



**METROPOLITAN
TRANSPORTATION
COMMISSION**

Agenda Item 5

Bay Area Metro Center
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TO: Policy Advisory Council

DATE: May 3, 2018

FR: Marti Paschal, Staff Liaison

RE: Operations Section Orientation

As part of your orientation to the Policy Advisory Council, Ashley Nguyen, Assistant Director in MTC's Operations section, will attend the May 9 Council meeting to present an overview of the work and projects that are the focus of this department, whose mission is to "Design, deliver, operate and maintain innovative transportation solutions to help people move more efficiently throughout the Bay Area." Attached is the PowerPoint presentation she will review.

This is the last of the orientation presentations by department. Previously we heard from Integrated Planning, Programming and Allocations, Legislation and Public Affairs and Electronic Payments.

Attachment



MTC Operations

What We Do & Why

Ashley Nguyen

May 9, 2018

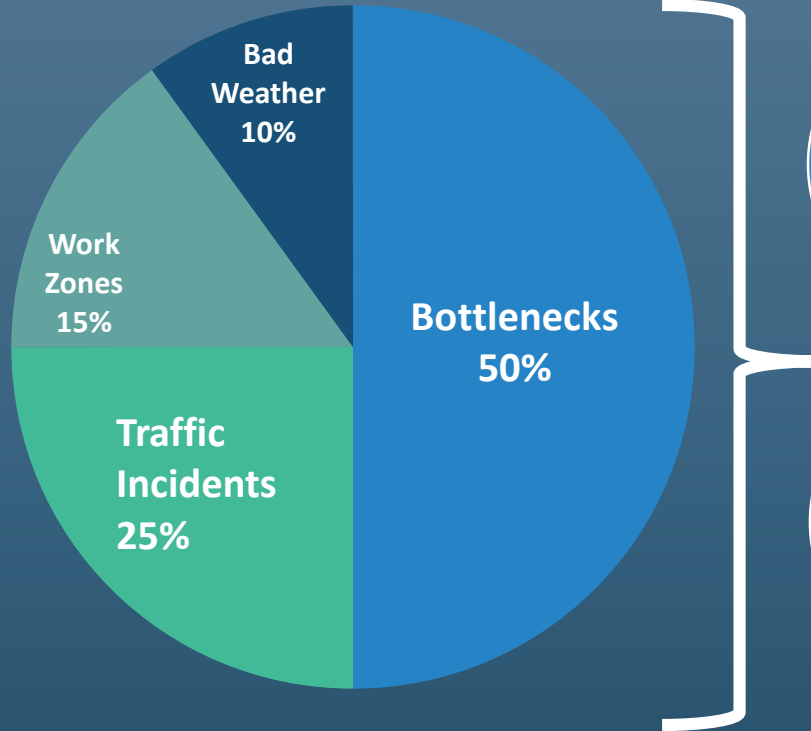
Operations Section's Mission Statement

Design, deliver, operate and maintain innovative transportation solutions to help people move more efficiently throughout the Bay Area



