



# Regional Express Lane Network

Discussion with  
MTC Policy Advisory Council

April 3, 2012  
Revised Slides



# **Approach for Policy Advisory Council Feedback**

1. Respond to previously raised concerns.
2. Confirm any remaining questions or concerns the Council may have about the Regional Express Lane Network.
3. Determine a plan for reporting back to the Council.

**WHY BUILD A  
REGIONAL EXPRESS LANE NETWORK?**

# Build on Success of HOV System

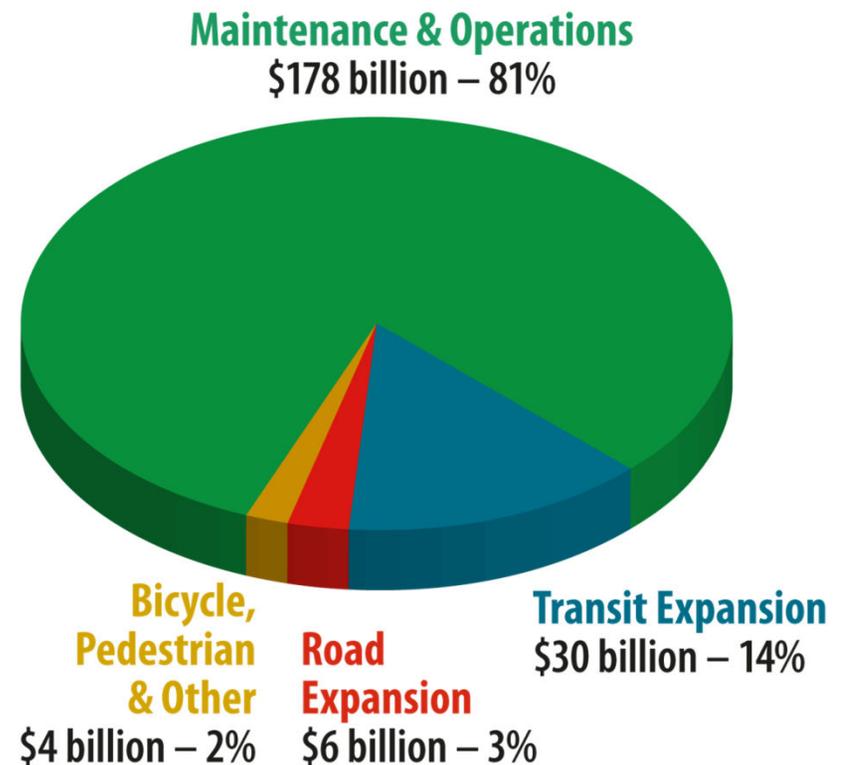
- 450 miles built in the past 20+ years
- Key strategy to improve system efficiency and air quality by providing high-quality carpooling and express bus options
- Gaps cause delays, reducing reliability for carpools and buses
- Funding is limited, making it hard to close gaps



# Region's Investment Philosophy Emphasizes Efficiency

- Fix it first
- Efficient use of existing transit and roadway assets
- Relatively limited expansion, mostly for transit to support focused growth

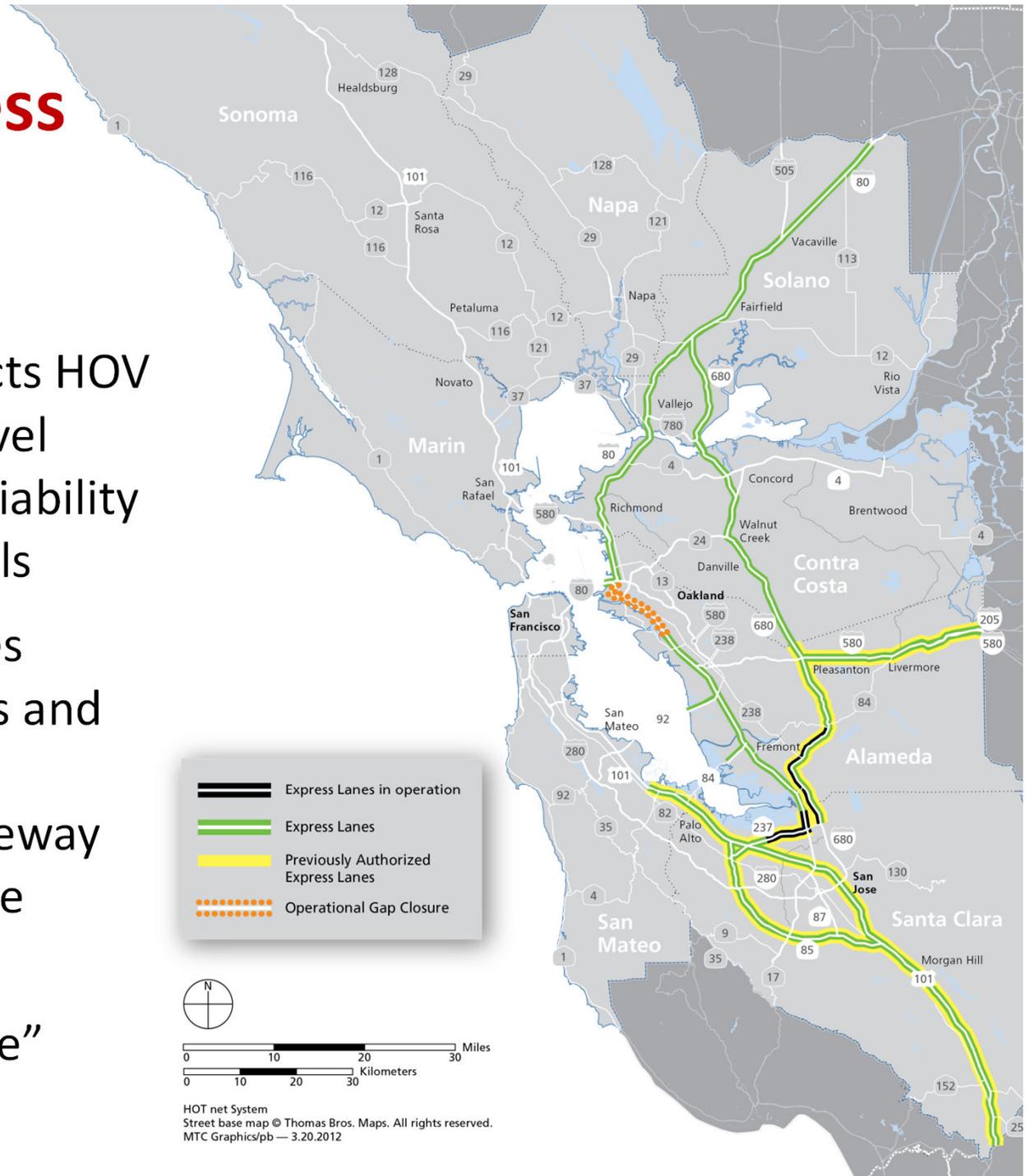
Transportation 2035 Investments



# **WHAT IS THE REGIONAL EXPRESS LANE NETWORK?**

# Regional Express Lane Network

- **Connectivity:** connects HOV system to reduce travel time and improve reliability for buses and carpools
- **Efficiency:** better uses capacity in HOV lanes and entire freeway, in conjunction with Freeway Performance Initiative
- **Reliability:** offers “congestion insurance”



