</p>
6.	Adjournment	The meeting adjourned at 11:01 AM.

**TO:** WCCTAC Board

**MEETING DATE:** April 28, 2023

**FR:** Leah Greenblat, Transportation Planning Manager

**RE:** FY 23-24 Annual STMP Fee Adjustment

**REQUESTED ACTION**

Information only.

**BACKGROUND AND DISCUSSION**

The 2019 STMP Update became effective on July 1, 2019. The Master Cooperative Agreement, signed by all partner agencies, specifies an automatic annual fee adjustment so that the fees keep up with construction related inflation. The agreement specifies that the fee adjustment is based on the Engineering News Record’s February San Francisco Bay Area Construction Cost Index that covers the prior twelve months. This year that rate was 7.1%. (By comparison, if the January 2023 rate was used, the adjustment would be 8.4%.) WCCTAC staff is in the process of notifying partner agencies of this impending annual fee adjustment, which becomes effective July 1, 2023, so it may be incorporated into their local fee schedules.

Given the on-going state of inflation, this year’s fee increase is on par with last year’s adjustment which was 9.8%. It should be noted that Engineering New Record’s Bay Area Construction Cost Index is a tool commonly used by jurisdictions to make annual fee adjustments. The implementation of a different fee increase would require all six member jurisdictions to amend the Master Cooperative Agreement and related ordinances.

The FY 22-23 and FY 23-24 STMP fees are shown below.

FY 22-23 STMP Fee Rate		
Type of Fee	STMP Fee per Unit	STMP Fee per Square ft.
Single Family	\$ 6,458	
Multi Family	\$ 3,181	
Senior Housing	\$ 1,744	
Hotel (per room)	\$ 4,133	
Storage Facility		\$ 0.90
Retail / Service		\$ 7.82
Industrial		\$ 6.60
Office		\$ 10.35
Other (per AM pk hr trip)	\$ 8,727	

FY 23-24 STMP Fee Rate		
Type of Fee	STMP Fee per Unit	STMP Fee per Square ft.
Single Family	\$ 6,916	
Multi Family	\$ 3,407	
Senior Housing	\$ 1,868	
Hotel (per room)	\$ 4,426	
Storage Facility		\$ 0.97
Retail / Service		\$ 8.38
Industrial		\$ 7.07
Office		\$ 11.09
Other (per AM pk hr trip)	\$ 9,346	

The STMP Quarterly Reporting form for FY 23-24 is included as an attachment. Local agency staff should begin using this version to report STMP fees after July 1, 2023.

**ATTACHMENT**

A. FY 2023-2024 STMP Quarterly Reporting Form

**West County Subregional Transportation Mitigation Program (STMP) Developer Fees  
 JURISDICTIONS' QUARTERLY TRANSMITTAL REPORT FORM for FY 2023-24**

Jurisdictions are required to submit this completed form to WCCTAC no later than 30 days following the close of each calendar quarter; whether or not there are fees to submit, continuing through the life of the Master Cooperative Agreement.

**Check Appropriate Box:**

All sections of the report must be completed.  
 Attach check, payable to WCCTAC, to this report.  
 Submit check and completed transmittal report to:  
 WCCTAC  
 6333 Potrero Ave., Suite 100  
 El Cerrito, CA 94530

**Fiscal Year:** \_\_\_\_\_  
**Reporting Period:**

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FY Q1	FY Q2	FY Q3	FY Q4
July-Sept	Oct-Dec	Jan-Mar	Apr-June
31-Oct	30-Jan	30-Apr	31-Jul

**Fee Submittal Due Date:**

**Jurisdiction's Name:**

**Contact Name:**

**Contact Email:**

**No development to report this period. OR Notes:**

Insert below the # of Units or # of Sq. Ft. to calculate the amnt. of fee collected.  
 List each project or project component separately. Add rows as needed.

Type of Fee	Project Address	Development Name	STMP Fee per Unit	STMP Fee per Square ft.	Total # Units or Sq. Ft.	STMP \$ Collected
Single Family			\$ 6,916			\$ -
Multi Family			\$ 3,407			\$ -
Senior Housing			\$ 1,868			\$ -
Hotel (per room)			\$ 4,426			\$ -
Storage Facility				\$ 0.97		\$ -
Retail / Service				\$ 8.38		\$ -
Industrial				\$ 7.07		\$ -
Office				\$ 11.09		\$ -
Other (per AM pk hr trip)			\$ 9,346			\$ -
<b>TOTAL FEES COLLECTED:</b>						\$ -

This should be the amount of your check to WCCTAC. 

**If a jurisdiction is collecting STMP fees for a development application at a rate different than what is currently in effect, provide on the following page the name and address of each development and which reason applies:**

- A. The development project is subject to a development agreement executed on \_\_\_\_\_;
- B. The development submitted a vesting tentative map that was approved on \_\_\_\_\_;
- C. Other (explain legal basis for development not paying current adopted rates; n.b., a development application submitted in a prior year alone is an insufficient explanation) \_\_\_\_\_.

**During the reporting period, has your agency granted:**

- |  |                              |                             |
|--|------------------------------|-----------------------------|
| 1. STMP Fee Credits to any development?            | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 2. STMP Fee Waivers/Exemptions to any development? | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

**If yes to either of the above, please respond to the questions on the next page.**

**If STMP Credits were granted, for each development complete the questions below:**

1. What is the name and address of the development project receiving the credit?
2. What was the dollar value of the credit?
3. Which of the 20 STMP Projects was the credit used for?
4. What elements of the STMP project were completed with the credited funds?

**If Waivers/Exemptions of STMP Fees were granted, for each development, complete the questions below:**

1. Were all other local fees waived/exempted for the development project?  Yes  No
2. Briefly explain why the development project's STMP fee was waived/exempted?

*Respond to Different Fee Rates/Credit and Waiver/Exemption Questions here:*

**TO:** WCCTAC TAC

**MEETING DATE:** April 13, 2023

**FR:** John Nemeth, Executive Director

**RE:** **STMP Call for Projects – Refinement**

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### **REQUESTED ACTION**

Provide feedback to WCCTAC staff on the design of the STMP Call for Projects, including its parameters, schedule, and evaluation criteria.

### **BACKGROUND AND DISCUSSION**

On March 24, 2023, the WCCTAC Board approved the Cycle 2 Call for Projects for the 2019 STMP Update. It authorized staff to make \$5,300,000 available, leaving remaining funds for other commitments. The Board also endorsed staff's recommendation to work with the WCCTAC TAC to refine the details of the Call for Projects before releasing it officially.

#### **Eligibility and Applications**

The projects eligible for STMP funding are those that are included in the 2019 STMP Project List (attached) and supported by the 2019 Nexus Study. Project development activities related to these capital projects, such as planning, design, and environmental review, are eligible for funding. Projects that have an existing STMP allocation that has not been fully spent are also eligible for funding. The project list shows the maximum amount of funding that can be allocated to each project, which provides an upper limit on total funding. Additionally, the cities and County need to be current with their reporting forms and payments to be eligible to receive funds.

In Cycle 1, the TAC decided that there should be a maximum of two applications per sponsor. Additionally, in Cycle 1, the TAC set the maximum grant request at 50% of the total funds available which, in this cycle, would mean a maximum request of \$2.65M. The TAC will need to determine if each of these two parameters should apply in Cycle 2.

#### **Schedule**

Staff is also seeking TAC input on the funding application due date. There is not sufficient time for the TAC to evaluate funding proposals at its May 11, 2023, TAC meeting, given the need for project sponsors to deliberate internally and complete applications, and the need for WCCTAC staff to evaluate proposals and produce an agenda packet a week before the meeting. Staff believes that the TAC could review applications at its June 8, 2023 meeting if there was a May 24 funding applications deadline. Alternatively, the TAC could set a later submittal deadline. The table on the following page describes three options.

	Option 1	Option 2	Option 3
Applications Due	May 24, 2023	May 28, 2023	Sept 27, 2023
WCCTAC Staff Evaluation	May 24 – June 1	May 28 -July 7	Sep 27-Oct 6
TAC Recommendation	June 8, 2023	July 13, 2023	Oct 12, 2023
Board Decision	June 23, 2023	July 28, 2023	Oct 27, 2023

### **Evaluation Criteria Background**

Once applications are submitted to WCCTAC, staff will score each proposal using criteria established by the TAC. The scores will allow staff to create an initial project ranking. The rankings do not determine the TAC’s recommendation but provide a starting point for a TAC discussion at an upcoming meeting. The TAC review of funding applications will aim to develop a consensus recommendation for the WCCTAC Board.

Staff is seeking the TAC’s guidance on the evaluation criteria to use for scoring in Cycle 2. In Cycle 1, the TAC had five criteria and a maximum of 30 points that could be awarded to each project. These criteria are described in more detail below. Additionally, the TAC could include criteria that were used in the 2006 STMP Program. Those are described further down in this report. The TAC can recommend that WCCTAC staff use any, some, or all these criteria from Cycle 1 and from previous funding rounds. The TAC could also create new criteria and/or adjust the amount of points assigned to the criteria.

### **Cycle 1 Scoring Criteria**

<b>Scoring Criteria for Cycle 1 2019 STMP Update Call for Projects:</b>	
<b>Criteria</b>	<b>Max. Points</b>
Readiness to spend STMP dollars. <i>(earlier spending scores higher).</i>	10
Readiness to construct. <i>(projects closer to construction score higher).</i>	5
Share of the funding gap. <i>(STMP fully closing a gap scores higher than partially closing a gap).</i>	5
Serves a disadvantaged community.	5
Improves subregional alternative mode network.	5

#### **Readiness to Spend STMP Funds (10 points)**

With this criterion, nearer term spending scores better than longer term spending. In Cycle 1, the projects that could spend STMP funds within the next six months received 10 points. One less point was awarded for each additional six months in the future that a project could spend funds.

#### **Readiness to Construct (5 points)**

In Cycle 1, WCCTAC staff assigned points for this criterion based on when construction was anticipated to start. For projects where construction was expected to start within a year, five points were awarded. One less point was awarded for each additional year in the future that construction would begin. If there was no known start date, or the applicant did not provide an estimate, staff assigned one point.

### Share of the Funding Gap (5 points)

Points were assigned for this criterion based on how much the STMP funding request closed a funding gap to implement a project or phase of a project. The greater the share of the funding gap closed by the request, the higher the score. In Cycle 1, five points were awarded if the STMP funding covered 100% of the funding gap, 4 points if it closed over 75%, 3 points for closing over 50%, 2 points for closing over 25%, and 1 point for less than 25% of the gap.

### Disadvantaged Community (5 points)

With this criterion, five points were awarded for projects located inside an MTC-defined Community of Concern, 4 points for projects located adjacent to a Community of Concern (at the higher tier of concern), 3 points for projects located adjacent to a Community of Concern (but not at the highest tier of concern), 2 points for a project located within a mile of a Community of Concern, and 1 point for a project local more than a mile from a Community of Concern.

### Improves the Alternative Mode Network for Transit, Bicycles, or Pedestrians (5 points)

In Cycle 1, with this criterion, WCCTAC staff assigned five points for projects aimed entirely at improving the alternative mode network, 4 points for projects that mainly benefited the alternative mode network, 3 points for projects that somewhat benefited the alternative mode network, 2 points for projects that slightly benefited the alternative mode network, and 1 point for projects not related to the alternative mode network.

### **Previous Scoring Criteria**

In the 2016 and 2018 grant rounds, for the 2006 STMP, the TAC used three scoring criteria. One was “project readiness,” like the readiness criteria used in Cycle 1. The other two criteria were: prior receipt of funds by project sponsors, and prior receipt of funds by project category. The purpose of these criteria was to ensure that funding did not always flow to the same project sponsors or the same project categories. These were not included in Cycle 1 of the 2019 STMP since the updated program had not yet allocated any funds.

### Receipt of STMP Funding by Project Sponsors

For this criterion, projects were ranked by how recently project sponsors had received STMP funds. Those that have never received funds were given the most points, while the sponsors that received funds most recently were given the fewest points.

### Receipt of STMP Funding by Project Category

For this criterion, the total amount of funding provided to project categories was compared with the amount of funding originally programmed to those categories in the 2005 STMP Nexus Study. The projects with the highest scores were those in categories that had not yet received any funding. The projects with the lowest scores were those in categories that had received that highest percentage of the amount originally programmed in the Nexus Study.

### **Next Steps**

WCCTAC staff plans to release the Call for Projects shortly after the April WCCTAC TAC meeting. After WCCTAC receives funding applications it will score and prepare an initial ranking and then facilitate a conversation with the TAC at a future meeting to develop a consensus funding recommendation for the WCCTAC Board. The WCCTAC Board could accept, or modify, the WCCTAC TAC's recommendation in making STMP allocations. Following the WCCTAC Board's allocation of STMP funds, WCCTAC staff will develop funding agreements with project sponsors.

**Attachment**

A: STMP Project List

**STMP Projects and Estimated Costs**

<b>ID</b>	<b>Project</b>	<b>Description</b>	<b>Reported Cost</b>	<b>Year of cost estimate</b>	<b>Escalation Factor<sup>1</sup></b>	<b>Estimated Cost, 2018\$</b>
<b>Complete Streets Projects</b>						
1	San Pablo Avenue Complete Streets Projects	a.) Construct bike and pedestrian improvements along San Pablo Avenue from Rodeo to Crockett.	\$8,200,000	2017	1.05	\$8,610,000
		b.) Construct bicycle and pedestrian improvements along San Pablo Avenue between La Puerta Road and Hilltop Drive.	\$3,000,000	2017	1.05	\$3,150,000
		c.) Construct bike, pedestrian and transit improvements along San Pablo Avenue from Rivers Street in San Pablo to Lowell Avenue in Richmond.	\$13,100,000	2017	1.05	\$13,755,000
		d.) Implement Complete Streets improvements along San Pablo Avenue including directional cycle track or buffered bike lane and other bicycle, pedestrian and transit improvements in El Cerrito.	\$7,800,000	2017	1.05	\$8,190,000
		e.) San Pablo Avenue Class I Boardwalk between John Muir Parkway and Sycamore Avenue.	\$296,400	2011	1.34	\$398,000
		f.) Complete bicycle/pedestrian connection on San Pablo Avenue over Santa Fe Railroad tracks.	\$16,000,000	2017	1.05	\$16,800,000
2	Appian Way Complete Streets Project	Provide continuous sidewalks, bike lanes, and improved bus stops along Appian Way from San Pablo Dam Road in unincorporated El Sobrante to about 900 lineal feet north of the city limit within the City of Pinole.	\$22,200,000	2017	1.05	\$23,310,000
3	San Pablo Dam Road Improvements in Downtown El Sobrante	Provide complete street improvements on San Pablo Dam Road between El Portal Drive and Castro Ranch Road.	\$6,900,000	2005	1.51	\$10,422,000

