

Bay Area Toll Authority Oversight Committee

February 12, 2020

Agenda Item 6a

San Francisco-Oakland Bay Bridge: Bus Lane Assessment and Bay Bridge Forward

Subject: Staff to report on: 1) the initial design and traffic assessment of a bus lane on the San Francisco-Oakland Bay Bridge (SFOBB); 2) an update of results from the delivery of Bay Bridge Forward (2016); and 3) a new draft set of recommended Bay Bridge Forward near-term operational, transit, and shared mobility investments to provide additional travel time savings and smoother flows for bus transit and carpool vehicles.

Background: The SFOBB corridor is consistently ranked as one of the most congested corridors in the region. In particular, during the morning commute hours, severe traffic congestion exists at each of the major approaches from I-80, I-580, I-880, and West Grand Avenue, which, in turn, causes delays to buses and carpool vehicles accessing the high-occupancy vehicle (HOV) by-pass lanes at the toll plaza.

Per the direction of Chair Haggerty at the June 14, 2019 Metropolitan Transportation Commission (MTC) Operations Committee meeting, staff was requested to perform an assessment of implementing a bus lane on the bridge deck and report back to this Committee at a later date.

In recent headlines, State Assembly member Rob Bonta expressed interest in a legislative solution in support of a bus-only lane on this bridge. In addition, in January 2020, both AC Transit's and BART's Board of Directors have approved resolutions to support a bus-only lane.

MTC staff has led an initial design and traffic assessment on this subject, which has subsequently been vetted with partner agencies, including Caltrans, Alameda and San Francisco County Transportation Authorities, AC Transit, and Cities of Oakland and Emeryville. In short, here are our key take-aways:

- Buses and carpools/vanpools headed to the SFOBB are stuck in traffic. More must be done to move more people in fewer cars and offer travel times savings and reliability to bus riders.
- MTC's traffic analysis finds that there is more congestion during the AM peak at the westbound approaches to the SFOBB, compared to the bridge itself. Similarly, in the PM peak, there is more congestion in the East Bay corridors than on the bridge.
- Fixing these congested hotspots most affecting bus movement at the West Grand Ave, I-580 and I-80 approaches to SFOBB first is the highest priority, in order to have the most immediate impact for riders. Relieving congestion at hotspots will smooth traffic, reduce delays and result in time savings for bus riders.
- We believe implementing and analyzing the effects of these first order fixes is essential to developing an overall gameplay around bus priority opportunities in the Bay Bridge Corridor, including consideration of a bus only lane on the bridge span itself.

- Our roadmap to prioritize Transbay buses and shared rides calls for a \$65 million investment in Bay Bridge Forward (2020): near-term operational fixes at bridge approaches, expanded bus fleets and robust Transbay bus services, commuter parking, and demand management to encourage a shift to transit and pooling. These building blocks help us make progress towards a mode shift goal of 20% and enable transit supportive strategies within the next 5+ years such as a dedicated bus lane, higher vehicle occupancy requirements greater than 3 persons per vehicle, and managed lanes.

MTC, Caltrans and partner agencies are committed to expedite the delivery of operational fixes to support buses and carpools/vanpools. Staff asks that the Commission issue a \$20 million challenge to MTC/Bay Area Toll Authority, Caltrans, Alameda County Transportation Authority, and Contra Costa Transportation Authority to pool resources, jump-start the proposed near-term operational improvements identified in Bay Bridge Forward (2020) and advance them through the environmental review and design phase.

Issues: None identified.

Recommendation: None

Attachments: Attachment A: Presentation on SFOBB Bus Lane and Bay Bridge Forward


Therese W. McMillian



Bay Bridge Bus Lane Assessment and Bay Bridge Forward

BATA Oversight Committee

February 12, 2020

Why Consider a Bus Lane on the Bay Bridge?

Persistent congestion within the Bay Bridge corridor has renewed interest in a dedicated bus lane to:

- Move more people in fewer cars
- Offer travel time savings and reliability for bus riders
- Accommodate growing travel demand due to strong economy and long-distance commutes