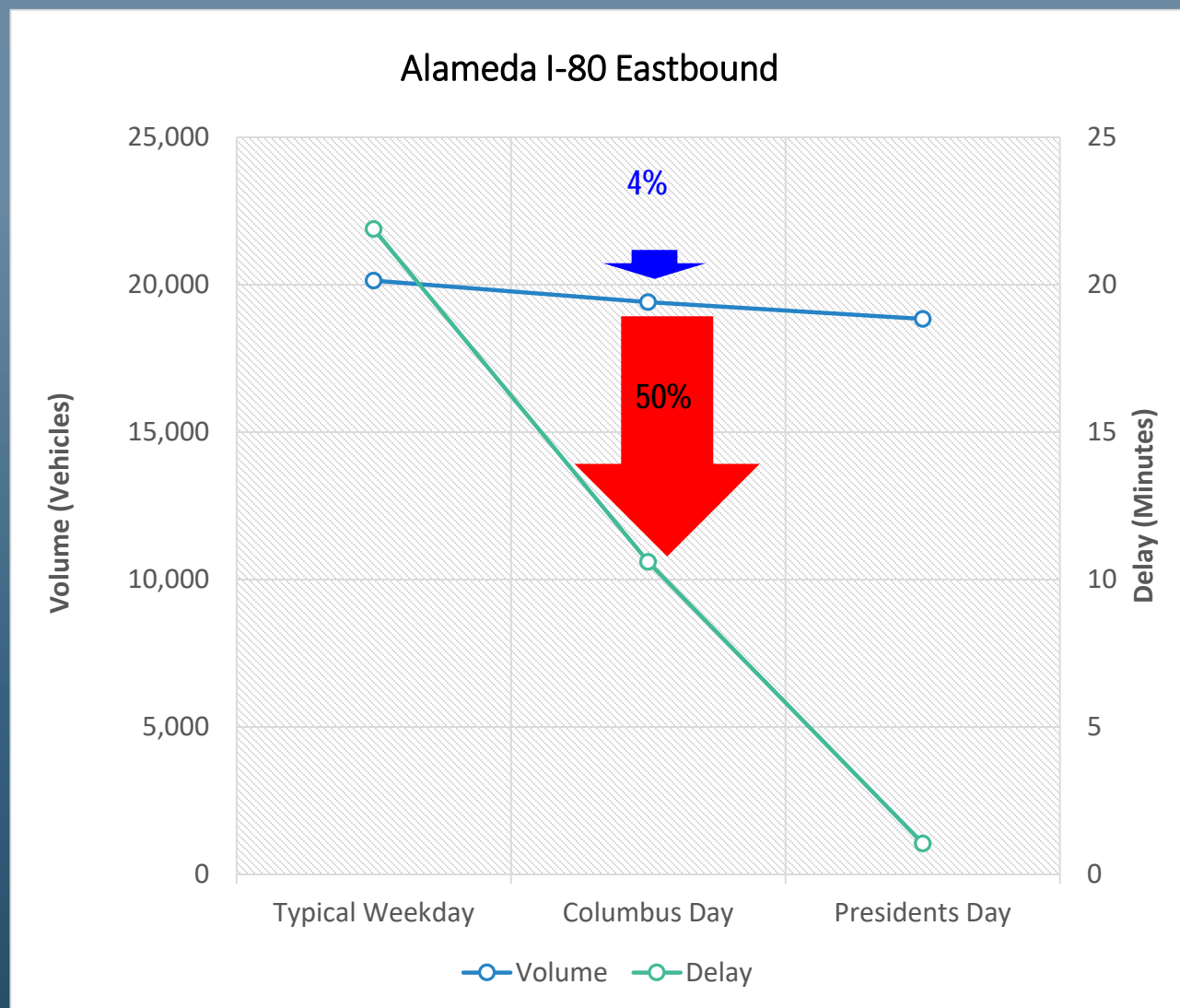
Managing Congestion

Causes of Congestion



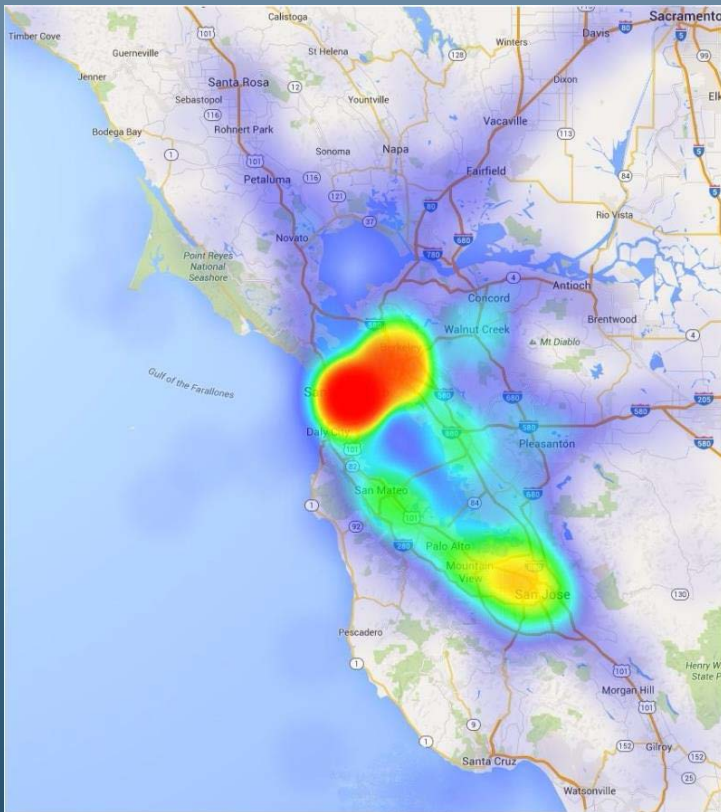
The “Spring Break” Effect

**3% to 5% Lower
Traffic Demand on a
Holiday Yields 50% to
70% Less Delay**



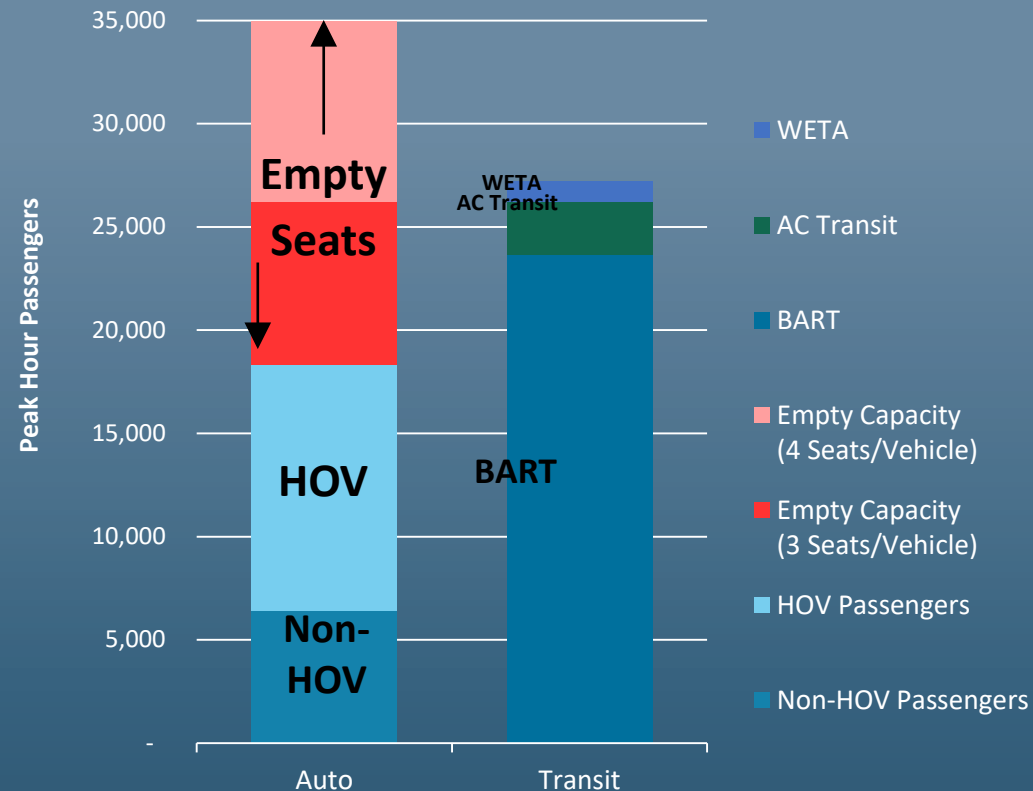
Opportunity: Utilize Empty Seats

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

