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# Collaborative Partnerships to Improve Interstate 680



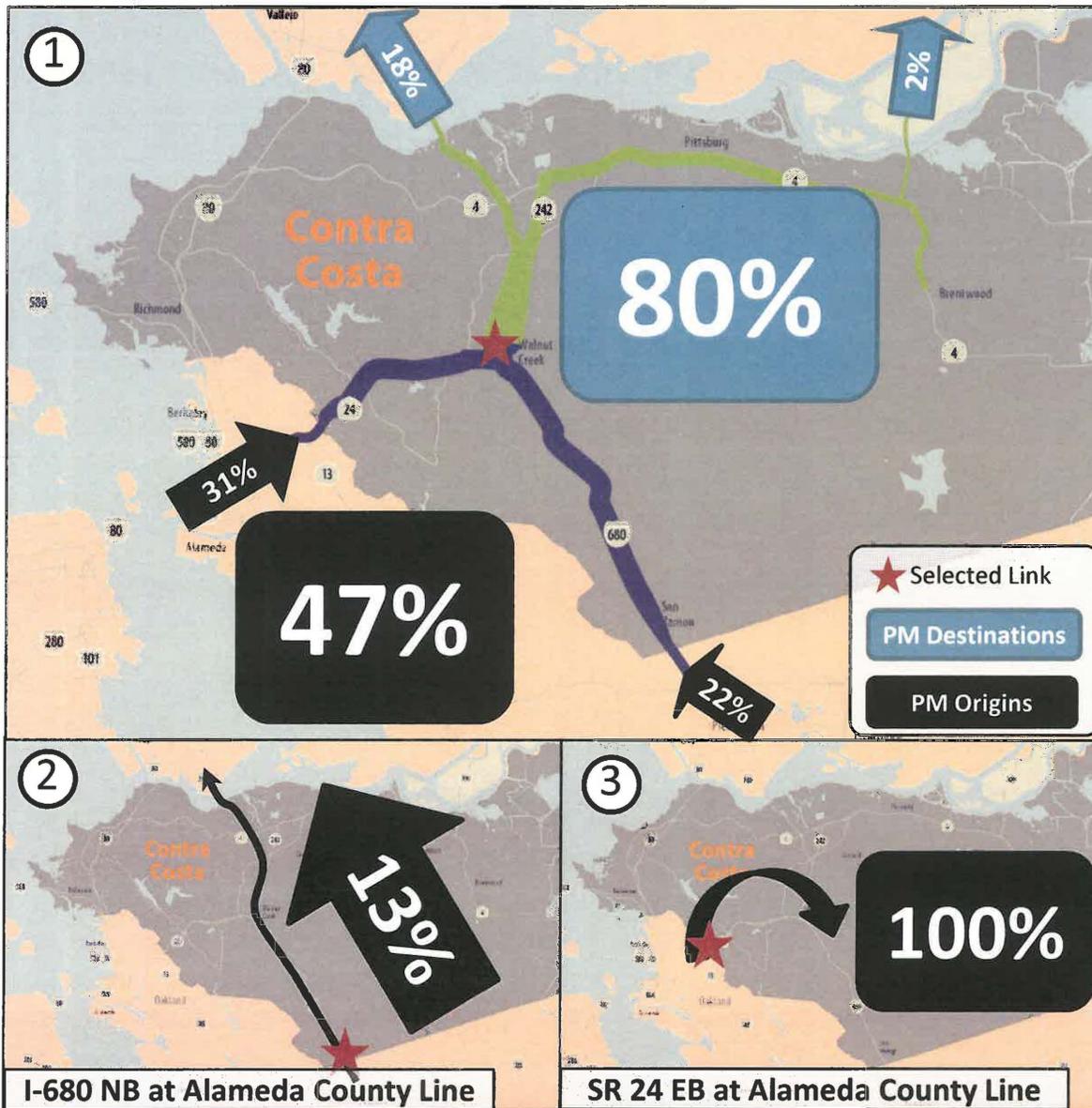
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# I-680 Serves Primarily Contra Costa Residents and Employment Centers



