



METROPOLITAN
TRANSPORTATION
COMMISSION

Agenda Item 4c

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Memorandum

TO: Operations Committee

DATE: October 2, 2015

FR: Executive Director

W. I. 1237

RE: Plan Bay Area 2040 Call for Projects: Submittal of Regional Active Operational Management Program

In response to the Plan Bay Area 2040 Call for Projects issued by MTC on April 29, 2015, staff developed a comprehensive suite of advanced technology-driven operational strategies under the umbrella of “Regional Active Operational Management Program” for consideration in the financially constrained long-range plan. Staff requests Committee approval of our submission of the Regional Active Operational Management Program into the Plan Bay Area 2040 process. This allows the suite of projects to initially undergo project performance assessment and ultimately be considered for a place in the final transportation investment strategy for Plan Bay Area 2040.

Managing Congestion: Make Every Day Columbus Day

Traffic congestion has two main causes: 1) too many cars, trucks, and buses traveling on the same road at the same time (i.e., demand exceeds capacity); and 2) incidents such as a flat tire, a rear-end accident, overturned truck, work zones, and weather happen unexpectedly and frequently (i.e., non-recurring events reduce available capacity and reliability of the transportation system). The consequences of traffic congestion are many, including significant delays, compromised roadway safety, increased emissions due to stop-go traffic, and loss of economic productivity and competitiveness due to delays.

The core goals of the Regional Active Operational Management Program are to:

- **Create “Capacity” Through Operational Strategies, Not Expansion**
Deploying operational strategies tailored to match fluctuating travel demand and traffic conditions to improve system efficiency and safety and to reduce delay and emissions.
- **Increase Person Throughput**
Increasing person throughput by moving more people through carpools and buses allows us to make greater use of the existing roadway capacity in the region.
- **Assist Motorists and Clear Incidents Quickly**
Providing prompt aid to motorists helps to clear incidents quickly, prevent secondary incidents, and minimize further delay to travelers.
- **Provide “Decision-Quality” Information to Travelers**
Getting timely and detailed information about traffic conditions, transit departures, planned and emergency disruptions, special events, construction activities, etc., in the hands of travelers allows them to choose the most efficient mode and route for their trip.
- **Keep Our Regional Technology Infrastructure Well-Maintained and Operational**
As MTC makes investments in the region’s technology infrastructure on highways and arterials, it must protect these investments by maintaining our transportation management system (i.e., field equipment, Traffic Management Centers, etc.).

Active Operational Management Program

The Active Operational Management Program (the “Program”) is administered at the regional level by MTC to actively manage congestion. MTC deploys cost-effective, technology-driven operational strategies that improve mobility and system efficiency across freeways, arterials and transit modes. MTC will partner with Caltrans, Congestion Management Agencies and transit operators to leverage our regional dollars with other federal, State and local funding to deliver these operational strategies.

The anchor for this Program is a suite of long-standing MTC operational programs, such as Clipper[®], 511 traveler information, Motorist Aid Services (i.e., Freeway Service Patrol and Call Boxes), and Rideshare (i.e., Carpool and Vanpool services) – all of which continue to evolve to reflect changing needs and technology. For instance, Clipper[®] has established a coalition of transit operators that are working well together, and as the region moves forward, MTC will continue to use the Clipper[®] platform for transit coordination and expansion to other transportation payments. MTC and the Bay Area Infrastructure Financing Authority are also making steady progress in delivering the Regional Express Lanes Network program, which converts 150 miles of existing High Occupancy Vehicle lanes to express lanes and adds 120 miles of new lanes to close network gaps.

Building on the success of the Freeway Performance Initiative, this Program launches the new Columbus Day Initiative that deploys advanced technologies to help manage congestion today and prepare the region for the Connected Vehicle environment of tomorrow. To protect and maintain the region’s technology assets, the Transportation Management System ensures the existing and new technology infrastructure is operational and well-maintained. Advancing the Regional Express Lanes Network work further, MTC is pursuing regional managed lanes implementation strategies that look to close gaps in the managed lanes network, provide improved or new express bus services using managed lanes, and establish new park-ride facilities to support greater carpool and transit use. See **Attachment A** for fact sheets that detail the goals, project description and cost information for these various projects/programs.

Bridge Rehabilitation & Bridge Access Improvements

The Bay Area Toll Authority will also submit a host of bridge rehabilitation and bridge-related access improvement projects for consideration in Plan Bay Area 2040. The Regional Measure 1 State-Owned Toll Bridge Rehabilitation/Replacement/Retrofit Program and the Richmond-San Rafael Bridge Access Improvement Project will be carried over into the Plan. New projects such as the West Span Bicycle/Pedestrian Pathway, Bay Bridge Park, and The Link (which is a connection to the Bay Bridge Trail) will be introduced in the Plan. See **Attachment B** for fact sheets that detail the goals, project description and cost information for the three new bridge-related connectivity projects.

Recommendation

As required for all projects sponsors, staff recommends that the Operations Committee approve the submittal MTC Active Operational Management Program of projects for consideration for inclusion in Plan Bay Area 2040.



Steve Heminger

Columbus Day Initiative

Project Description

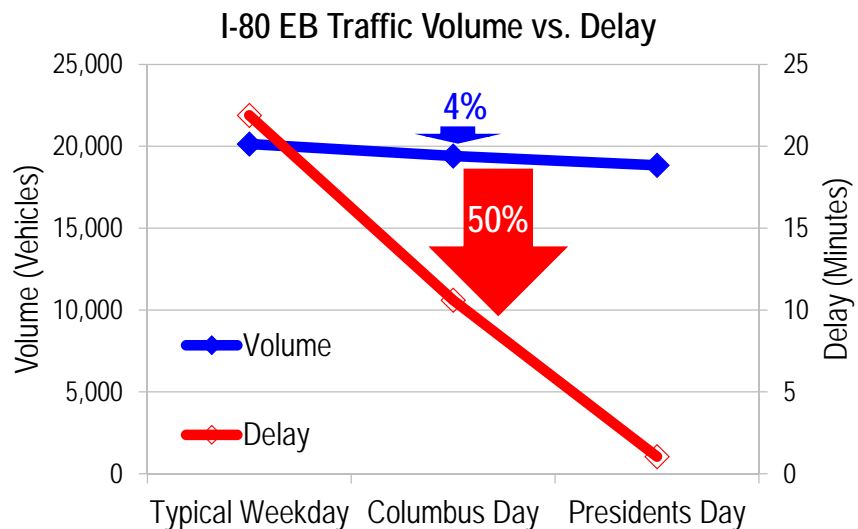
The Columbus Day Initiative (CDI) is a suite of cost-effective technology-based strategies aimed at maximizing the efficiency of the existing freeway and arterial systems through active operational management.