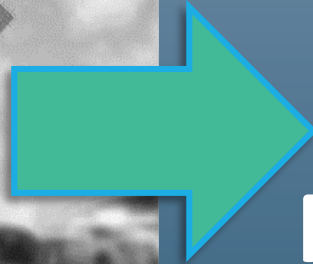
16,000+ empty seats/hour = 70% of BART Tube Capacity

Source: BATA 2015, Caltrans 2014, MTC 2015

Breaking the Project Delivery Paradigm

Expedite Delivery of Operational Projects for Immediate Relief

OLD SCHOOL

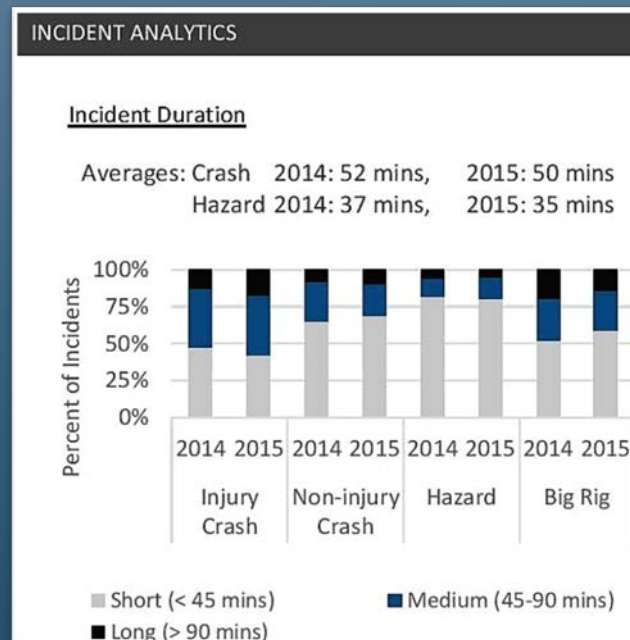
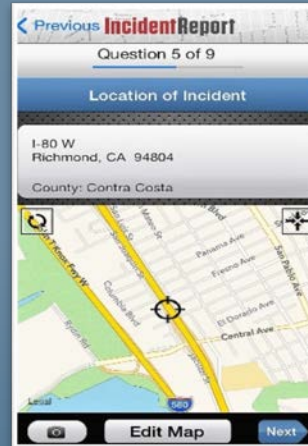


