

4

Investments



San Francisco-Oakland Bay Bridge, East Span

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## Chapter 4

# Investments

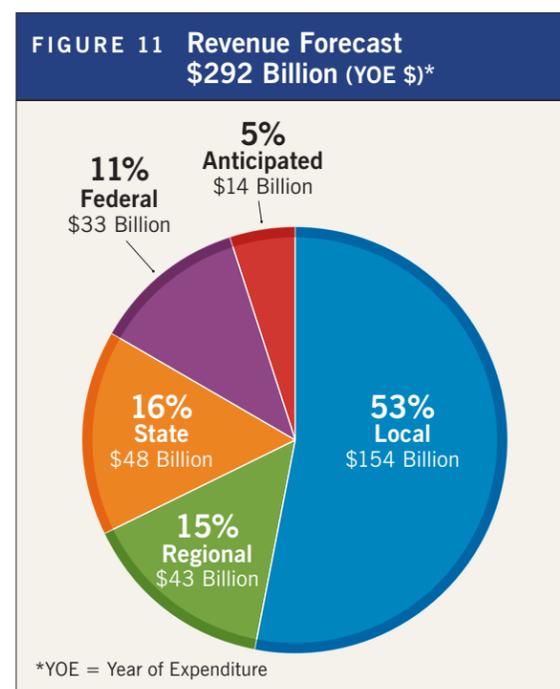
In crafting an investment program for Plan Bay Area, MTC and ABAG had to grapple with a number of important, but often competing, questions.

How to best support the expected growth in jobs and housing over the next quarter-century?  
How much do we invest to maintain, expand and improve the efficiency of our regional transportation system, when the needs exceed available revenue? How should we weigh specific project performance characteristics in assembling a package of investments to address the plan's economic, environmental and equity goals?

Plan Bay Area structures an investment plan in a systematic way to support the region's long-term land use strategy, relying on a performance assessment of scenarios and individual projects. The plan makes investments in the region's transportation network that support job growth and new homes in existing communities by focusing the lion's share of investment on maintaining and boosting the efficiency of the existing transit and road system. Plan Bay Area also takes a bold step with strategic investments that provide support for focused growth in Priority Development Areas, including major new transit projects and the OneBayArea Grant program.

## Gauging Our Financial Resources

The Plan Bay Area investment strategy is based on an estimate of available funding through 2040. Although the region continues to feel the impact of a slow recovery on revenues for transportation in the short term, total revenues over the 28-year life of the plan are expected to exceed the long-term revenue estimates prepared for the preceding regional transportation plan, Transportation 2035, which was adopted in April 2009 when various transportation revenues were in decline.



For Plan Bay Area, MTC worked with partner agencies and used financial models to forecast how much revenue will be available for transportation purposes over the 28-year duration of the plan. These forecasts are used to plan investments that fit within the “financially constrained” envelope of revenues that are reasonably expected to be available.

Plan Bay Area revenue forecasts total \$292 billion over the 28-year period, reckoned in year of

expenditure (YOE) dollars. As shown in Figure 11, over two-thirds (68 percent) of these funds are from regional and local sources, primarily transit fares, dedicated sales tax programs, and bridge tolls.

Making up the remainder of the pie are state and federal revenues (mainly derived from fuel taxes), and “Anticipated” revenues, which are unspecified revenues that reasonably can be expected to become available within the plan horizon. Although federal and state funding for transportation is critical, it is insufficient to cover growing needs. Annual revenues from local sources dwarf the revenues local jurisdictions receive in state transportation infrastructure funding.

The Great Recession also had a severe impact on the budgets of state and local jurisdictions in California. Bay Area communities seeking to support focused growth and increase the amount of affordable housing were particularly hard hit by the elimination of redevelopment agencies and related funding in 2010. In the Bay Area, these agencies generated \$1 billion annually before they were dissolved by the Legislature and the funding programs eliminated.