# Regional Express Lane Network Mileage

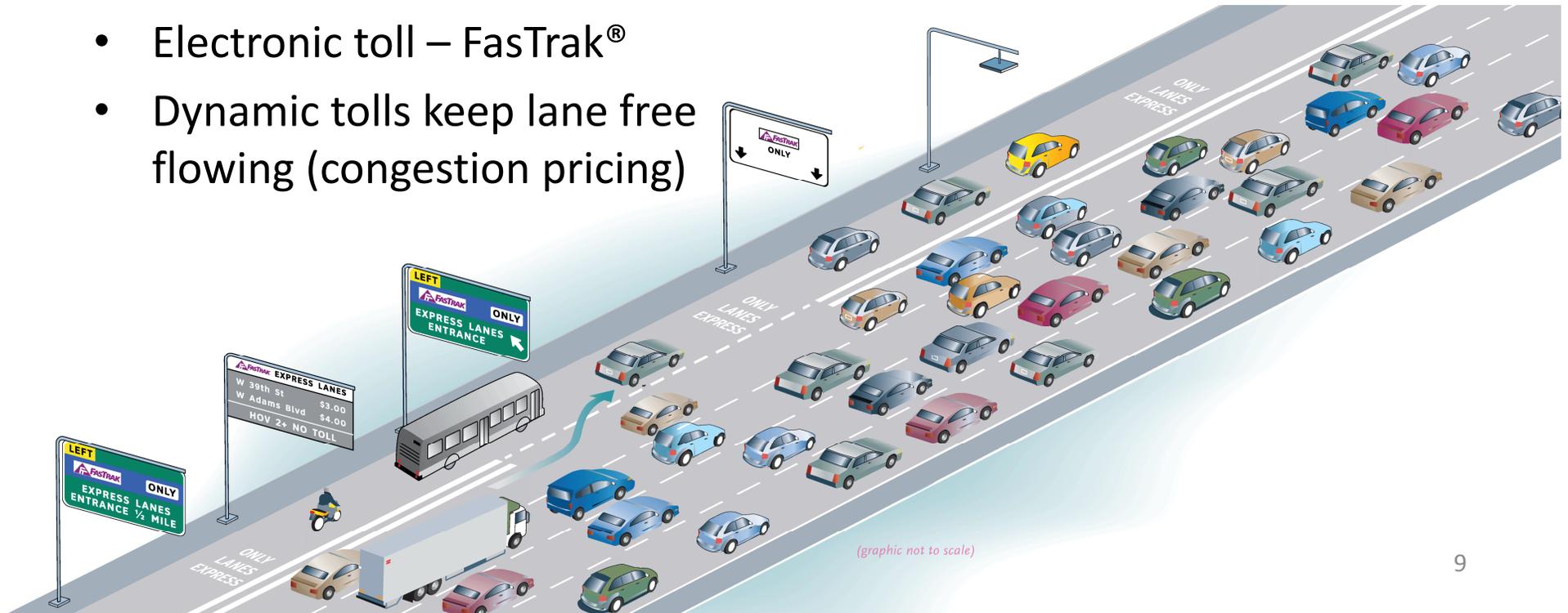
	Directional Miles		
	Previously Authorized <sup>1</sup>	New Authority	Total
Convert existing HOV lanes to express lanes <sup>2</sup>	190	150	340
Widen existing freeways to create express lanes	90	120	210
Operational gap closure	0	20	20
<b>Total</b>	<b>280</b>	<b>290</b>	<b>570</b>

<sup>1</sup> In both Alameda and Santa Clara counties

<sup>2</sup> Includes existing I-680 Sunol Express Lane (14 miles)

# How Express Lanes Work

- High Occupancy Toll (HOT) Lanes
- HOV with toll option
  - Carpools, buses free
  - Other drivers can choose to pay
  - “Congestion insurance”
- Electronic toll – FasTrak®
- Dynamic tolls keep lane free flowing (congestion pricing)