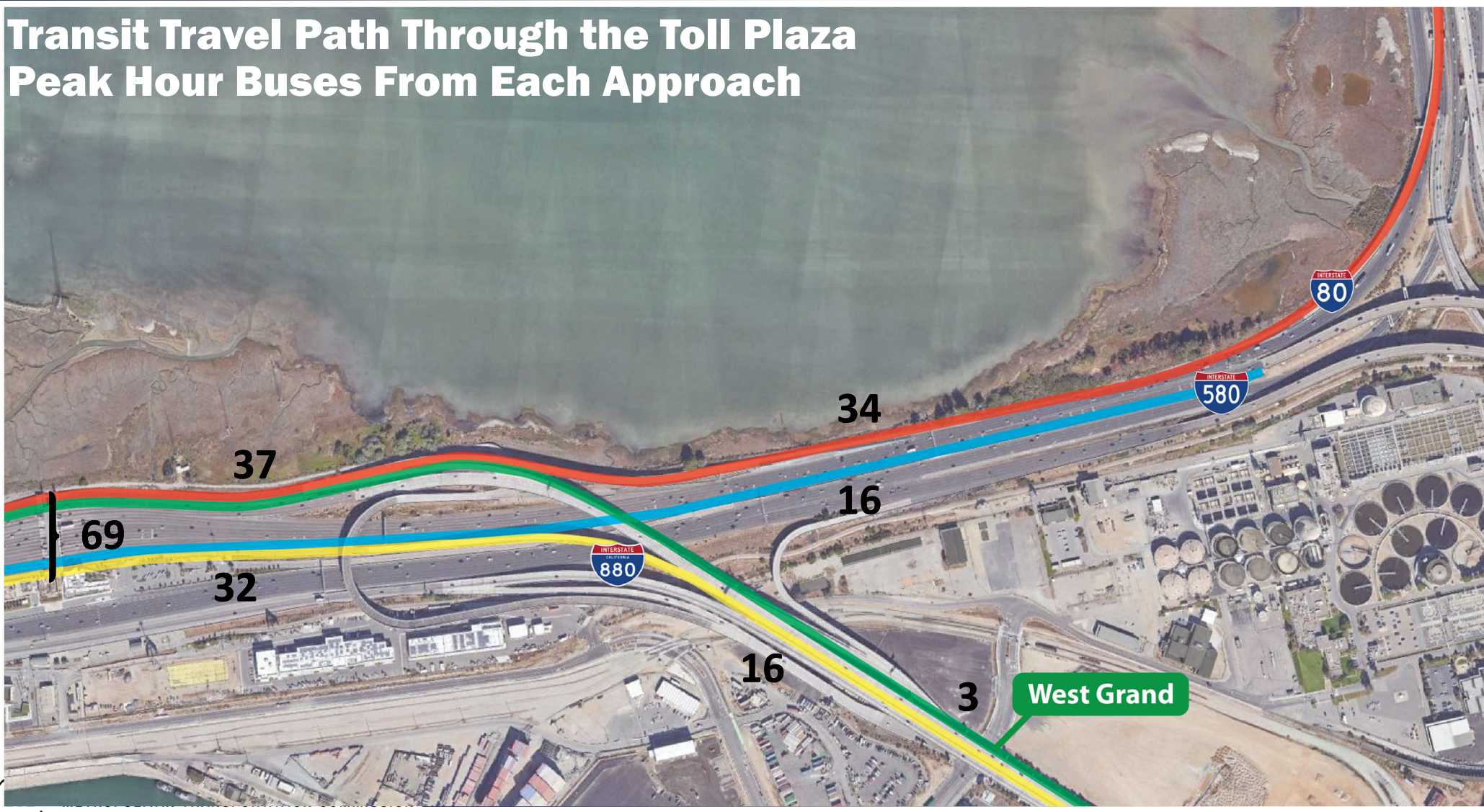
In January 1962, an order was issued restricting the eastbound shoulder for the uses of buses only.