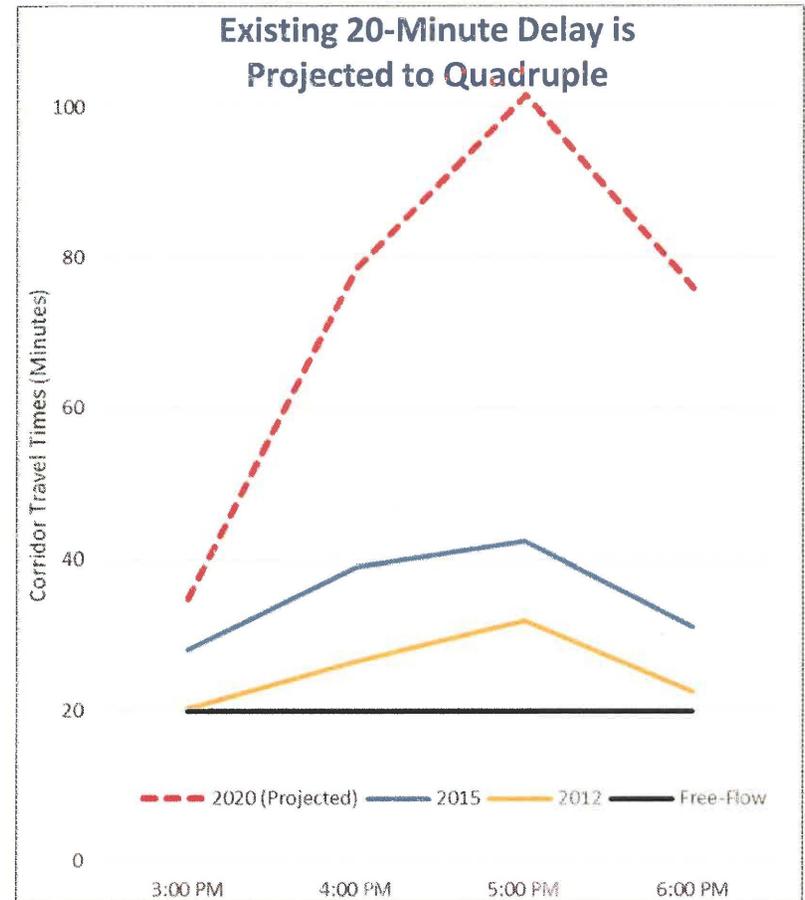
## I-680 Northbound PM Select Link Analysis

- ① 80% of Vehicle Trips on I-680 End in Contra Costa
  - 47% of Vehicle Trips Originated within the County, and 53% Originated from Alameda, Santa Clara, and Other Counties
- ② 13% of Trips on I-680 are "Through Trips"
- ③ Almost all trips from SR 24 Eastbound are Destined Within the County

Source: MTC Travel Model One (2016)

# The Problem

- I-680 is the **5<sup>th</sup>** worst commute in the Bay Area
- Corridor is **transit poor** / local and express buses are **stuck in congestion**
- **Poor access** to employment centers and Walnut Creek and Dublin BART stations
- **Limited ITS** deployments to proactively manage system
- Lack of **physical space** and **funding** for mega capacity-increasing infrastructure improvements



High-impact, low-cost solutions must be implemented today to ease congestion and smooth traffic flows on I-680