**Other Bicycle and Pedestrian-Focused Improvements**

4	Bay Trail Gap Closure	Improve transit access by closing three key Bay Trail gaps: along Goodrick Avenue in Richmond, between Bayfront Park and Pinole Creek in Pinole, and between Atlas Road and Cypress Avenue in unincorporated Contra Costa County.	\$11,135,000	2016	1.10	\$12,276,000
5	Ohlone Greenway Improvements	Implement crossing, wayfinding, signing, lighting, safety, access and security, and landscaping improvements along Ohlone Greenway.	\$2,900,000	2017	1.05	\$3,045,000
6	I-580/Harbour Way Interchange Pedestrian & Bicycle Access Improvements	Improve pedestrian and bicycle crossings at the I-580/Harbour Way interchange ramps.	\$386,500	2011	1.34	\$519,000
7	I-580/Marina Bay Parkway	Improve pedestrian and bicycle crossings at the I-580/Marina Bay Parkway interchange ramps	\$815,300	2011	1.34	\$1,095,000
8	Richmond Ferry to Bridge Bicycle Network Improvements	a.) Point Richmond area: from the new trail at Tewksbury & Castro to existing Bay Trail at S. Garrard & Richmond Ave.	\$1,150,000	2018	1.00	\$1,150,000
		b.) Point Richmond to Richmond Greenway: including S. Garrard Blvd and W. Ohio Ave.	\$2,950,000	2018	1.00	\$2,950,000
		c.) W. Cutting Blvd, Cutting Blvd, and Hoffman Blvd.	\$3,550,000	2018	1.00	\$3,550,000
		d.) Harbour Way South: Hoffman Blvd to Ferry Terminal.	\$1,100,000	2018	1.00	\$1,100,000
<b>Transit and Station-Related Improvements</b>						
9	I-80 Express Bus	Capital improvements associated with implementing Express Bus Service on I-80 from Hercules south to Berkeley, Emeryville, Oakland, and expansion to San Francisco, with intermediate stops at the Richmond Parkway Transit Center and a potential I-80/Macdonald Avenue Express Bus/BRT transit center.	\$104,003,000	2017	1.05	\$109,203,000

10	Hercules Regional Intermodal Transportation Center	Current phase of Hercules RITC is to complete construction of the new train stop for Capitol Corridor service, including parking, station platform, signage and plazas, rail improvements, bicycle and pedestrian access improvements (e.g. Bay Trail connections), etc. Future capital improvements could include preparation for ferry service.	\$51,000,000	2017	1.05	\$53,550,000
11	BART Extension	BART extension from the Richmond BART Station. Only the planning, conceptual engineering and program level environmental clearance phases of the project are included.	\$14,000,000	2017	1.05	\$14,700,000
12	San Pablo Avenue Transit Corridor Improvements	Bus Rapid Transit (BRT) on San Pablo Avenue approximating the existing 72R Rapid Bus route from downtown Oakland to the Richmond Parkway Transit Center and extending Rapid Bus from the Richmond Parkway Transit Center to the Hercules Transit Center.	\$183,000,000	2017	1.05	\$192,150,000
13	23rd Street Transit Corridor Improvements	23rd Street BRT from Richmond Ferry Terminal and UC Berkeley Richmond Field Station to Richmond BART/Capitol Corridor station, then continuing to Contra Costa College.	\$116,000,000	2017	1.05	\$121,800,000
14	West County BART Station Access, Parking & Capacity Improvements	a.) El Cerrito Plaza Station Modernization and Capacity Enhancements.	\$42,710,000	2015	1.16	\$49,442,000
		b.) El Cerrito Plaza BART Pedestrian & Bike Safety and Access Improvements.	\$1,200,000	2017	1.05	\$1,260,000
		c.) Richmond BART Pedestrian & Bike Safety and Access Improvements.	\$3,300,000	2017	1.05	\$3,465,000
		d.) Richmond Crossover Project.	\$27,000,000	2012	1.29	\$34,759,000

15	Del Norte Area TOD Public Infrastructure Improvements	Planning, engineering, environmental studies, and construction of the public transportation-related improvements related to Transit Oriented Development (TOD) in the area around the El Cerrito Del Norte BART station.	\$25,000,000	2005	1.51	\$37,761,000
<b>Local Street and Intersection Improvements</b>						
16	San Pablo Avenue Intersection Realignment at 23rd Street and Road 20	Realignment of skewed 5-legged intersection as part of a bridge removal project that will enhance pedestrian, bicycle and future BRT access.	\$14,400,000	2017	1.05	\$15,120,000
<b>Freeway and Interchange Improvements</b>						
17	I-80/San Pablo Dam Road Interchange Improvements (Phase 2)	Reconstruct the existing I-80/San Pablo Dam Road interchange (including modifications to the El Portal Drive and McBryde Avenue ramps) and provide improved pedestrian and bicycle facilities.	\$80,750,000	2017	1.05	\$84,788,000
18	I-80/Central Avenue Interchange Improvements (Phase 2)	Improve traffic operations at the I-80/Central Avenue interchange and along Central Avenue between Rydin Road and San Pablo Avenue. The project will be completed in two phases.	\$14,500,000	2017	1.05	\$15,225,000
19	I-80/Pinole Valley Road Interchange Improvements	Improve merge onto the I-80 mainline from the EB Pinole Valley Road on-ramp to address vehicles accelerating uphill after stopping at ramp meter, in addition to ramp-terminal intersection improvements.	\$10,437,000	2017	1.05	\$10,959,000
<b>Administrative Projects</b>						
20	Future Nexus Study Updates	Two comprehensive nexus studies and fee updates, over the 22-year planning horizon of the 2019 STMP Fee.	\$500,000	2018	1.00	\$500,00
<b>Total Estimated Cost</b>			<b>\$789,283,200</b>			<b>\$855,002,000</b>

Notes:

<sup>1</sup> Most projects have cost estimates prepared in 2011 or more recently. For those projects, the escalation factor was calculated based on the Annual Infrastructure Construction Cost Inflation Estimates (AICCIE) reported by OneSanfrancisco (onesanfrancisco.org). Two projects (projects 3 and 15) have cost estimates dating to 2005; for those projects, an index of 1.37 as specified by WCCTAC's STMP model ordinance was used to escalate the costs to 2016 dollars, and then the inflation rates for years 2016 and 2017 (reported by onesanfrancisco.org) were used to escalate the cost to 2018 dollars.



# I-80 DESIGN ALTERNATIVES ASSESSMENT

RECOMMENDATIONS FOR A-STRATEGIES

MARCH 30, 2023



1. Project Purpose and Goals
2. Evaluation Framework
3. Traffic Characteristics and Deficiencies
4. No Project
5. Corridor-wide Strategies to Short-list of Alternatives
6. Methodology and Assumptions
7. Operationally Feasible Alternatives
8. Measures of Effectiveness
9. Summary of Findings
10. Recommendations
11. Q&A

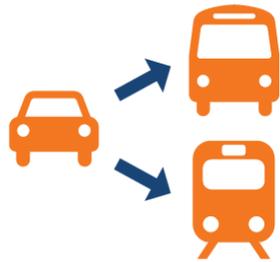
# I-80 DAA PURPOSE & GOALS

1. Evaluate **range of options** to address congestion
2. Identify **operational efficiency** projects
3. **Improve transit and carpool** operations along I-80, **encourage mode shift** and **increase vehicle occupancy**

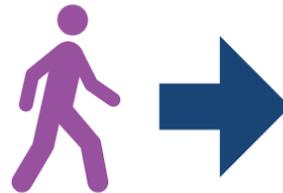
## Identify operational efficiency projects that:



Reduce Delays



Encourage Mode Shift

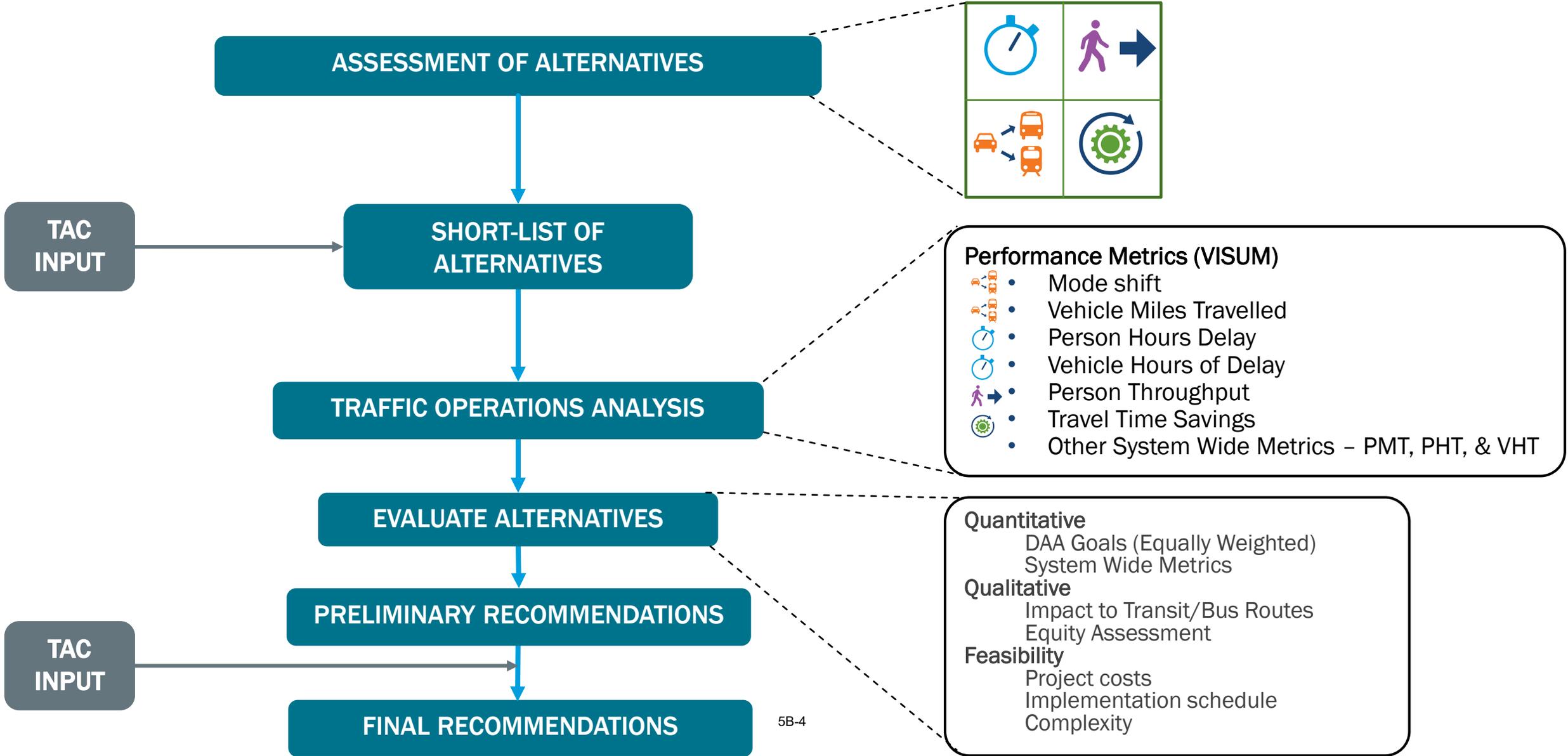


Improve Person Throughput



Improve Travel Time Reliability

# EVALUATION FRAMEWORK





## Travel Patterns

- Major destinations are SF and Oakland with dispersed O-D patterns in the rest of the study area
- Express Bus markets are generally too small and dispersed, providing limited opportunities for new Express Bus connections



## Traffic Operations

- Unreliable travel times during peak hours
- Queuing and bottlenecks



## HOV Challenges

- High HOV lane violation rates
- Challenges with formation of carpools
- HOV lane degradation

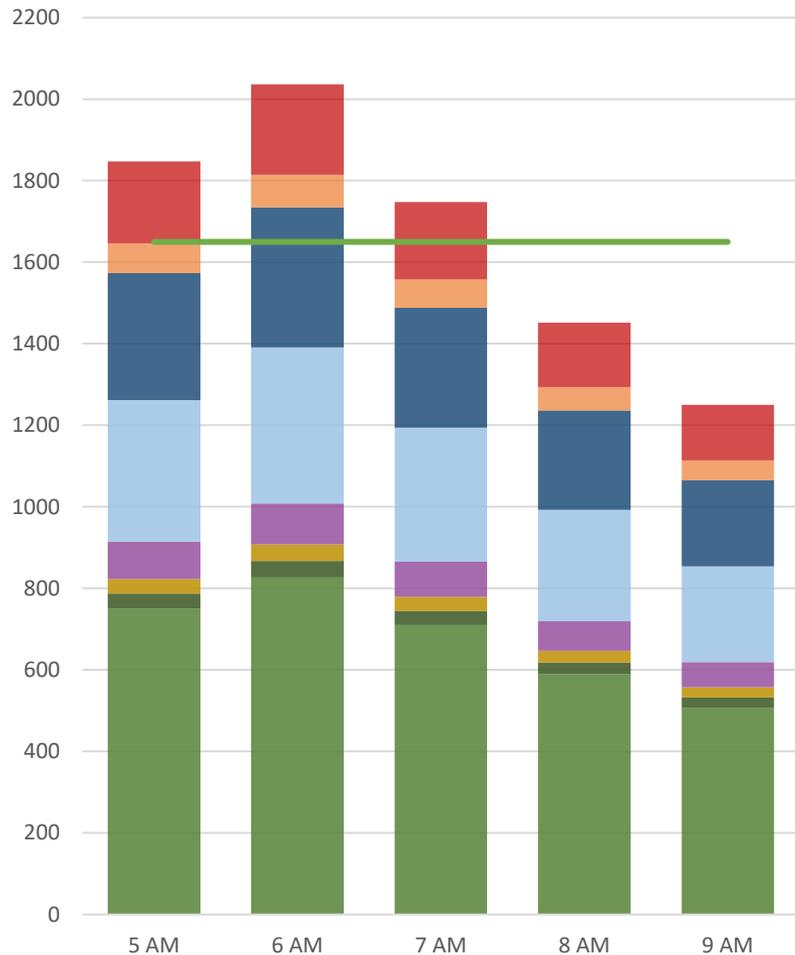


## Infrastructural Constraints

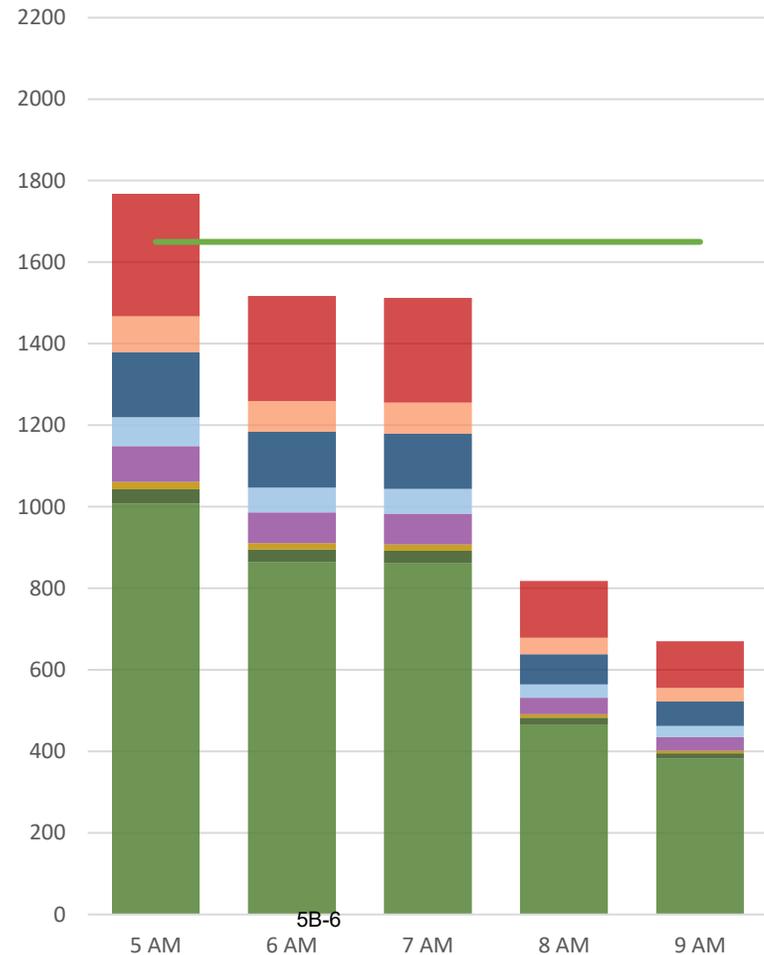
- Non-standard shoulder widths
- Structural columns in median
- Interchange spacing
- Direct access ramps