Buses in HOV Lane Has Clear Access through the Toll Plaza and SFOBB

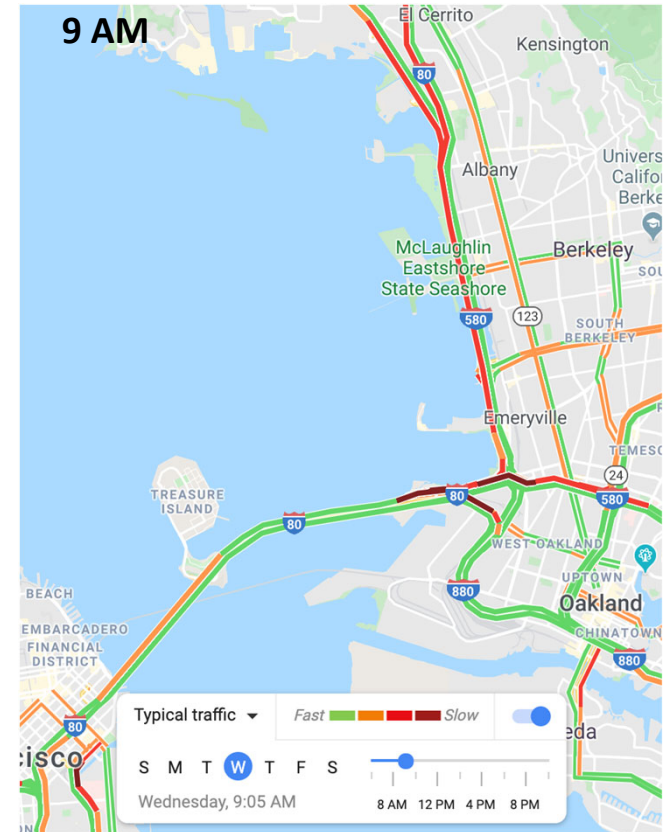
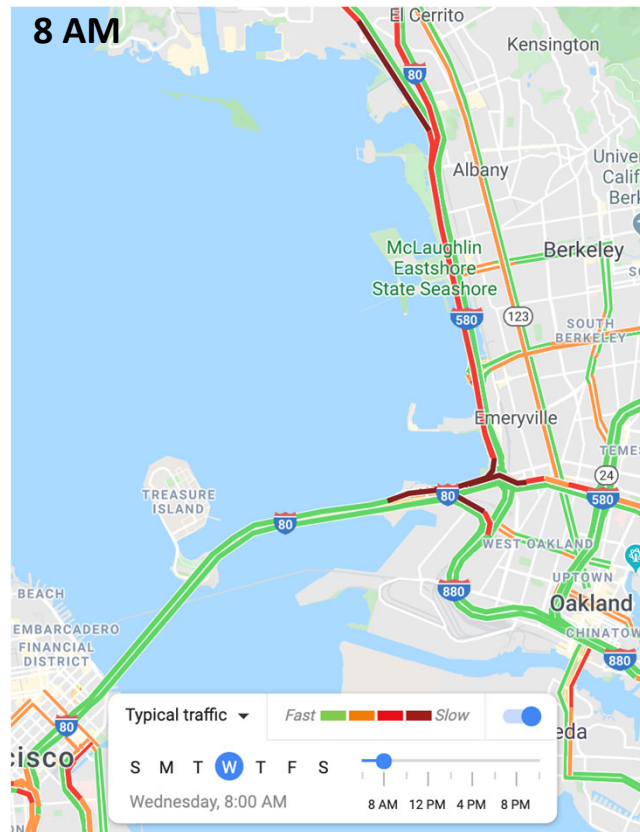
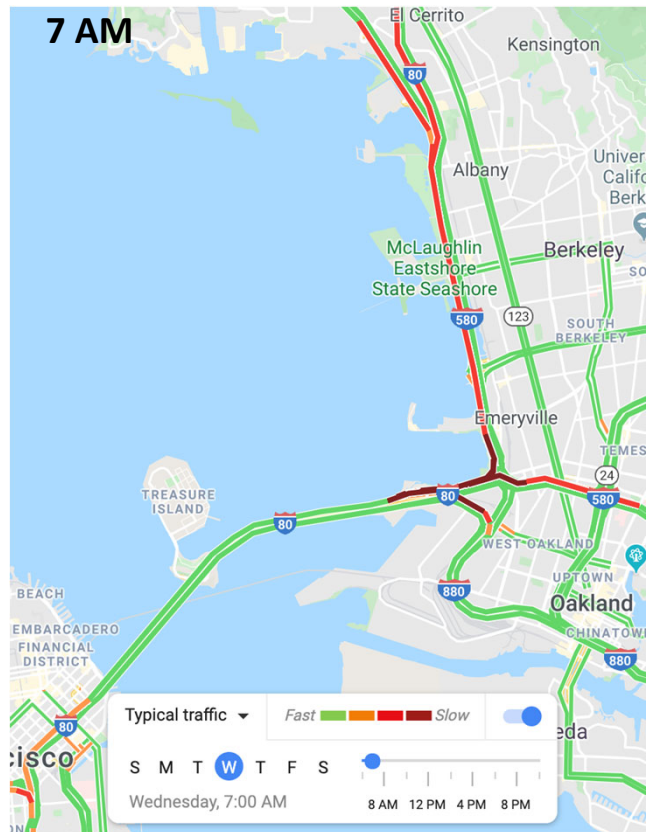
(video footage from Thursday, 1/23/2020, ~ 8 AM)