NEW SCHOOL



Incident Management

Improve Corridor Operations, Incident Clearance Times, & Responder Safety

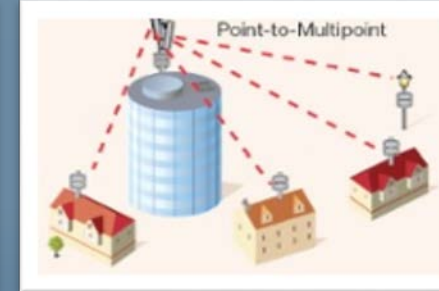
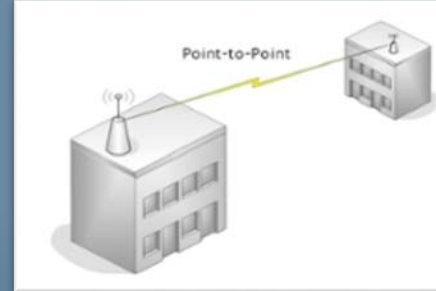


PROJECTS:

- I-880 Incident Corridor Management Strategies
- Incident Performance Metrics/Dashboard
- Incident Responder Communication System

Transportation Management System

Maintain Freeway Devices and Communications



PROJECTS:

- Performance Based Freeway Device Maintenance
- Communication Infrastructure/Device Upgrade
- Transportation Asset Lifecycle Planning



Toll Bridge Asset Management



Carquinez Bridge

Opened 1927,
1958 and 2003



Richmond-San Rafael Bridge

Opened 1956



San Francisco-Oakland Bay Bridge

Opened 1936

New East Span

Opened
September 2013



Benicia-Martinez Bridge

Opened 1962, Widened 1991
Second span opened in 2007



Antioch Bridge

Opened 1926
Replaced 1978



San Mateo-Hayward Bridge

Opened 1929
Replaced 1967
Widened 2003



Dumbarton Bridge

Opened 1927
Replaced 1984

Express Lanes

I-680 (Benicia Bridge-Walnut Creek SB) Open 2020

I-680 (Walnut Creek-San Ramon) Open 2017



I-880 (San Leandro-Milpitas)

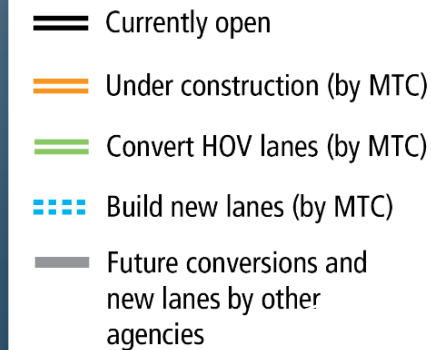
Open 2019



I-80 (Fairfield-Vacaville)