### Financial Assumptions

The complete financial assumptions and amounts for the financially constrained Plan Bay Area are provided in *Plan Bay Area Financial Assumptions*, listed in Appendix 1. The estimated revenues in Plan Bay Area assume an inflation rate of 2.2 percent and are reported in year of expenditure dollars. Key highlights are as follows:

- The federal highway and transit programs are assumed to continue in their current form and grow at a rate of 3 percent annually. Base year revenue is set at the nationally authorized level for fiscal year (FY) 2009–10, and the Bay Area is projected to receive its historically proportionate share of these programs.
- The state funding sources — primarily fuel tax-based — are assumed to maintain their

structure and distribution formulas over the 28-year period, starting from FY 2009–10 base levels. Assumptions concerning fuel price and consumption growth assume that state gasoline consumption will decline at an increasing rate until 2020 and then grow slowly at a constant long-term rate. For the 2006 voter-approved Proposition 1B, the revenue forecast includes the Bay Area’s remaining share beyond FY 2011–12.

- Regional bridge toll revenues are based on projected travel demand on the region’s seven state-owned toll bridges. Further, it was assumed that in FY 2018–19, there would be a \$1 increase in the non-carpool vehicle toll on all state-owned bridges. The Regional Express Lane Network revenues included in the financially constrained plan represent projected gross toll revenue for express lanes including toll revenues from express lanes in Santa Clara County.
- Local revenues, sales taxes such as Transportation Development Act (TDA) and Assembly Bill 1107 (1977) are assumed to grow at rates that take into account demographic and economic factors such as median income, regional employment and population growth.
- County and transit district transportation sales tax revenues in Alameda, Contra Costa, Napa, Marin, San Francisco, San Mateo, Santa Clara and Sonoma counties are based on estimates provided by the respective sales tax authorities in those counties. Measures that are set to expire within the 28-year period are assumed to be renewed and/or augmented.
- Transit operator-specific revenue projections including transit fares, tolls, property and parcel taxes, and other sources have been provided by the respective operators. Projections of local streets and roads revenue are based on information provided to MTC by local agencies.
- Revenues forecasted to become available for high-speed rail include approximately \$1.5



Karl Nielsen

billion from California’s Proposition 1A (2008), the Safe, Reliable High-Speed Passenger Train Bond Act. It was also assumed that the region would receive 12.5 percent, or \$1.5 billion, of federal revenues that are expected to become available to finance the project.

- Plan Bay Area assumes \$3.1 billion dollars in Cap and Trade revenue. These funds represent the Bay Area’s share of funds that are expected to be administered by the state’s metropolitan planning organizations.
- The inclusion of “Anticipated” revenues in the financially constrained plan strikes a balance between the past practice of only including specific revenue sources currently in existence or statutorily authorized, and the more flexible federal requirement of revenues that are “reasonably expected to be available” within the plan period.

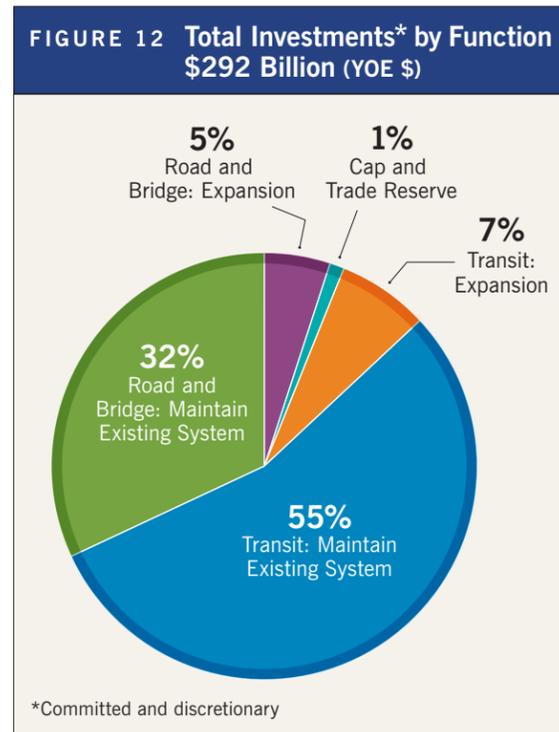
MTC performed a retrospective analysis of projections for previous long-range plans, including a review of unexpected revenues that had come to the region but had not been anticipated or included in those projections. Over a 15-year analysis period, the San Francisco Bay Area received an annualized amount of roughly \$400 million (in 2011 dollars) from these “unanticipated” fund sources. MTC generated an estimate of these anticipated revenues by projecting the \$400 million figure forward at a 3 percent annual growth rate. These revenues are not assumed in the first five years of the plan.