Transit Travel Path Through the Toll Plaza Peak Hour Buses From Each Approach



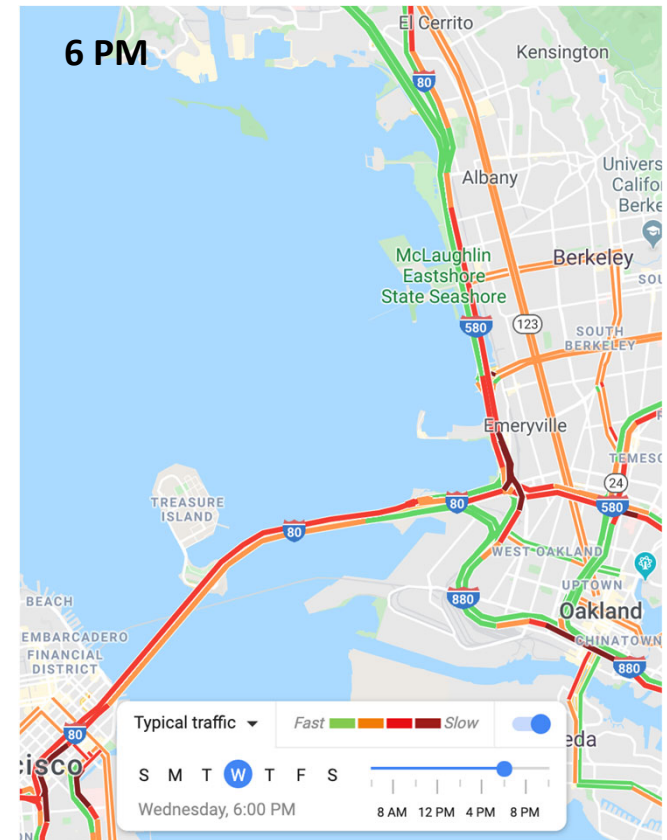
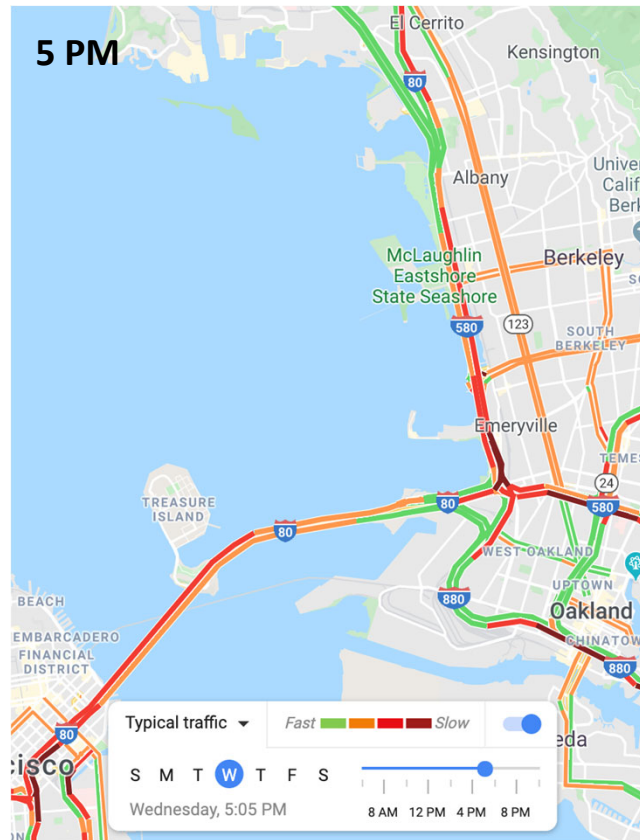
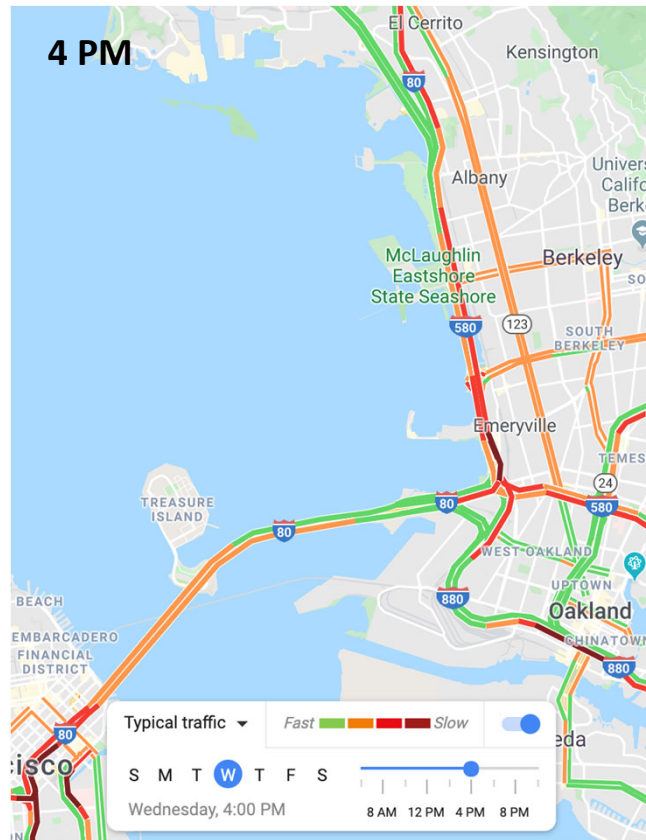
Existing AM Commute to SF: More Congestion on Approaches Than on Bridge



