I-80 Design Alternatives Assessment

Project Update and Recommendations

BBF bay bridge forward

METROPOLITAN TRANSPORTATION COMMISSION

ALAMEDA County Transportation Commission

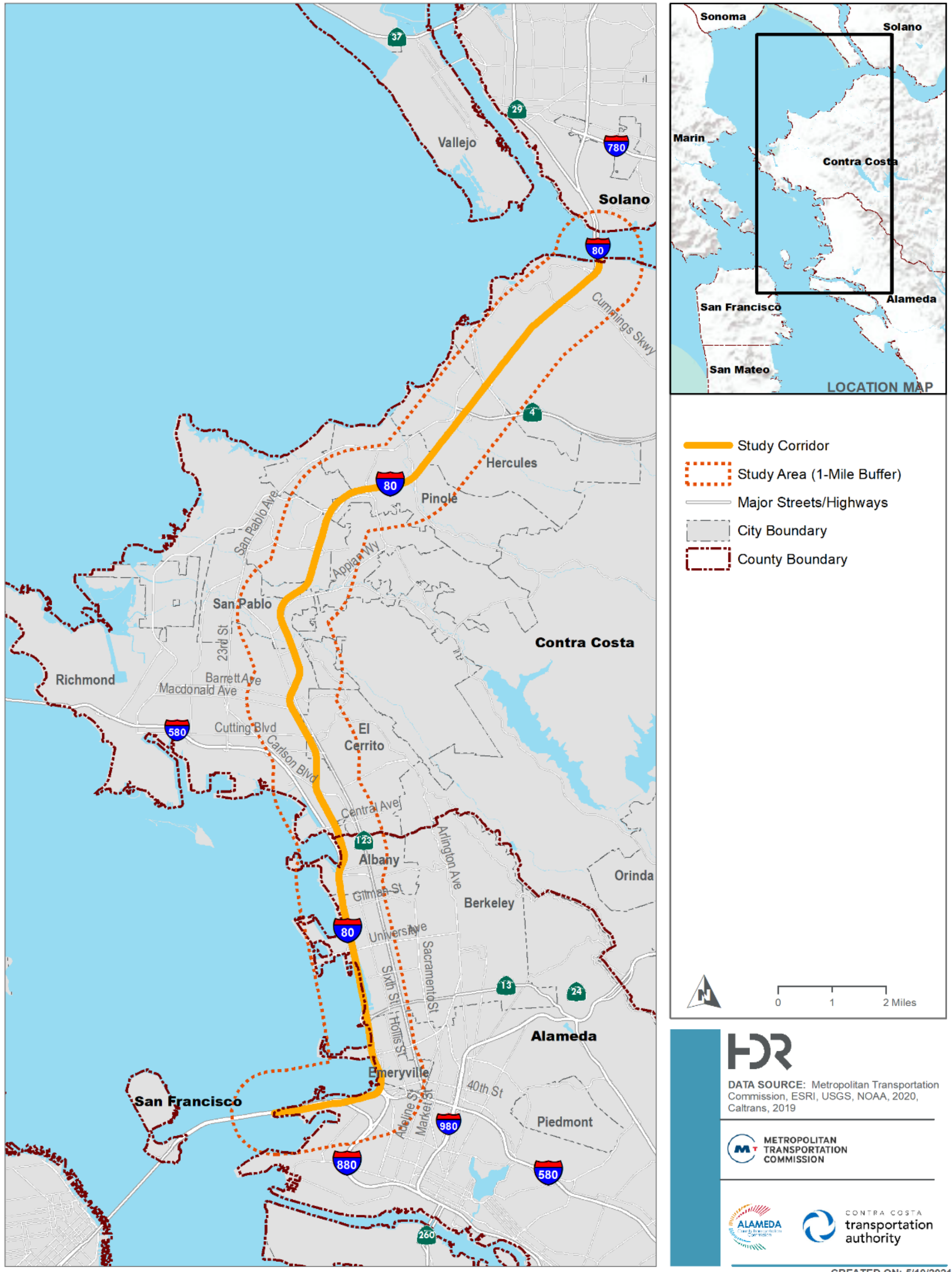
CONTRA COSTA transportation authority

WCCTAC Board Meeting

April 28, 2023

Overview

- **Project Area:** I-80, between San Francisco-Oakland Bay Bridge Toll Plaza to Carquinez Bridge Toll Plaza
- Began Fall 2020, expected completion in Spring 2023
- Partnership with Alameda County Transportation Commission and Contra Costa County Transportation Authority
- Met regularly with Technical Advisory Committee