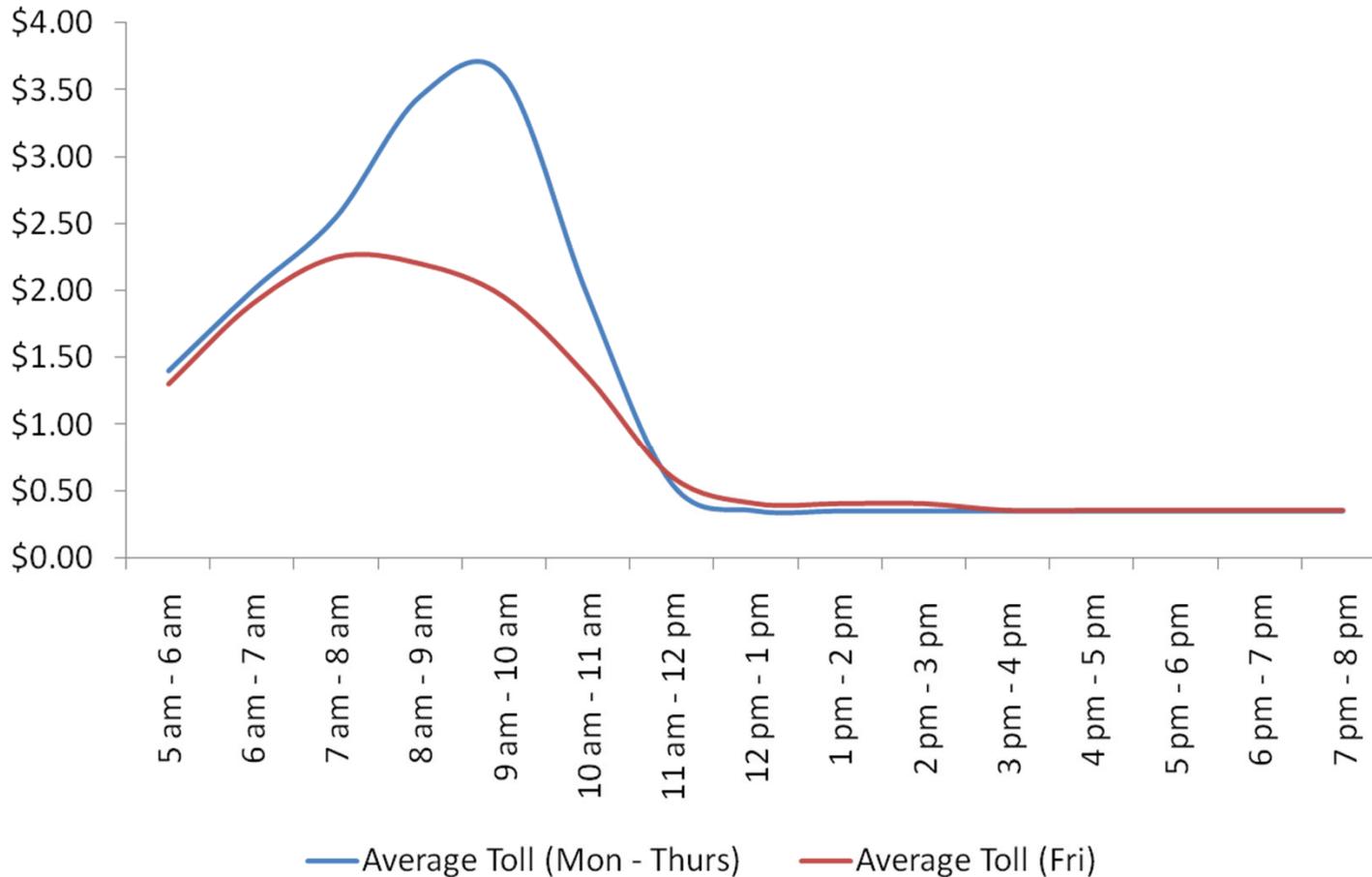


# I-680 Sunol Express Lane

- Opened September 2010
- Existing HOV lane converted to an express lane
- Challenges
  - Enforcement: 200-250 violators / hour
  - Ingress / egress access locations
  - User familiarity



# I-680 Southbound Express Lane Average Toll Rate by Hour



# Operating Policies

CTC Application explored financial and operational feasibility under several options but did not commit to specific policies

## HOV policy choices

- Maintain existing HOV occ. policies indefinitely
- Increase HOV definition when lanes fill
- Region-wide consistency at established future date
- Raise HOV definition to 3+ region-wide at outset

## Hours of operation

- Match existing HOV hours
- Expanded AM & PM peak hours
- Peak hours and mid-day
- Weekends

# Financial Analysis in CTC Application

*Total amounts through 2040 (millions of inflated dollars)*

		Base Case (compl. by 2030)	Conservative Case (compl. by 2035)
<b>Funds</b>	<b>Express Lane Toll Revenue</b>	6,500	4,400
	<b>Debt Proceeds (Bonds/TIFIA)</b>	2,100	2,400
	<b>Other*</b>	600	1,000
<b>Expenditures</b>	<b>Operations, Maintenance and Rehabilitation</b>	(1,500)	(1,300)
	<b>Capital Costs</b>	(3,000)	(3,600)
	<b>Debt Service</b>	(3,400)	(2,300)
<b>Potential Net Revenue**</b>		<b>1,300</b>	<b>600</b>

\* Composed largely of grant funding (\$400 - \$800 M), local funding (\$100 M), and other such as reserves and interest (\$100 M)

\*\* These potential surpluses emerge in the later years (after completion of the Network), and due to their bottom-line nature, are highly sensitive to variations in toll policy, revenue, cost, schedule and financing assumptions.

*Does not include express lanes in Santa Clara County, which would be separately financed and operated*

# **RESPONSE TO PREVIOUSLY RAISED CONCERNS**

# How Will Low-Income and Minority Travelers be Affected?

- MTC will conduct an Environmental Justice (EJ) analysis in the environmental review, consistent with state and federal requirements.
- Next step is to define schedule and approach.
- We will start by reviewing approaches taken for other express lane projects.

# How Will Low-Income and Minority Travelers be Affected? (continued)

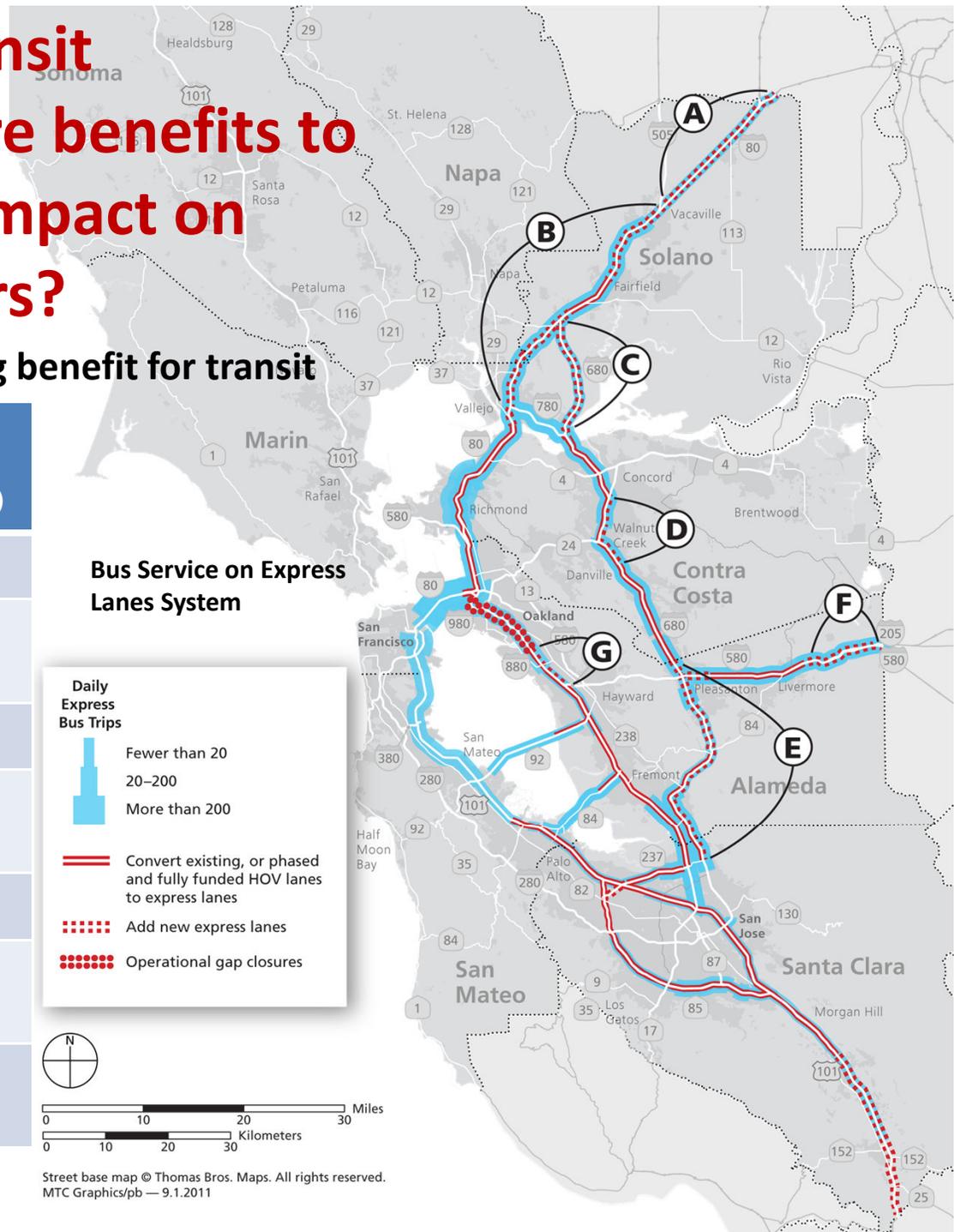
- Some topics addressed in EJ analyses for other express lane projects include<sup>1</sup>:
  1. Ability to provide input to the process
  2. Number of low-income & minority travelers expected to use the corridor and their travel patterns
  3. Travel time savings for paying and non-paying travelers in the corridor
  4. Cost to use the express lane
  5. Ability of low-income & minority travelers to acquire toll tags
  6. Direct impacts from construction, traffic, emissions
  7. Performance measures for the operations phase, e.g.,
    - Number & share of users who are low-income
    - Speeds in general purpose lanes