# Plan Bay Area Investments—Committed and Discretionary Funds

Revenues for Plan Bay Area are either committed to existing purposes or considered discretionary and available for new projects and programs. Committed funds may be designated by law for a specific purpose or are reserved by action of a governing board (such as MTC, a transit agency, a congestion management agency, etc.). Discretionary revenues are those that are available for assignment to projects or programs through the plan. In spring 2011, MTC determined that if any transportation project/program met one of the following criteria, the project would be considered “Committed” for Plan Bay Area (consistent with Senate Bill 375):

- Project is under construction with a full funding plan, or a regional program that is currently under contract.
- Project is funded with dollars designated by statute for a specific purpose, or dollars are locally generated and locally administered.

Additional funding was deemed committed to transit operating and maintenance in Spring 2012. Based on these conditions, \$60 billion of the \$292 billion



in total revenue forecasted for Plan Bay Area is available for discretionary investments.

As summarized in Table 17, the investment strategy totals \$292 billion in committed and discretionary funds. This combined investment strategy focuses 87 percent of the funding over the life of the plan on taking care of our existing transportation system. (See Figure 12.) The remaining 13 percent funds key transit and road expansion projects. Bicycle and

**TABLE 17: Plan Bay Area Investments by Function (in billions of YOE \$)**

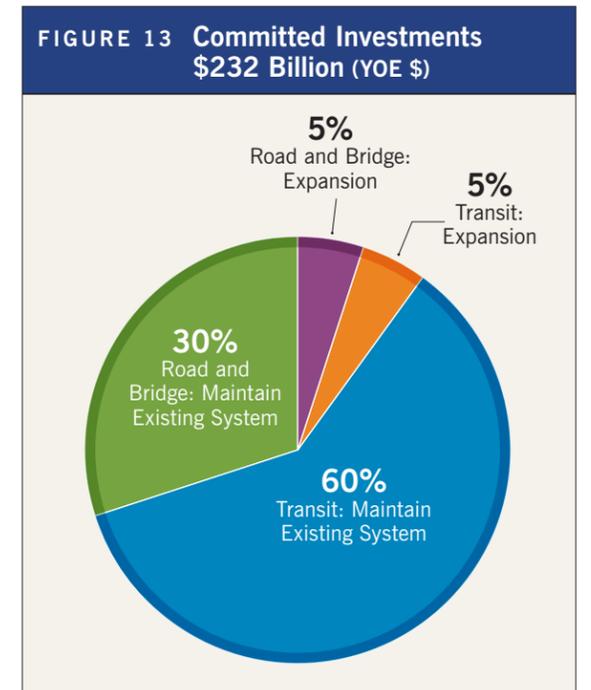
Function	Committed	Discretionary	Total
Transit: Maintain Existing System	\$139	\$20	\$159
Road and Bridge: Maintain Existing System	\$69	\$25	\$94
Transit: Expansion	\$13	\$8	\$21
Road and Bridge: Expansion	\$11	\$4	\$15
Cap and Trade Reserve	\$0	\$3	\$3
<b>Total</b>	<b>\$232</b>	<b>\$60</b>	<b>\$292</b>

pedestrian projects and programs are included with road maintenance and expansion due to the region’s policies to ensure roads are built or modified to be accessible for all users, so-called “complete streets.”