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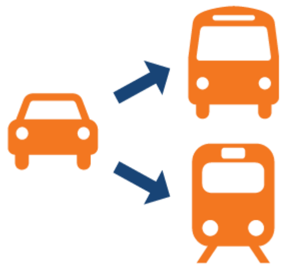
I-80 DAA Purpose & Goals

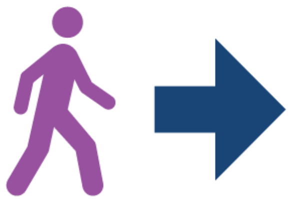
1. Evaluate **range of options** to address congestion
2. Identify **operational efficiency** projects
3. **Improve transit and carpool** operations along I-80, **encourage mode shift** and **increase vehicle occupancy**

Identify operational efficiency projects that:

Reduce Delays



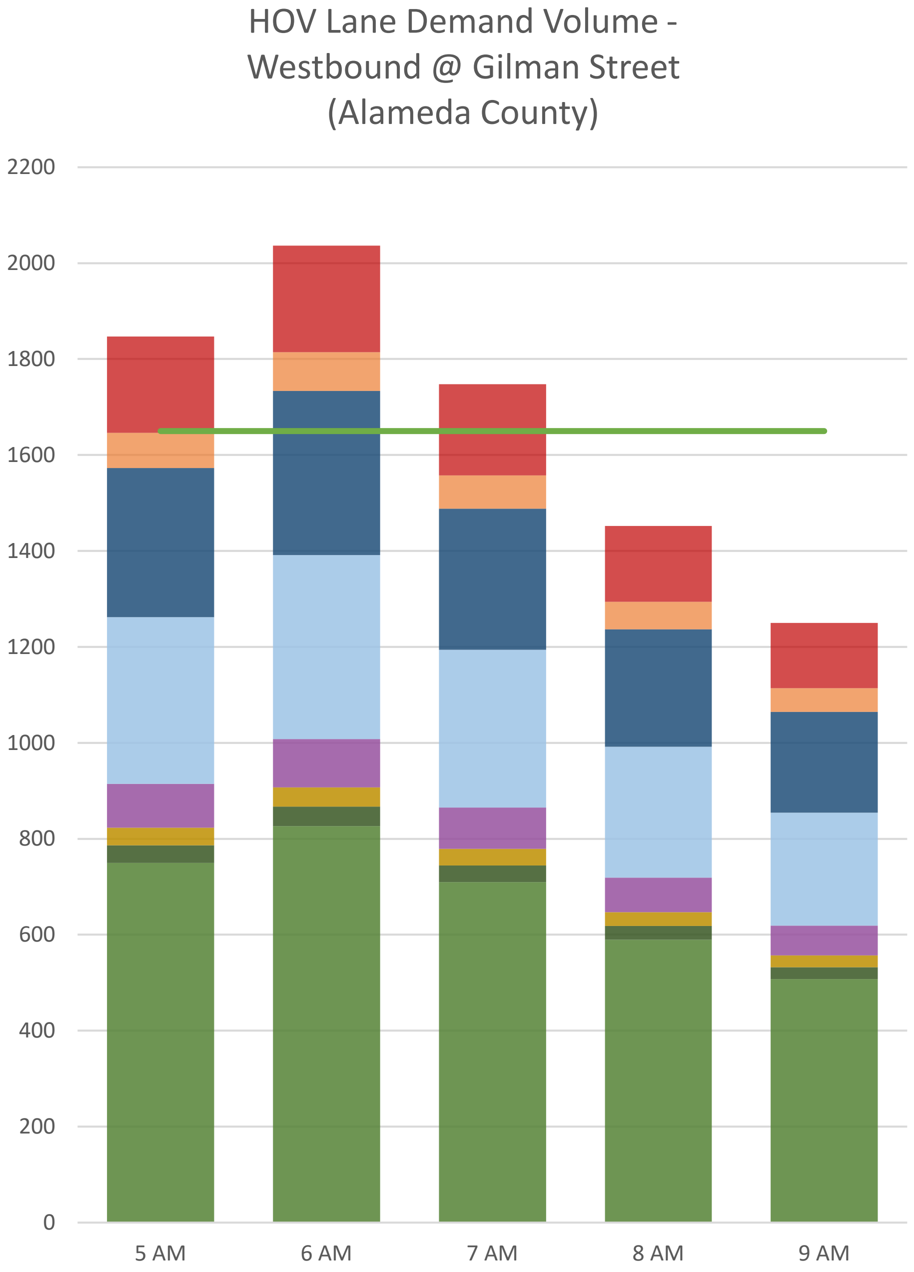
Encourage Mode Shift

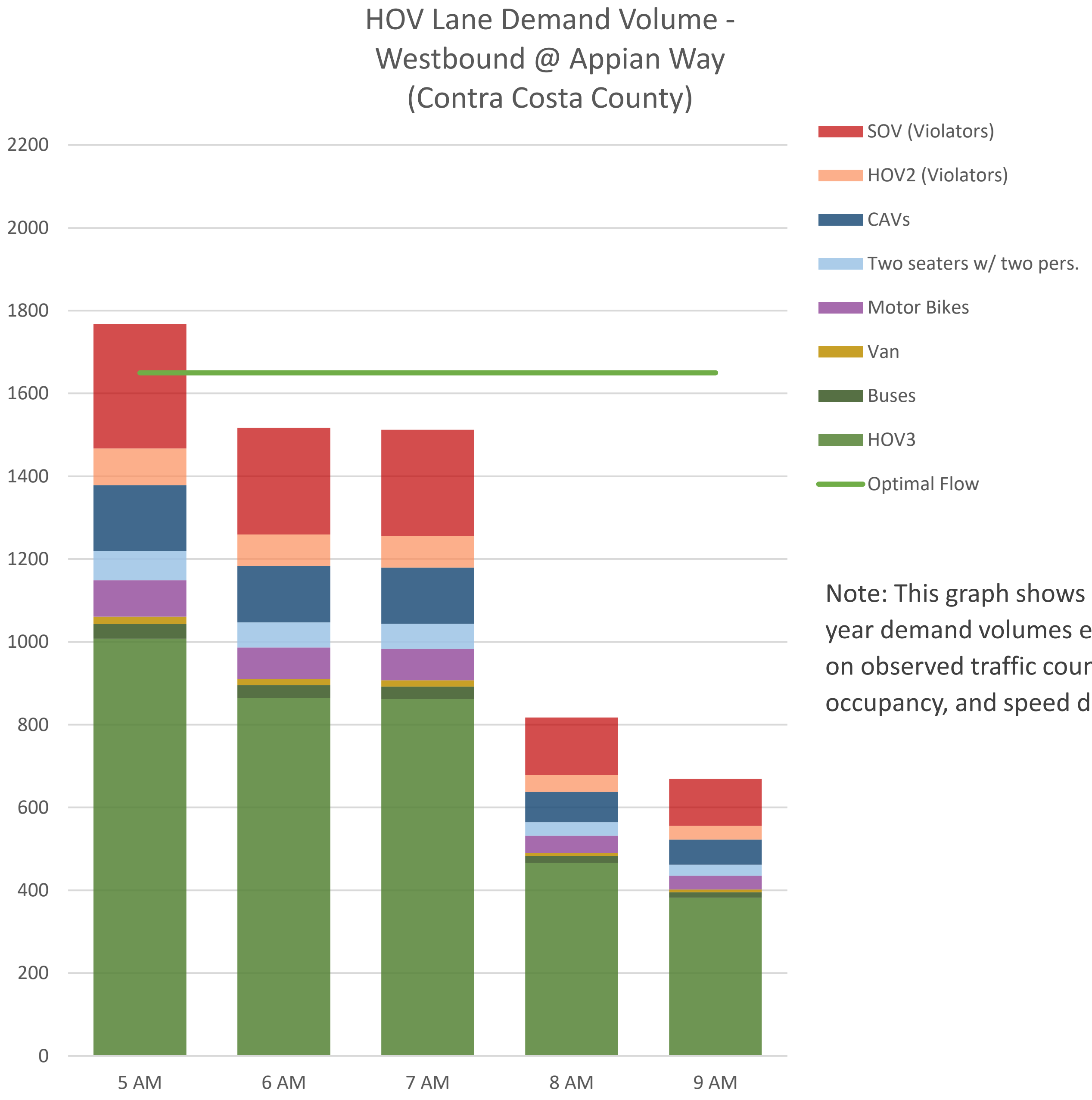


Improve Person Throughput

Improve Travel Time Reliability

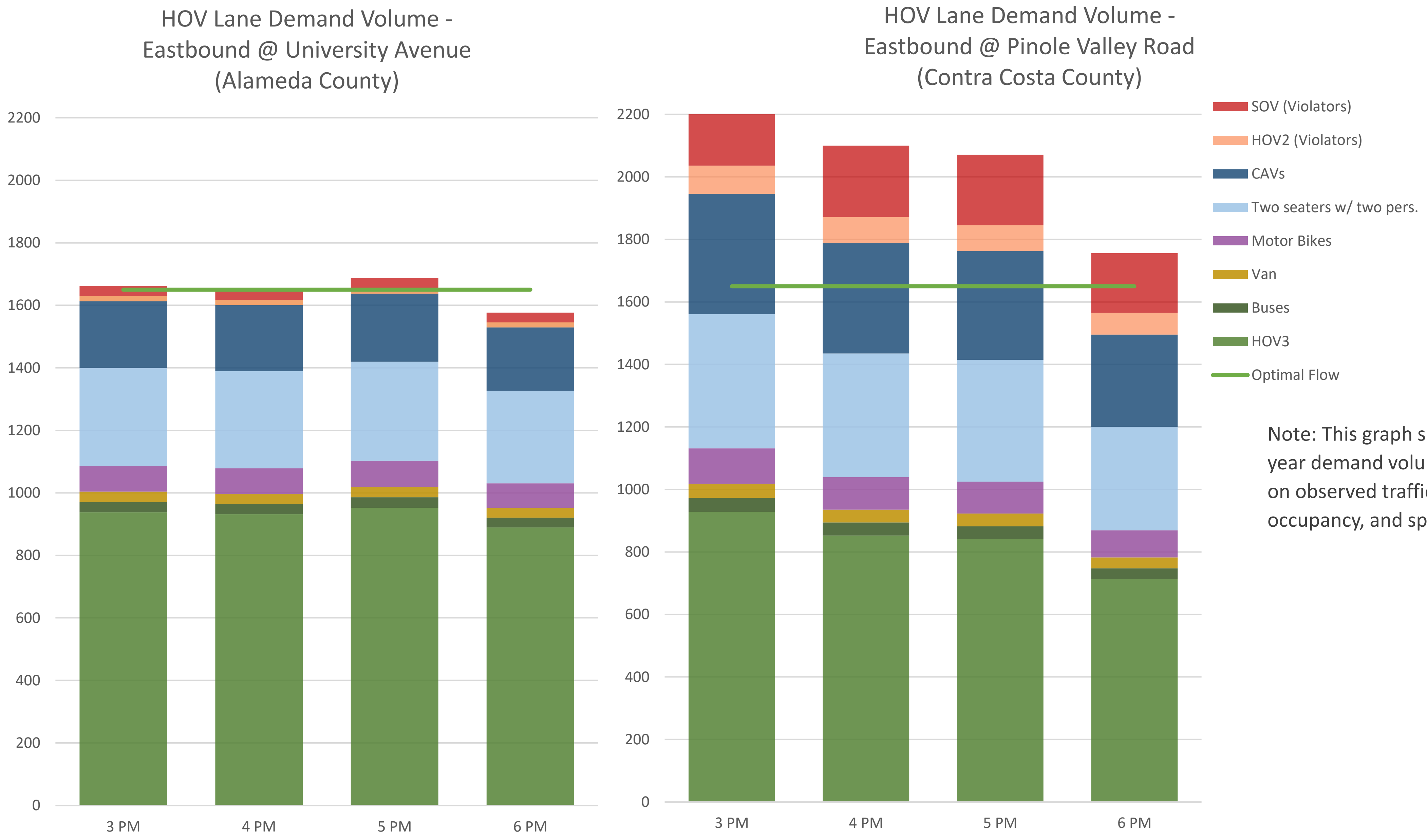
Traffic Characteristics - Westbound





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

Traffic Characteristics - Eastbound



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

Corridor-Wide Strategies Evaluated

Corridor-Wide Strategies for Consideration

POLICY CONSIDERATIONS

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

Corridor-Wide Strategies for Consideration

TRANSIT/HOV OPERATIONAL IMPROVEMENTS

HOV3+ ACCESS RESTRICTIONS

- Double solid white stripe between HOV and GP lanes at specific locations on WB and EB I-80