# Delivery of Key I-680 Capital Improvements Are a Good Start, but Don't Fully Meet Future Mobility Needs



**Auxiliary Lanes** completed through Danville and San Ramon (2007, 2015)



**Express Lanes** between Walnut Creek and San Ramon (Opening 2017)

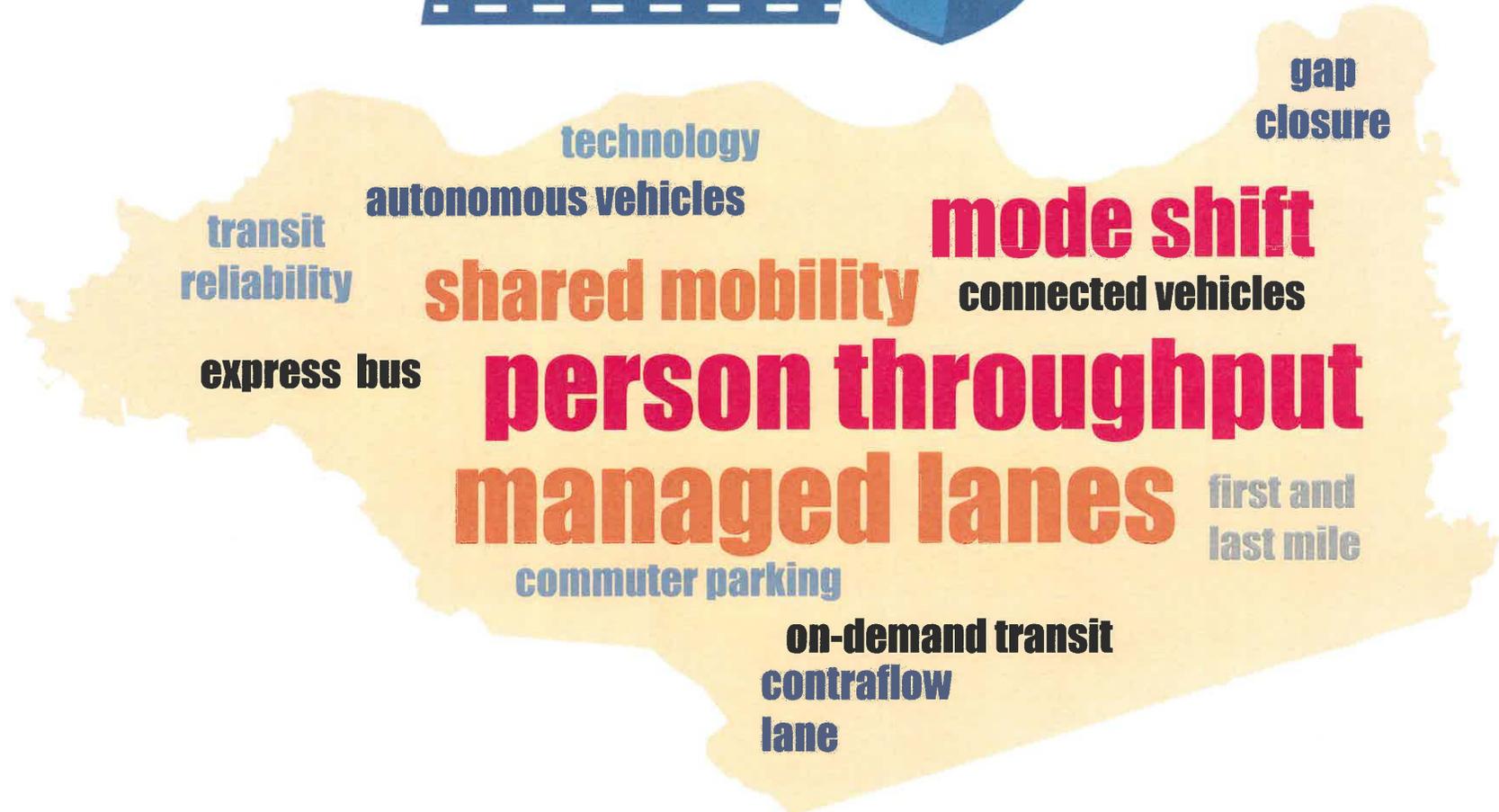


**Southbound Express Lanes** between Benicia Bridge and Walnut Creek (Opening 2020)

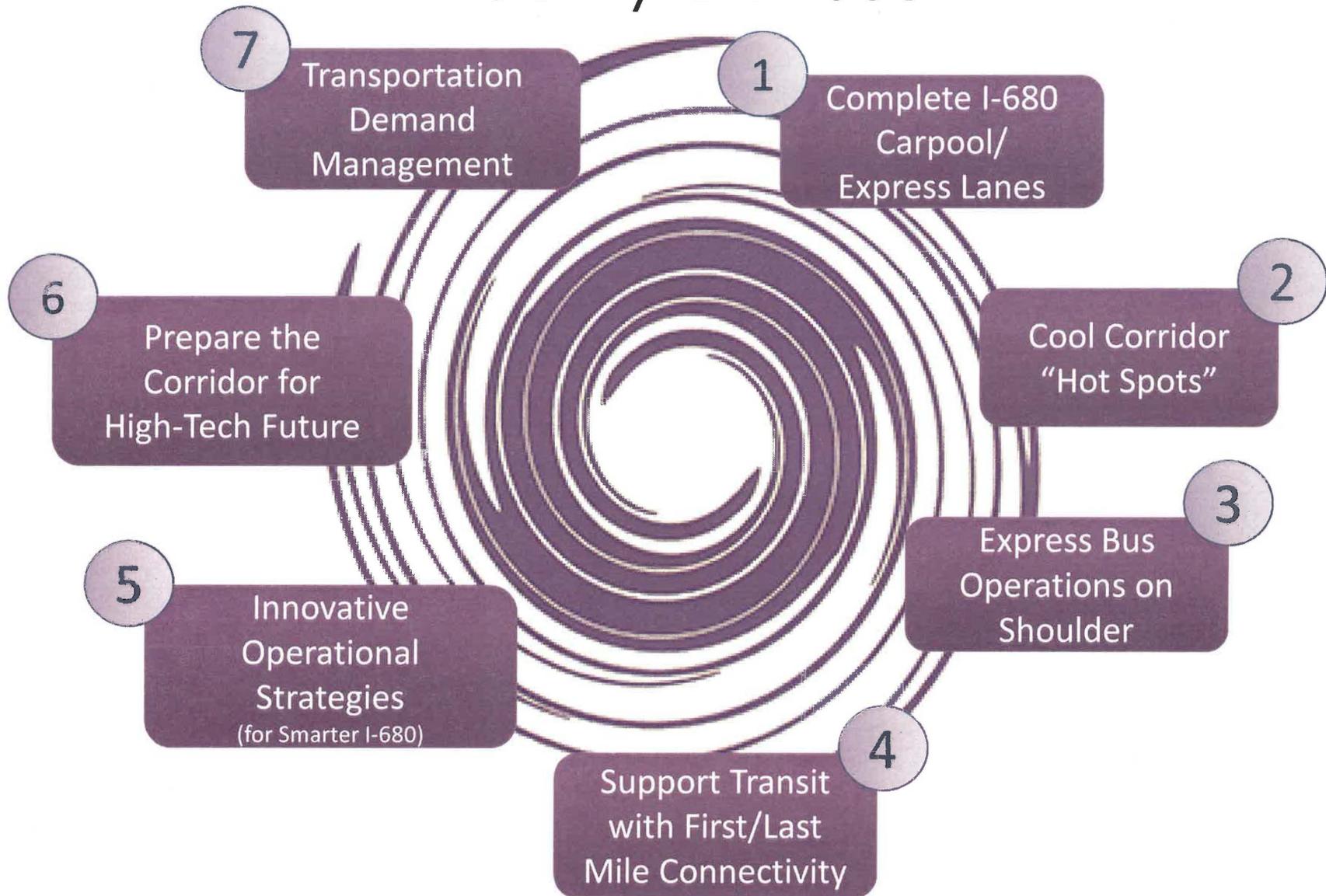
An *Integrated* Approach to  
Improving *Mobility* on I-680