## Committed Revenues

Seventy-nine percent (\$232 billion) of all the revenues forecast for Plan Bay Area are deemed “Committed.” Examples of committed funds include existing sales tax measure revenues, which have been assigned through a voter-approved expenditure plan, and State Transportation Improvement Program (STIP) funds that have already been designated for specific projects by the California Transportation Commission. Figure 13 provides a breakdown by functional category of how committed funds will be expended over the course of the plan.

Funding for “Committed” projects is included in Plan Bay Area in order to provide a complete picture of the regional investments and so that these critical efforts can continue to advance. Included in this group are several large projects that are under construction, such as the new eastern span of the San Francisco-Oakland Bay Bridge; the Bay Area Rapid Transit (BART) extensions to Warm



Springs and Eastern Contra Costa County (eBART); the BART Airport Connector to Oakland International Airport; the San Francisco Municipal Railway Central Subway; the Sonoma-Marín Area Rail Transit (SMART) Initial Operating Segment from Santa Rosa to San Rafael; and the Caldecott Tunnel Fourth Bore project.

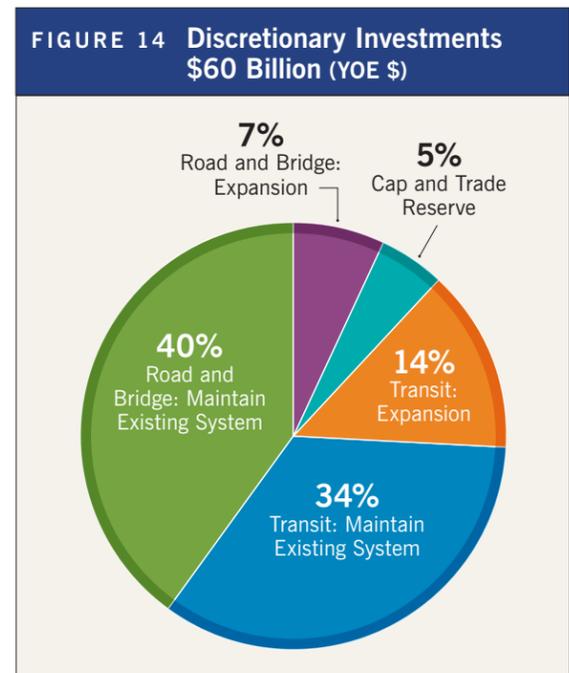


Noah Berger

The allocation of committed funds supports growth in our established rural, suburban and urban communities by directing 90 percent of these funds to the region's existing transit and road systems as shown in Figure 13. These investments, totaling more than \$200 billion of the committed funds, ensure that the buses and trains can serve today's and tomorrow's passengers, and that our roads and sidewalks can carry current and future residents on their way to work or school. More detailed information on the committed investments can be found in the Online Project Database, listed in Appendix 1.

### Discretionary Revenues

The 21 percent of Plan Bay Area revenues that are discretionary (\$60 billion) are assigned to projects or programs to support the plan's land use and transportation investment strategy. While the funds may be discretionary in that they have not yet been assigned to a project or program, they may be subject to rules associated with how they can be spent. For example, federal New Starts funds are discretionary because they have not been assigned to a particular project; however, those funds can only be used for new transit projects. Surface



Transportation Program funds can be used across different modes of transportation, but they can only be used for capital improvements and not for operating purposes. Figure 14 provides a breakdown by functional category of how discretionary revenues will be invested through Plan Bay Area.

### Cap and Trade Revenues

This investment strategy is complemented by a \$3.1 billion dollar reserve from future Cap and Trade funding included in the plan. The expected eligible uses include but are not limited to transit operating and capital rehabilitation/replacement, local street and road rehabilitation, goods movement, and transit-oriented affordable housing — consistent with the focused land use strategy outlined in Plan Bay Area. The share of funds reserved for these purposes, the specific project sponsors and investment requirements will be subject to further deliberation with partner agencies and public input following adoption of Plan Bay Area.