<sup>1</sup> Analyses by: Los Angeles Metropolitan Transportation Authority for I-10 and I-110; Georgia DOT for I-85; Washington DOT for I-405

# 1. If no funding for transit operations, are there benefits to transit to mitigate impact on low-income travelers?

Completion of the HOV system is a big benefit for transit

Route	Peak Hour Bus Trips (current service)
A. I-80 Yolo County to I-505	4
B. I-80 I-505 to Carquinez Bridge	40
C. I-680 Gold Hill Rd. to I-780	4
D. I-680 Route 242 to North Main St.	40
E. I-680 Alcosta Blvd. to SR 237	4
F. I-580 Greenville to San Joaquin County	40
G. I-880 Hegenberger to Lewelling	30





### **3. Will low-income travelers be priced out of lanes they paid taxes to build?**

While it does not substitute for the analysis we will do on the Regional Express Lane Network, there some data on use of express lanes by low-income travelers across the U.S.

# Average Peak Period Tolls on Express Lanes

Project	Length 1-way (miles)	Average Price Paid for Peak Period Trip
I-15 in San Diego	12	\$1.50
SR-91 in Orange County	10	\$6.00
I-25 in Denver	7	\$4.50
I-394 in Minneapolis	11	\$1.50
SR 167 in Seattle	9	\$1.75
I-10 in Houston	13	\$1.60
I-95 in Miami	7	\$2.00
I-85 in Atlanta	16	\$2.35
I-680 in Bay Area	14	\$2.97

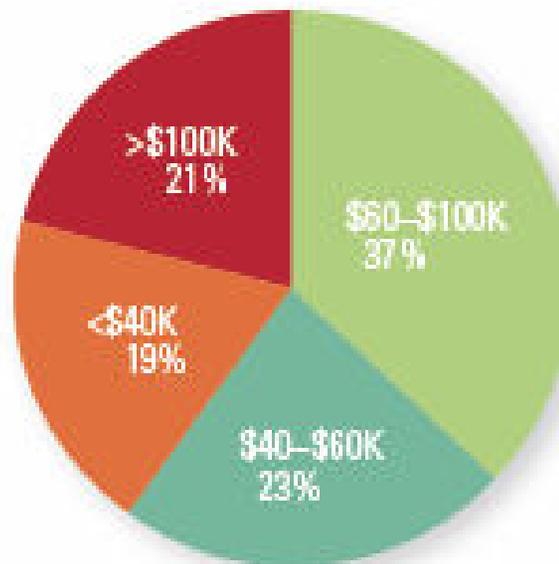
Information collected March 2012

## What does the research show?

### *Who is using the express lanes currently in place?*

- Lower-income households are using the toll lanes at higher than expected rates
- Generally, higher-income households travel by car more frequently than lower- and middle-income households, but use of toll lanes is prevalent across all groups

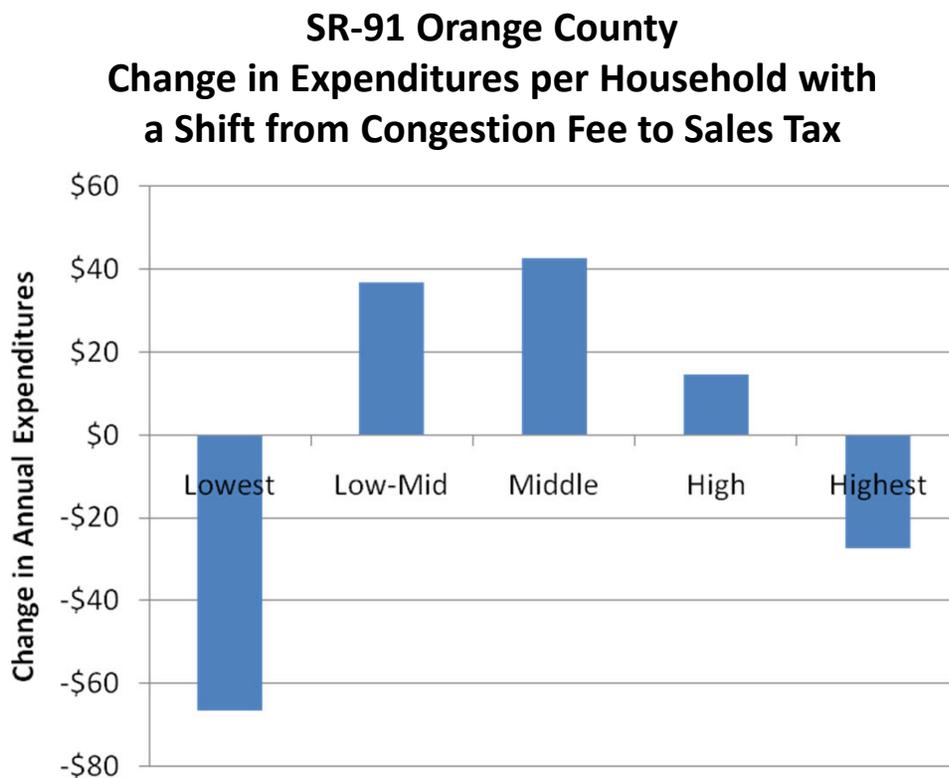
SR-91 Orange County, CA  
Annual Household Income Peak Period Express Lane Users x(1999 study)



## What does the research show?

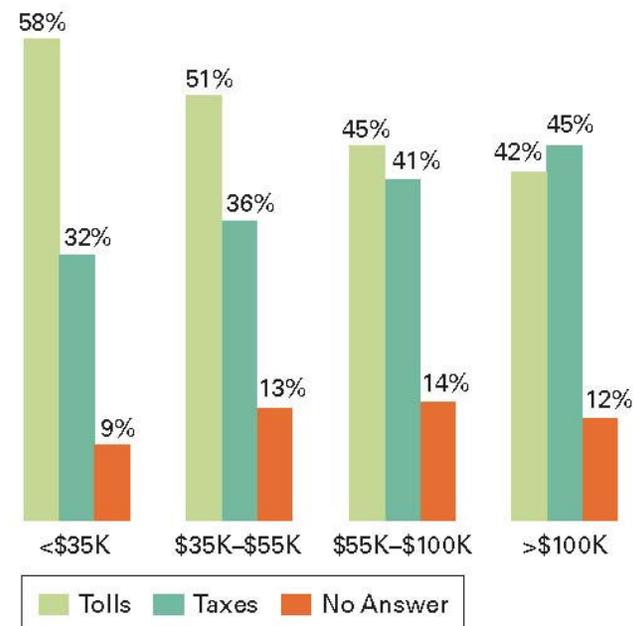
### *Do tolls place a higher burden on low-income residents than other funding mechanisms?*

- Sales taxes are not tied to the amount of driving and may pose a higher burden than express lane tolls
- Lower-income households prefer tolls to taxes.