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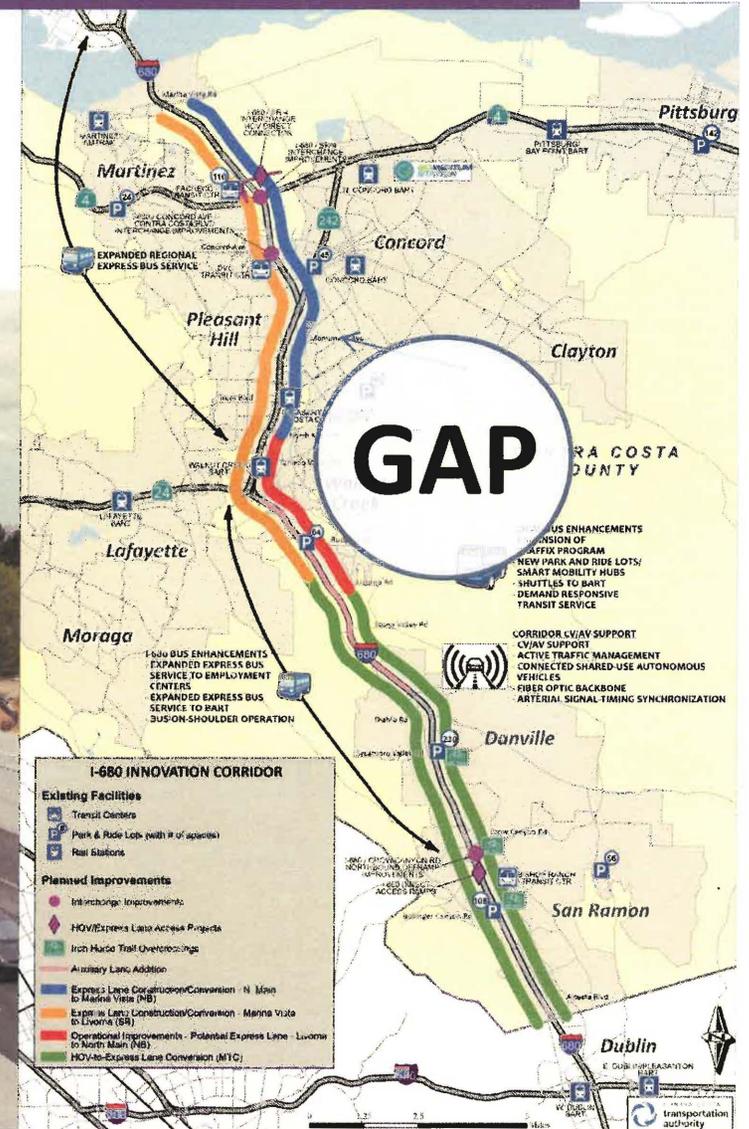
# An Integrated Approach to Improving Mobility on I-680