Open 2021*

*pending funding for construction



I-880 Adaptive Ramp Metering

I-880 Corridor in Alameda and Santa Clara Counties

- Approx. 45 miles between I-80 and I-280
- Approx. 136 on-ramp locations

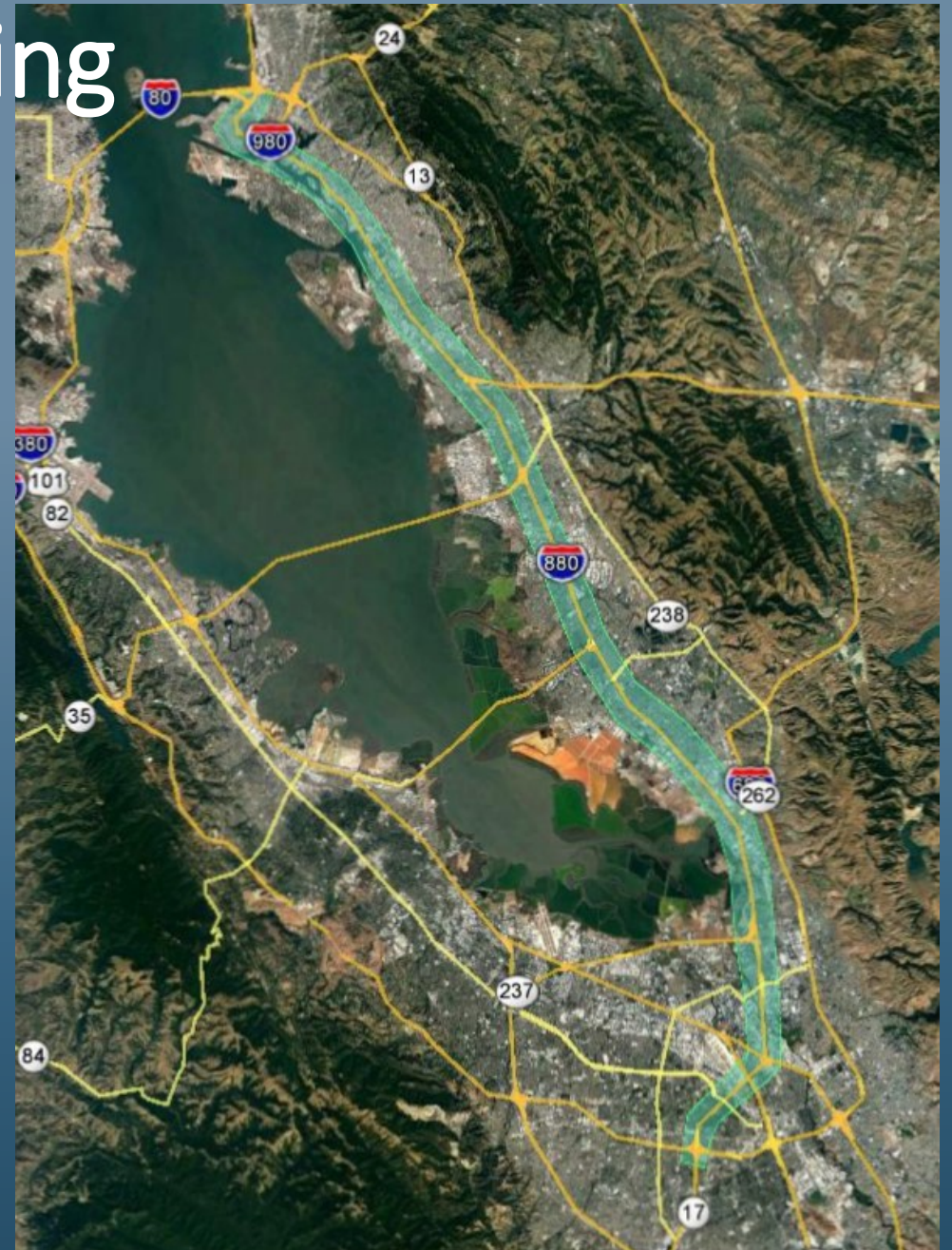
Implementation Planning Effort

(Apr – Dec 2018)

- Existing Conditions Assessment
- ATMS and Software Assessment
- Evaluate Adaptive Algorithm Parameters and Configuration Options
- Develop an Implementation Plan

Adaptive Ramp Metering Implementation

- Begin in 2019
- Anticipate Phased Implementation Due to the Length and the Complexity of the Entire Corridor



Innovative Deployments to Enhance Arterials (IDEA)

- **Goals:** To implement mature, advanced arterial solutions as well as emerging technologies to improve operations
- **\$13M Grants:**
 - Traffic Signal Monitoring using Big Data
 - Adaptive Traffic Signals
 - Transit Signal Priority
 - Connected and Automated Vehicle Technologies

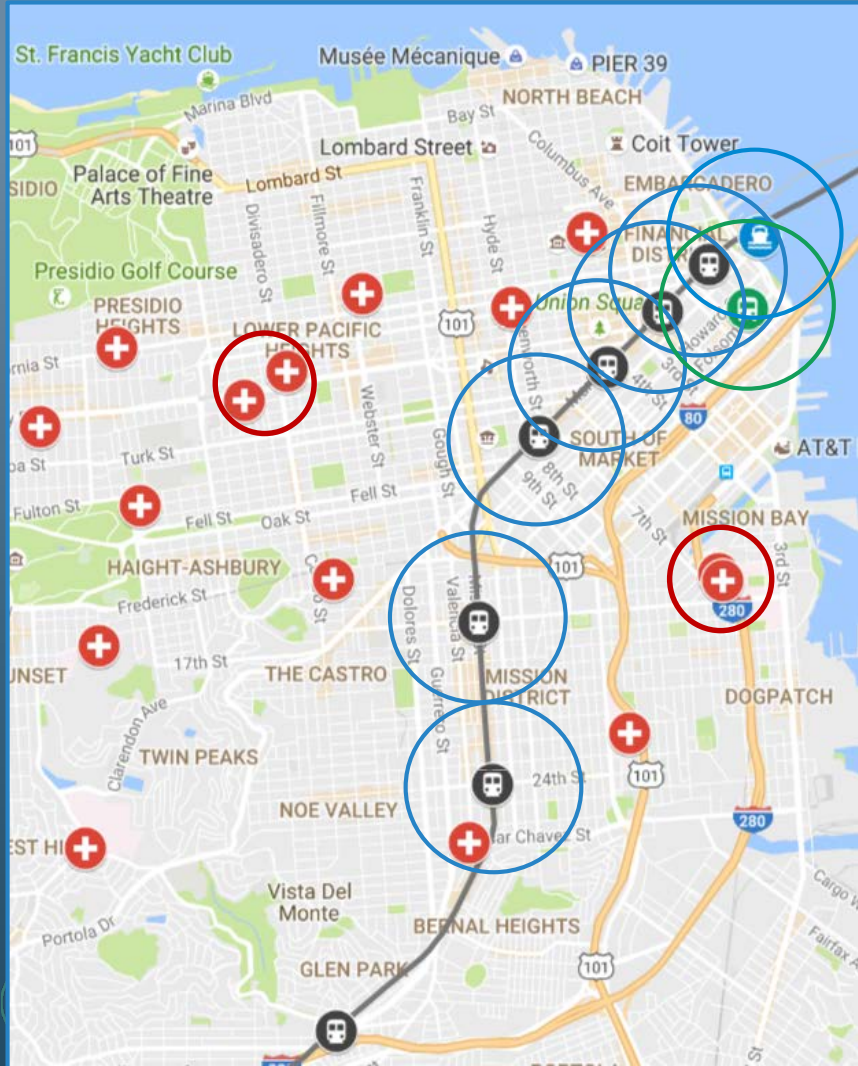


Higher Capacity/Higher Frequency Transit



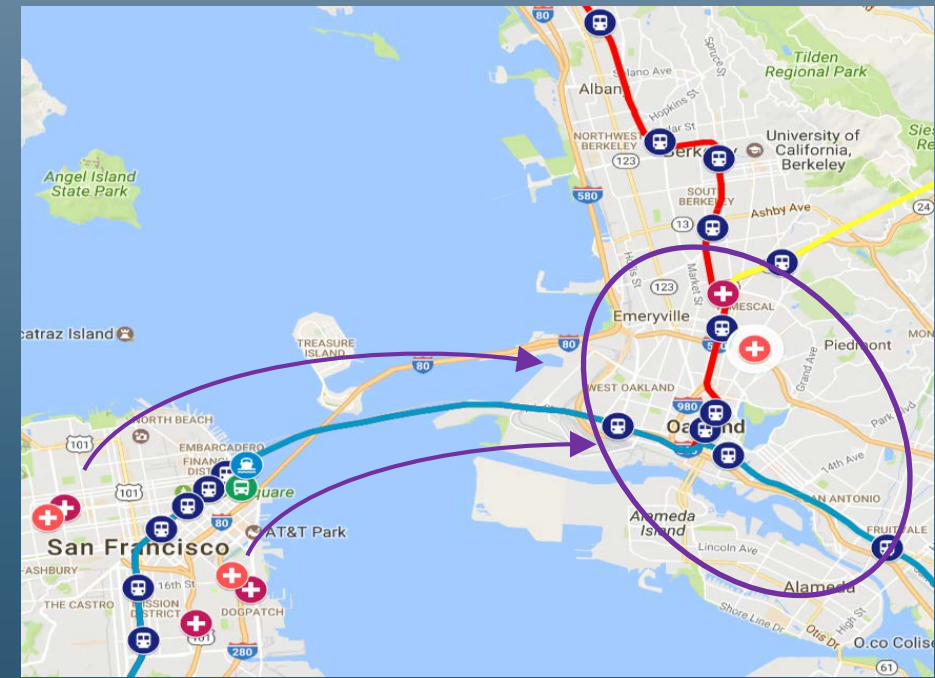
Flexible On-Demand Transit Service Pilot