# TRAFFIC CHARACTERISTICS AND DEFICIENCIES

HOV Lane Demand Volume -  
Westbound @ Gilman Street  
(Alameda County)



HOV Lane Demand Volume -  
Westbound @ Appian Way  
(Contra Costa County)



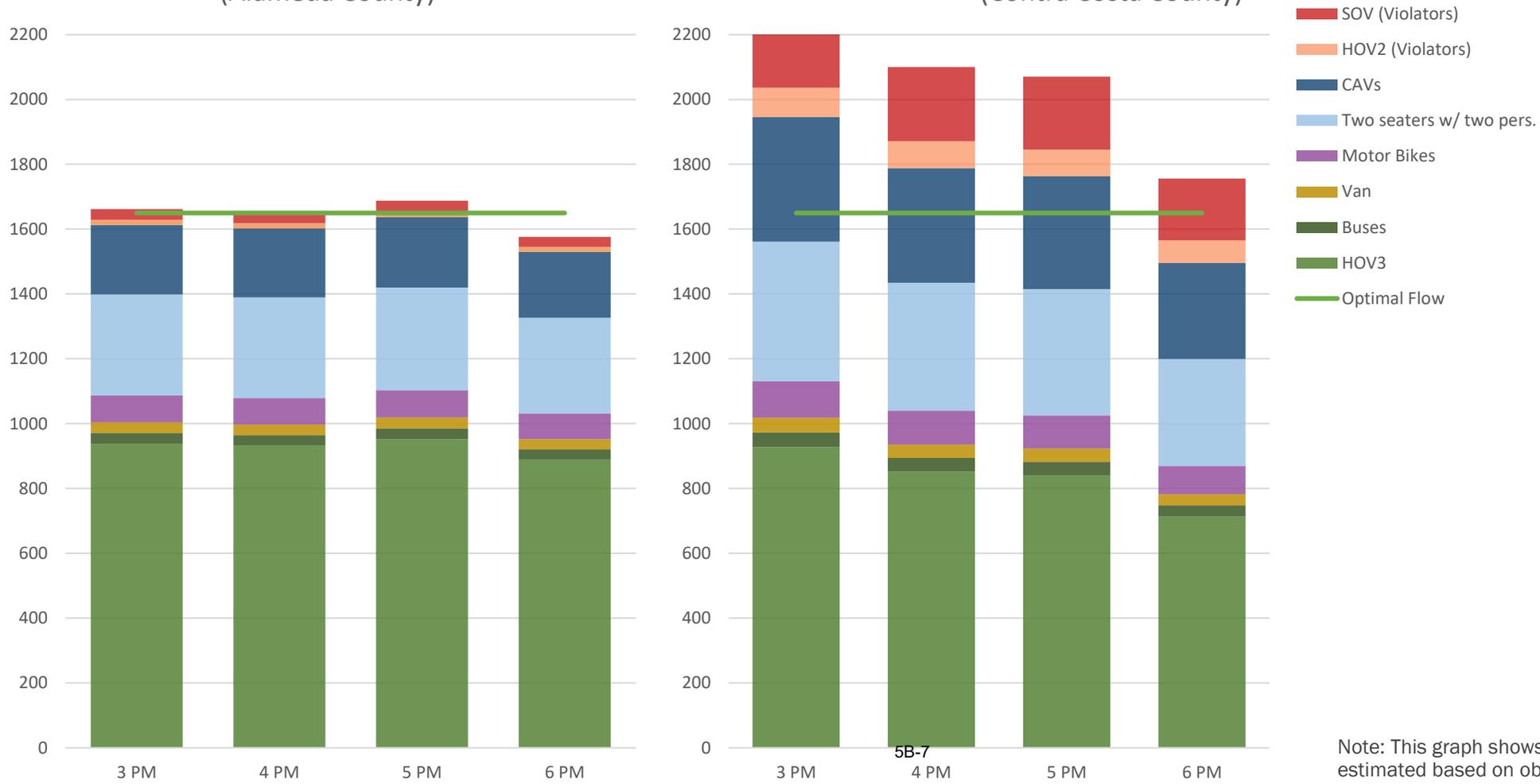
- SOV (Violators)
- HOV2 (Violators)
- CAVs
- Two seaters w/ two pers.
- Motor Bikes
- Van
- Buses
- HOV3
- Optimal Flow

Note: This graph shows existing (2019) year demand volumes estimated based on observed traffic counts, vehicle occupancy, and speed data

# TRAFFIC CHARACTERISTICS AND DEFICIENCIES

HOV Lane Demand Volume -  
Eastbound @ University Avenue  
(Alameda County)

HOV Lane Demand Volume -  
Eastbound @ Pinole Valley Road  
(Contra Costa County)



Note: This graph shows existing (2019) year demand volumes estimated based on observed traffic counts, vehicle occupancy, and speed data

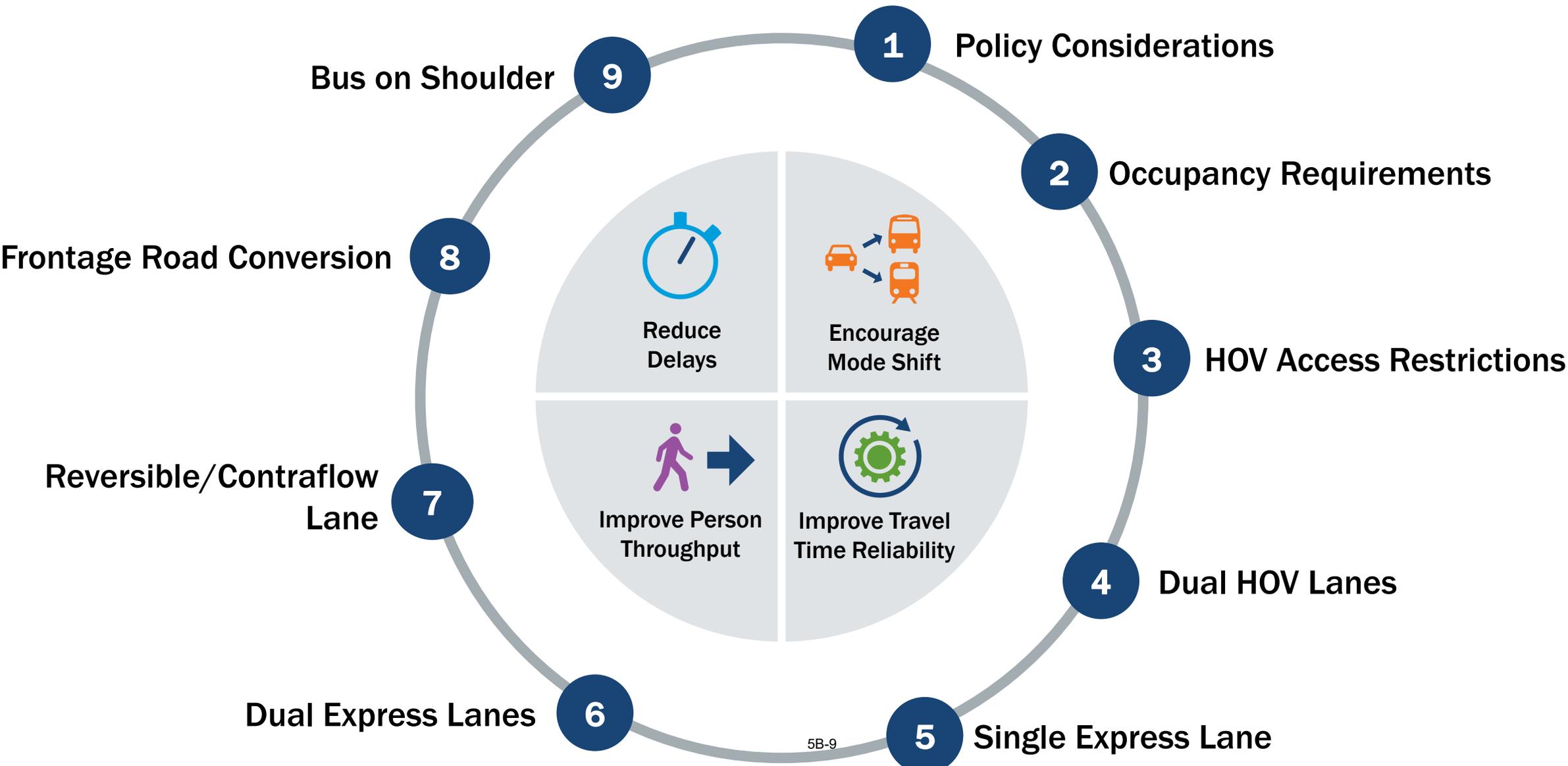
YEAR 2026 NO-BUILD METRICS			
Corridor Travel Times (% Change)			
GP Lanes		HOV Lanes	
AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
+7%	+10%	+14%	+11%
Corridor Average Speeds (% Change)			
GP Lanes		HOV Lanes	
AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
-6%	-9%	-12%	-10%
Travel Time Reliability (% Change)			
GP Lanes		HOV Lanes	
AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
+7%	+9%	+16%	+10%

**The NO-BUILD scenario creates worsening conditions.**

**Physical constraints and high costs challenge large-scale strategies.**

**Operational improvements and efficiency projects offer lower cost and near-term solutions.**

# CORRIDOR-WIDE STRATEGIES – A-STRATEGIES



# PRELIMINARY ALTERNATIVES

Preliminary alternatives developed from nine strategies

Strategy	Alternative	Operations Analysis
Policy Considerations	Extend HOV3+ Lane Hours of Operation	Yes
	CAV Restrictions	Yes
	2-Seater Restrictions	Yes
	Enhanced HOV Enforcement	Yes
Occupancy Requirements	Increase Occupancy Requirements	No
HOV Access Restrictions	HOV Lane — Entire Corridor	No
	HOV Lane — Partial Segments — WB Richmond Pkwy to San Pablo Ave	Yes
	HOV Lane — Partial Segments — WB Gilman St to the Maze	Yes
	HOV Lane — Partial Segments — EB Carlson Blvd to Appian Wy	Yes
	Near WB Powell St On-Ramp	Yes
	EB HOV Lane — Maze to Ashby Ave	Yes
Dual HOV Lanes	HOV3+ Entire Corridor	No
	HOV3+ I-580 to the Maze	No
	HOV3+ & HOV2+ Entire Corridor	No
	HOV3+ & HOV2+ I-580 to the Maze	Yes
	HOV4+/5+ & HOV3+ Entire Corridor	No
	WB HOV3+ Powell St to the Maze	No
	EB HOV3+ Maze to Ashby Ave	Yes
Single Express Lane	HOV to EL Conversion — Entire Corridor	Yes
	HOV to EL Conversion — I-580 to the Maze	No
Dual Express Lanes	Entire Corridor	Yes
	I-580 to the Maze	Yes
	Entire Corridor (Designated HOV Policy)	No
	I-580 to the Maze (Designated HOV Policy)	Yes
Reversible/ Contraflow Lanes	Reversible Lane — Entire Corridor	No
	Contraflow Lane — Entire Corridor	No
	Contraflow Lane — Partial Segment	Yes
Frontage Road Conversion	SB Frontage Rd to Bus and HOV3+ Lane During Peak Hours	Yes
	NB Frontage Rd to Bus and HOV3+ Lane	No
	Eastshore Hwy to Bus and HOV3+ Lane	No
Bus on Shoulder	Entire Corridor	No
	Partial Segments	Yes



Identify operational efficiency projects which meet the four DAA goals to advance for operations analysis

## Other qualitative factors and considerations included:

- Evaluations based on existing traffic data
- Ability to relieve congestion
- Provide a benefit to V/C ratios
- Ability to relieve unsafe weaving
- Ability to reduce violation rates
- Carpooling challenges
- Access considerations

Quantitative assessment included preliminary operations analysis.