Total Cost over Plan Bay Area 2040 Period	\$595 million (YOE)
Goals Furthered	Economic Vitality, Healthy and Safe Communities, Transportation System Effectiveness, Climate Protection

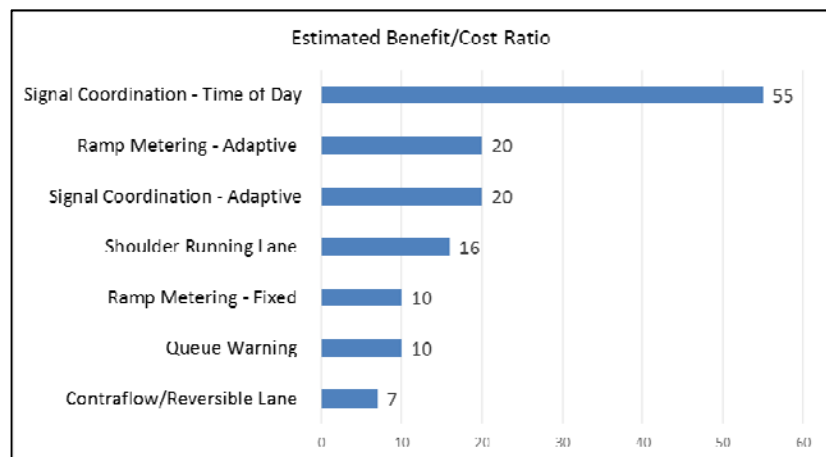
Strategy	Description
Adaptive Ramp Metering	Dynamically optimizes corridor operations through metering
Adaptive Signal Timing with TSP	Dynamically optimizes signal coordination with priority to transit vehicles
Connected Vehicles	Deploys wireless communications among vehicles/infrastructure/mobile devices to improve safety, mobility, and environment
Hard Shoulder Running Lane	Converts existing shoulder into a transit and HOV3+ carpool lane
Queue Warning	Provides real-time warning messages to alert motorists
Contra-Flow Lane	Utilizes available capacity from the off-peak direction.
Shared Mobility	Deploys transportation services shared among users for more mobility choices

Project Motivation – Make Everyday a Columbus Day

- A small reduction in traffic volume on Columbus Day leads to a significant reduction in vehicle delay



Cost-Effective Strategies



Transportation Management

Project Description

The Transportation Management System (TMS) project improves and maintains vital operational infrastructure that monitors travel conditions, disseminates information, responds to freeway incidents and controls traffic management systems.

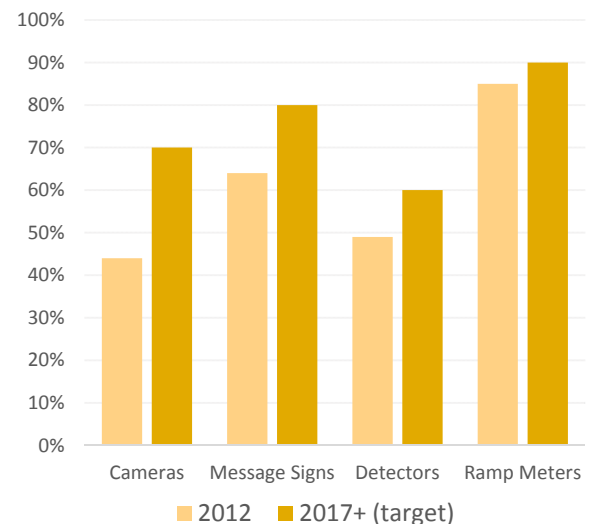
TMS is the foundation for the Bay Area Express Lanes and the Columbus Day Initiative, providing system maintenance and access to field devices and communication infrastructure. It facilitates successful implementation of these emerging programs.

Total Cost over Plan Bay Area 2040 Period	\$800 million (YOE)
PBA 2040 Goals Furthered	Transportation System Effectiveness, Climate Protection, Healthy and Safe Communities

Focus Areas	Project Highlight	Return on Investment
Performance-Based Operations & Maintenance	Focus limited resources to maintain field devices on critical corridors.	Improves equipment reliability and sustainability. Mitigates device degradation (5% monthly) and supports system growth (10% annually).
Incident Management	A variety of strategies to enhance mobility, improve safety and reduce the impacts of traffic incidents.	Ranges from 25:1 (Integrated Corridor Management) to 35:1 (Incident Management Task Force).
Transportation Management Center, Communications & Detection	Centralized monitoring and control of field devices. Data collection for planning & maintenance.	Essential to the effectiveness of traveler information services, intelligent transportation systems (ITS) and incident response.



Field Device Operational Status



Benefits of TMS

- Every minute saved in clearing an incident eliminates 4 min of delay per vehicle, on average.
- Traveler information on electronic signs can save 5–30 min of delay per vehicle during incidents.

Express Lanes

Project Description

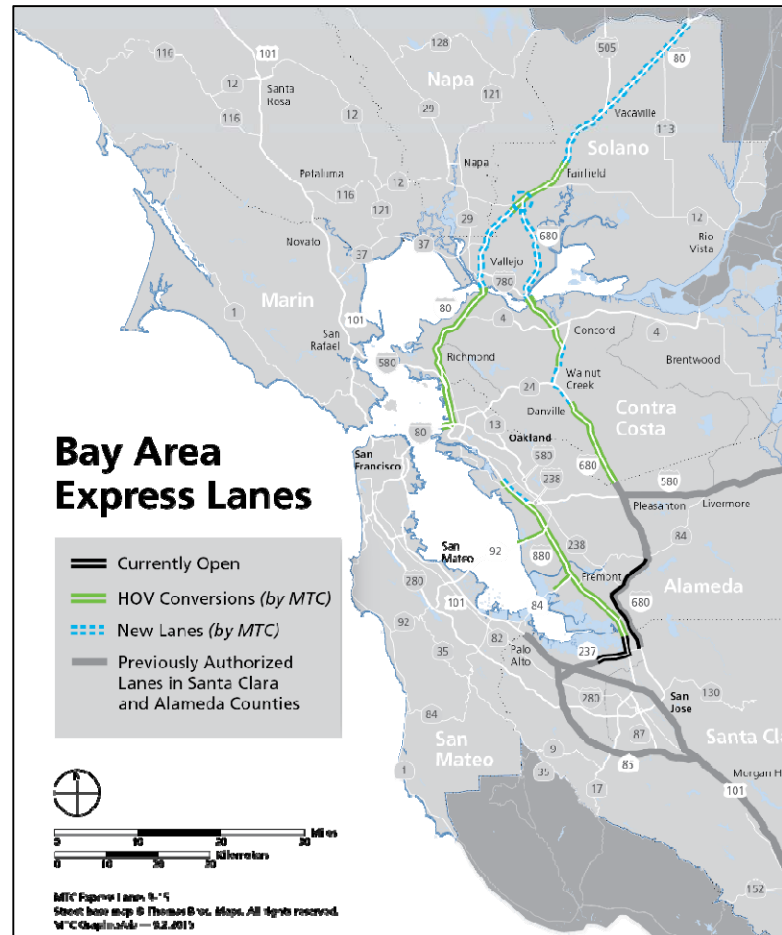
Bay Area transportation agencies are developing Bay Area Express Lanes to:

- Make use of available space in existing carpool lanes to move more people;
- Give everyone the choice to carpool for free or pay for a more reliable trip; and
- Fill gaps in the carpool system to encourage more carpools, vanpools and buses.