Source: Brian Taylor and Lisa Schweitzer, 2008

**King County, WA**  
**Support for tolls versus taxes by income level**



Source: Income-Based Equity Impacts of Congestion Pricing: A Primer, FHWA (December 2008)

## 4. Why are no express lanes planned on US 101 on the Peninsula?

An HOV system gap exists north of Whipple Ave.

- Caltrans, MTC and San Mateo County are conducting an initial feasibility assessment of an HOV lane extension on this segment.
- Widening to add a lane could have significant environmental impacts and is prohibitively expensive.
- Converting a mixed flow lane would increase corridor delay substantially.
- Study is now considering a “hybrid” alternative.
- Anticipate study completion in 2012.



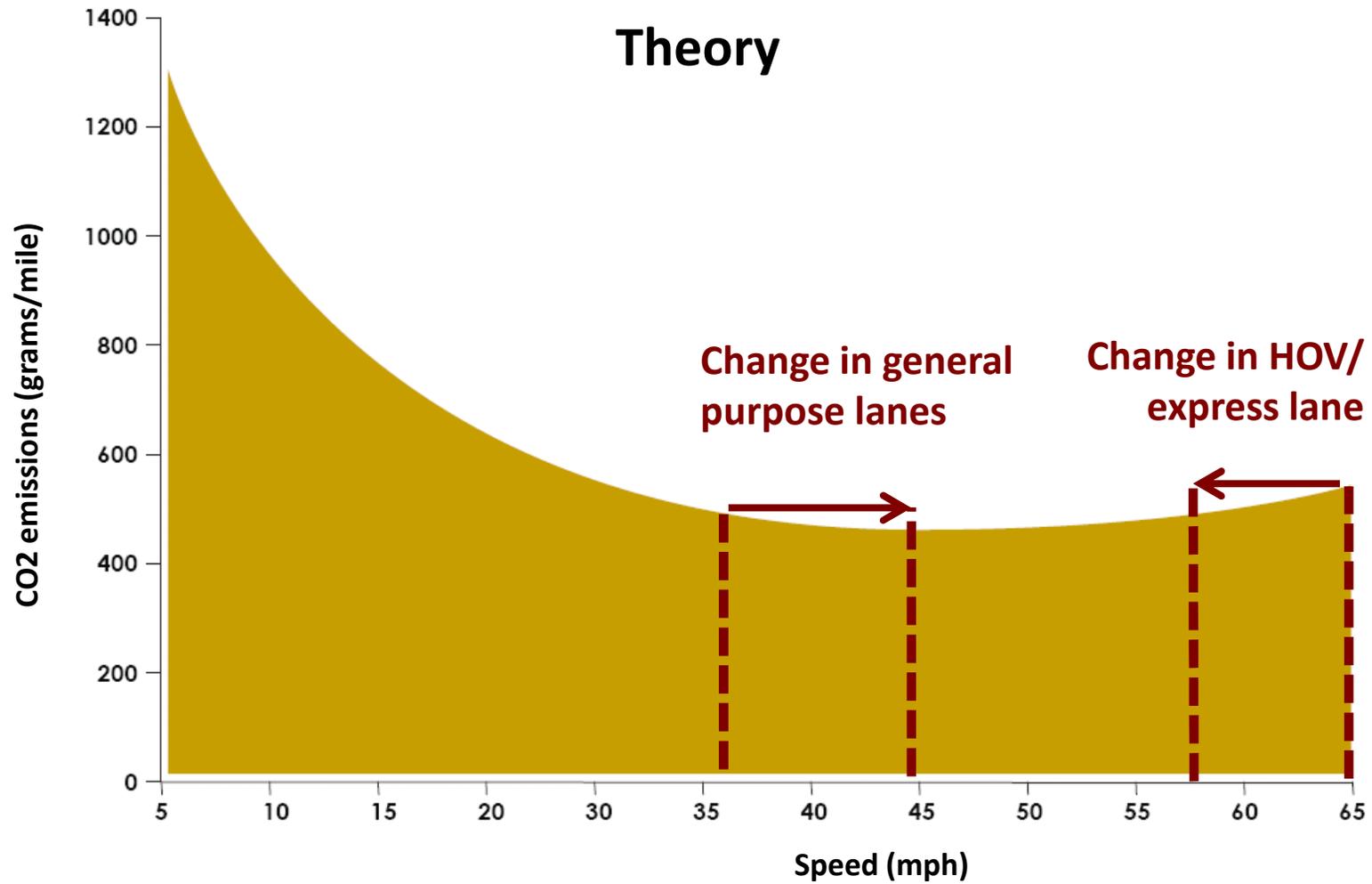
HOV lanes already exist south of Whipple Avenue. VTA has the ability to implement express lanes on this portion under state statute.

## 5.&6. Will the Network increase CO<sub>2</sub> emissions or vehicle miles traveled?

- MTC will assess air quality in the Environmental Document
  - Climate change effects
  - Criteria pollutants, including particulate matter (PM10 and PM2.5) and mobile source air toxics
  - Conformity with State Implementation Plan
- Analysis of existing express lane projects is limited (US GAO, 2012) but provides some reference points

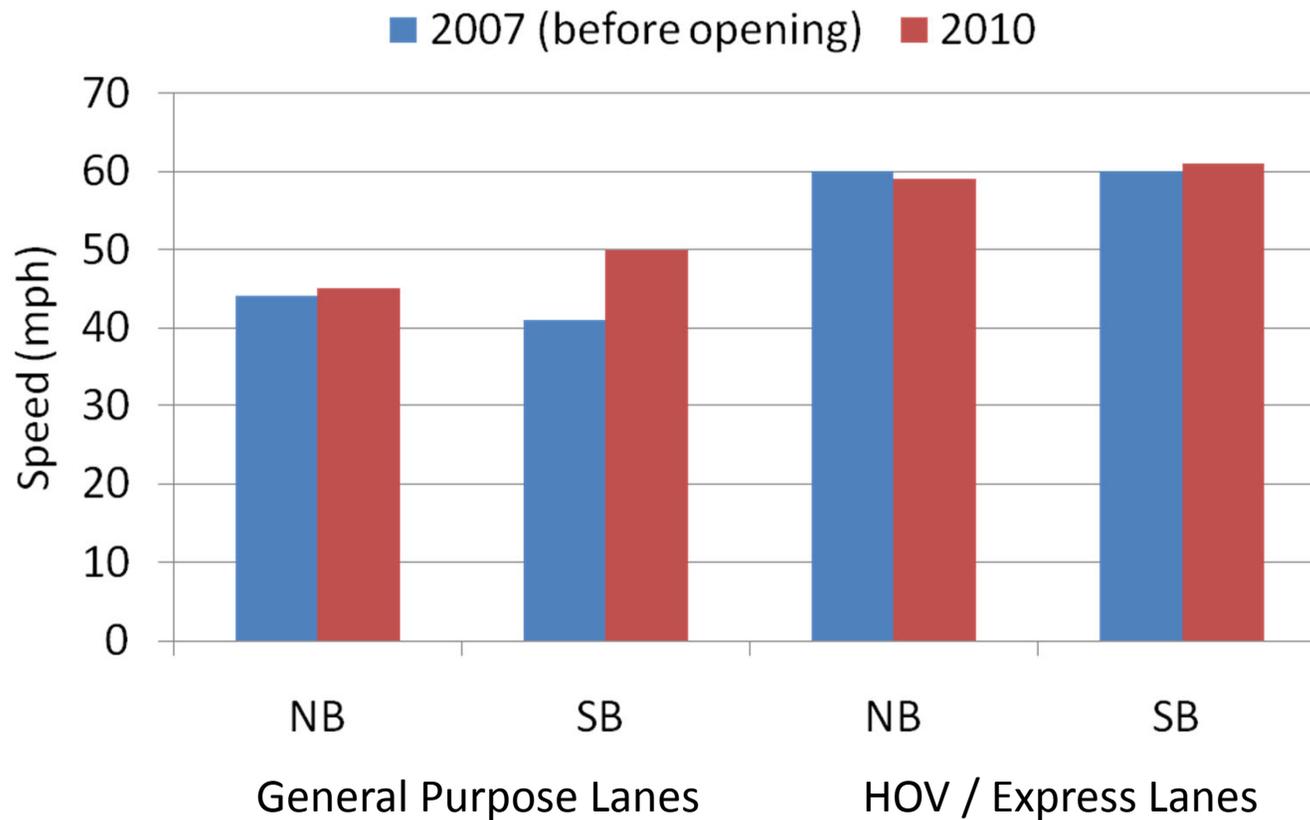
## What does the research show?