1

# Complete HOV/Express Lanes

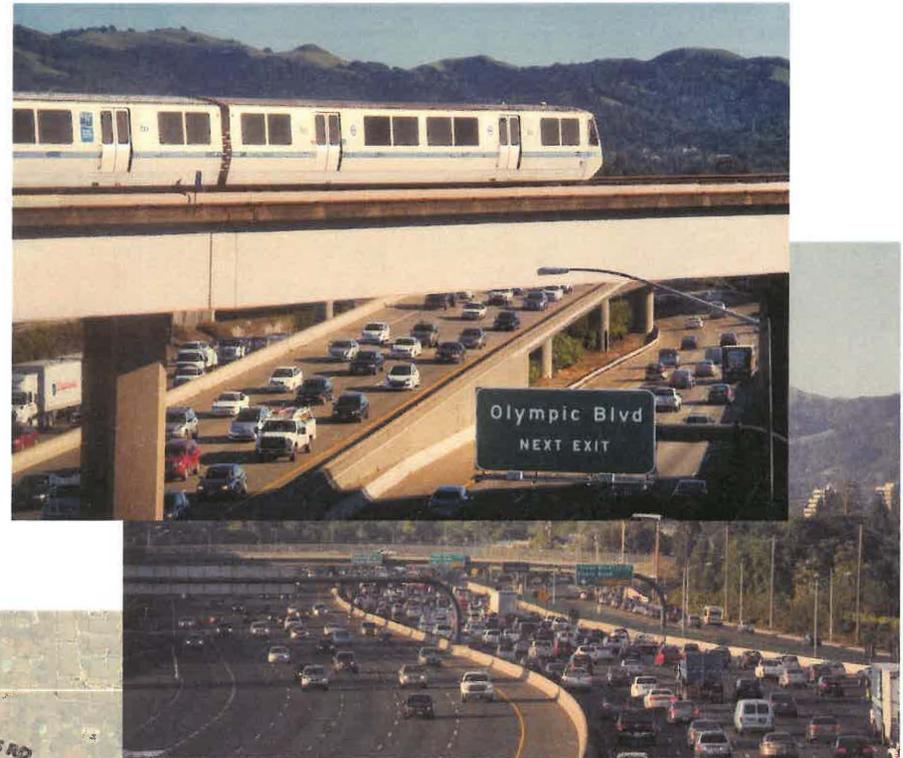
Complete Southbound Express Lane and reduce the existing 7 Mile Northbound Gap



2

## Cool Corridor “Hot Spots”

- Add Auxiliary lanes south of Walnut Creek
- Construct Collector-Distributor Road (North Main St/Treat Blvd)