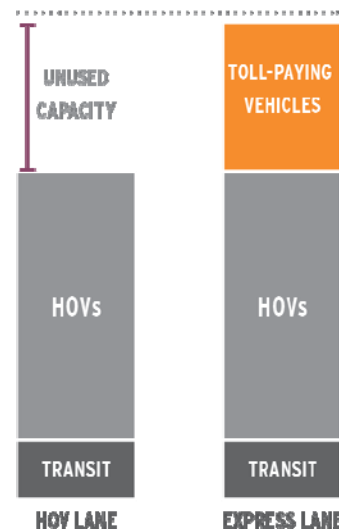
MTC's project is part of a 550-mile regional express lane system. To date, over half of MTC's 270 miles of express lanes are in the environmental clearance, design or construction phase. Conversion of existing HOV lanes on I-680 and I-880, a total of 85 lane miles, are fully funded.

Gross Cost over Plan Bay Area (PBA) 2040 Period	\$3.3 billion (YOE)
Net Cost over PBA 2040 Period	-\$0.7 billion (YOE) (net positive revenue)
PBA 2040 Goals Furthered	Economic Vitality, Transportation System Effectiveness, Climate Protection

Capital Costs	\$2 billion (YOE)
Capital Funding Secured	\$0.3 billion
Operations & Maintenance Costs through 2040	\$1.3 billion (YOE)
Projected Gross Revenue through 2040	\$4 billion (YOE)
HOV conversions	150 miles
New lanes	120 miles



LANE CAPACITY



Express lanes better use carpool lane (HOV) capacity

Looking Forward

- In early 2017, MTC is scheduled to begin operation of its first express lane on I-680.
- In 2019, MTC is scheduled to extend the I-680 express lane and open express lanes on I-880.

Managed Lanes Implementation Plan

Project Description

The Managed Lanes Implementation Plan (MLIP) is a suite of complementary projects that will expand the managed lanes network and enhance express bus services and park and ride facilities serving managed lanes. These strategies will maximize the efficiency of and increase person throughput on the Bay Area's managed lanes network.

Total Cost over Plan Bay Area 2040 Period	\$2.7 billion YOE
PBA 2040 Goals Furthered	Climate Protection, Economic Vitality, Transportation System Effectiveness

MLIP strategies include:

- Expansion of managed lanes network
- New and enhanced express bus services and capital improvements
- New and expanded park-ride facilities
- Shared parking and public private partnerships
- Parking management and real-time information
- Guidance on clean air vehicles, hours of operation, and occupancy
- Enhanced outreach and education

<i>Express Lane Expansion</i>	253 lane-miles
<i>Improved Express Bus Service</i>	15 routes improved 15 new routes
<i>New Park and Ride Capacity</i>	Over 2,000 new spaces



Regional Benefits	
Connectivity	<ul style="list-style-type: none"> • Close network gaps to serve carpools and transit • Provide regional consistency
Efficiency	<ul style="list-style-type: none"> • Increase person throughput on existing freeway capacity • Enhance transit service • Maximize existing park and ride capacity
Reliability	<ul style="list-style-type: none"> • Expand reliable travel options

511

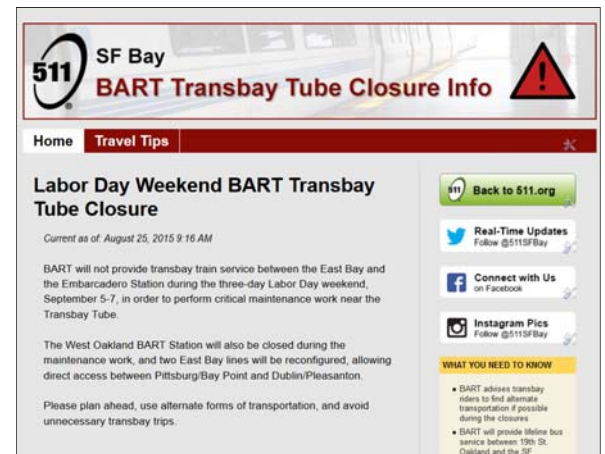
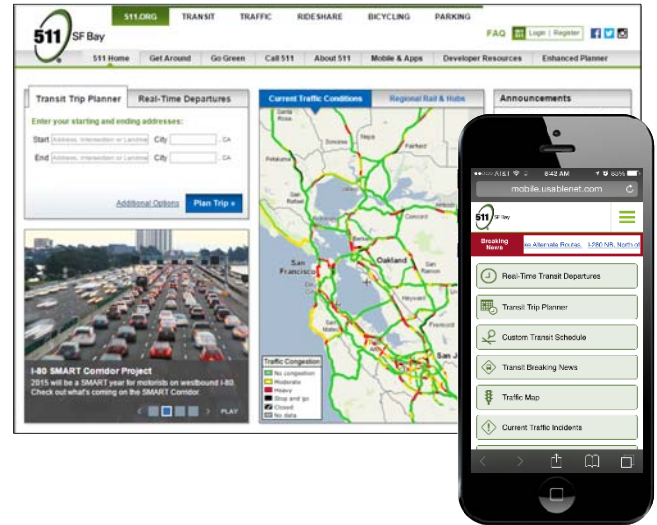
Project Description

The 511 program provides multi-modal traveler information on multiple dissemination platforms, serves as the go-to source for travelers and media in major disruptions and regional emergencies, partners with many agencies and businesses for transportation information during regional events, and supports numerous MTC and partner objectives.

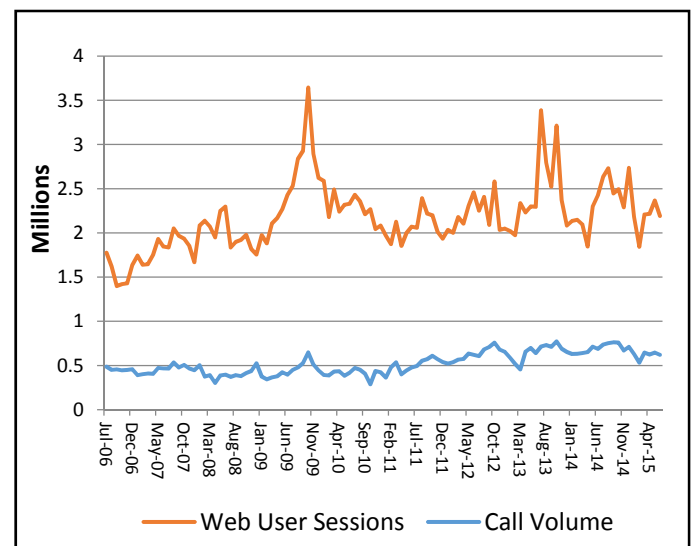
Total Cost over Plan Bay Area 2040 Period	\$280 Million (YOE)
PBA 2040 Goals Furthered	Transportation System Effectiveness, Climate Protection

MTC's 511 system is unprecedented in the breadth and quality of traveler information services provided. Information services are free and available on-demand via phone, mobile and web, and include:

- Alerts and traveler guidance during transportation disruptions and emergencies
- Transit fares, schedules, and trip plans
- Live traffic conditions, incidents, and driving times
- Construction projects and special events affecting traffic
- Real-time transit departures and parking availability
- Green commute, smart driving, and bicycling information
- Online ride-matching for carpools and vanpools



511 Usage



Traveler Information Metrics

Service Area	9 County Bay Area, (including roadways in San Joaquin and Santa Cruz counties)
Non-Auto Mode Shift Increase	4%
System Delay Reduction	4.5% to 30%
Benefit Cost Ratio	16:1 to 25:1

Carpool & Vanpool

Project Description

The greatest untapped mobility resource in the Bay Area is the unfilled seats in vehicles. Increasing vehicle occupancy reduces vehicle miles traveled and greenhouse gas emissions.