# SHORT-LIST OF ALTERNATIVES – OPERATIONALLY FEASIBLE

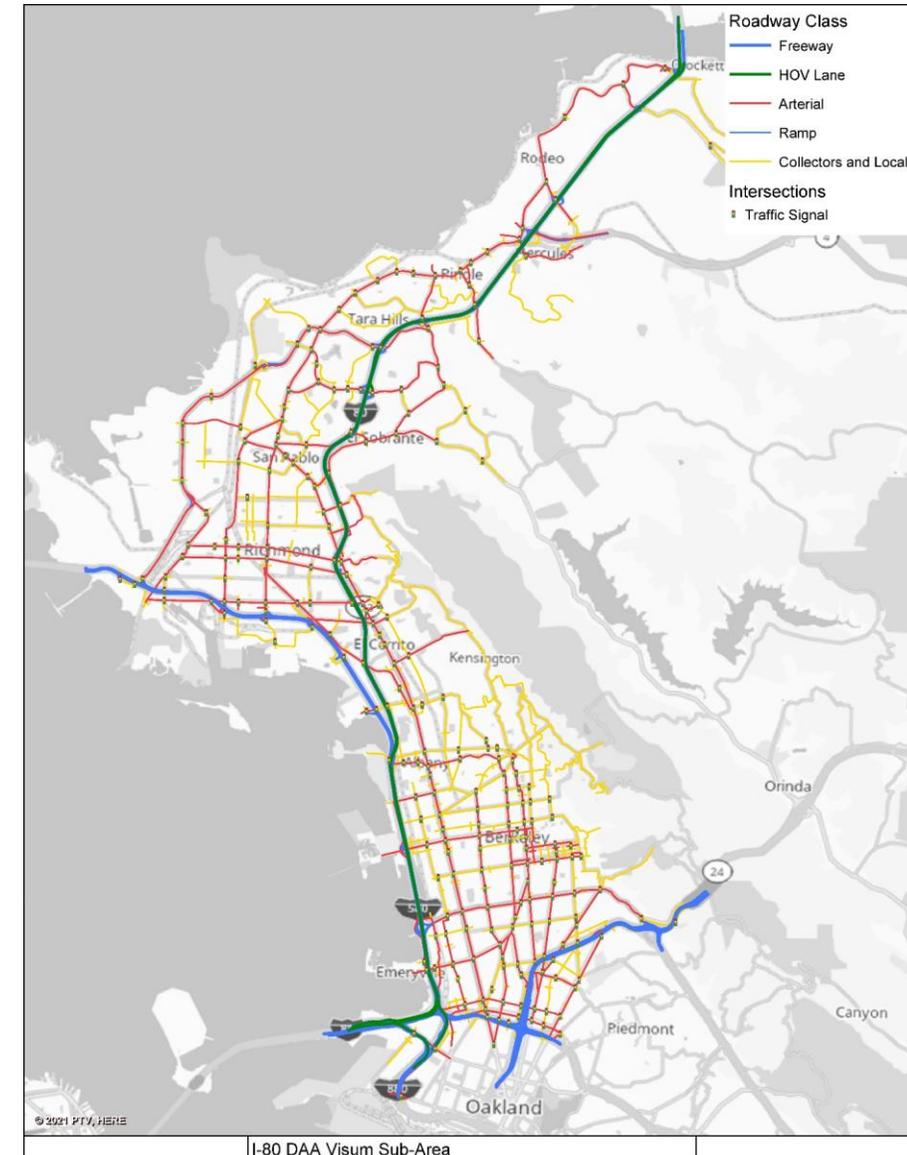
ALTERNATIVE	ANALYSIS TYPE	DESCRIPTION
Hours of Operation	Off-model	Extend hours of operation to 5:00 AM – 8:00 PM, Monday to Friday
CAV Restrictions	Visum	Clean air vehicles are excluded from the HOV lane
2-seater Restrictions	Visum	2-seaters are excluded from the HOV lane
Enhanced Enforcement	Visum	Increase HOV lane enforcement
HOV Access Restrictions	Visum	Buffer restricted at six locations (3 WB and 3 EB)
Dual HOV Lanes	Off-model	Dual HOV lanes between I-580 and the Maze (#2 HOV lane restricted to HOV2+)
Single Express Lane	Visum	Convert HOV3+ lane for the entire corridor
Single/Dual Express Lanes	Visum	<u>Single</u> Express Lane from Cummings Skyway to I-580; <u>Dual</u> Express Lanes from I-580 to the Maze (assumes no toll for HOV3+)
Dual Express Lanes	Visum	Dual Express Lanes for the entire corridor (assumes no toll for HOV3+)
Contraflow Lane	Visum	WB contraflow HOV3+ lane between Gilman Street and Powell Street

## Other Studies

ALTERNATIVE	DESCRIPTION
Bus on Shoulder	MTC I-80 Bus on Shoulder Feasibility Study
All Lanes Tolling	MTC Next Generation Bay Area Freeways Study

## Analysis Approach – Tools

- Regional Travel Demand Model (MTC Model)
  - Overall travel demand for study area
- Dynamic Traffic Assignment (DTA) Sub-Area Model
  - Additional network detail, signal timings etc.
  - Capture effects of bottlenecks and queuing, intersection delays
  - Changes in traffic conditions by time of day (e.g., 5 AM vs 5:30)
  - Visum Software Platform – High Level Traffic Operations Model
- Off-Model Spreadsheet-based Approach
  - Variants of Alternatives analyzed with DTA Model
  - Off-peak period analysis (*Hours of Operation* alternative)



## Analysis Approach – Mode-Shift

- Step 1: Perform model run with existing mode-split
- Step 2: Estimate potential mode-shift based on travel time elasticities
- Step 3: Perform model run with estimated mode-shift potential

## Travel Time Elasticities for Mode-Shift

	Travel Time Change	Mode Shift (persons)	Notes
GP Lane Travelers	+1%	-0.188%	1 SOV + 1 HOV2 form 1 HOV3
HOV Lane Travelers	-1%	+0.235%	1 SOV + 1 HOV2 form 1 HOV3
Transit Riders	-1%	+0.125% or 5 transit riders <small>(based on an average ridership of 4,000 riders in the peak direction)</small>	1 SOV forms 1 transit rider



## Analysis Approach – Mode-Shift – Express Lanes

### Express Lane Scenarios:

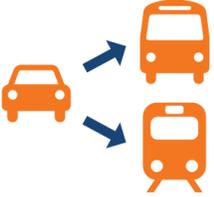
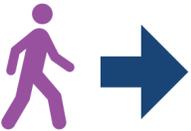
- Mode-shift to the HOV3+ mode which can travel for free in the less congested express lane
- Increase in SOV and HOV2 users who can pay a toll to travel in the less congested express lane

### Assumptions:

- Due to availability of the option to pay to use the express lane, potential mode-shift to HOV3+, based on travel time elasticity, was reduced by half.
- Maximum mode-shift potential of **5%**



## Key Performance Metrics

	MOE	Description	Time Period	Units
	Mode-shift	Users of the I-80 freeway that change modes to higher occupancy vehicles	Peak Period	Percentage of Persons
	Travel Times	Travel times for I-80 freeway segments, eastbound and westbound within study limits	Peak Hour and Shoulder Hours within Peak Period	Minutes
	Freeway Person Throughput	Persons served– averaged at I-80 mainline primary bottleneck locations	Peak Period	Change in percentage and number of persons
	Travel Time Reliability	Travel Time Index (TTI) – the ratio of the peak hour travel time to the free-flow travel time	Peak Hour	Percentage change in TTI

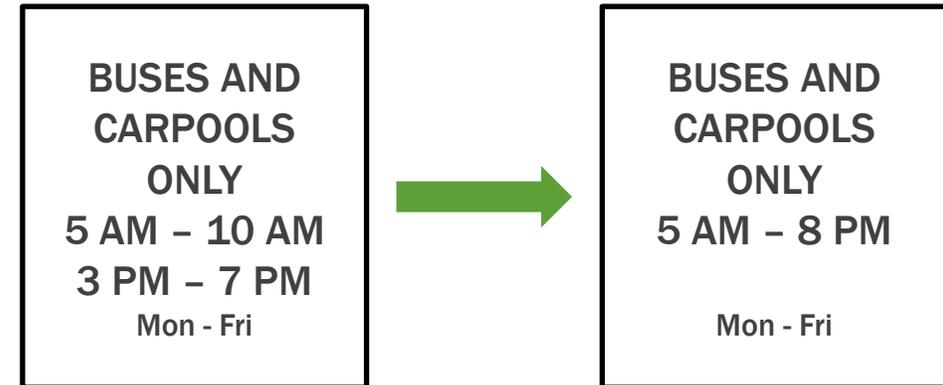
## Hours of Operation

Extend the hours of operation for HOV lanes -  
Eastbound and Westbound I-80

5 AM to 8 PM

Likely Outcomes:

- Consistent message to users of the freeway
- Increased demand for GP lanes in mid-day hours
- Improved HOV lane operations due to reduced demand
- Potential for mode-shift in off-peak hours



# POLICY CONSIDERATIONS

## Performance Metrics:

- Queuing impacts to GP lanes in off-peak hours (but no breakdown in operations)
- Westbound – up to 1.4 miles of added queue
- Eastbound – up to 1.3 miles of queue
- HOV lane volumes – off-peak hours:
  - WB – 1,200 vehicles per hour
  - EB – 1,400 vehicles per hour

## WB GP Lanes – added queue

		MAINLINE ONLY - Representative Day																							
		12:00 AM	1:00 AM	2:00 AM	3:00 AM	4:00 AM	5:00 AM	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM
Name	Miles																								
San Pablo Avenue Off-Ramp	1.36	58	59	60	61	65	64	64	61	63	64	62	60	58	64	65	67	67	62	63	61	63	58	60	62
San Pablo Avenue - Pomona Street	0.39	60	63	60	61	66	66	66	60	64	63	61	60	59	62	65	67	66	62	63	61	65	59	61	62
Cummings Skyway Off-Ramp	0.48	59	62	60	62	67	66	66	61	64	64	61	60	59	63	64	66	65	62	63	60	64	59	61	63
Cummings Skyway	0.39	61	64	61	63	67	66	66	63	64	66	62	60	61	66	66	69	68	64	65	62	65	61	63	63
Willow Avenue Off-Ramp	1.60	63	64	62	66	68	63	66	64	67	69	65	65	63	68	68	70	69	65	66	62	68	62	63	65
Willow Avenue	0.40	62	62	61	65	68	43	56	60	67	68	63	62	62	68	67	71	69	65	64	62	66	62	63	65
John Muir Parkway Off-Ramp	0.20	60	59	58	64	66	39	49	54	63	65	62	62	61	66	67	68	69	64	62	59	65	60	61	65
John Muir Parkway	0.82	61	61	60	66	66	39	42	40	62	65	63	62	61	65	67	69	68	64	61	60	66	61	63	63
Pinole Valley Road Off-Ramp	0.64	60	61	59	63	59	36	33	30	59	61	59	59	59	64	64	64	65	60	61	60	64	59	61	63
Pinole Valley Road	0.54	61	62	59	63	48	32	30	22	59	61	59	59	59	64	65	66	69	63	61	61	64	59	60	64
Applan Way Off-Ramp	0.49	59	60	57	61	39	33	31	22	50	58	58	58	57	62	63	64	66	61	60	60	62	58	59	63
Applan Way	0.49	59	60	57	61	46	47	39	32	40	56	57	56	55	60	61	62	64	60	60	59	62	57	60	62
Richmond Parkway Off-Ramp	0.42	58	60	58	61	59	55	31	25	30	56	56	59	56	62	62	61	60	61	61	57	61	58	60	62
Richmond Parkway	0.29	59	61	57	63	63	58	19	14	19	57	58	57	55	62	63	62	63	62	60	58	62	59	62	63
El Portal Drive Off-Ramp	1.12	58	60	58	64	62	58	22	17	22	57	56	57	56	61	62	61	63	63	61	59	61	58	60	61
El Portal Drive	0.45	60	59	61	65	65	60	20	18	21	59	59	61	59	64	64	64	67	63	61	64	64	56	61	63
San Pablo Dam Road Off-Ramp	0.54	60	60	60	64	65	58	21	19	20	56	60	60	60	63	65	63	65	63	62	63	66	58	62	64
San Pablo Dam Road	0.35	59	59	59	64	61	56	19	15	19	43	58	58	59	65	64	64	64	61	53	57	65	56	63	63
McBryde Avenue Off-Ramp	0.21	58	57	58	62	63	55	25	21	21	47	59	60	60	63	63	61	63	60	58	62	63	57	61	63
McBryde Avenue - Solano Avenue	0.70	59	58	59	63	63	58	34	27	27	52	61	60	61	66	64	63	63	60	60	61	64	58	61	63
Barrett Avenue Off-Ramp	0.11	61	58	59	62	63	59	36	22	22	52	57	56	57	61	61	63	62	58	59	59	64	58	62	63
Barrett Avenue	0.58	60	59	59	61	62	59	46	25	22	46	59	59	59	62	63	64	65	60	59	61	63	59	61	62
Cutting Boulevard Off-Ramp	0.33	60	60	59	61	63	58	49	27	22	35	59	59	59	64	64	63	64	59	61	60	64	58	60	62
Cutting Boulevard - Potrero Avenue	0.82	60	59	59	61	62	56	35	12	11	26	58	59	59	62	63	64	66	61	63	62	65	58	60	62
Carlson Boulevard Off-Ramp	0.20	59	59	59	61	65	55	28	10	10	19	56	57	58	60	62	60	63	53	62	61	64	58	62	62
Carlson Boulevard	0.50	58	57	58	60	63	57	31	19	16	12	55	59	59	63	64	64	66	50	63	60	64	57	61	61
Central Avenue Off-Ramp	0.29	58	58	58	60	63	57	37	21	17	17	54	56	57	62	64	63	65	59	65	58	64	58	61	62
Central Avenue	0.36	58	58	58	62	63	57	48	27	17	15	53	58	57	62	64	64	65	59	65	48	62	59	60	62
Cleveland Avenue Off-Ramp	0.28	58	57	57	61	62	57	50	25	18	13	52	59	61	62	66	60	65	62	62	62	59	60	62	62
I-580 EB	0.81	59	58	58	61	62	56	38	19	16	14	0.2 ml	57	58	60	1.4 ml	1.4 ml								
Gilman Street Off-Ramp	0.27	59	59	58	61	62	54	29	18	18	15	34	55	57	58										
University Avenue Off-Ramp	0.74	58	58	58	61	63	52	37	23	23	23	29	47												
University Avenue	0.34	59	61	57	59	62	54	49	25	25	29	32	0.5 ml	0.8 ml	1.2 ml	26	16	34	1.4 ml	1.4 ml					
Ashby Avenue Off-Ramp	0.86	60	63	58	61	64	57	52	28	26	29	29	33	35	29	25	18	20	32	1.4 ml					
Ashby Avenue	0.56	60	63	58	63	64	57	48	31	27	32	28	32	29	28	25	20	15	15	29	63	60	58	62	
Powell Street Off-Ramp	0.18	59	62	57	64	63	57	41	27	29	32	25	28	25	24	17	16	15	26	60	59	57	61	64	
Powell Street	0.24	58	59	56	62	63	56	31	18	24	26	22	25	21	21	21	14	14	10	18	59	59	56	60	
I-580 EB - I-880 SB	0.42	57	56	55	61	61	54	34	21	30	28	26	29	25	28	27	19	19	14	20	55	57	55	59	
Frontage Road	0.15	56	56	54	57	60	57	23	10	53	51	52	52	53	53	56	54	50	52	48	56	57	55	59	
I-580 WB	0.56	54	54	52	55	57	30	13	11	42	34	28	54	54	55	57	57	57	54	52	56	57	56	57	
Grand Avenue Off-Ramp	0.15	58	58	53	52	55	57	33	29	13	14	15	13	58	58	59	60	57	57	55	58	56	57	56	
San Francisco Bay Bridge Toll Plaza	0.82	46	45	44	45	48	14	27	10	6	7	6	28	48	50	51	51	47	26	35	44	46	49	47	
San Francisco Bay Bridge	1.47	58	55	54	56	54	39	53	44	44	56	53	49	54	58	58	59	31	19	28	57	58	56	57	

# POLICY CONSIDERATIONS

## EB GP Lanes – added queue

### Performance Metrics:

- Queuing impacts to GP lanes in off-peak hours (but no breakdown in operations)
- Westbound – up to 1.4 miles of added queue
- Eastbound – up to 1.3 miles of queue
- HOV lane volumes – off-peak hours:
  - WB – 1,200 vehicles per hour
  - EB – 1,400 vehicles per hour