No direct service by BART,
AC Transit, WETA, or WestCAT



Target high demand
routes not well-served
by existing transit

Avoid competing with
existing one-seat
services



- = UCSF & Kaiser
- = 1/2 mile radius (10 min walk)

West Grand Ave. On-Ramp Bus/HOV Lane and Dynamic Transit Routing

Existing

Varies: 1-3 lanes

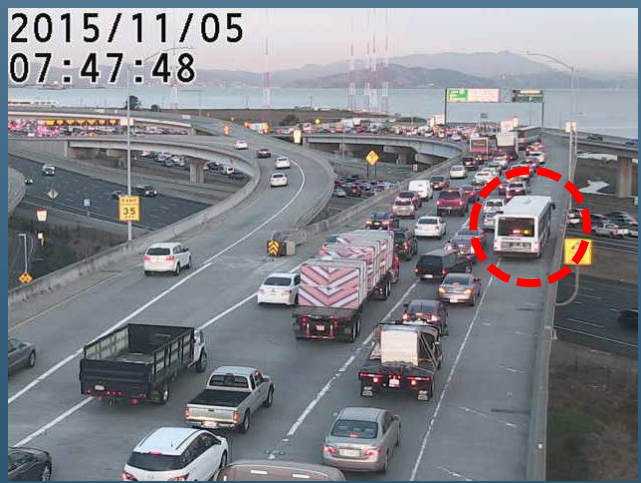


Project

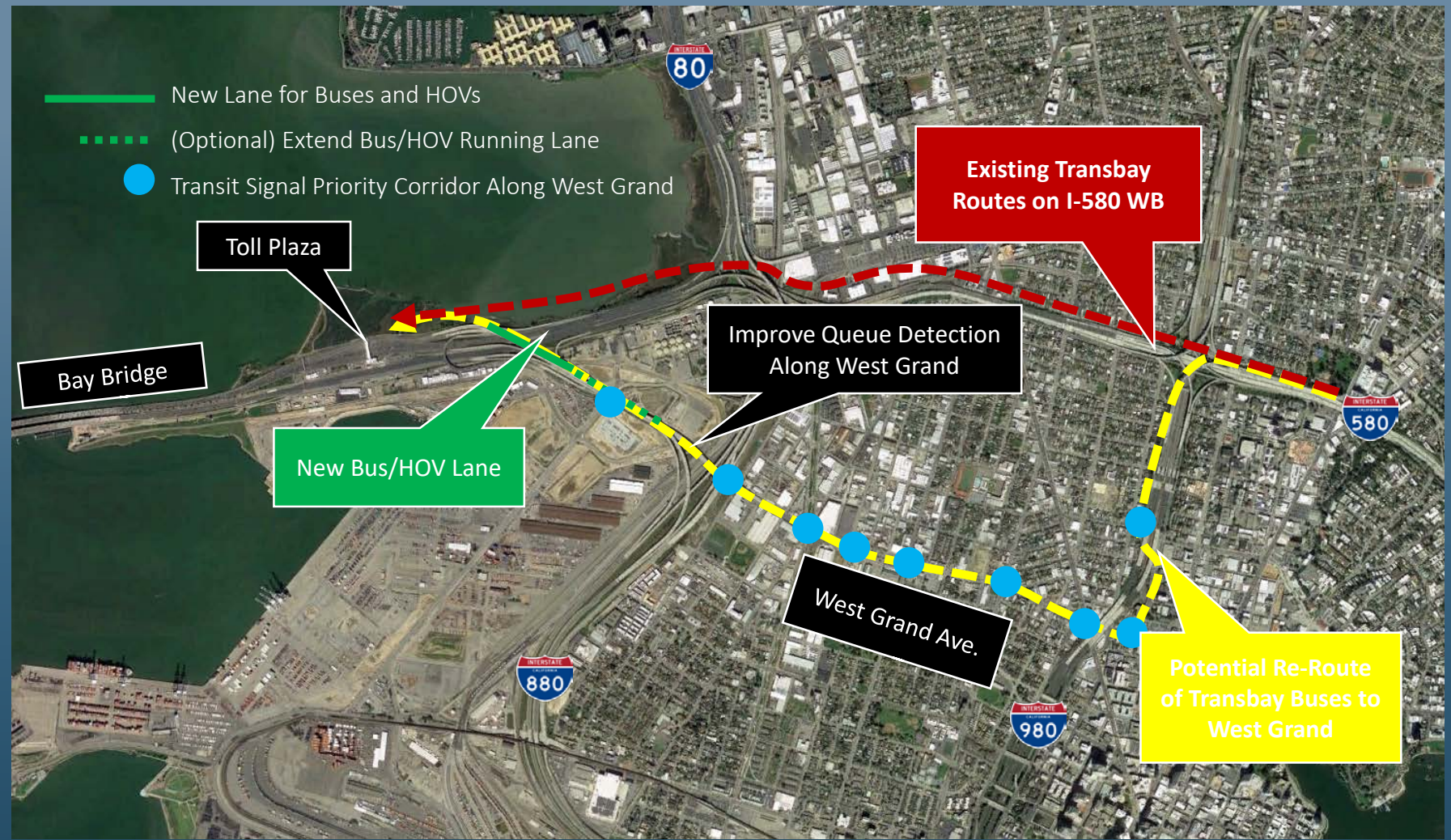
Varies: 2-4 lanes



2015/11/05
07:47:48



Some Buses Already Use Existing Shoulder to Get Direct Access to Bridge



Commuter Parking Initiative

Design

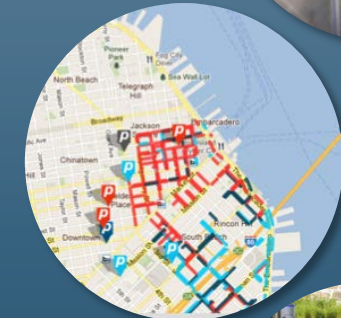
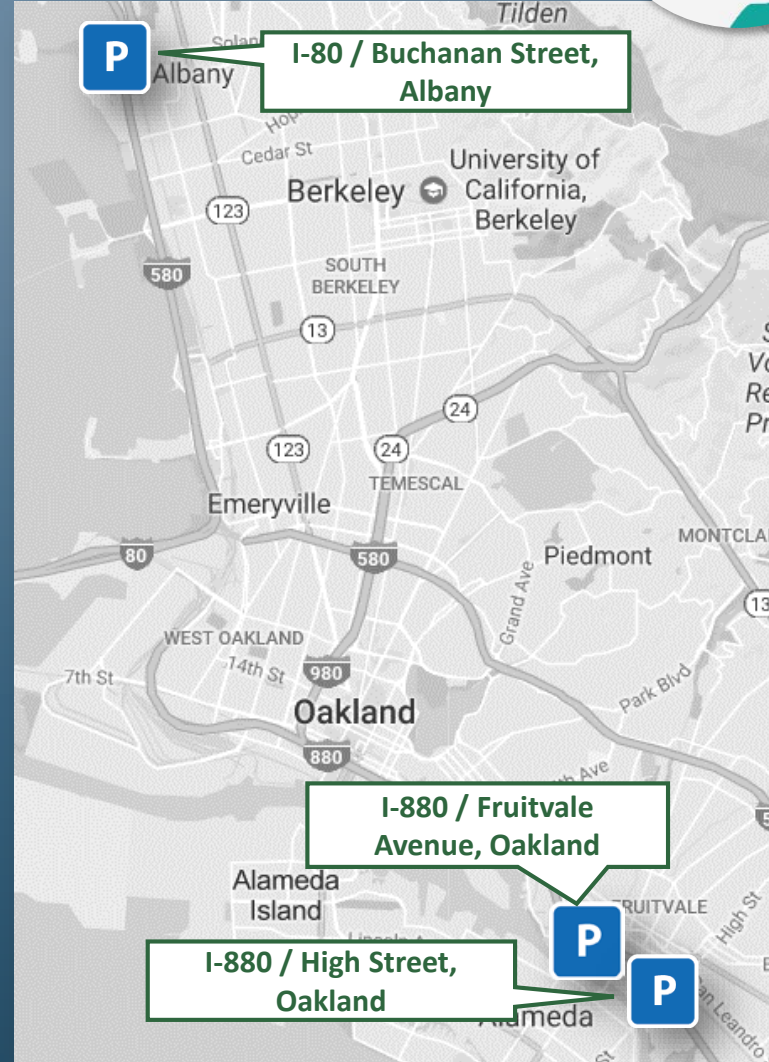
- 800 spaces among 3 lots
- Caltrans airspaces underneath freeway

Commuter Amenities

- Bike Lockers
- Electric Vehicle Charging
- Mobile Payment
- Real-time Availability
- AC Transit Transbay Service
- Carpool/Passenger Loading Areas

Schedule

- Advertise Spring 2018
- Begin Construction Summer 2018
- Open late 2018/early 2019



Managed Lanes Implementation Plan



- 1) **Improve Reliability**
(Address Degradation)
 - Violations & Enforcement
 - Clean Air Vehicles
 - Hours of Operation Policy
 - Occupancy Policy
- 2) **Improve Consistency**
(Reduce Driver Confusion)
 - Need for consistency as regional network starts to form
- 3) **Increase Person Throughput (Efficiency)**
 - Improve access & attractiveness of all HOV Options Carpool → Transit
 - Network Gap Closures (Connectivity)