MTC's Carpool Program provides carpool matching tools, offers carpool incentives and performs outreach and education.

MTC's Vanpool Program forms and maintains vanpools by organizing pools of interested commuters, helping drivers comply with vanpool requirements and making it easier to vanpool by offsetting costs and distributing toll tags for toll-free bridge passage.

Gross Cost over Plan Bay Area (PBA) 2040 Period	\$135 million (YOE)
Net Cost over PBA 2040 Period	\$40 million (YOE)
PBA 2040 Goals Furthered	Climate Protection, Economic Vitality, Healthy and Safe Communities, Equitable Access

New Strategies & Value Added

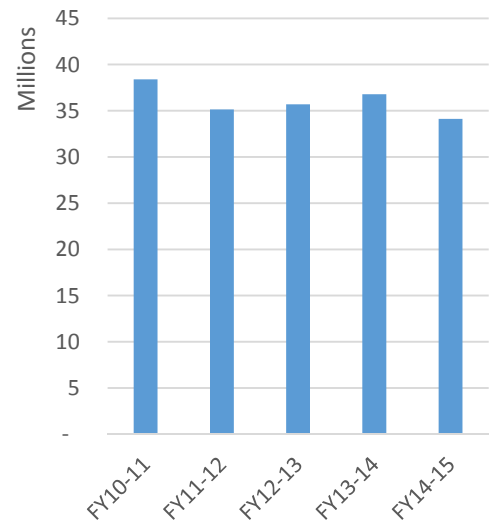
- MTC is shifting its focus to direct-to-customer outreach to promote carpooling and vanpooling.
- MTC will also support the administration of the Commuter Benefits Program and provide a library of employer self-help tools to implement employer-based trip reduction programs.
- The Carpool Program is partnering with private-sector ridematch apps to encourage their growth and adoption in the Bay Area.
- MTC will start off-setting vanpool lease costs, track vanpool miles and receive FTA revenue for those miles to pay for the Vanpool Program and grow the vanpool fleet.
- With the transition of some carpool lanes to express lanes, the Carpool & Vanpool Programs will be an important regional resource.

Additional Information

Vanpool Program Revenue	\$94.8 million
Service Area	9 County Bay Area
Greenhouse Gas Reduction	15,814 metric tons



Annual VMT Reduced



Average Annual Outcomes FY06 to FY15

- 1,360,000 vehicle trips reduced
- \$2.60 per vehicle trip reduced
- 65 new vanpools formed and Bay Area vanpool fleet of 530 vans
- 16,000 people actively seeking carpools via ridematching database
- 19,000 new database registrants
- 170,000 unique website users

Motorist Aid Services

Project Description

The Motorist Aid Services project primarily consists of the Freeway Service Patrol (FSP) and Call Box (CBX) programs but also funds other motorist aid activities.

FSP tow drivers patrol the region's busiest traffic corridors at peak hours to provide free motorist aid and improve incident clearance time thus increasing safety, reducing air pollution from stop and go traffic and reducing travel delay.

Motorists may either use a call box - which are located on all major highways, bridges and tunnels - or dial '511' to access assistance on the freeway.

Total Cost over Plan Bay Area 2040 Period	\$360 million
PBA 2040 Goals Furthered	Economic Vitality, Healthy and Safe Communities, Climate Protection

FSP

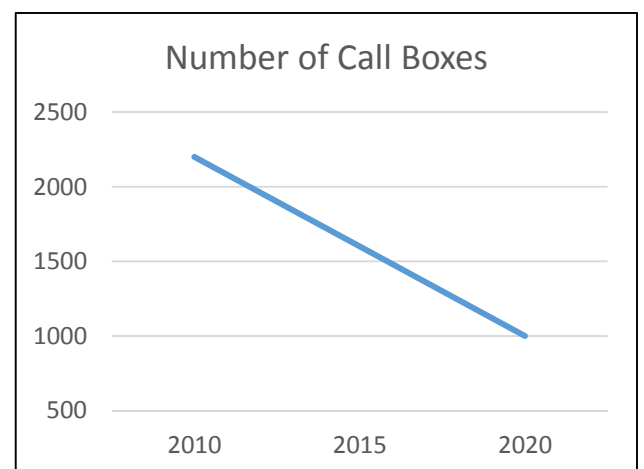
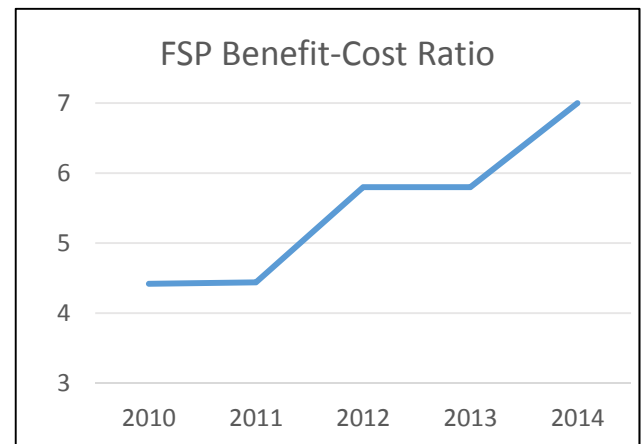
<i>Service Area</i>	470 center lane miles
<i>Service Provided</i>	150,000+ truck-hours / year
<i>Motorist Assists</i>	100,000 / year
<i>CO2 Reduction</i>	34.3 million kg in FY13-14

CBX

<i>Call Boxes</i>	1,550 boxes
<i>511 Freeway Assist signs</i>	450 signs
<i>Number of Calls</i>	45,000 / year

Looking Forward

- FSP has been focusing service on the most busy traffic areas and times to enhance its effectiveness.
- CBX is downsizing and shifting to mobile platforms by encouraging use of cell phones to dial 511 for the 'Freeway Assist' option.



Emergency Management

Project Description

Since the 1989 Loma Prieta Earthquake, MTC has spearheaded regional transportation emergency preparedness activities in the Bay Area, while also leading emergency transportation response during real-life events. The Emergency Management program enhances the region's transportation agencies' emergency coordination and response capabilities, which are critical to resumption of transportation service and economic resiliency. The program facilitates coordination across jurisdictional and modal boundaries.

Total Cost over Plan Bay Area 2040 Period	\$25 Million (YOE)
PBA 2040 Goals Furthered	Transportation System Effectiveness, Economic Vitality, Equitable Access

Specific emergency planning services include:

- Regional transportation emergency plan management and development
- Managing the \$1M Emergency Transit Fund
- Staff trainings
- Exercises that test emergency plans
- Supplying satellite phone hardware and service
- Promulgating incident management software

MTC's emergency role and responsibilities during a disaster include:

- (1) Leading regional emergency transportation response
- (2) Emergency coordination with the California Office of Emergency Services (Cal OES);
- (3) Serving as a regional information clearinghouse for agencies; and
- (4) Disseminating information to the public.