AM Peak Hour	Bay Bridge	I-80 Approach	I-580 Approach	I-880 Approach
Delay (minutes)	6	31	13	11
Speed (mph)	36	23	28	14

Source: Google maps 2020, INRIX average data in April, 2019

Existing PM Commute from SF: More Congestion in East Bay than Bridge



Bay Bridge (Eastbound PM)	3 PM	4 PM	5 PM	6 PM
Delay (minutes)	2	2	2	1
Speed (mph)	44	43	43	45

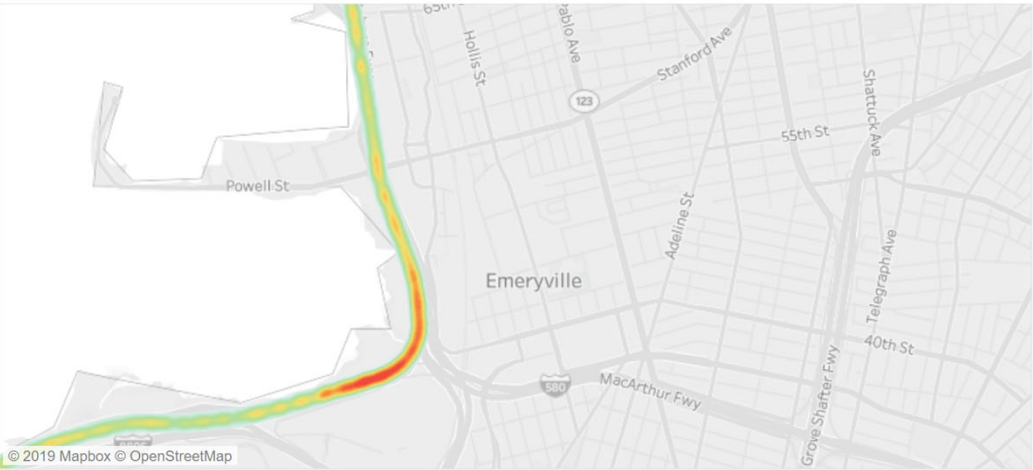
Source: Google maps 2020, INRIX average data in April, 2019