BUS ON SHOULDER PILOT

- Recommendations from MTC Regional Bus on Shoulder Study
- Pilot on I-80 corridor

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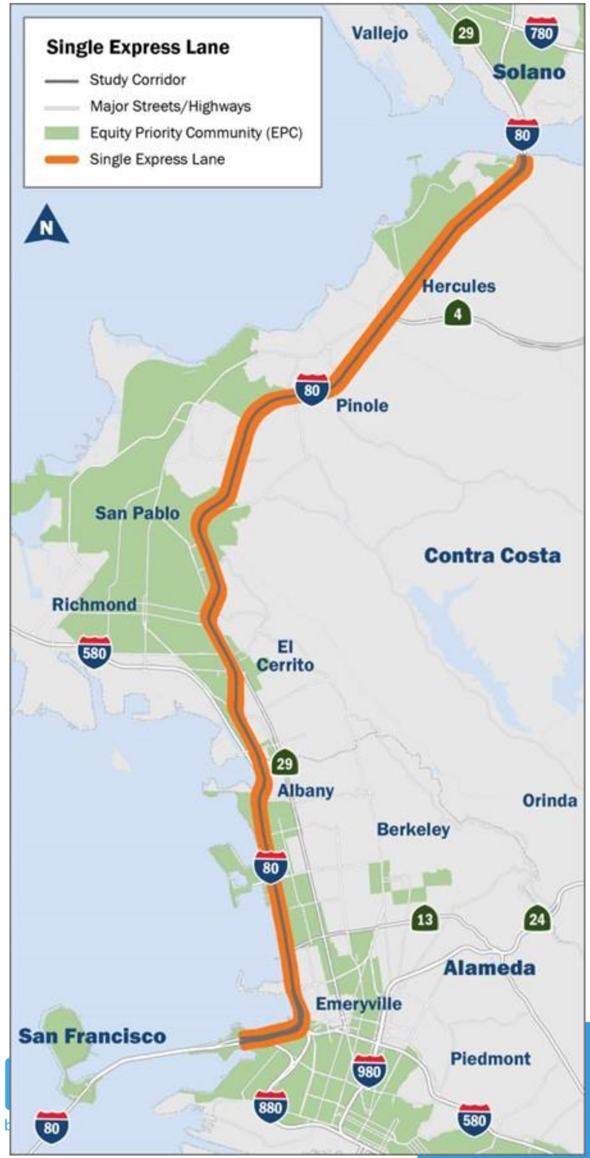
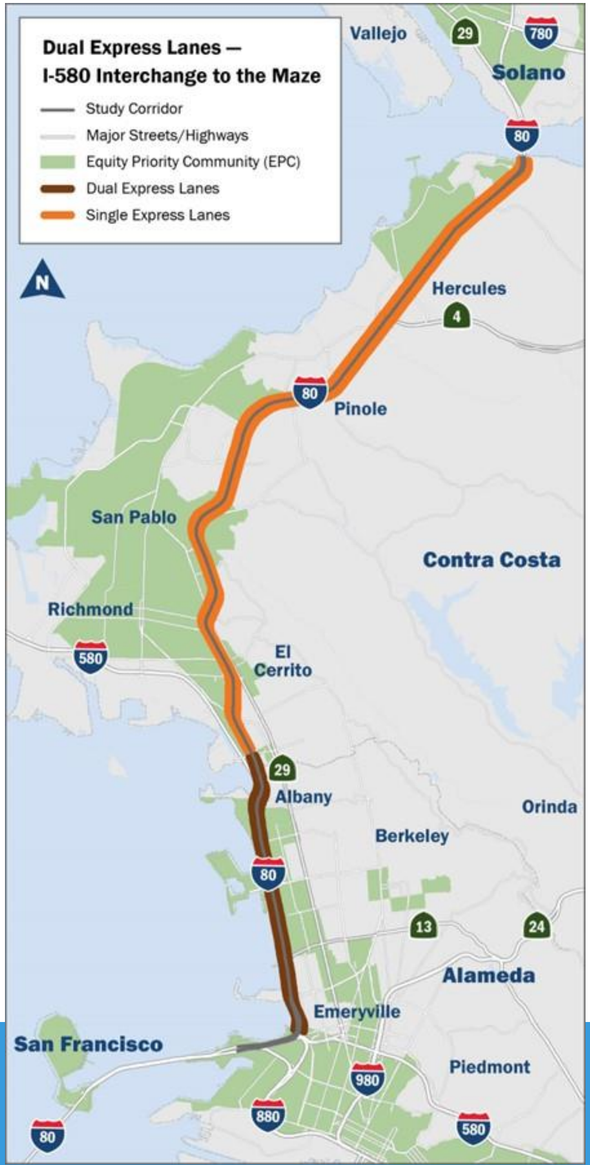
Corridor-Wide Strategies for Consideration