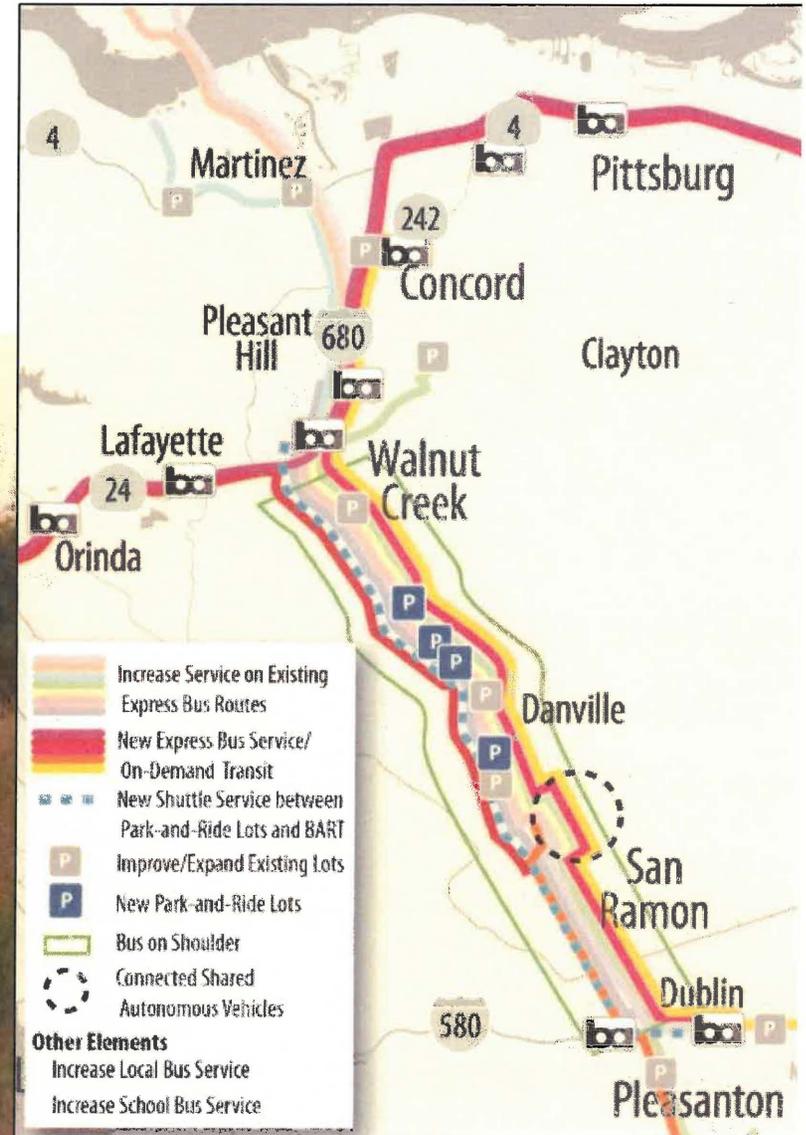


I-680 NB ON/OFF @ MAIN ST/TREAT BLVD INTERCHANGES - ROADWAY IMPROVEMENTS

## 3

# Increase Efficiency of Bus Services

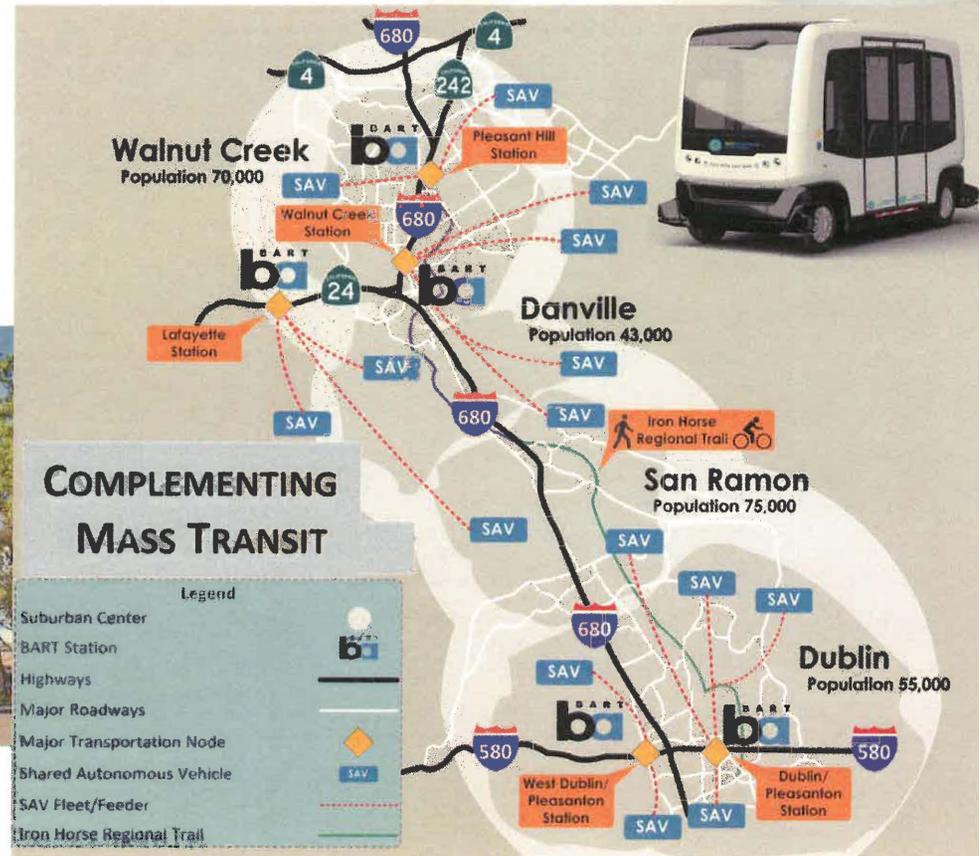
- Increase Express Bus Service
- ✓ Implement Bus on Shoulder
- Develop new Park & Ride Lots



# 4

# Provide FM/LM Connections

- Mobility-on-Demand including technology-enabled ridesharing/carpooling
- Flexible On-Demand Transit
- Implement Shared Autonomous Vehicles (SAV)
- Improvements to the Iron Horse Trail to support biking/walking