AM Peak: Buses Experience Congestion at the Approaches, not on SFOBB

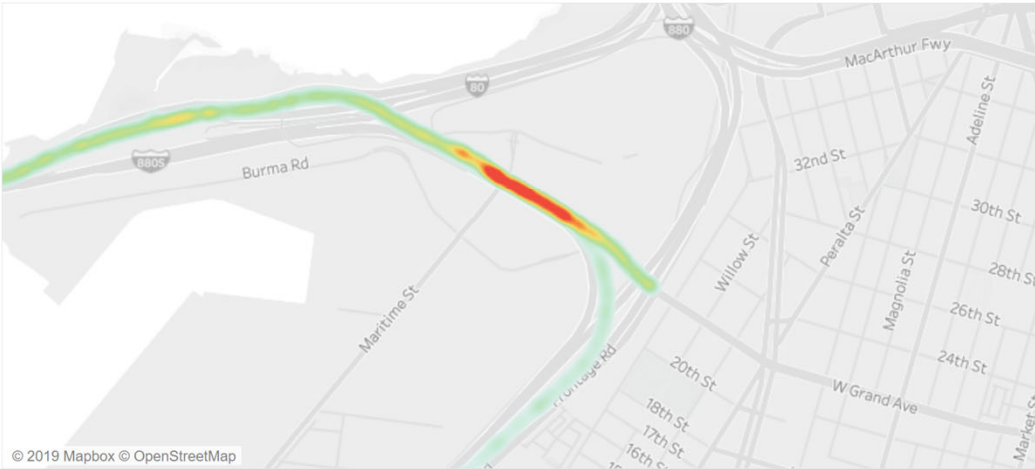
Bay Bridge, West of Toll Plaza



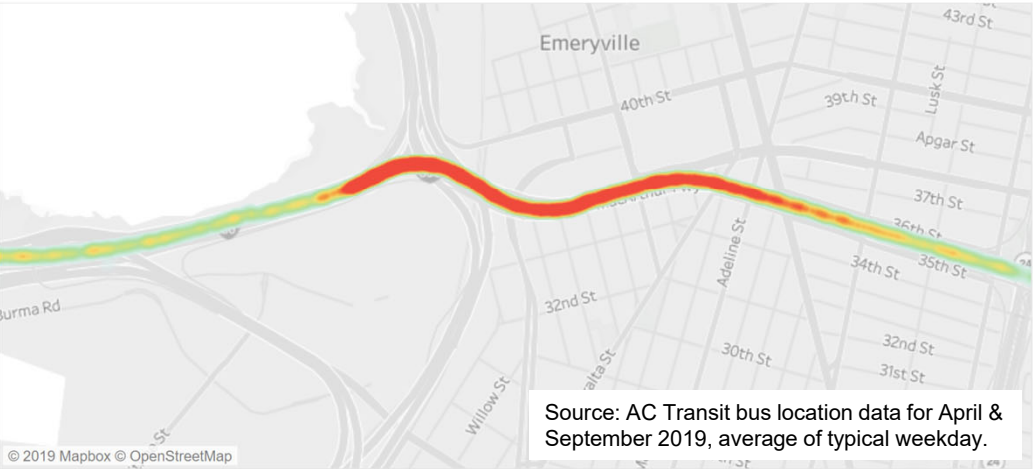
Via I-80



Via I-880 and West Grand



Via I-580



Source: AC Transit bus location data for April & September 2019, average of typical weekday.

Bay Bridge Forward Delivers Results

West Grand Ave On-Ramp HOV/Bus Only Lane



- 21 Minutes Saved



- 109% HOV Volume Increase

Vehicle Occupancy Detection – Pilot Phase 1



- 78% – 88% Overall System Accuracy Rate

Commute Management Platform with Kaiser



- 4900 registered employees

AC Transit Double Deckers + Increased Service



- 50% reduction in overcrowded trips (2017)
- 40% reduction in overcrowded trips (2018)
- 7% increase in ridership (2018)

WestCat Double Decker Transbay Express



- 24% increase in daily passengers in June 2019
- 19% increase in average weekday passengers over 2018

WETA Ferry Service Enhancement



- 28% increase in Alameda/Oakland weekday ridership

Flexible On-Demand Transit Pilot with UCSF



- 10,000+ trips served during pilot
- 780+ unique users



Getting to a 20% Mode Shift

20%

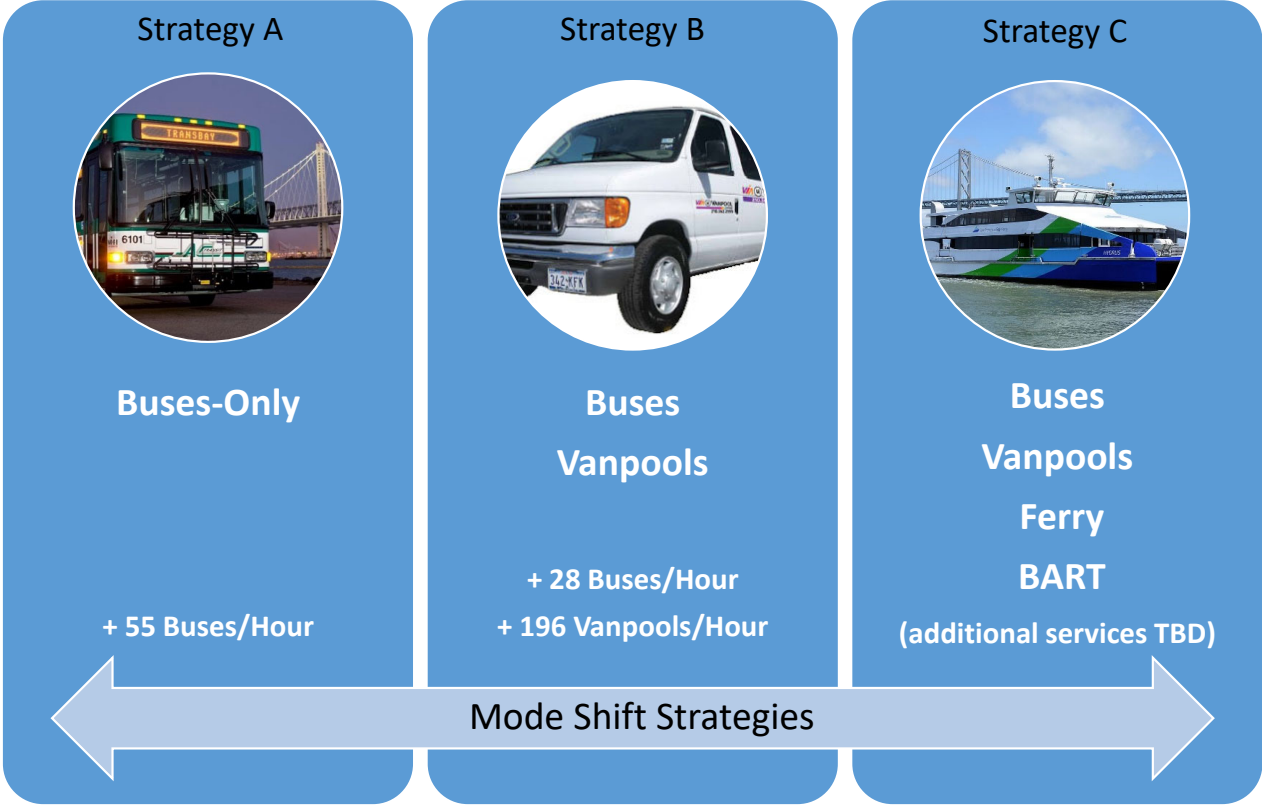
Mode Shift During AM Peak
Period (5 AM – 10 AM)