		MAINLINE ONLY - Representative Day																								
		12:00 AM	1:00 AM	2:00 AM	3:00 AM	4:00 AM	5:00 AM	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM	
Name	Miles	59	60	59	56	59	62	61	59	60	60	61	62	62	63	64	65	66	67	68	69	70	71	72	73	
Grand Avenue Off-Ramp	1.04	59	60	59	56	59	62	61	59	60	60	61	62	62	63	64	65	66	67	68	69	70	71	72	73	
I-580 EB Off-Ramp	0.73	60	61	59	57	61	62	60	59	61	61	62	63	62	64	65	66	67	68	69	70	71	72	73	74	
I-580 WB On-Ramp	0.77	54	56	56	52	56	55	58	57	57	55	59	58	58	58	58	58	58	58	58	58	58	58	58	58	
Powell Street Off-Ramp	0.31	53	60	58	56	57	57	58	57	57	54	55	56	57	58	58	58	58	58	58	58	58	58	58	58	
I-880 On-Ramp	0.14	57	59	57	54	57	58	60	58	58	55	57	57	57	58	58	58	58	58	58	58	58	58	58	58	
Powell Street	0.29	59	57	57	58	60	60	59	59	57	54	56	58	54	48	48	48	48	48	48	48	48	48	48	48	
Ashby Avenue Off-Ramp	0.24	60	58	58	59	61	61	60	59	57	55	57	58	51	39	39	39	39	39	39	39	39	39	39	39	
Ashby Avenue	0.47	61	37	60	60	61	61	63	62	60	58	60	61	50	37	37	37	37	37	37	37	37	37	37	37	
University Avenue Off-Ramp	0.92	59	62	62	60	61	60	59	59	57	57	57	58	0.3 mi	0.8 mi	38	31	22	25	24	32	52	55	62	63	
University Avenue	0.51	61	62	59	62	62	60	62	60	60	60	60	58	58	56	46	30	36	25	24	54	57	61	63	62	
Buchanan Street Off-Ramp	0.81	59	60	59	60	59	60	61	59	59	58	58	58	58	59	46	34	39	29	33	56	57	56	61	60	
I-580 WB	0.65	63	62	59	62	62	62	63	61	61	60	60	59	60	60	60	60	60	60	60	60	60	60	60	60	
Central Avenue Off-Ramp	0.46	64	61	59	60	61	61	63	63	63	64	59	62	61	63	62	0.6 mi	0.6 mi	0.6 mi	53	52	61	61	64	61	
Central Avenue	0.35	63	60	50	61	60	45	65	64	63	60	61	60	61	61	31	18	18	0.6 mi	0.6 mi	1.3 mi	61	60	62	62	
Carlson Boulevard Off-Ramp	0.34	64	59	59	62	61	60	63	63	62	60	59	58	60	63	28	21	19	24	0.6 mi	0.6 mi	62	60	62	62	
Carlson Boulevard	0.45	62	58	58	61	60	59	61	62	62	61	61	61	62	64	29	19	14	9	22	27	60	58	61	61	
Potrero Avenue Off-Ramp	0.26	60	58	59	60	58	57	61	61	61	59	59	59	61	62	38	28	18	16	26	29	62	58	60	61	
Potrero Avenue - Cutting Boulevard	0.85	61	58	58	59	59	58	64	62	61	60	61	61	61	63	57	26	17	12	19	28	60	60	62	59	
Macdonald Avenue Off-Ramp	0.21	63	57	58	57	60	58	63	61	60	59	62	61	62	63	58	23	16	10	17	25	59	61	63	60	
San Pablo Avenue Off-Ramp	0.17	61	58	57	58	58	57	61	58	58	56	57	59	59	62	58	27	19	13	23	25	60	60	61	59	
San Pablo Avenue	0.49	62	57	59	59	60	58	63	60	60	59	57	59	59	62	57	22	16	10	17	24	58	58	42	58	
Amador Street Off-Ramp	0.11	63	59	60	60	60	59	62	61	59	57	57	58	60	62	56	25	19	12	21	30	58	59	61	59	
San Pablo Dam Road Off-Ramp	0.87	45	58	61	60	61	59	63	61	60	59	60	60	61	62	56	27	19	14	22	28	59	59	61	59	
San Pablo Dam Road	0.46	58	58	60	61	60	59	62	61	61	54	61	61	62	60	62	58	30	14	10	20	35	59	59	61	60
El Portal Drive Off-Ramp	0.50	57	61	60	62	60	60	61	60	60	61	61	60	58	61	57	31	20	16	21	31	58	58	60	58	
El Portal Drive	0.41	56	58	59	60	59	58	61	61	60	60	59	57	55	60	55	26	16	11	17	32	55	54	60	57	
Hilltop Drive	0.46	55	56	57	58	58	55	60	61	58	58	57	55	54	59	53	23	15	10	17	32	57	45	53	55	
Richmond Parkway Off-Ramp	0.54	57	56	58	58	59	56	55	59	58	57	60	58	59	63	57	31	25	18	23	37	58	48	45	59	
Richmond Parkway	0.53	59	57	60	62	60	59	61	62	62	63	62	61	60	64	59	20	16	10	20	52	59	58	58	57	
Appian Way Off-Ramp	0.28	59	57	61	62	61	60	62	63	62	61	63	60	59	62	58	19	16	14	19	57	60	59	60	57	
Appian Way	0.51	61	58	60	61	62	61	62	63	62	62	60	59	58	62	54	22	19	13	19	58	60	59	62	58	
Pinole Valley Road Off-Ramp	0.39	61	58	61	61	63	62	61	64	62	62	61	59	59	63	52	24	20	16	22	58	61	62	64	58	
Pinole Valley Road	0.58	60	57	58	60	61	60	61	62	63	62	60	59	59	62	45	28	26	22	25	56	60	62	63	57	
John Muir Parkway Off-Ramp	1.05	60	58	59	59	61	60	61	61	62	63	61	60	60	62	58	54	56	53	49	59	60	63	63	60	
John Muir Parkway	0.48	62	60	60	62	61	62	66	67	67	63	61	63	66	66	65	66	66	66	63	63	63	66	63	60	
Willow Avenue Off-Ramp	0.23	69	59	59	62	61	62	62	66	66	65	65	63	63	66	68	66	65	65	64	65	65	66	64	59	
Willow Avenue	0.37	70	60	59	62	61	62	62	67	67	64	63	61	60	65	67	66	67	66	66	66	66	66	64	59	
Cummings Skyway Off-Ramp	1.56	62	59	58	62	63	62	63	66	65	64	64	63	63	66	67	66	67	65	65	64	64	63	64	59	
Cummings Skyway	0.54	59	59	61	62	65	61	62	65	65	63	62	63	62	66	65	63	65	64	64	64	62	61	62	58	
San Pablo Avenue Off-Ramp	0.34	55	56	55	58	59	60	62	65	64	61	61	61	60	64	62	61	62	62	62	62	61	60	61	57	
San Pablo Avenue - Pomona Street	0.42	55	56	55	58	59	60	59	61	61	59	58	58	58	61	60	58	59	60	58	59	58	57	59	55	
Carquinez Bridge	1.22	32	45	39	39	48	37	46	47	51	50	46	42	47	52	52	40	46	49	49	47	44	35	46	48	



## CAV Restrictions

Policy change to restrict one-person and two-person CAVs in the HOV lane

- In 2019, CAVs were ~15% of HOV lane demand in Alameda County and ~9% of HOV lane demand in Contra Costa County

## 2-Seater Restrictions

Policy change to restrict 2-seater vehicles in the HOV lane

- In 2019, 2-Seaters were ~19% of HOV lane demand in Alameda County and ~5% of HOV lane demand in Contra Costa County

## Enhanced HOV Lane Enforcement

Policy change to increase HOV lane enforcement to reduce violators by 50%

- In 2019, violators were ~15% of HOV lane demand in Alameda County and ~22% of HOV lane demand in Contra Costa County

## CAV Restrictions

### Likely Outcomes:

- GP lanes affected by the additional demand
- Improved HOV lane travel times; encourage mode-shift
- HOV lane continued to be oversubscribed at some locations

Note: Same outcomes likely with **2-Seater restrictions** and **Enhanced HOV Lane Enforcement**

# HOV ACCESS RESTRICTIONS

## Double solid white stripe between HOV and GP lanes

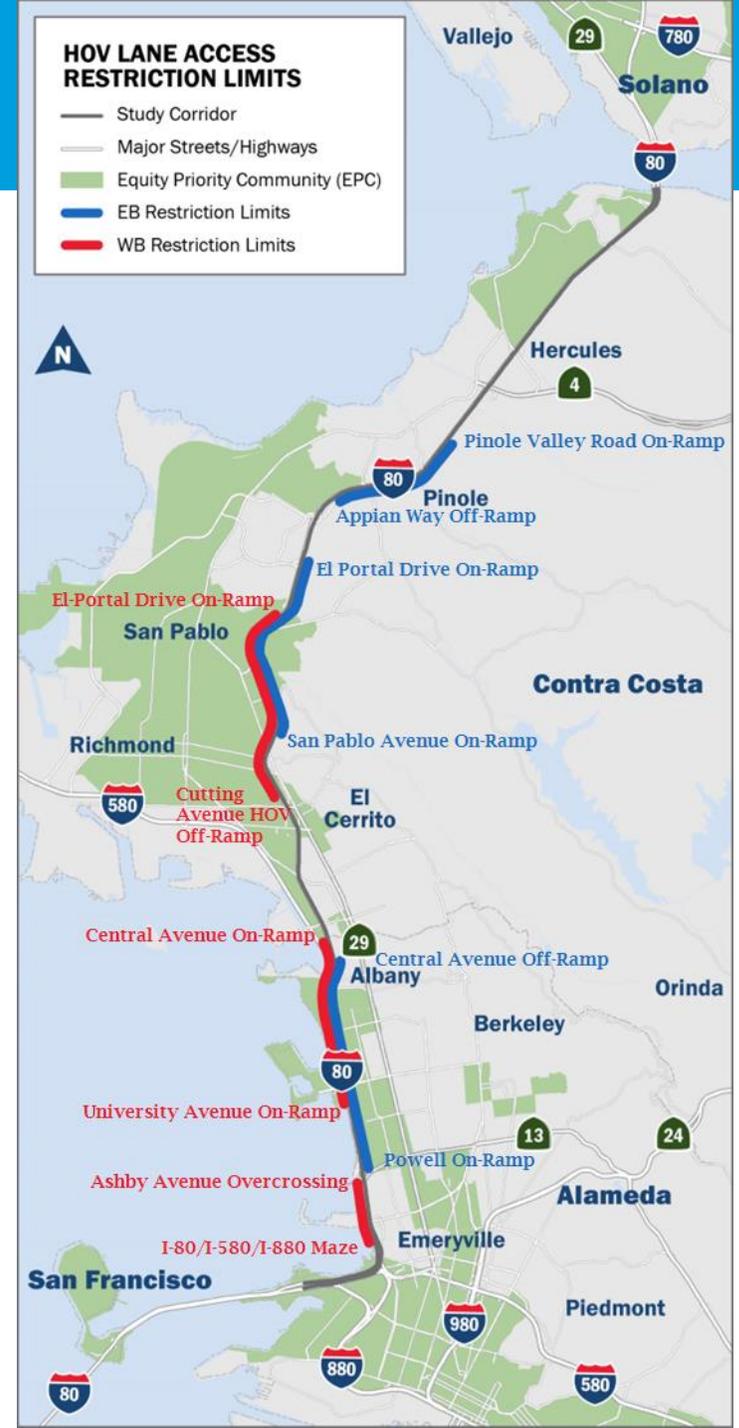
### Westbound I-80:

- El Portal Drive on-ramp gore to Cutting Avenue HOV Lane off-ramp gore (2.9 mi)
- Central Avenue on-ramp gore to University Avenue on-ramp gore (2.5 mi)
- Ashby over-crossing (midpoint) to the Maze (1.0 mi)

### Eastbound I-80:

- 4000 ft. downstream of Powell on-ramp to 2400 ft. upstream of Central Avenue off-ramp (3.1 mi)
- 2400 ft. downstream of San Pablo Avenue on-ramp to 3200 ft. downstream of El Portal Drive on-ramp (2.8 mi)
- 3200 ft. upstream of Appian Way off-ramp to 1200 ft. downstream of Pinole Valley Road (1.9 mi)

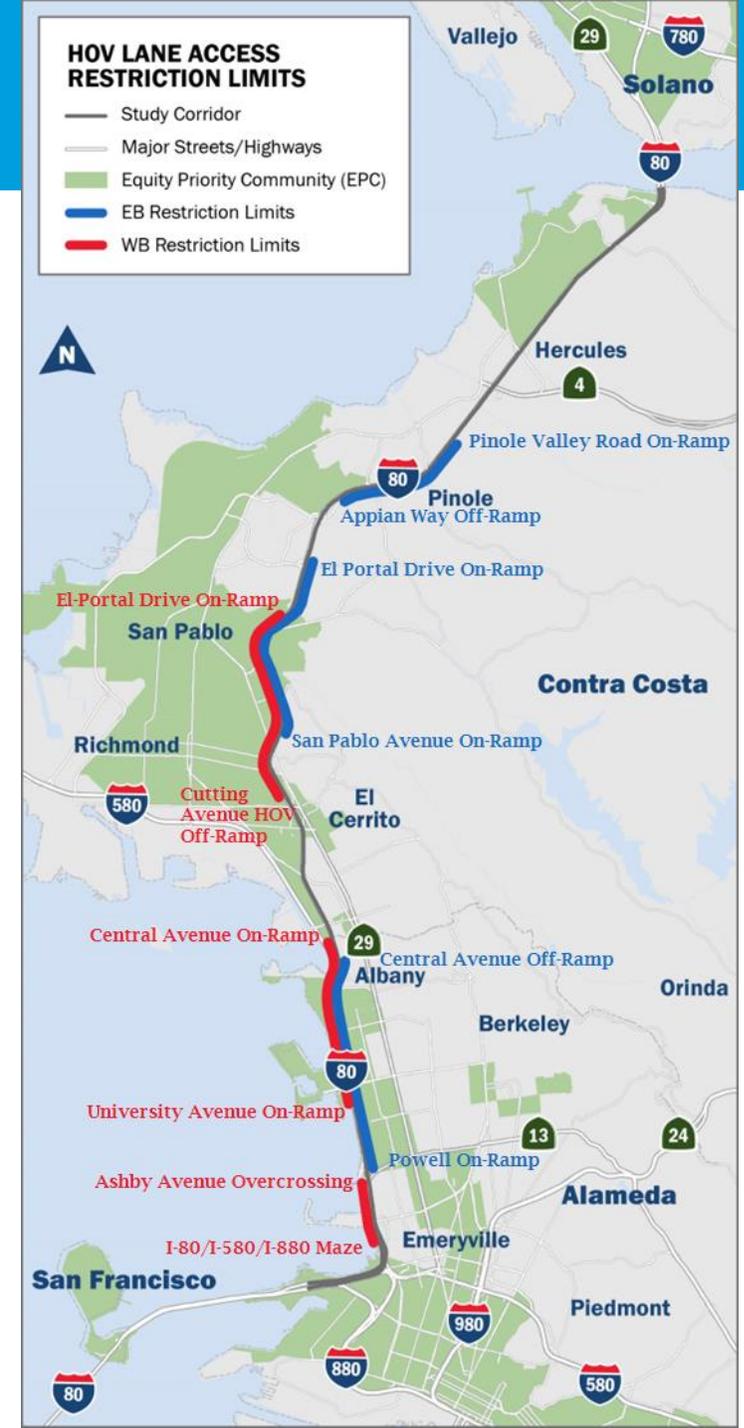
Note: Limits established based on existing traffic operations and refined iteratively using DTA Model results. Refine limits based on further study of traffic operation using micro-simulation software and study of safety.