### *Express Lanes Should Moderate Speeds and Reduce Emissions*



# What does the research show?

## One Example: SR-167 in Seattle



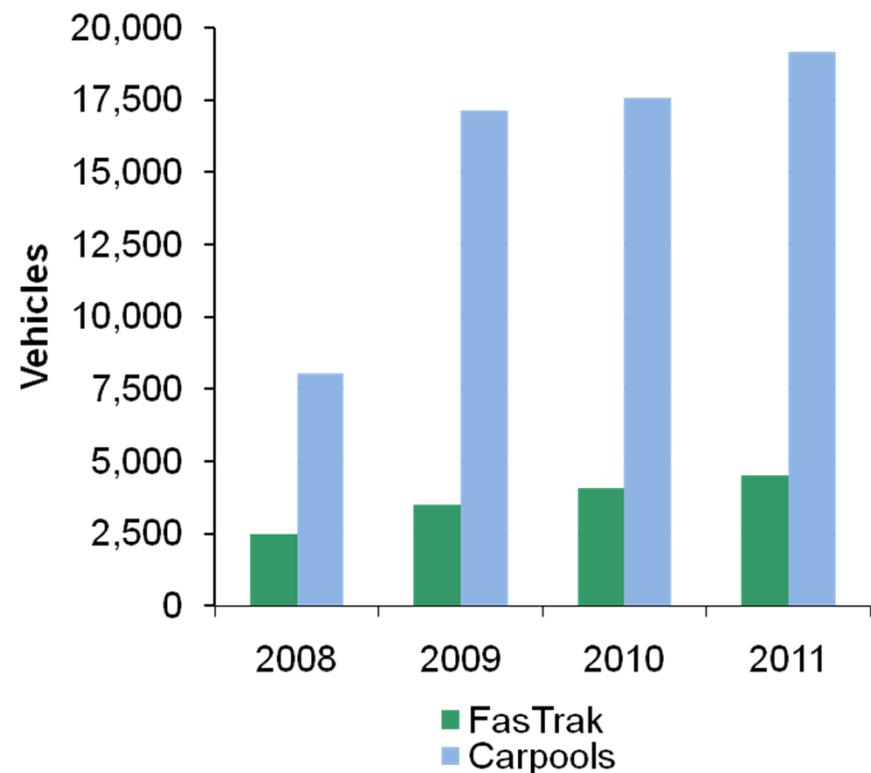
Source: SR167 HOT Lanes Pilot Project Second Annual Performance Summary

## What does the research show?

### *What is the impact of express lanes on carpooling?*

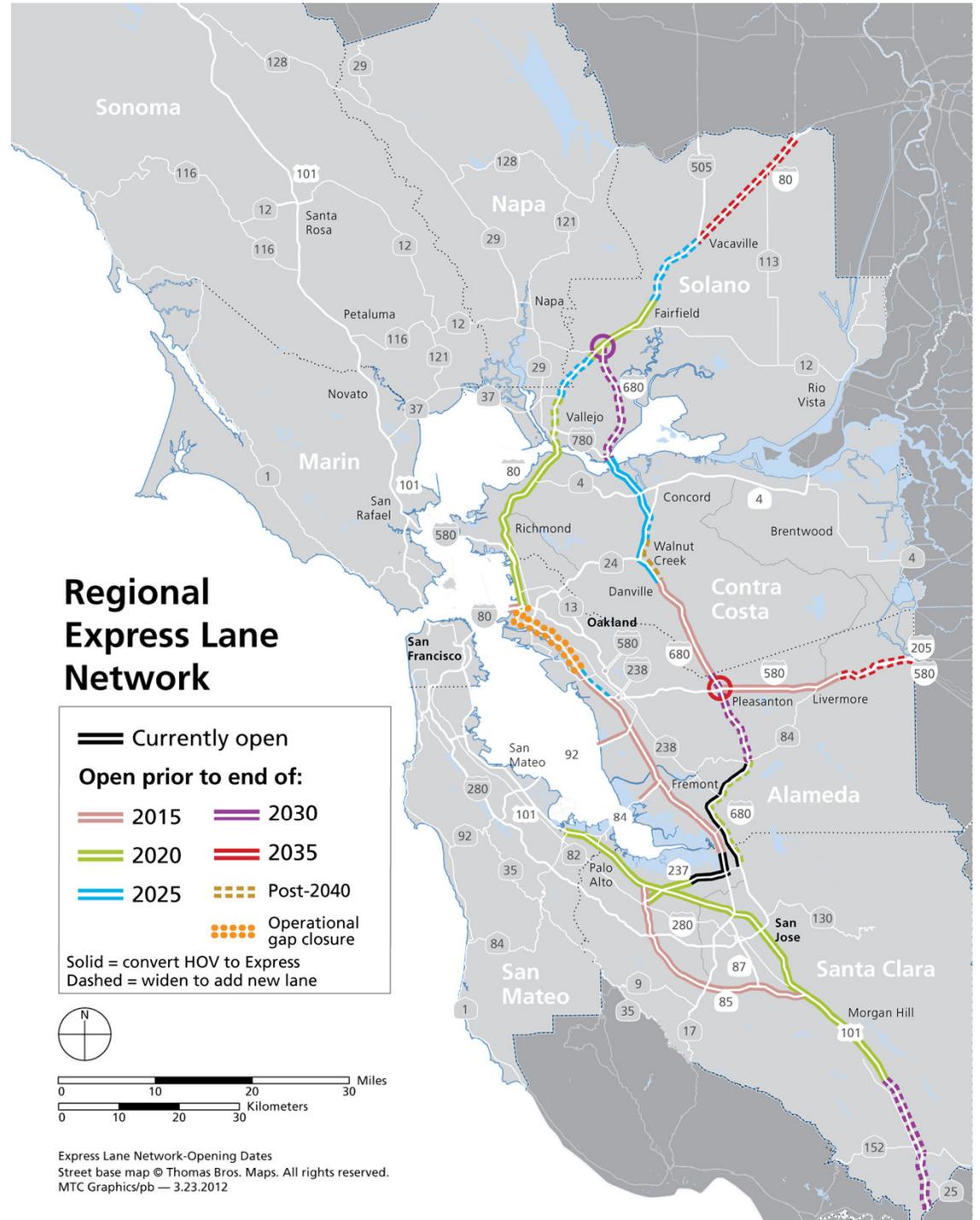
- State and Federal law do not allow paid vehicles to congest the lanes.
- Carpooling has increased on I-15 in San Diego and SR-91 in Orange County.
- Decreases in average vehicle occupancy levels have been documented for I-394 Minneapolis and I-95 Florida.
- Travel models do not predict this behavior well.