EXPRESS LANE CONVERSIONS – HOV3+ Free, Tolls for HOV2 and SOVs

Single Express Lane



Single/Dual Express



Dual Express Lanes

Extent of Diversions

- 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 23rd 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 Travel Time	Reduce VMT
Extend HOV3+ Hours of Operation	↗	↗	↙	↗
CAV Restrictions	↗ ↗ ↗	↗ ↗	–	↗
2-seater Restrictions	↗ ↗ ↗	↗ ↗	–	↗
HOV Access Restrictions	↗ ↗	↗ ↗ ↗	–	↗
Single Express Lane	↗	↗ ↗ ↗	↙ ↙	↗
Single/Dual Express Lanes	↗	↗ ↗ ↗	↙ ↙	↗
Dual Express Lanes	↗ ↗ ↗	↗ ↗ ↗	↙ ↙	↗

↗ 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)

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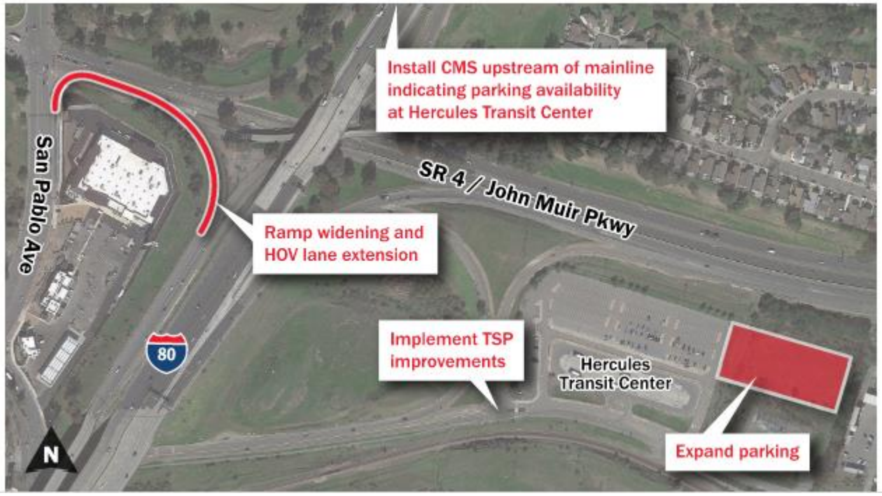
Recommended Localized Strategies

Transit and carpool improvements on on/off-ramps

INTERCHANGE LOCATION

JOHN MUIR PARKWAY/SR 4

EXISTING TRANSIT USE
WestCAT: JX, Lynx



TRAVEL TIME SAVINGS
4.0 Minutes
(WB JX, Lynx)

AVERAGE PASSENGER PERCENT SAVINGS
9% (Lynx) **16%** (JX)

ESTIMATED CAPITAL OUTLAY COSTS
(2022 Dollars)