MTC has responded with operational staff support to a number of incidents, including: 2007 MacArthur Maze Structure Fire, 2009 Bay Bridge Eyebars Failure, 2013 BART Strike, 2013 Labor Day Bridge Closure, 2015 BART Transbay Tube closure



MTC led regional coordination during BART strike

Selection of Agency Partners



West Span Bike/Pedestrian/Maintenance Path

Project Description

The project will address the lack of bicycle, pedestrian and maintenance access on the West Span of the San Francisco-Oakland Bay Bridge by constructing a path from downtown San Francisco to Yerba Buena Island.

The proposed San Francisco-Oakland Bay Bridge West Span Bike/Pedestrian/Maintenance (WSBPM) path will provide non-motorized modes of transportation across the San Francisco Bay, increasing the capacity of the bridge.

The project also supports the California Department of Transportation's "complete streets" vision and the Association of Bay Area Governments' Bay Trail Plan.



<i>Total Cost over Plan Bay Area 2040 Period</i>	\$691 million (YOE)
<i>PBA 2040 Goals Furthered</i>	Healthy and Safe Communities, Transportation System Effectiveness

Additional Information

- Path Length: 27,000 feet
- Current Phase: Alternatives Development & Preliminary Engineering
- Anticipated environmental document: EIR/EA (Environmental Impact Report for the California Environmental Quality Act and Environmental Assessment for the National Environmental Policy Act)



Bay Bridge Park

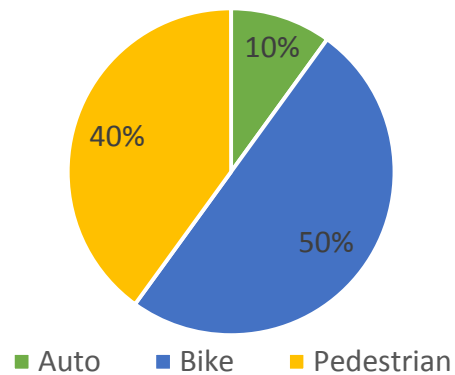
Project Description

The creation of a new park is proposed at the east touchdown of the San Francisco-Oakland Bay Bridge (Bay Bridge) in Oakland. The project site encompasses approximately 45 acres and will extend from the waterfront near the touchdown of the new Eastern Span of the Bay Bridge on the west to Maritime Street in West Oakland on the east. Its working title is Gateway Park.

The new park would provide access to the Bay and would include recreation opportunities and features to showcase the natural, maritime, industrial, and transportation history of the East Bay.



Benefit by Mode



Total Cost over Plan Bay Area 2040 Period	\$195 million (YOE)
PBA 2040 Goals Furthered	Healthy and Safe Communities, Open Space Preservation

At this time, it is envisioned the park would be a regional park operated by the East Bay Regional Park District (EBRPD) or a Joint Powers Authority. Specific amenities within the Park may be operated by a philanthropic organization and/or private concessionaires.

Additional Information

- The environmental document is under way for this project
- The current Gateway Park Working Group is comprised of nine local, regional and state agencies.

Committed Future Funding	
Bay Conservation and Development Commission (BCDC)	\$1.1 million
EBRPD (Measure WW)	\$5 million

Estimated Construction Schedule	
Begin	2020
End	2030

Link

to Bay Bridge Regional Bicycle and Pedestrian Path

Project Description

A new bicycle/pedestrian path between West Oakland and the new East Span of the San Francisco Oakland Bay Bridge (Bay Bridge) in Oakland, California. The Link would provide safe access to the existing bicycle/pedestrian path on the Bay Bridge (Bay Bridge Trail), as well as access to existing and planned segments of the regional San Francisco Bay Trail.

Project Purpose

Provide a safe connection for bicyclists and pedestrians to travel between West Oakland and the Bay Bridge Trail.



Total Cost over Plan Bay Area 2040 Period	\$62 million (YOE)
PBA 2040 Goals Furthered	Economic Vitality, Healthy and Safe Communities

Committed Future Funding	
Federal Congestion Mitigation and Air Quality Improvement (CMAQ)	\$15 million
Statewide Transportation Improvement Program (STIP)	\$15 million



Current access for bicyclists and pedestrians is on roadways extending through industrial areas with heavy truck traffic

Additional Information

The environmental document is under way for this project

Regional Active Operational Management Program

Plan Bay Area 2040

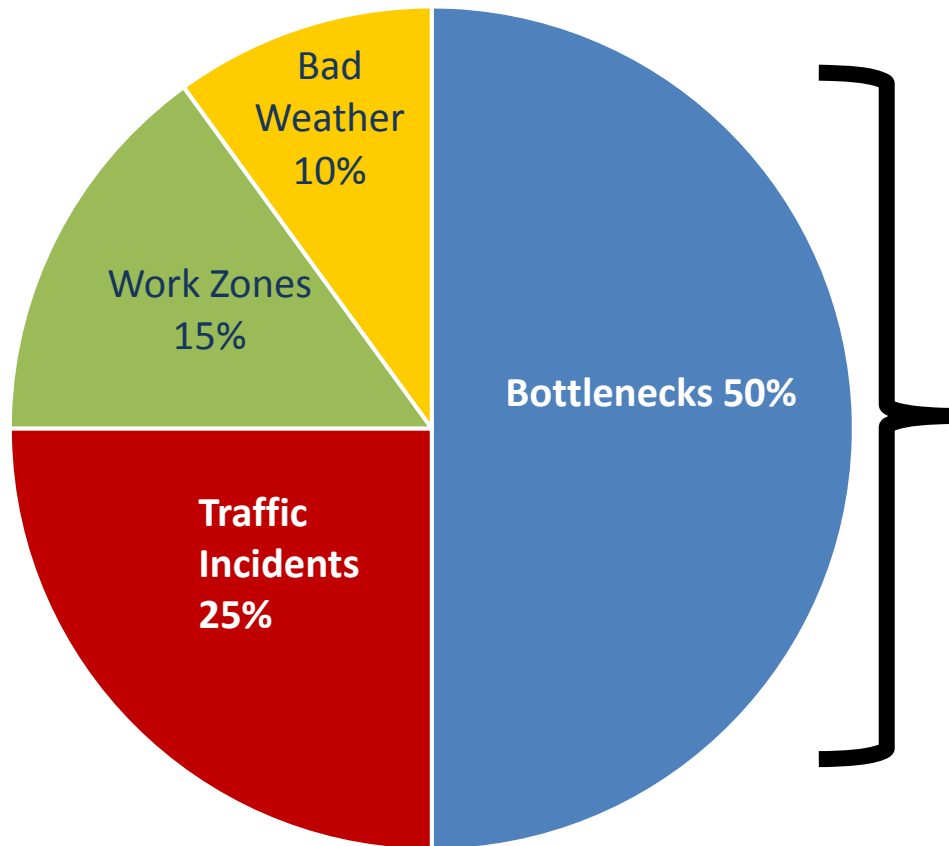
**MTC Operations Committee
October 9, 2015**