1,600

Vehicles Per Hour

2,000

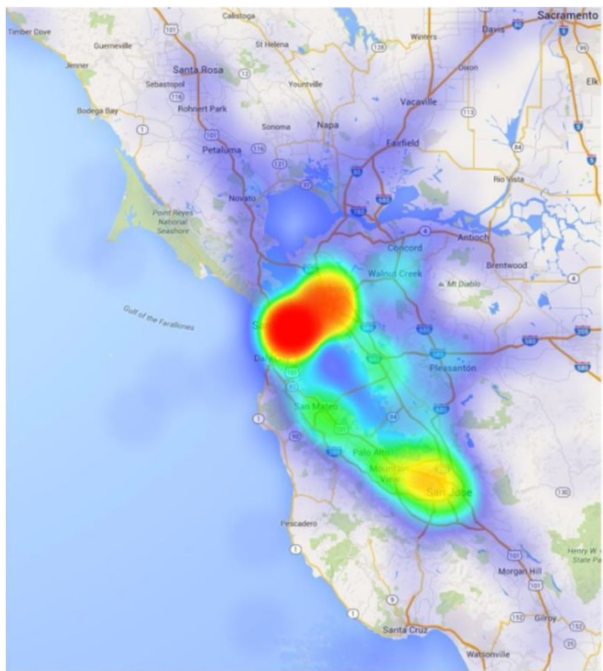
Person Trips Per Hour



Note: these are example strategies, alternate modes of travel may also include ferry, BART, or other means. In addition, the Salesforce Transit Center has a capacity to operate up to 300 buses per hour, and would be able to accommodate these additional buses.

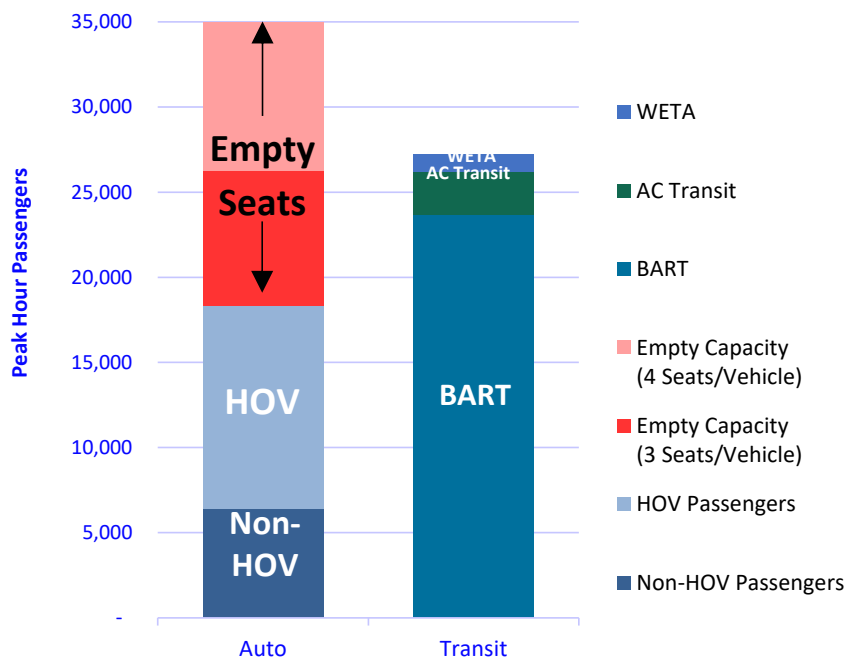
Opportunity: Utilize Empty Seats

Where do Bay Area residents experience the most traffic frustration?



Source: Bay Area Council 2016 Poll

Transbay WB Peak Hour



4 seats/vehicle → 48% seats are empty

16,000+ empty seats/hour = 70% of BART Tube Capacity

Source: BATA 2015, Caltrans 2014, MTC 2015

Roadmap to Prioritizing Transit + Shared Mobility in SFOBB Corridor



- Relieve congestion at the West Grand approach
- Commuter Parking
- Grow fleet, Add more Transbay transit services
- Manage travel demand

2016



- Fix bridge approaches (580, 80, etc.)
- Grow fleet, Add more Transbay transit services
- Commuter Parking
- Manage travel demand