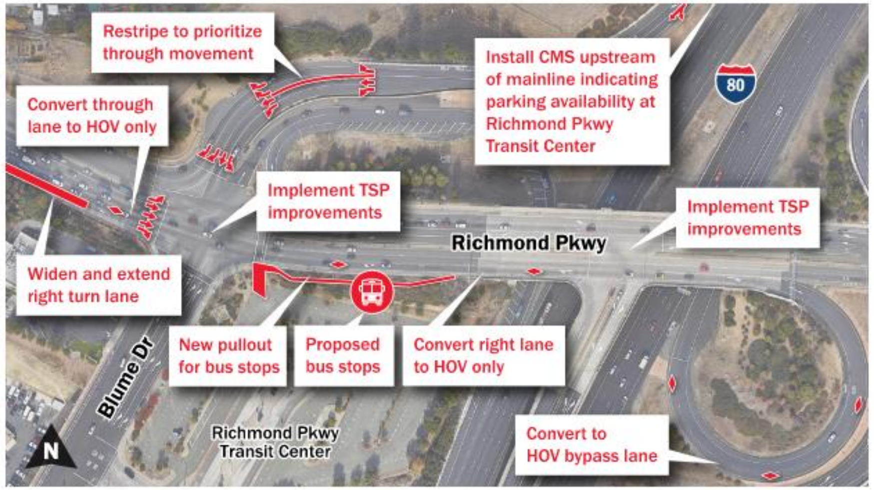
$3.2 Million*

*$19.5M with parking structure

INTERCHANGE LOCATION

RICHMOND PARKWAY

EXISTING TRANSIT USE
WestCAT: JR/JL, JPX
AC Transit: LA



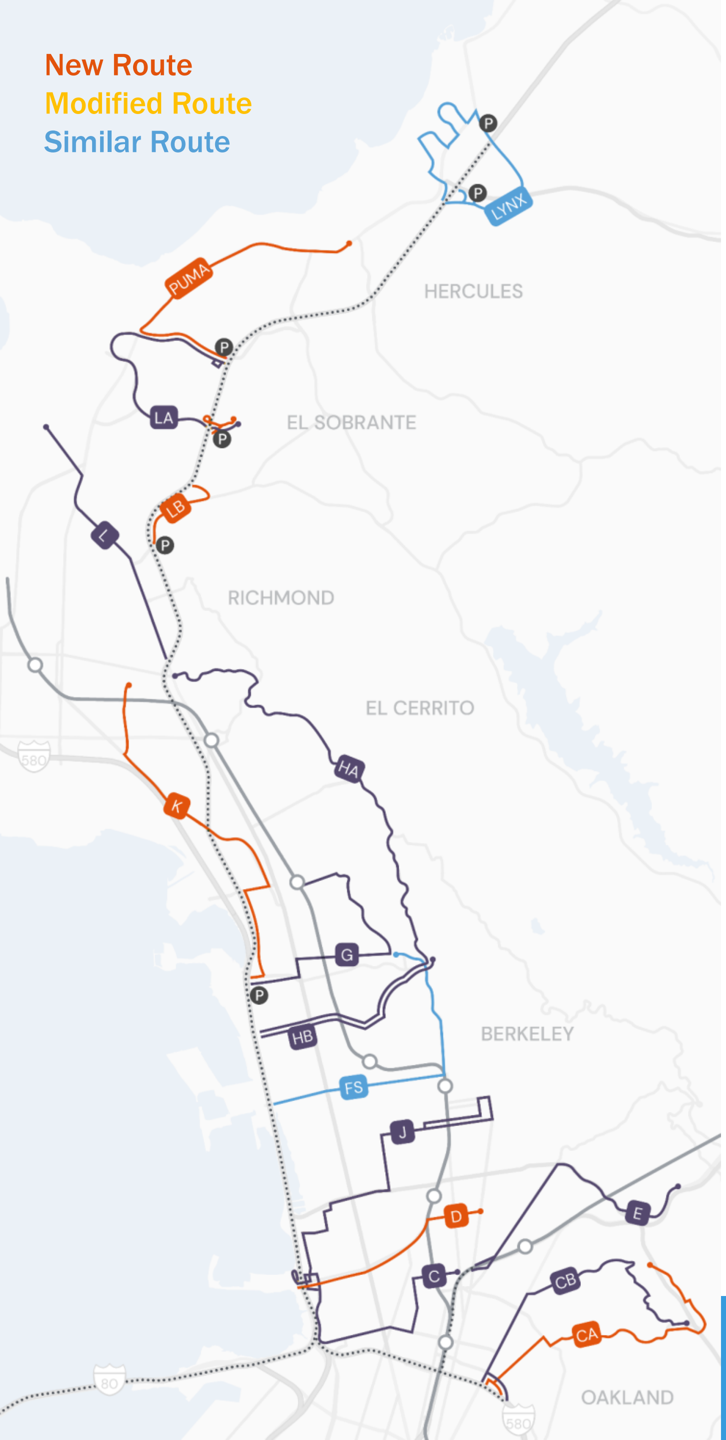
TRAVEL TIME SAVINGS
2.0 Minutes (WB LA)
3.0 Minutes (WB JPX, JR/JL)
5.0 Minutes (EB JPX)