METROPOLITAN TRANSPORTATION COMMISSION

Managing Congestion

Causes of Congestion



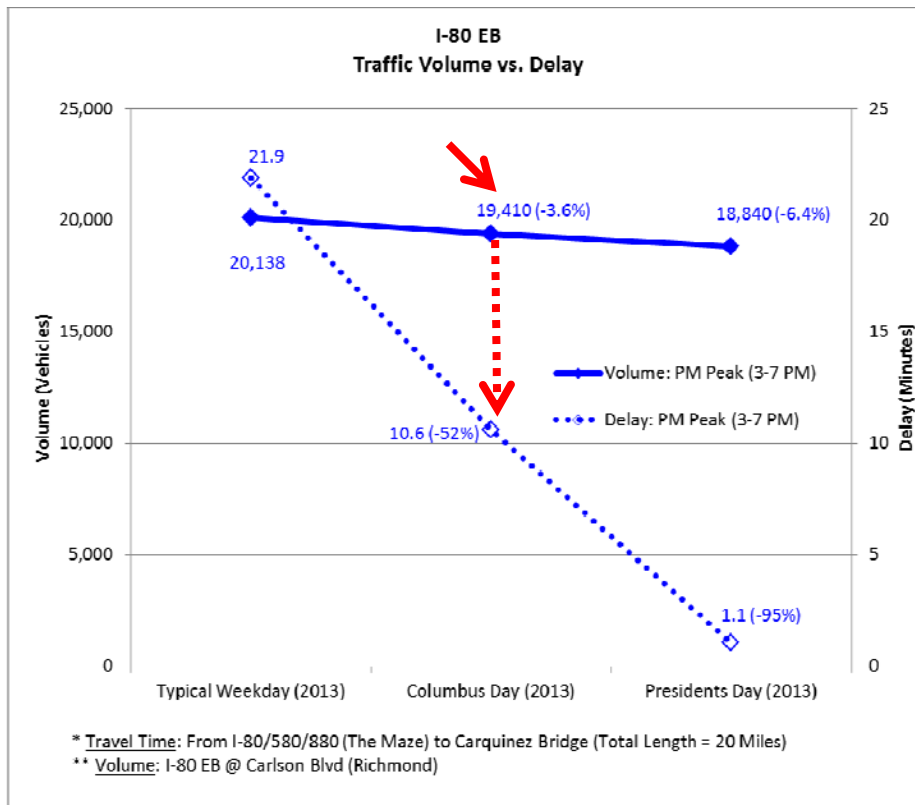
Congestion Mitigation: Regional Active Operational Management Program



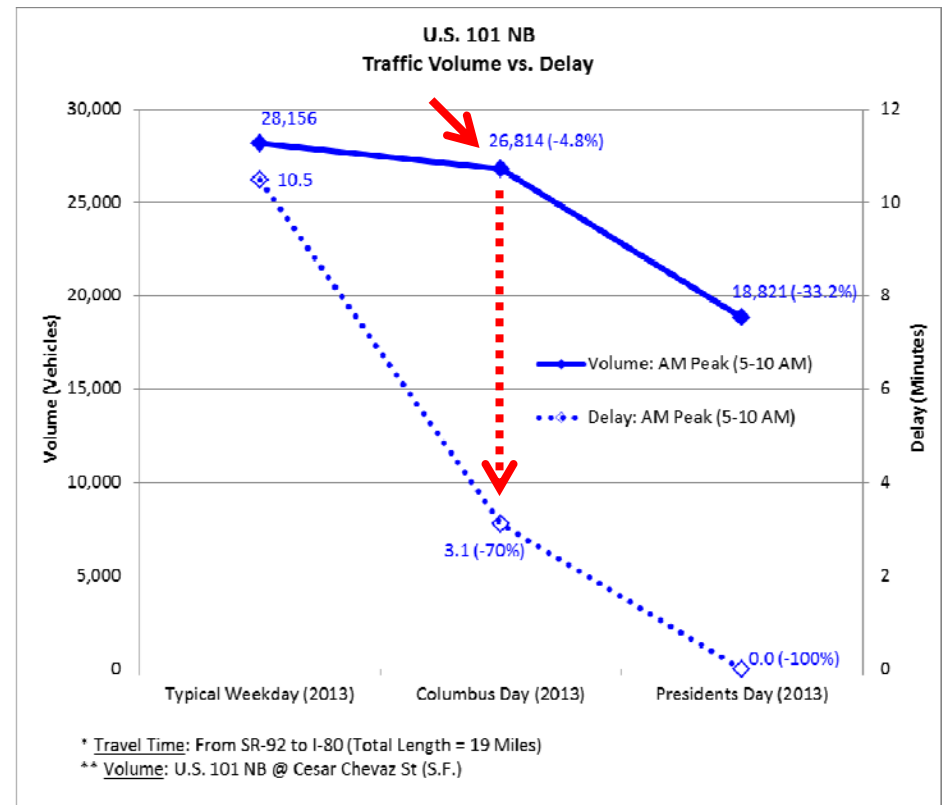
Make Every Day Columbus Day

**3% to 5% Lower Traffic Demand on Columbus Day
Yields 50% to 70% Less Delay**

Alameda I-80 Eastbound



San Mateo US-101 Northbound



Columbus Day Initiative

Using Technology and Cost-Effective Strategies to Maximize Roadway Efficiency



Regional Benefits	
Mobility	<ul style="list-style-type: none"> Reduces Freeway and Arterial Delay: Recurring and Non-Recurring Congestion Improves Travel Time Reliability
	<ul style="list-style-type: none"> Reduces Primary and Secondary Incident Rates on Freeways and Arterial
Safety	<ul style="list-style-type: none"> Reduces Greenhouse Gas Emissions
Environment	<ul style="list-style-type: none"> Reduces VMT Through Improved Transit Services and Shared Mobility

PBA 2040 Program Cost (YOE):
\$595 M



Transportation Management System

Building a Foundation for 21st Century Operations



Regional Benefits	
Mobility	<ul style="list-style-type: none"> Reduces Freeway and Arterial Delay Improves Travel Time Reliability Optimizes Express Lane Operations Improves Freight Mobility
Efficiency	<ul style="list-style-type: none"> Operates and Maintains Intelligent Transportation System Infrastructure in a State of Good Repair Optimizes Performance of Existing Infrastructure Optimizes and Unifies Communication Investments Across Multiple Systems
Safety & Environment	<ul style="list-style-type: none"> Reduces Fuel Consumption and Vehicle Emissions Reduces Incidents for All Transportation Modes

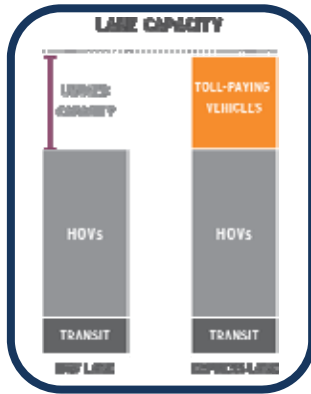
PBA 2040 Program Cost (YOE):
\$800 M



Express Lanes Network

Building a Regional Network to Maximize Roadway Efficiency

Maximize Lane Capacity



Transit and Carpool Travel Time Reliability



270-Mile Network (Conversions & New Lanes)



Increasing Person Throughput

Enhanced Enforcement



Customer Education



Regional Benefits

Connectivity

- Closes Network Gaps to Serve Carpools and Transit
- Builds 270 Miles of the 550-Mile Bay Area Express Lanes Network

Efficiency

- Increases Person Throughput on Existing Lanes
- Improves Operations Through Better Enforcement