# HOV ACCESS RESTRICTIONS

## Likely Outcomes:

- Maximizes existing infrastructure
- Reduced friction and weaving between HOV and congested GP lanes
- Improved HOV lane travel times; encourage mode-shift
- Worsened GP lane operations at some locations
- Some buses may experience increased delay depending on final location of access restrictions



# EXPRESS LANES

## Single Express Lane

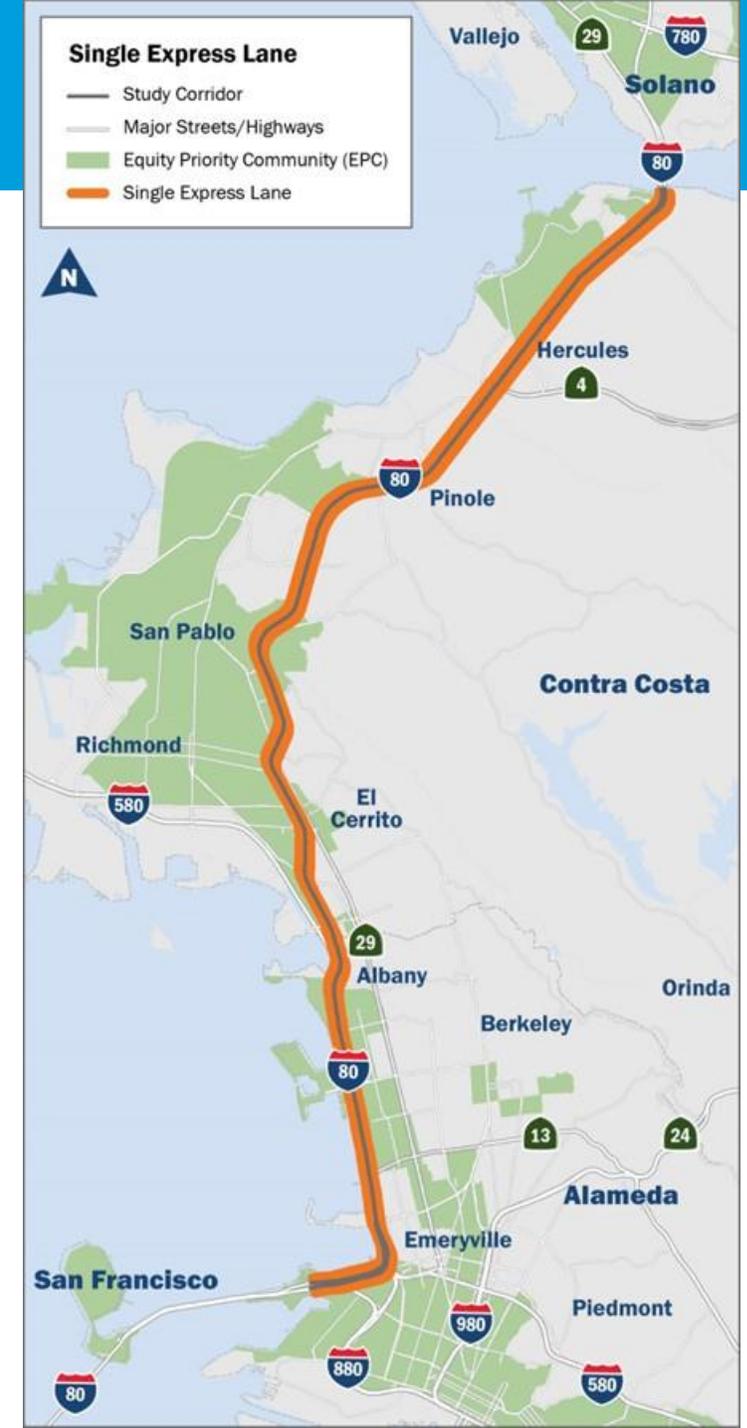
Convert HOV lane to an Express Lane. HOV3+ would travel for free while HOV2 and SOV would pay

### Westbound I-80 Express Lane Limits:

- Willow Avenue to SFO Bay Bridge

### Eastbound I-80 Express Lane Limits:

- SFO Bay Bridge to Cummings Skyway



# EXPRESS LANES

## Single Express Lane; Dual Express Lane (I-580 to I-80/I-580/I-880 Maze)

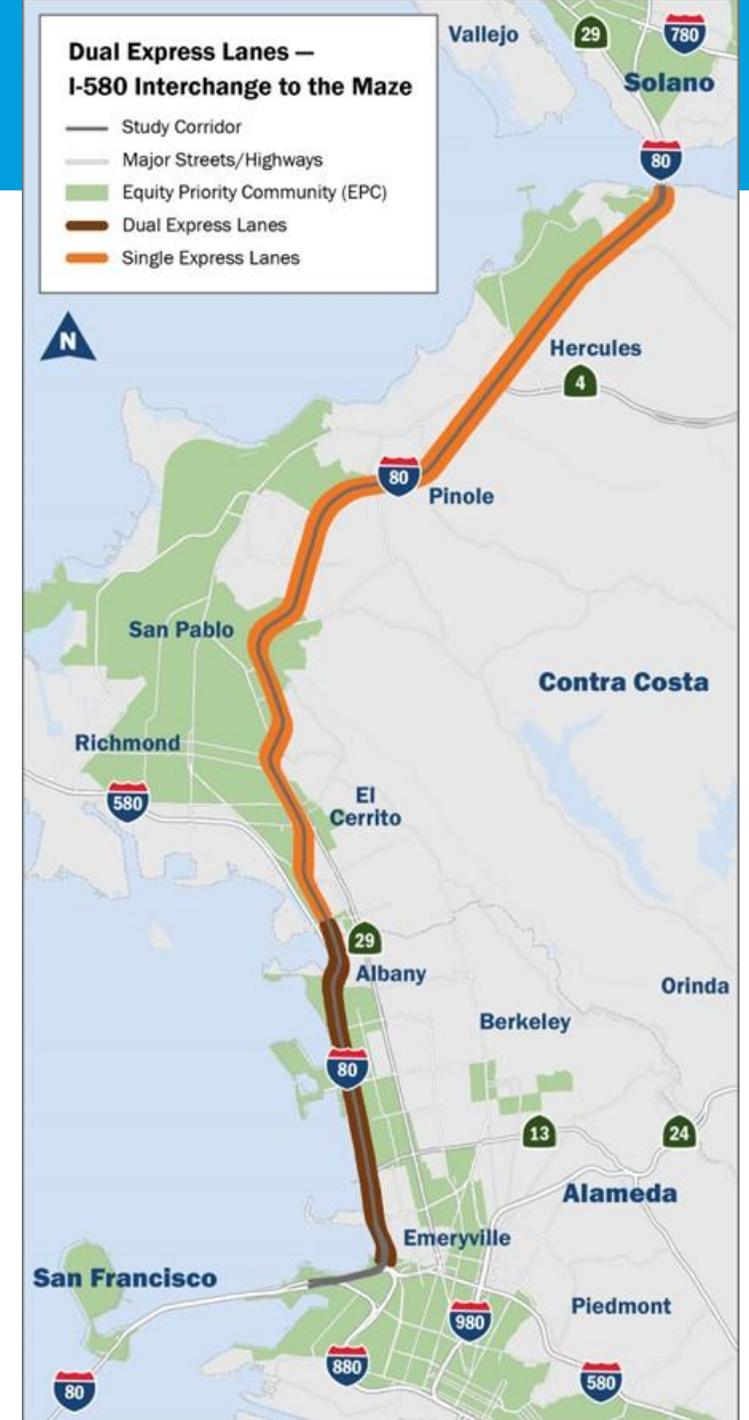
Convert HOV lane to an Express Lane. HOV3+ would travel for free while HOV2 and SOV would pay

### Westbound I-80 Express Lane Limits:

- HOV lane – Carquinez Bridge to Willow Avenue
- Single Express Lane – Willow Avenue to I-580
- Dual Express Lane – I-580 to I-80/I-580/I-880 Maze

### Eastbound I-80 Express Lane Limits:

- HOV lane – I-80/I-580/I-880 Maze to Ashby Avenue
- Dual Express Lane from Ashby Avenue to I-580
- Single Express Lane from I-580 to Cummings Skyway



## Single Express Lane

### Likely Outcomes:

- Express Lane operations would improve in the peak hours with reduced violation rates
- GP lanes would improve in the shoulder hours because drivers shift into the Express Lane
- Low mode-shift potential (users have the option to pay)
- Efficient Express Lane operations (i.e., 45 to 50 mph) yields improved travel time reliability in Express Lanes

## Single Express Lane; Dual Express Lane (I-580 to I-80/I-580/I-880 Maze)

### Likely Outcomes:

- Same as Single Express Lane plus
- GP lanes likely degrade in Alameda County due to GP Lane conversion to an Express Lane

# EXPRESS LANES

## Dual Express Lanes

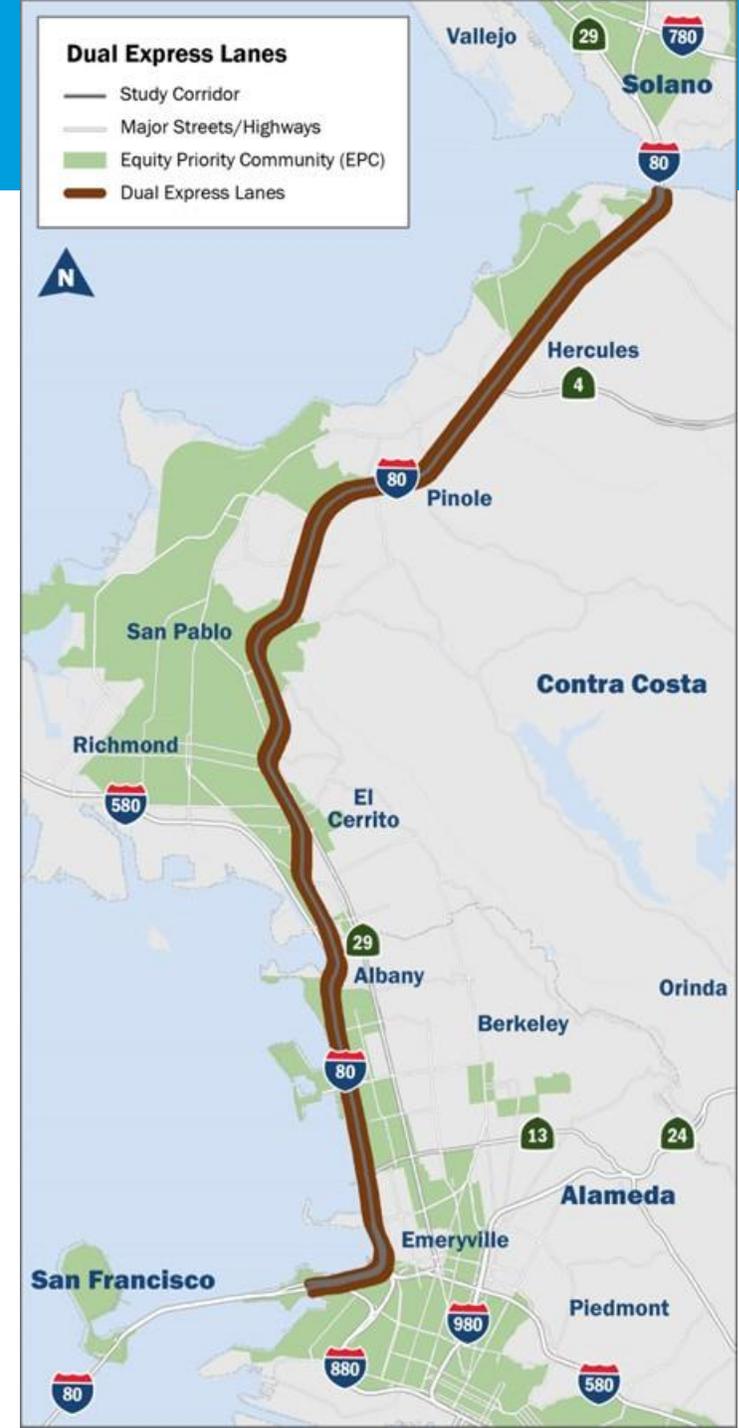
Convert HOV lane to an Express Lane. HOV3+ would travel for free while HOV2 and SOV would pay

### Westbound I-80 Express Lane Limits:

- Willow Avenue to SFO Bay Bridge

### Eastbound I-80 Express Lane Limits:

- SFO Bay Bridge to Cummings Skyway



## Dual Express Lanes

### Likely Outcomes:

- Peak Hour Operations – Express Lanes would provide reliable travel while the GP lanes would worsen
- Shoulder Hours Operation – GP lanes would improve in Alameda County (3 GP Lanes, 2 Express Lanes) but worsen in Contra Costa County (2 GP Lanes, 2 Express Lanes)
- Express Lanes would provide reliable travel during all hours
- High mode-shift potential due to high GP Lane travel time degradation in Contra Costa County