## 6

# Prepare the Corridor for the Future

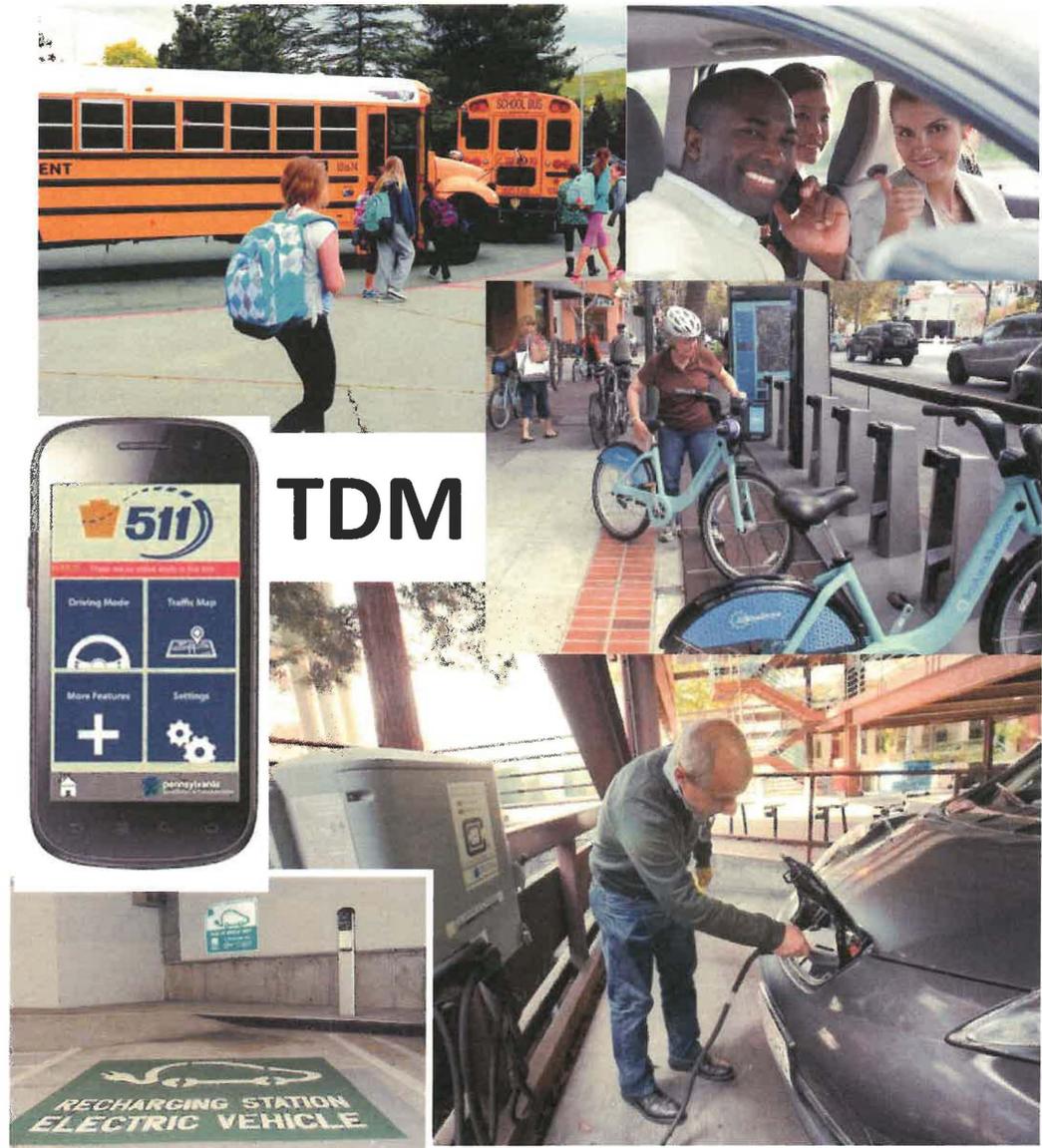
- Install Infrastructure for Connected and Autonomous Vehicles
  - Sensors
  - Dedicated Short Range Communication (DSRC)
  - Vehicle-to-Vehicle (V2V) and Vehicle-to-Infrastructure (V2I) communications



## 7

# Enhance TDM Strategies

- Regional commuter incentive promotion to encourage carpooling & off-peak travel
  - TRAFFIX and Student transit ticket program
  - Bicycle parking and sharing infrastructure
  - Electric vehicle charging infrastructure and stations
- 
- ✓ New Transportation App
  - ✓ Shared Mobility Program
  - ✓ Partnerships with Private Sector



# Timeline for Project Delivery

<b>Near Term</b> (Next 3 years)	<b>Short Term</b> (Next 3-5 years)	<b>Long Term</b> (Next 5-8 years)
<ul style="list-style-type: none"><li>• Expand the Express Lane Network</li><li>• Enhance TDM strategies</li><li>• Implement initial IOS strategies / adaptive ramp metering</li><li>• Prototype testing of SAV FM/LM Concept</li></ul>	<ul style="list-style-type: none"><li>• Complete the Planned Express Lane Network</li><li>• Express Bus on Shoulders</li><li>• SAV for FM/LM connections</li><li>• Complete and Implement IOS features</li></ul>	<ul style="list-style-type: none"><li>• Address Traffic Bottlenecks &amp; Cool Traffic Hotspots</li></ul>
<b>Prepare the Corridor for future CV/AV</b>		

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## Advanced Technologies

- Enhance TDM Strategies
- SAV First Mile/Last Mile
- Adaptive Ramp Metering
- ICM/ATDM with DSS
- Incident Management
- Corridor of the Future

## Bus-on-Shoulder

- NB between Bollinger Canyon and Ygnacio Valley Blvd
- SB between Livorna and Alcosta