Use by Carpools and Tolled Vehicles on I-15 San Diego



# Regional Express Lane Network Build Out

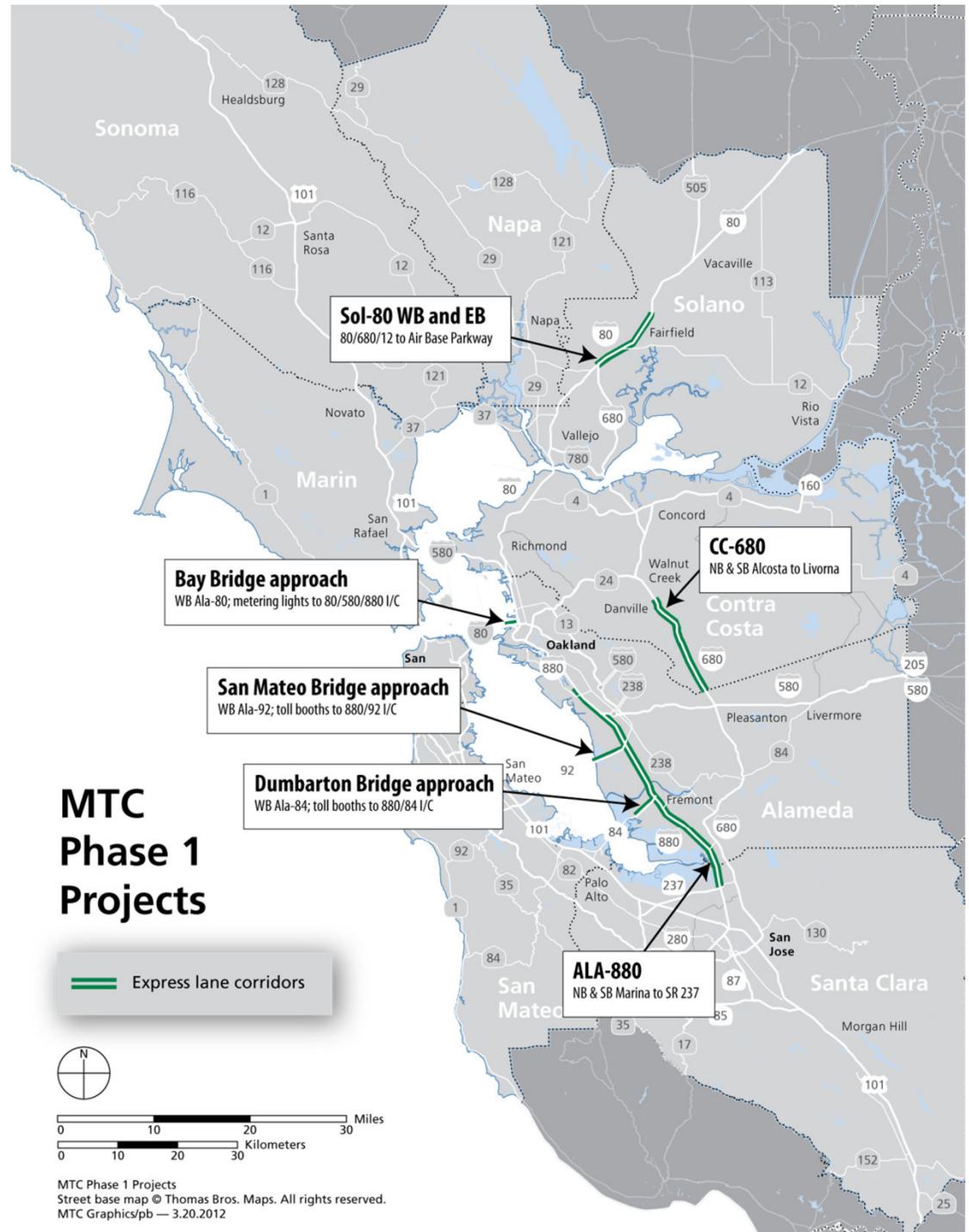
- Over 60% of express lane system miles are conversions of existing HOV lanes.
- Phasing leaves widenings for last.