2020

20%
Mode
Shift



- Advance a bus lane, HOV occupancy policies and managed lanes

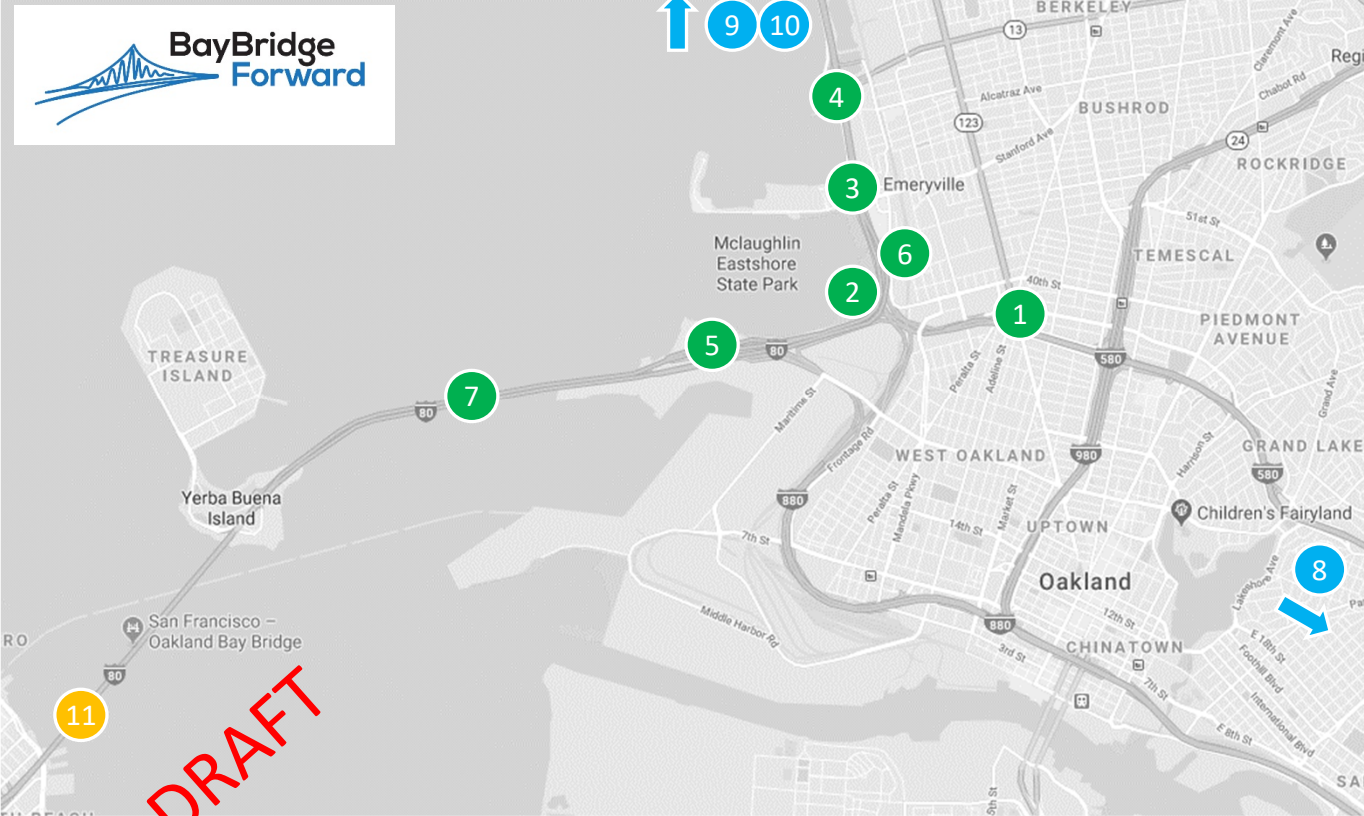
Future



METROPOLITAN TRANSPORTATION COMMISSION

Bay Bridge Forward (2020)

\$65M Investment to Reduce Delay, Move More People and Buses



Operational Improvements		Cost (2019\$, M)
1	ALA 580 WB HOV Extension	40
2	I-80 WB BOS/HOV/Bus Lane	
3	I-80 Powell Interchange Mod/Roundabout ALA/CC I-80 Design Alternative	
4	Assessment/Operational Improvements	
5	Bridge Approach Bus/HOV Lane Hours of Operations	
6	I-80 EB HOV Lane Buffer Separation (TBD)	
7	Dynamic Bridge Operations: Dynamic transit routing, advanced traveler's information on alternate modes, and others	
Express Bus Service/Transit Core		
8	Pilot Express Bus Routes on ALA 580 from Oak. (AC Transit)	16
9	Pilot Express Bus Routes on I-80 from Hercules (WCCTAC)	
10	Commuter Parking on I-580/I-80	
Shared Mobility		
11	MTC SHIFT Employer Focused	9
Total		65