Reliability

- Improves Travel Time Reliability
- Increases Travel Choices

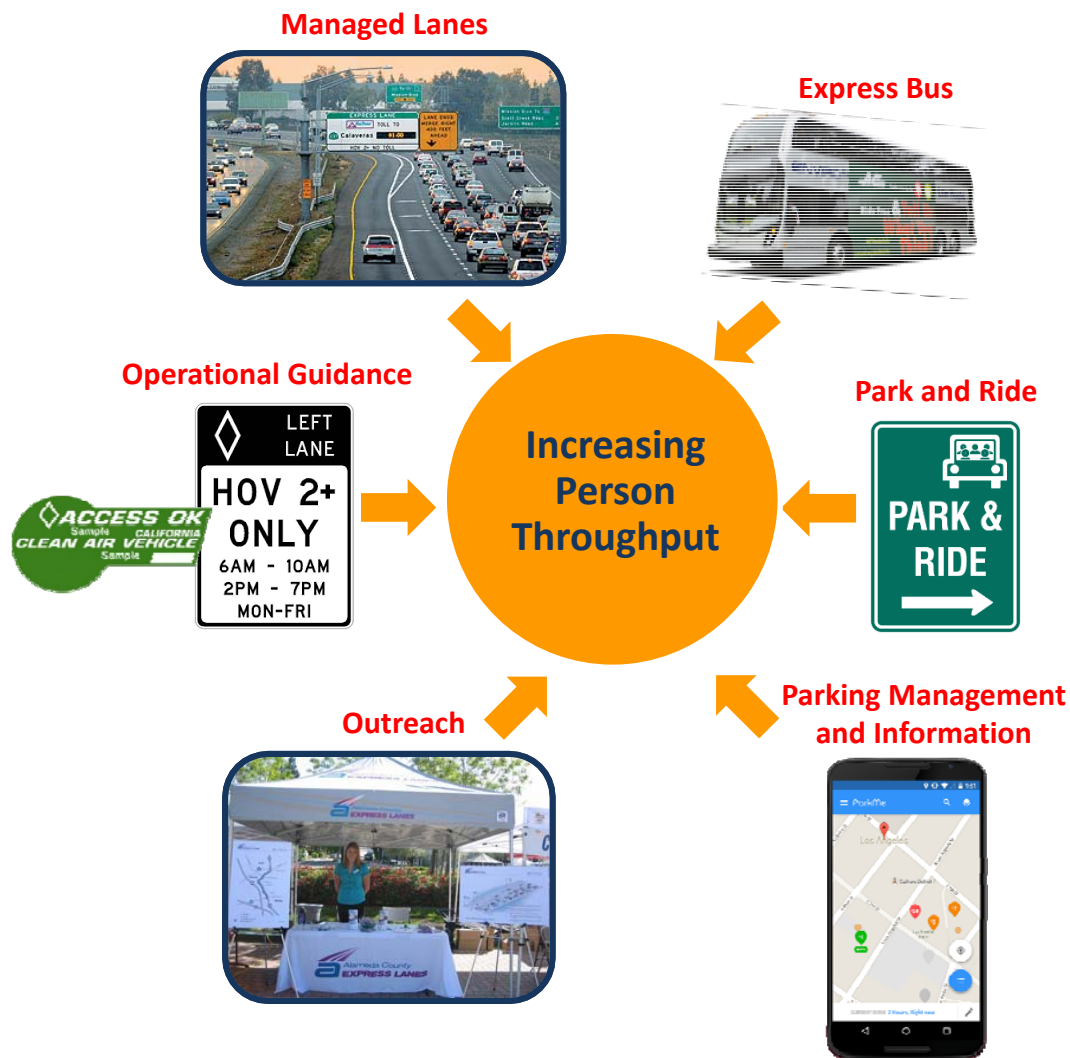
Over half of MTC's project is in the environmental clearance, design or construction phase

PBA 2040 Program Cost (YOE):
\$3,300 M



Managed Lanes Implementation Plan

Improving Regional Connectivity and Reliability for Transit and Carpool Travelers



Regional Benefits	
Connectivity	<ul style="list-style-type: none"> Closes Network Gaps to Serve Carpools and Transit Provides Regional Consistency
Efficiency	<ul style="list-style-type: none"> Increases Person Throughput on Existing Freeway Capacity Enhances Transit Service Maximizes Existing Park-and-Ride Capacity
Reliability	<ul style="list-style-type: none"> Expands Reliable Travel Options

PBA 2040 Program Cost (YOE):
\$2,700 M



511 Traveler Information

Providing Traveler Information to Improve Transportation System Effectiveness



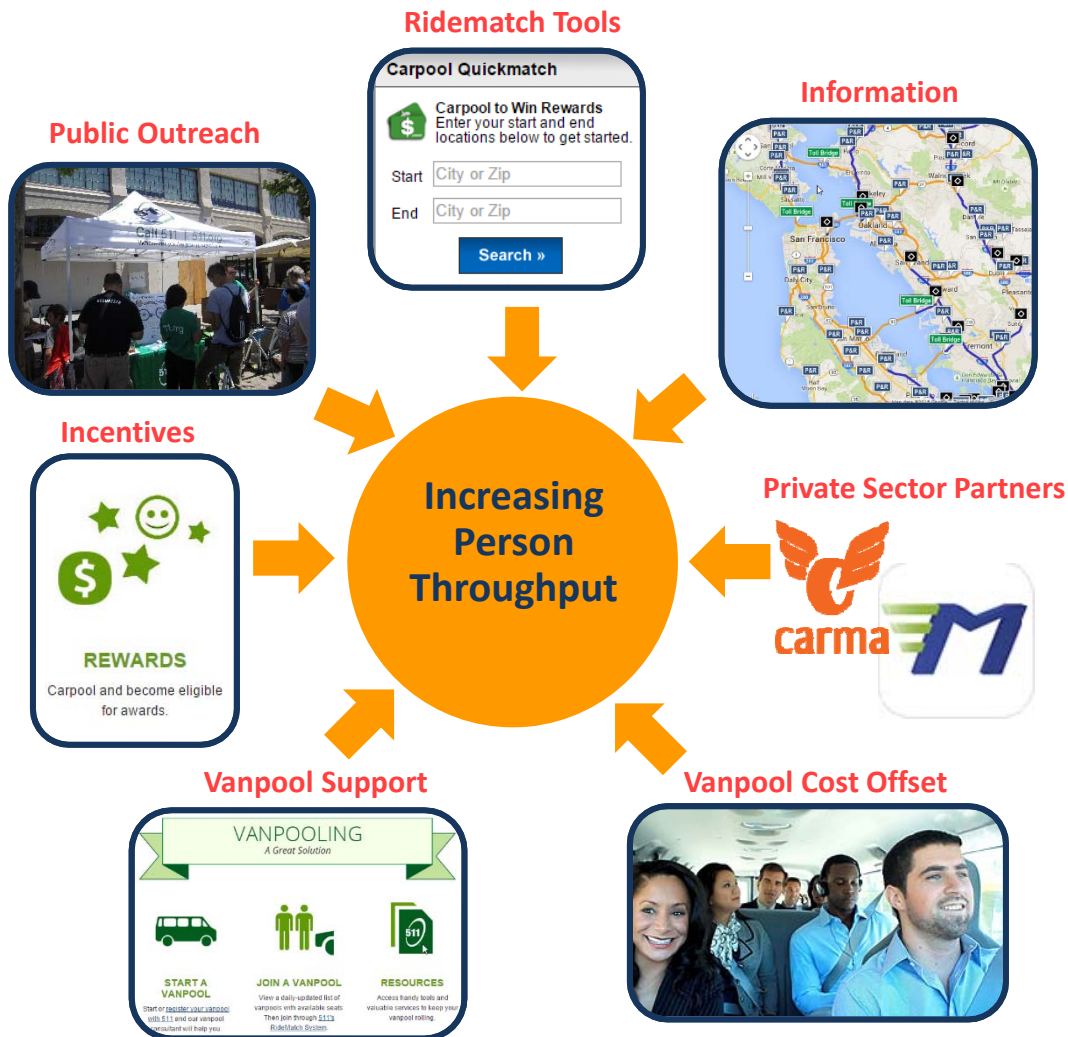
Regional Benefits	
Mobility	<ul style="list-style-type: none"> Improves Travel Time Reliability
Environment	<ul style="list-style-type: none"> Increases Non-auto Mode Shift to Reduce VMT and Greenhouse Gas Emissions
Efficiency	<ul style="list-style-type: none"> Maximizes Transportation System Efficiency by Influencing Travel Demand