AVERAGE PASSENGER PERCENT SAVINGS
10–15% (JPX, JR/JL) **4%** (LA)

ESTIMATED CAPITAL OUTLAY COSTS
(2022 Dollars)

$5.7 Million*

*45M with parking structure



Express Bus Service

- **Evaluated**
  - Modified/new routes to SF
  - Potential route to Emeryville/Oakland
- **Implementation**
  - Monitor ridership recovery
  - AC Transit Network Redesign (by 2024)
  - RM3
  - Transit 2050+

Bus on Shoulder Pilot

- MTC conducted Regional Bus on Shoulder (BOS) Study to assess corridors for bus on shoulder readiness/implementation
- Process included screening of shoulder conditions and discussions with transit operators
- I-80 corridor selected as priority corridor for BOS pilot
  - Eastbound Limits: Toll Plaza to Pinole Valley Rd (19 miles)
  - Westbound Limits: Richmond Pkwy to Powell (11 miles)

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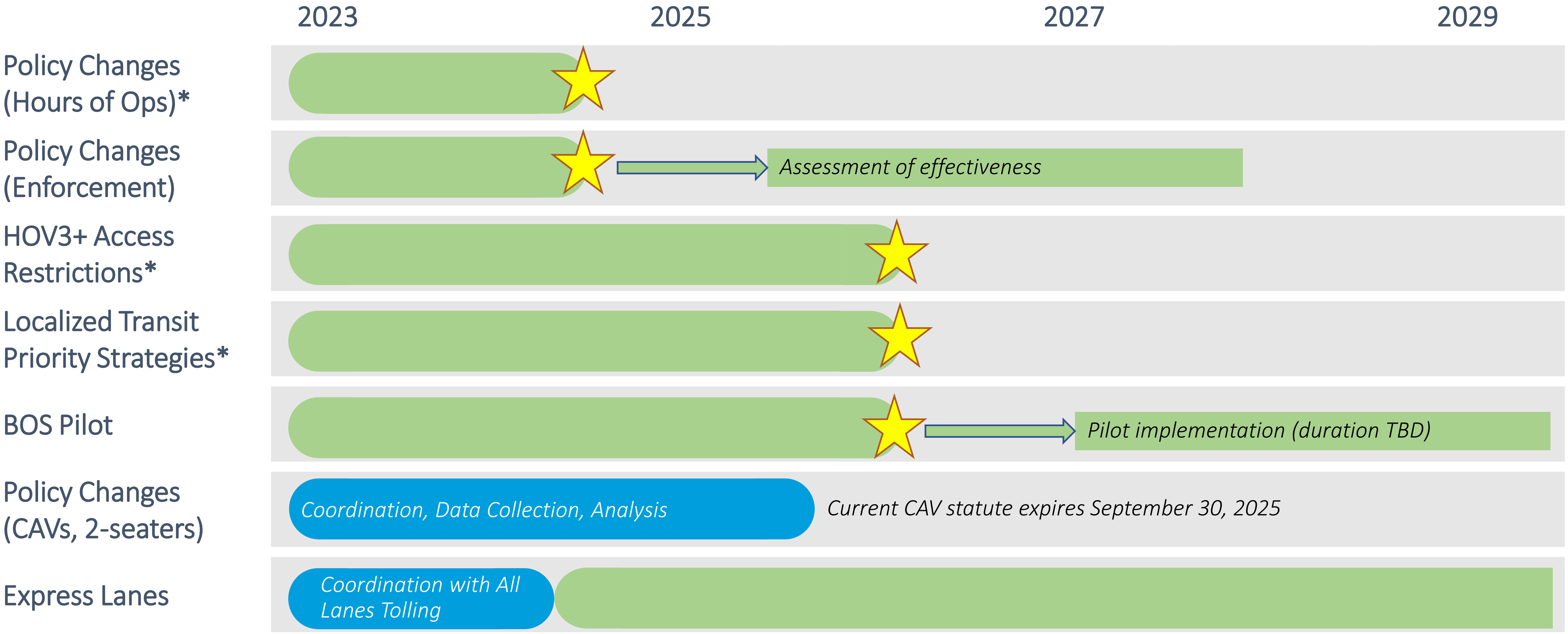
Cost and Schedule

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+
Bus on Shoulder	$20.0	3+

RECOMMENDATIONS – Implementation Roadmap



*Part of Blue Ribbon Transformation Action Plan