# CONTRAFLOW LANE

## Westbound Contraflow Lane

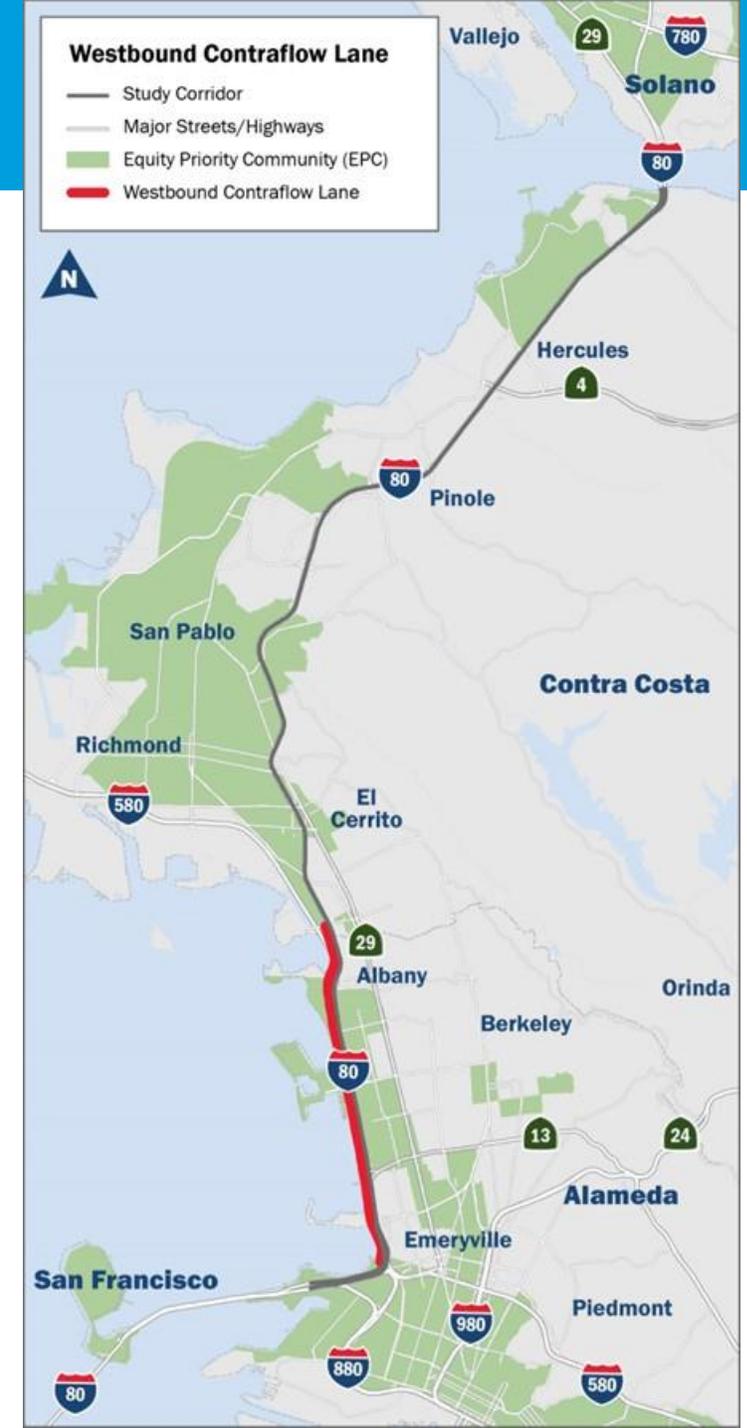
Utilize moveable barriers to change the direction of the eastbound HOV lane to provide a second westbound HOV lane

## Westbound I-80:

- I-580 and the I-80/I-580/I-880 Maze
- AM Peak Period 5 AM – 10 AM

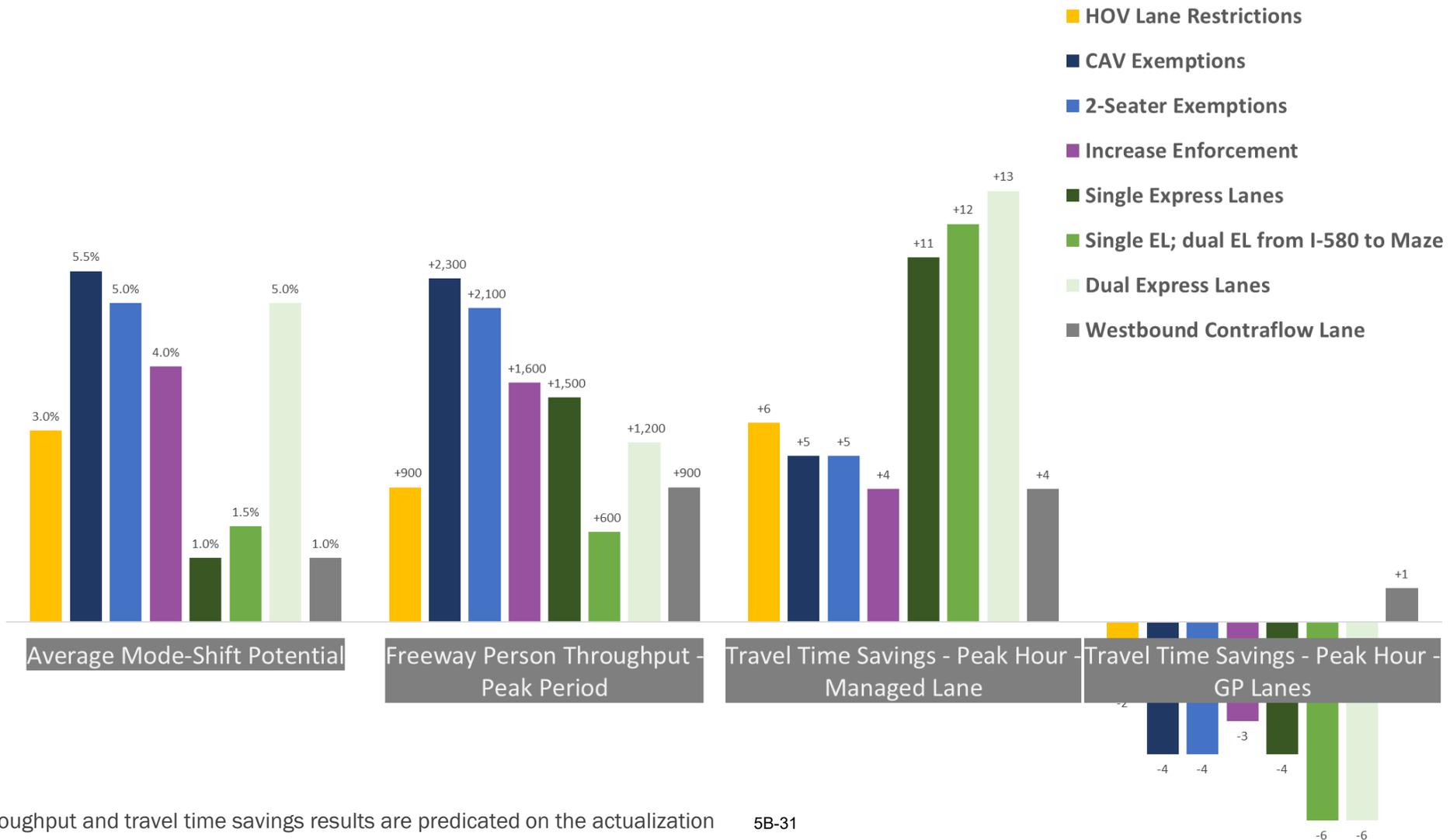
## Likely Outcomes:

- HOV lane operations likely improve in Alameda County due to the added capacity made available by the contraflow lane
- Improved travel time reliability for HOV users



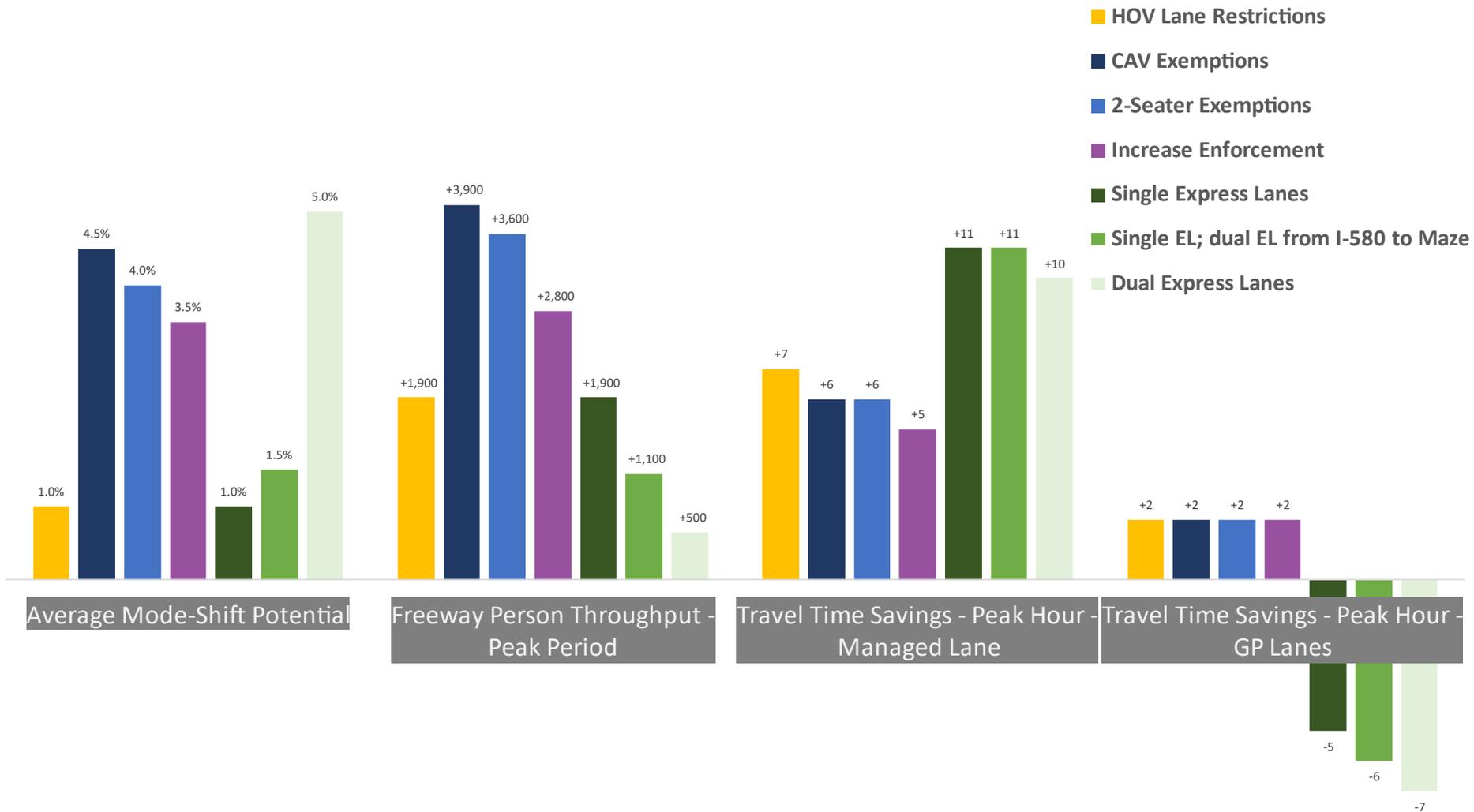
# QUESTIONS

## Measures of Effectiveness - Westbound AM Peak Period



Note: The person throughput and travel time savings results are predicated on the actualization of the “average mode-shift potential” and observed levels of average HOV-lane violation rates

## Measures of Effectiveness - Eastbound PM Peak Period



Note: The person throughput and travel time savings results are predicated on the actualization of the “average mode-shift potential” and observed levels of average HOV-lane violation rates

- Extent of diversions measured as vehicle miles traveled on freeway vs non-freeway streets
- Access restrictions and CAV scenarios – less than 0.3% change
- Single express lanes scenario – up to a 2% increase on the freeway
  - The freeway attracts trips due to the added capacity provided by the express lanes during shoulder hours
- Dual express lanes scenario would see significant diversions in Contra Costa county to San Pablo Avenue, Richmond Parkway and 23<sup>rd</sup> Street
- The analysis did not identify any “hot-spots” for significant traffic diversions onto surface streets except in the dual express lane scenario

# ALTERNATIVES COMPARISON

Alternative	Encourage Mode Shift	Improve Managed Lane Travel Time	Improve General Purpose Lane Travel Time	Reduce VMT
Extend HOV3+ Hours of Operation	➤	➤	⬅	➤
CAV Restrictions	➤ ➤ ➤	➤ ➤	—	➤
2-seater Restrictions	➤ ➤ ➤	➤ ➤	—	➤
Enhanced Enforcement	➤ ➤ ➤	➤ ➤	—	➤
HOV Access Restrictions	➤ ➤	➤ ➤ ➤	—	➤
Single Express Lane	➤	➤ ➤ ➤	⬅	➤
Single/Dual Express Lanes	➤	➤ ➤ ➤	⬅ ⬅	➤
Dual Express Lanes	➤ ➤ ➤	➤ ➤ ➤	⬅ ⬅	➤
Contraflow Lane	➤	➤	—	—

- Positive impact: +2.5% (mode shift); -5% (VMT); -5 minutes (travel time)
- Negligible or mixed impact
- ⬅ Negative Impact: -2.5% (mode shift); +5% (VMT); +5 minutes (travel time)

## STEP 1 - IDENTIFY EQUITY PRIORITY COMMUNITIES (EPC)

MTC's EPC Demographic Factors

## STEP 2 - EVALUATE EQUITY CONCERNS AND POTENTIAL MITIGATIONS

FHWA STEPS Transportation Equity Framework



**SPATIAL**  
Geographical  
Disparities

**TEMPORAL**  
Time of Day/  
Disparities in  
Travel Needs

**ECONOMIC**  
Cost of Technology  
or Service

**PHYSIOLOGICAL**  
Serving Users with  
Cognitive or physical  
challenges/  
Limited Technology  
Proficiency

**SOCIAL**  
Serving Lower  
Income, People of Color  
Or People with Limited  
English Proficiency

# EQUITY ASSESSMENT

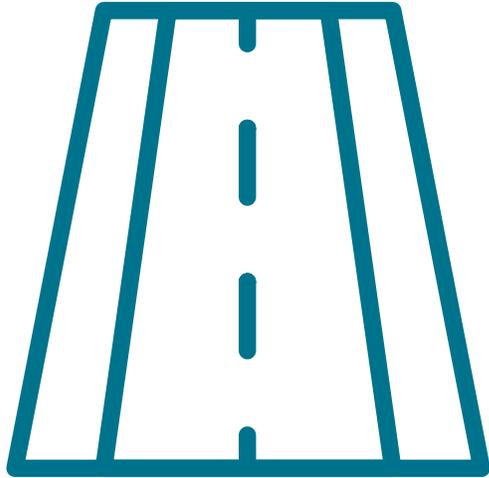
Alternative	Spatial Impacts	Temporal Impacts	Economic Impacts	Physiological Impacts	Social Impacts	Impact to EPCs w/ Potential Mitigation
Extend HOV3+ Hours of Operation		✓			✓	+
CAV Restrictions			✓		✓	+
2-seater Restrictions				✓	✓	↔
HOV Access Restrictions	✓				✓	+
Single Express Lane	✓	✓	✓	✓	✓	↔
Dual Express Lanes	✓	✓	✓	✓	✓	↔
Contraflow Lane					✓	↔
Bus on Shoulder					✓	+

-  Positive Impact
-  Neutral Impact
-  Negative Impact

ALTERNATIVE	TOTAL COST (Millions)	SCHEDULE TO IMPLEMENTATION (Years)
Extend HOV3+ Hours of Operation	\$3.0	1-2
CAV Restrictions	\$1.5	2-3
2-seater Restrictions	\$1.5	2-3
Enhanced Enforcement	\$5.0	3-4
HOV Access Restrictions	\$9.0	3-4
Single Express Lane	\$155.0	6+
Single/Dual Express Lanes	\$165.0	6+
Dual Express Lanes	\$230.0	6+
Contraflow Lane	\$15.0	6+
Bus on Shoulder	\$20.0	3+