PBA 2040 Program Cost (YOE):
\$280 M



Carpool and Vanpool Services

Leveraging the Shared Economy to Increase Person Throughput



Regional Benefits	
Mobility	<ul style="list-style-type: none"> Increases Person Throughput in Carpool Lanes and Express Lanes Improves Travel Time Reliability
	<ul style="list-style-type: none"> Increases Vehicle Occupancy to Reduce VMT and Greenhouse Gas Emissions
Environment	<ul style="list-style-type: none"> Grows Vanpool Fleet, Especially in Areas with Less Transit
Efficiency	<ul style="list-style-type: none"> Returns Federal Funds to Region Provides Cost Efficiencies

PBA 2040 Program Cost (YOE):
\$40 M*

*Gross Cost = \$135 M; Net Cost = \$40 M



Motorist Aid Services

Providing Roadside Services to Keep Motorists Safe and the Bay Area Moving



Regional Benefits	
Mobility	<ul style="list-style-type: none"> Reduces Freeway Delay from Non-Recurring Congestion Improves Travel Time Reliability
	<ul style="list-style-type: none"> Clears Primary Incidents Quickly to Prevent Secondary Incidents Improves Safety Through Free Tows to CHP-designated "Safe-Zones" Provides Access to Emergency Assistance Through Roadside Call Box or Personal Cell Phones (via 511 Freeway Assist)
Safety	
Environment	<ul style="list-style-type: none"> Reduces Auto Carbon Emissions by 67,000 tons per year

PBA 2040 Program Cost (YOE):
\$360 M



Emergency Management

Enhancing the Region's Emergency Coordination and Response Capabilities

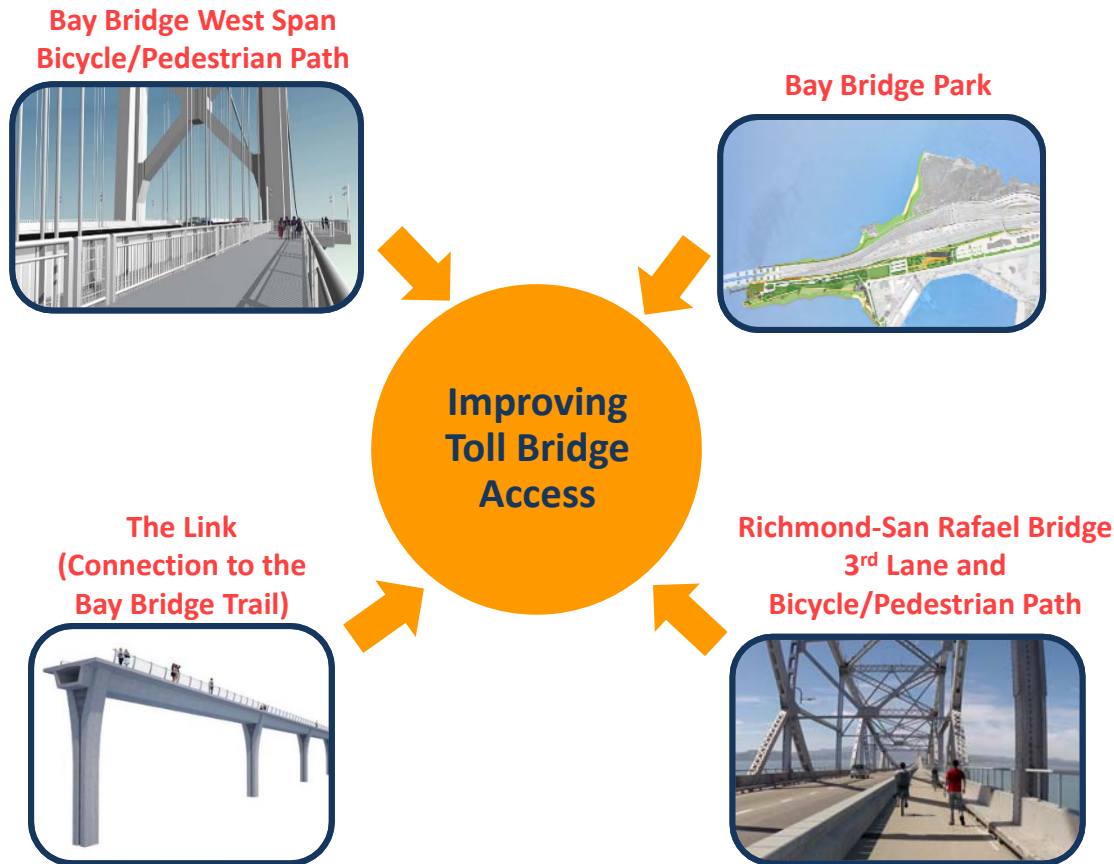


Regional Benefits	
Resilience	<ul style="list-style-type: none"> Increases Transportation Agencies' Response Capabilities Provides Funding to Support Mutual Aid Response
Preparedness	<ul style="list-style-type: none"> Ensures Emergency Plans are Updated and Effective Enhances Real-Time Communication Provides Leadership for Planning and Response Efforts
Mobility	<ul style="list-style-type: none"> Reduces Travel Times During Emergency Events

PBA 2040 Program Cost (YOE):
\$25 M

Toll Bridge Access Improvements

Improving Regional Connectivity and Public Access to Bridge Facilities



Regional Benefits	
Mobility	<ul style="list-style-type: none"> Reduces Congestion to Accommodate Current and Future Traffic Demand
Environment	<ul style="list-style-type: none"> Provides Non-motorized Access to State-owned Toll Bridges Supports Healthy and Safe Communities Preserves Open Space
Efficiency	<ul style="list-style-type: none"> Improves Transportation System Effectiveness Closes Critical Gaps in the Bay Trail

PBA 2040 Program Cost (YOE):
\$948 M*

*Excludes Richmond-San Rafael project