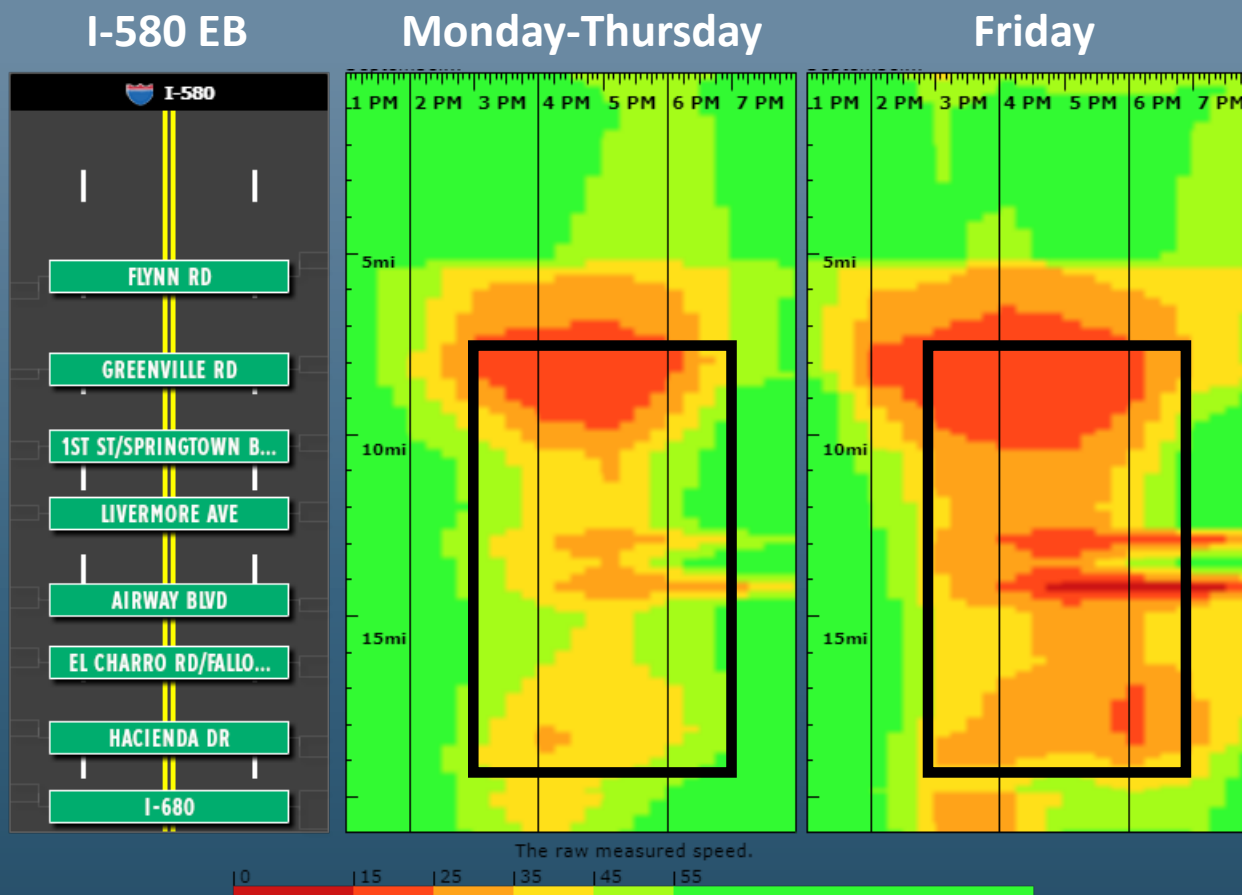


Baseline: Existing and Planned HOV and Express Lanes

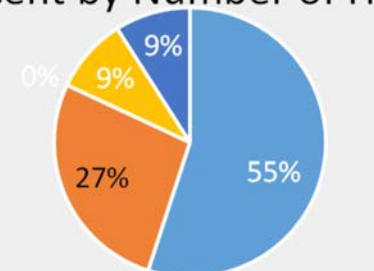
I-580 Express Lanes Hours

5AM-8PM allows express lanes to operate in regular and irregular congestion

Bay Area Vs California
(Express Lanes
Hours of Operation)

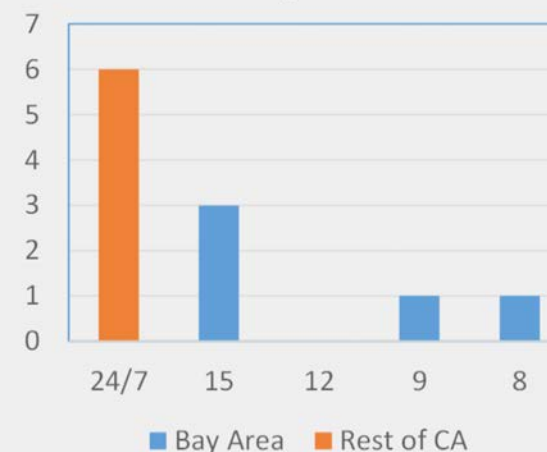


Percent by Number of Hours



■ 24/7 ■ 15 ■ 12 ■ 9 ■ 8

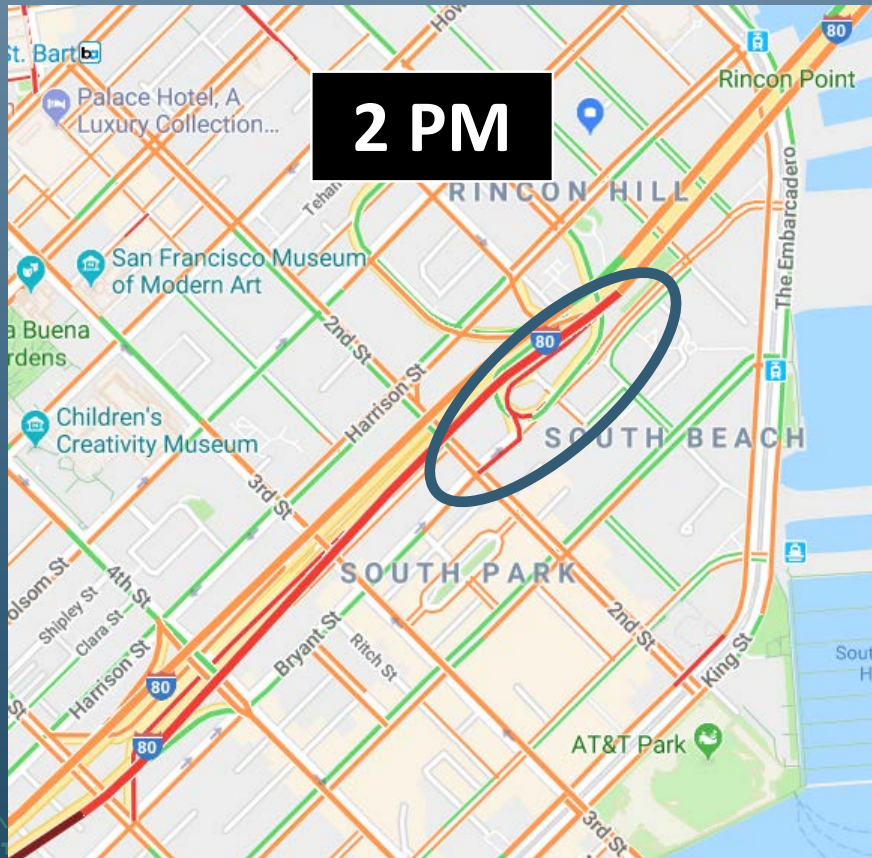
Count by Location



Bryant/Sterling St HOV Ramp Hours of Operation Pilot Extension

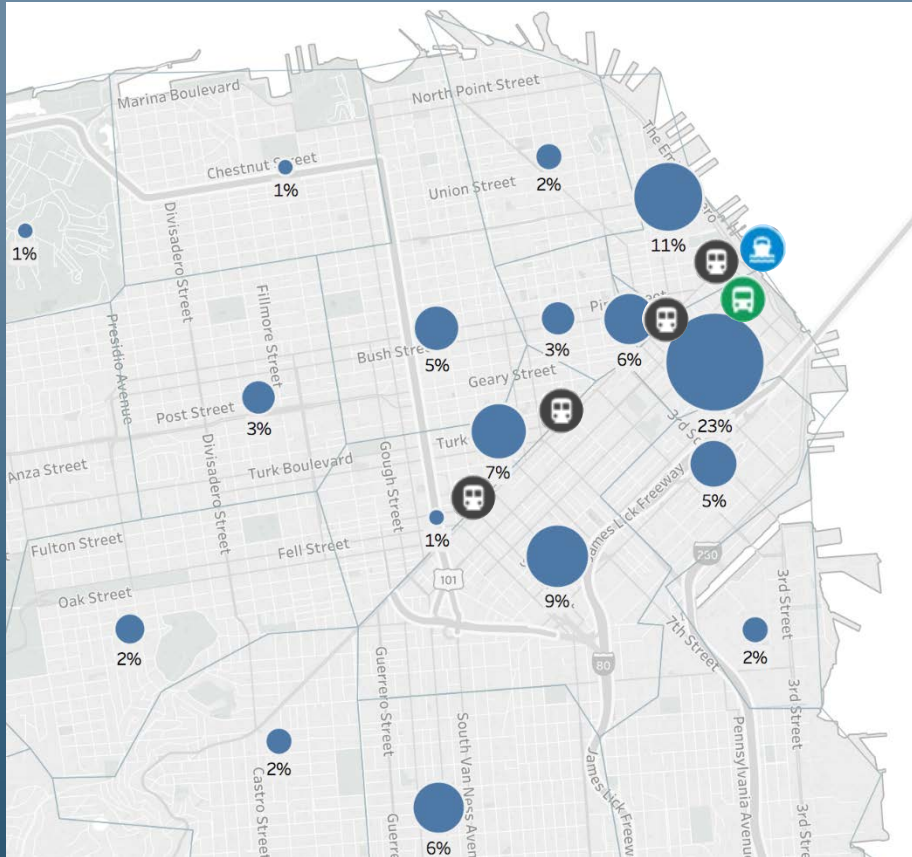
Congestion on I-80 & HOV Ramp Begins
Before HOV Hours Start at 3:30PM