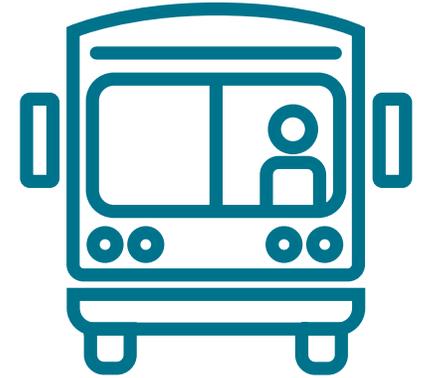
**POLICY  
CONSIDERATIONS**



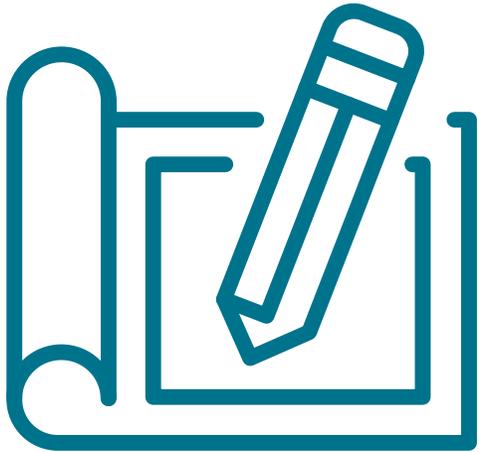
**HOV ACCESS  
RESTRICTIONS**



**EXPRESS LANES**



**BUS ON  
SHOULDER**

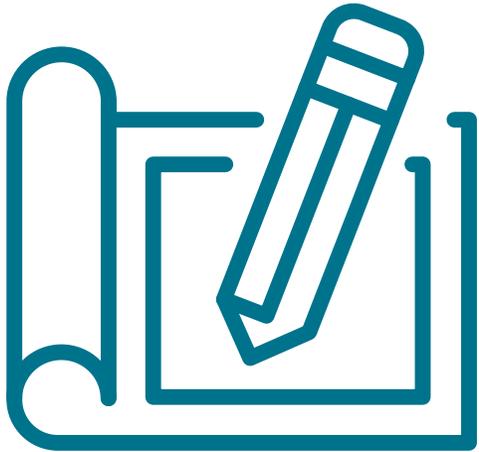


## Extend HOV3+ Hours of Operations

- Consistent message to freeway users
- Improved HOV lane operations
- Mode-shift potential in off-peak hours

Estimated Total Costs: \$3.0 M

Estimated Schedule: 1-2 years

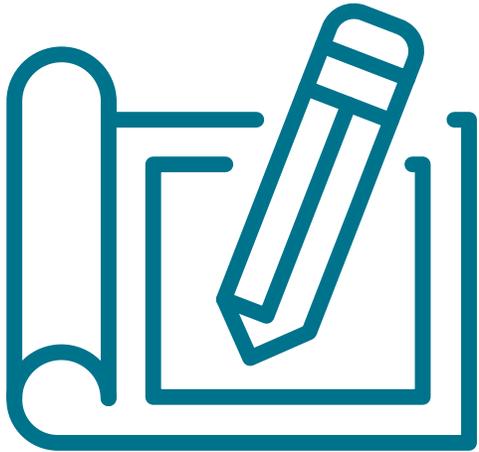


## CAVs and 2-seaters Restrictions

- GP lanes affected by shifting demand
- Improved HOV travel times
- Improved person throughput
- Improved VHD, PHD, VHT, and PHT

Estimated Total Costs: \$1.5 M (each)

Estimated Schedule: TBD

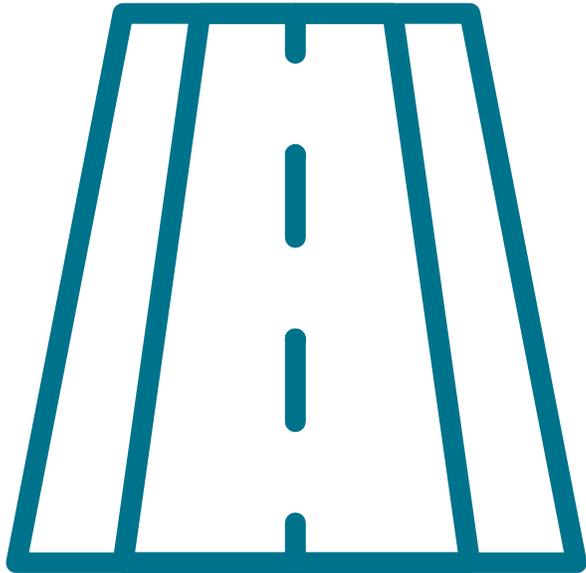


## Enhanced HOV Lane Enforcement

- GP lanes affected by shifting demand
- Improved HOV travel times
- Improved person throughput
- Improved VHD, PHD, VHT, and PHT

Estimated Total Costs: \$5.0 M

Estimated Schedule: 3-4 years



- Reduced friction and weaving between HOV and GP lanes
- Improved HOV travel times
- Improved person throughput
- Improved VHD, PHD, VHT, and PHT

Estimated Total Costs: \$9.0 M

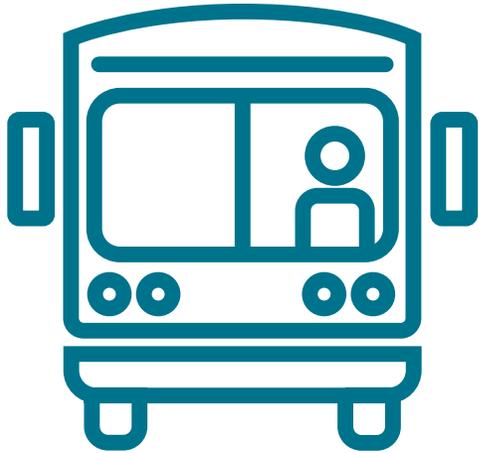
Estimated Schedule: 3-4 years



- Improved managed lane operations in peak hours
- Improved GP lane operations in shoulder hours
- Improved person throughput
- Improved VHD, PHD, VHT, and PHT

Estimated Total Costs: \$155.0 M - \$230.0 M

Estimated Schedule: 6+ years



- Improved travel times
- Improved reliability for buses
- Improved access to ramps

Estimated Total Costs: \$20.0 M

Estimated Schedule: 3+ years

# LOCALIZED TRANSIT PRIORITY STRATEGIES – Near-term Projects

Location	Description of Improvements	Preliminary Cost Estimate	Estimated Schedule
<b>John Muir Parkway/SR 4</b>	<ul style="list-style-type: none"> <li>Per West Contra Costa County Express Bus Implementation Plan (FA1)                             <ul style="list-style-type: none"> <li>Widen and add a HOV second right turn lane from NB San Pablo Ave to EB John Muir Pkwy, extending and continuing to a HOV bypass lane on the WB I-80 on-ramp</li> </ul> </li> <li>Install CMS upstream on mainline corridor indicating parking availability at existing Hercules Transit Center</li> <li>Implement TSP improvements at ramp terminus</li> </ul>	\$2.4 Million	1-3 years
<b>Richmond Parkway</b>	<ul style="list-style-type: none"> <li>Per West Contra Costa Express Bus Implementation Plan (FA2)                             <ul style="list-style-type: none"> <li>Restripe portions of the WB I-80 off-ramp and EB Richmond Pkwy</li> <li>Widen and extend the right turn lane of EB Richmond Pkwy at the intersection with Blume Dr</li> <li>Convert a lane along EB Richmond Pkwy to a HOV only lane</li> <li>Convert an existing EB I-80 on-ramp lane to a HOV bypass lane</li> </ul> </li> <li>Implement TSP improvements at ramp terminus</li> <li>Install CMS upstream on mainline corridor indicating parking availability at existing Richmond Pkwy Transit Center</li> </ul>	\$2.1 Million	1-3 years
<b>Pinole Valley Road</b>	<ul style="list-style-type: none"> <li>Convert an existing WB I-80 on-ramp lane to a HOV bypass lane</li> <li>Implement TSP improvements at ramp terminus</li> </ul>	\$1.0 Million	1-3 years
<b>University Avenue</b>	<ul style="list-style-type: none"> <li>Convert WB University Ave right lane to HOV only</li> <li>Extend left GP lane of WB on-ramp to University Ave</li> </ul>	\$1.2 Million	1-3 years

Location	Description of Improvements	Preliminary Cost Estimate	Estimated Schedule
<b>San Pablo Dam Road</b>	<ul style="list-style-type: none"> <li>Implement TSP improvements at ramp Terminus</li> </ul>	\$0.45 Million	1-3 years
<b>Willow Avenue</b>	<ul style="list-style-type: none"> <li>Implement TSP improvements at ramp Terminus</li> </ul>	\$0.45 Million	1-3 years
<b>Cutting Boulevard</b>	<ul style="list-style-type: none"> <li>Implement TSP improvements at ramp Terminus</li> </ul>	\$0.45 Million	1-3 years

5B-45

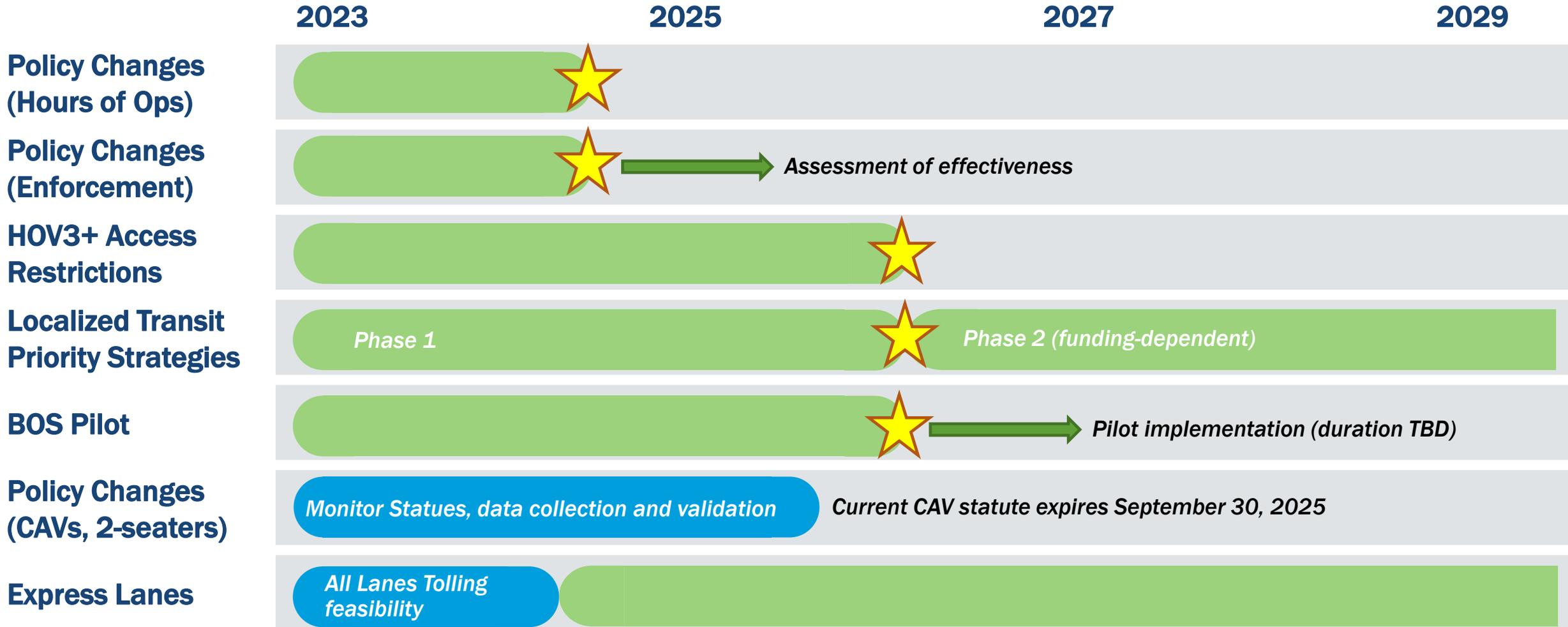
# LOCALIZED TRANSIT PRIORITY STRATEGIES – Mid-term Projects

Location	Description of Improvements	Preliminary Cost Estimate	Estimated Schedule
<b>Richmond Parkway</b>	<ul style="list-style-type: none"> <li>Construct new pullout along EB Richmond Pkwy with access to Richmond Pkwy Transit Center</li> </ul>	\$2.8 Million	3-5 years
<b>Hilltop Drive</b>	<ul style="list-style-type: none"> <li>Reconfigure terminus of EB I-80 off-ramp to allow for bus pullout</li> </ul>	\$2.2 Million	3-5 years

Location	Description of Improvements	Preliminary Cost Estimate	Estimated Schedule
<b>San Pablo Dam Road</b>	<ul style="list-style-type: none"> <li>Widen WB on-ramp and construct a HOV bypass lane</li> <li>Reconstruct existing pedestrian island</li> </ul>	\$3.7 Million	3-5 years
<b>San Pablo Avenue</b>	<ul style="list-style-type: none"> <li>Convert an existing EB I-80 on-ramp lane to a HOV bypass lane</li> </ul>	\$0.45 Million	3-5 years
<b>Central Avenue</b>	<ul style="list-style-type: none"> <li>Convert an existing EB I-80 on-ramp lane to a HOV bypass lane</li> </ul>	\$0.45 Million	3-5 years

Location	Description of Improvements	Preliminary Cost Estimate	Estimated Schedule
<b>Willow Avenue</b>	<ul style="list-style-type: none"> <li>Install CMS upstream on mainline corridor indicating parking availability at existing Willow Ave P&amp;R</li> </ul>	\$0.8 Million	3-5 years
<b>Richmond Parkway</b>	<ul style="list-style-type: none"> <li>Install CMS upstream on mainline corridor indicating parking availability at existing Richmond Pkwy Transit Center</li> </ul>	\$0.6 Million	3-5 years
<b>John Muir Parkway/SR 4</b>	<ul style="list-style-type: none"> <li>Install CMS upstream on mainline corridor indicating parking availability at existing Hercules Transit Center</li> </ul>	\$0.6 Million	3-5 years
<b>Hilltop Drive</b>	<ul style="list-style-type: none"> <li>Install CMS upstream on mainline corridor indicating parking availability at existing Hilltop Dr P&amp;R</li> </ul>	\$0.6 Million	3-5 years
<b>Buchanan Street</b>	<ul style="list-style-type: none"> <li>Install CMS upstream on mainline corridor indicating parking availability at existing Buchanan St P&amp;R</li> </ul>	\$0.6 Million	3-5 years

# RECOMMENDATIONS – Implementation Roadmap



## Immediate Actions:

**Policy Changes  
(Hours of Ops)**

Initiate project delivery process - data collection, traffic analysis, and coordination with Caltrans

**Policy Changes  
(Enforcement)**

Initiate strategy discussions with Caltrans and CHP

**HOV3+ Access  
Restrictions**

Initiate project delivery process - data collection, traffic analysis, and coordination with Caltrans

**Localized Transit  
Priority Strategies**

Initiate project delivery process - collect data to prioritize improvements

**BOS Pilot**

Initiate project delivery process - collect data and prioritize locations

**Policy Changes  
(CAVs, 2-seaters)**

Monitor statutes

**Express Lanes**

Complete MTC All Lane Tolling study and evaluate tolling options for future implementation

# QUESTIONS AND COMMENTS

Send questions/comments to Stefanie Hom @ [SHom@bayareametro.gov](mailto:SHom@bayareametro.gov) by

April 11, 2023