# **NEXT STEPS**

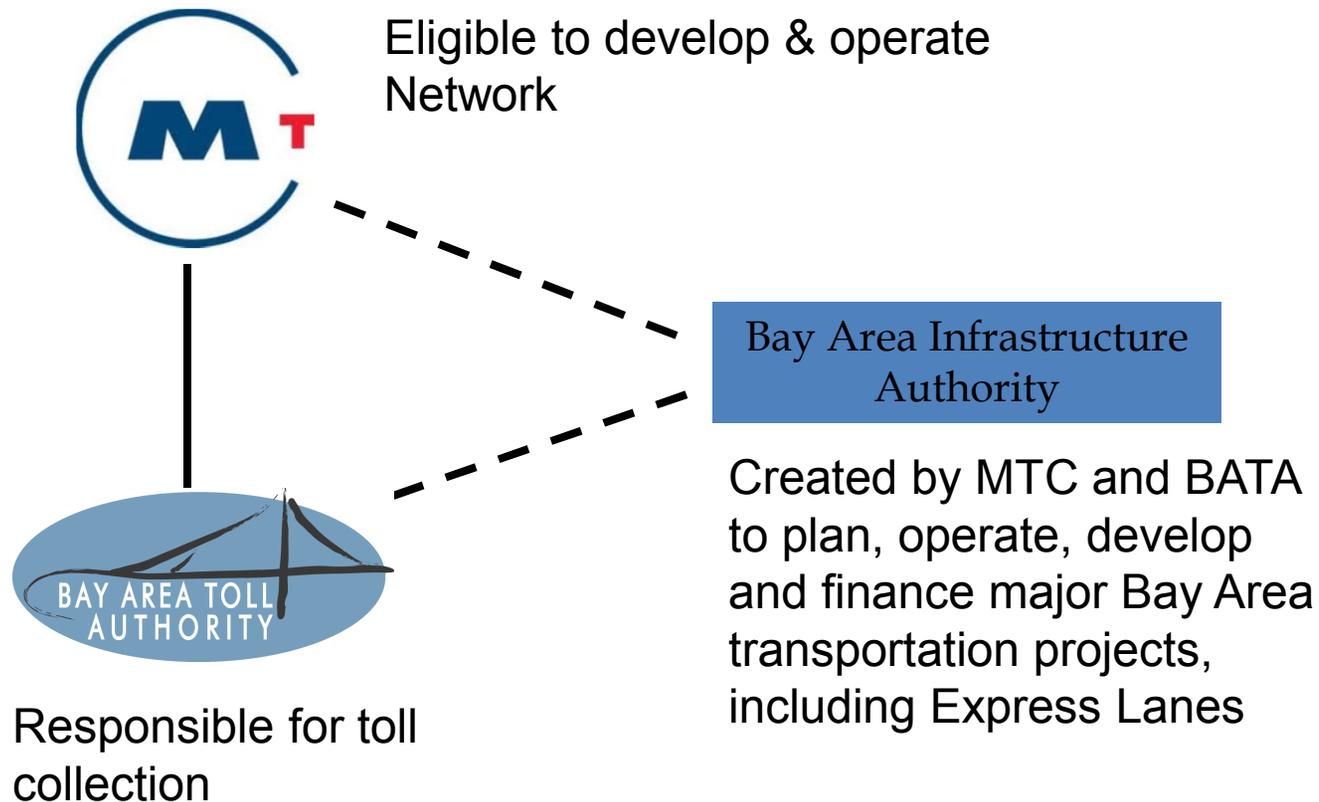
# MTC Phase 1 Projects

- Environmental studies and engineering are getting underway  
Caltrans is lead agency for CEQA & NEPA
- Define scope and schedule spring '12
- Open by 2015



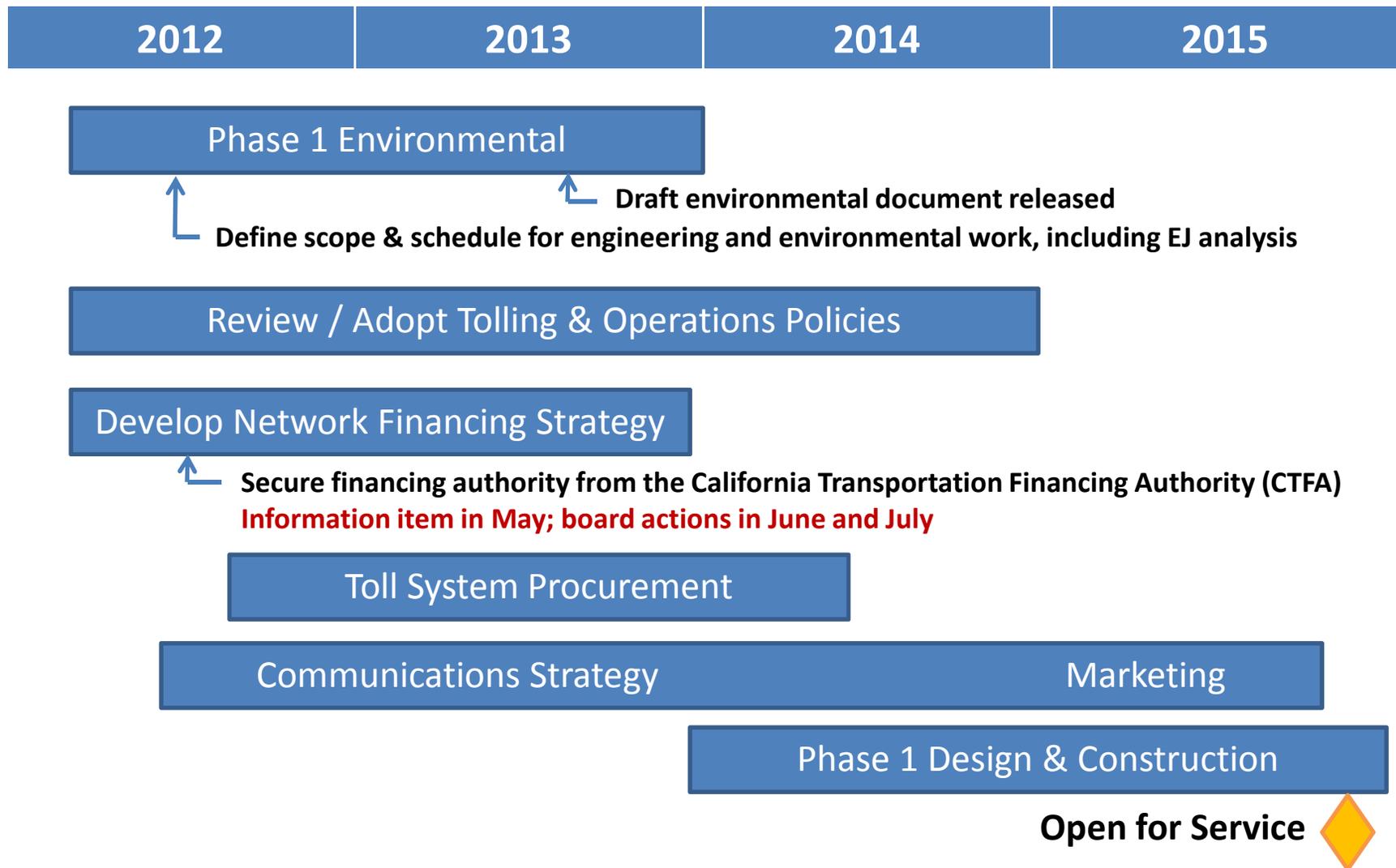
# Bay Area Infrastructure Financing Authority (BAIFA)

- BAIFA, an existing joint powers authority between MTC and BATA, is well-equipped to develop and operate the Network





# Preliminary Timeline for MTC Phase 1 Projects



# Timeline for Actions to Support Application to CTFA

May	<ul style="list-style-type: none"><li>• Informational item to MTC and BATA committees<ul style="list-style-type: none"><li>• Proposed changes to BAIFA membership</li><li>• CTFA application</li><li>• Financing approach</li></ul></li></ul>
June	<ul style="list-style-type: none"><li>• MTC and BATA revise BAIFA membership</li><li>• MTC assigns CTC-eligibility to BAIFA</li></ul>
July	<ul style="list-style-type: none"><li>• BAIFA authorizes application</li><li>• CTFA approves application</li></ul>

# Milestones for Returning to Policy Advisory Council

Spring / Early Summer 2012	<ul style="list-style-type: none"><li>• Update on scope and schedule for Phase 1 environmental review, including EJ analysis</li></ul>
Subsequently (dates TBD)	<p>Status reports based on updated schedule, with dedicated items for:</p> <ul style="list-style-type: none"><li>• Proposed approach to environmental justice analysis</li><li>• Draft results of environmental justice analysis</li><li>• Prior to board actions on key tolling and operations policy decisions</li><li>• Prior to release of draft environmental document</li></ul>

# Discussion

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