HOV3+ Demand Exists Before 3:30PM
First casual carpool riders arrive before 2



Casual Carpool Program

- Support casual carpool along I-80 corridor into San Francisco
- Conducted casual carpool user survey in February 2018, targeting Solano County residents



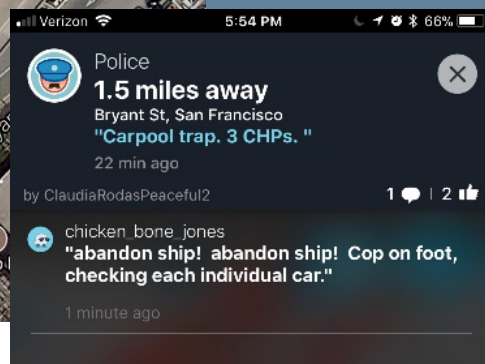
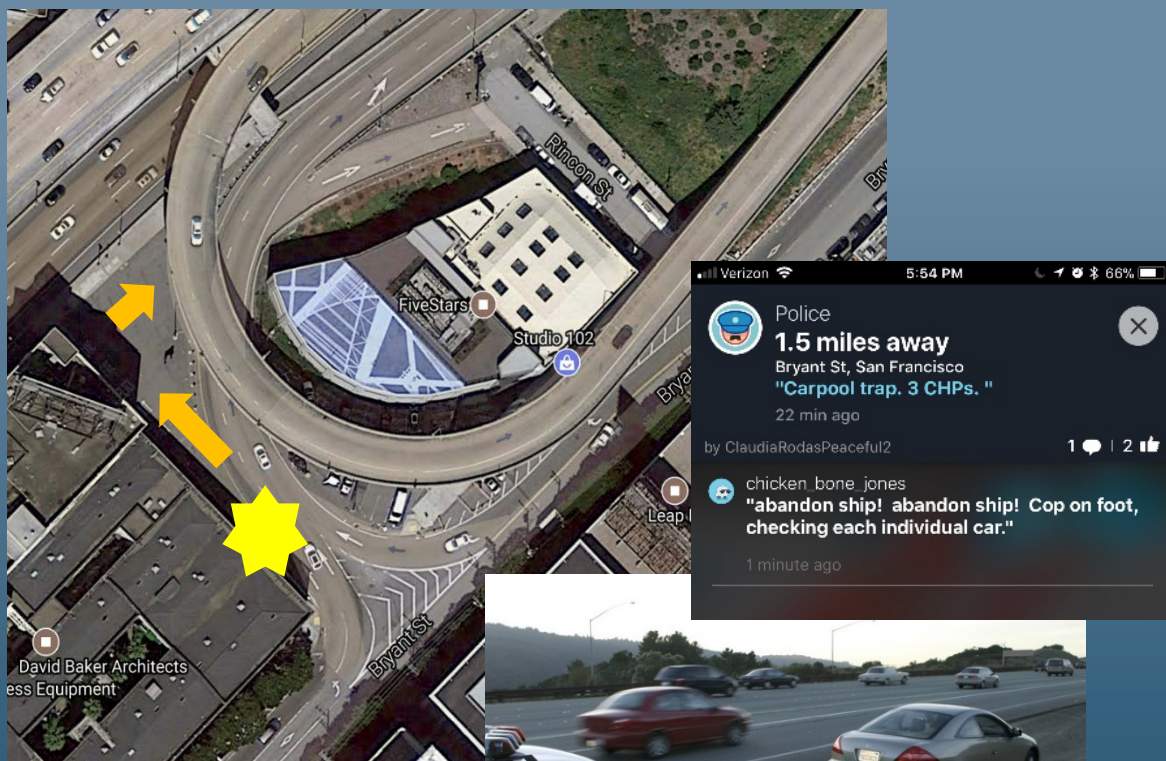
Casual Carpool Destinations in SF (Zip Codes)

Survey Findings

- A third of respondents casual carpool 5 days a week in the morning; a quarter casual carpool 5 days a week in the evening.
- 71% of casual carpoolers travel to downtown San Francisco; 23% travel to other parts of San Francisco; 6% travel outside of San Francisco.
- The most popular reasons passengers use casual carpool are to save time and money.
- 50% of users learned about casual carpool through a friend or family member.
- Covered shelter, lighting, and improved signage would improve casual carpool locations.



CHP Manual HOV Occupancy Enforcement Pilot



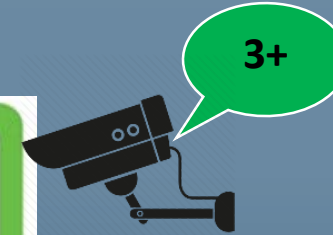
- Strategies mix number of officers and days of enforcement
- Locations:
 - Bryant Street On-Ramp to Bay Bridge (started April 2)
 - I-880 south of SR-92 (summer 2018)
- Data: violation rates, freeway performance and citations
- Phase 1 (manual only): Complete study by January 2019
- Phase 2 (TBD): CHP enforcement with occupancy camera support



Vehicle Occupancy Detection Pilot

Objectives:

- ✓ Gain a better understanding of VOD technology
- ✓ Assess system accuracy in determining vehicle occupancy
- ✓ Support CHP enforcement
- ✓ Inform future decision for permanent deployment in the Bay Area



| MARCH | APRIL | MAY |
|--|--------------------------------|--|
| CONDUENT (formerly Xerox)  | <i>TRANSCORE</i> NEC |  indra |
| HQ in Maryland | HQ in Texas | HQ in Spain |