## HOV/Express Lane Gap Closure

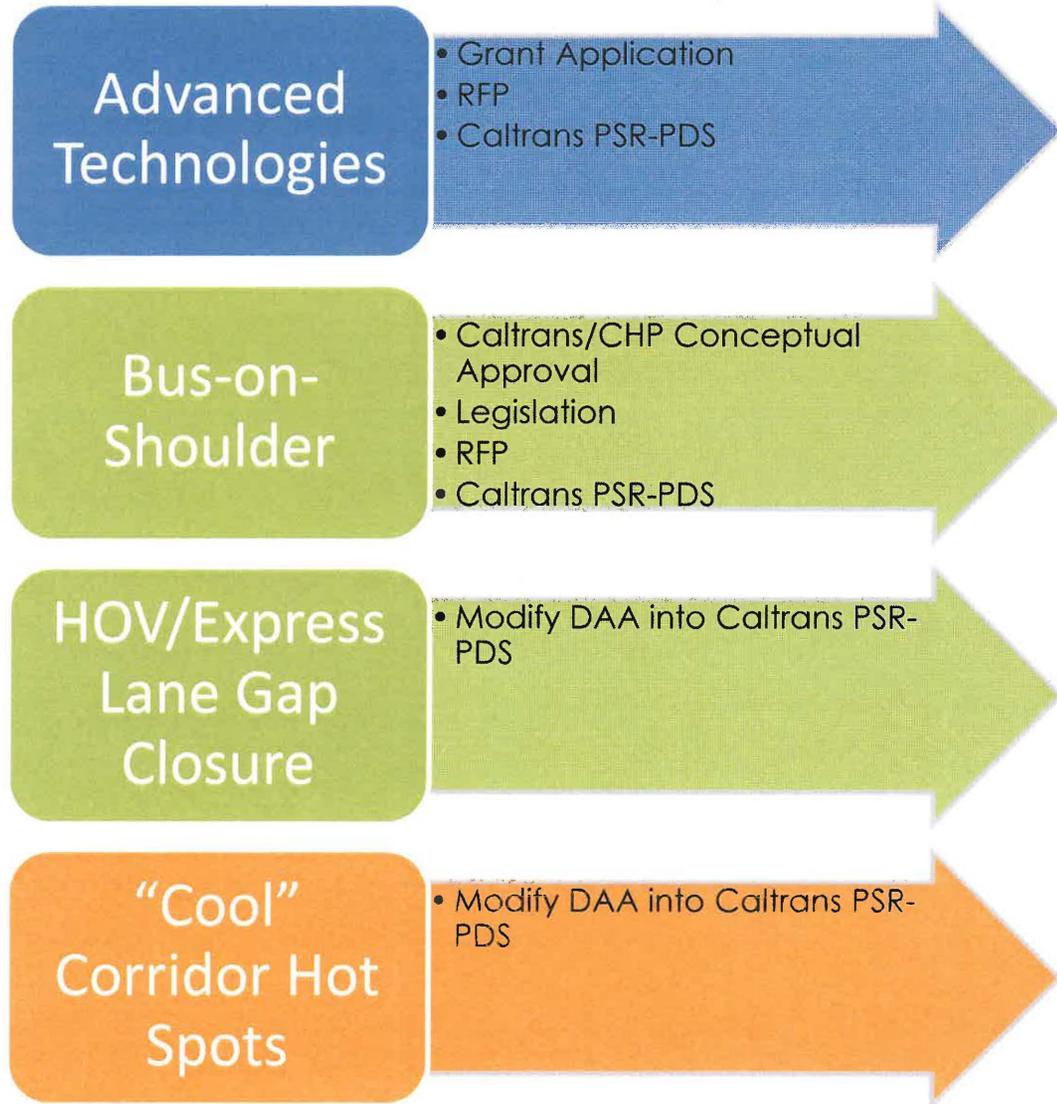
- Extend NB Express Lanes to Benicia Bridge
- Evaluate HOV/HOT gap at 680/24 interchange
- Potential Contraflow HOT Lane

## “Cool” Corridor Hot Spots

- Livorna bottleneck (Auxiliary Lanes)
- North Main Street bottleneck (C-D Road)

# Conceptual Path Forward for *Innovate 680*

- Presentations to Cities and RTPC
- Strategic Plan Amendment
- Caltrans Cooperative Agreements



# Conceptual Path Forward for *Innovate 680*

9632	I-680 Carpool Lane Gap Closure/Transit Corridor Improvements	Strategic Plan (\$1000s)	Proposed Amendment (\$1000s)
8006	I-680 Corridor Reserve (Central County)	23,045	(23,045)
8007	I-680 Corridor Reserve (Southwest County)	16,706	(16,706)
8008	I-680/Bollinger Canyon Road Operational Analysis	300	(300)
	Innovate 680		40,051

- Discuss with TRANSPAC and SWAT
- Intraregional Benefits
- Interregional Benefits
- Regional Study with Local Focus
- Improving connectivity to employment centers
- Project readiness for additional funding
- Leverage/match State and Federal funding
- The First Connected Corridor in the Bay Area

# Thank you