Cap and Trade revenues will be allocated to specific programs through a transparent and inclusive regional public process. That process will specifically ensure that at least 25 percent of these revenues will be spent to benefit disadvantaged communities in the Bay Area, and to achieve the goals of Plan Bay Area.

### Investment Strategies

The discretionary funds provide the opportunity to address six key investment strategies to support both the future land use pattern outlined in the previous chapter and the performance targets adopted for the plan as discussed in Chapter 1. The following section details the region's six primary investment strategies to address the key issues identified during the Plan Bay Area process.

At the end of this chapter, key road and transit projects are highlighted in a series of maps. Additional detail on the proposed Plan Bay Area-funded projects and programs is available in the Online Project Database, listed in Appendix 1.



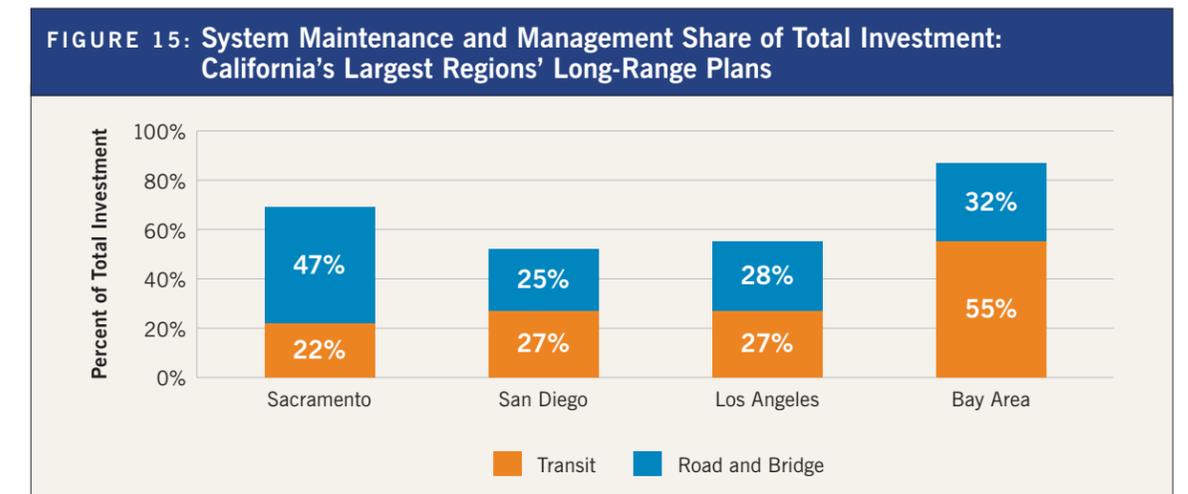
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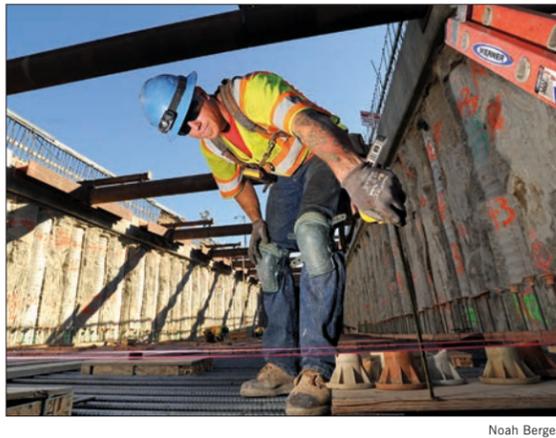
## Investment Strategy 1 Maintain the Existing Transportation System

Plan Bay Area continues to support the “fix it first” emphasis from 2009's Transportation 2035 Plan to ensure that the region directs a majority of funding to maintain existing transportation assets, while also supporting focused growth in areas served by the transportation system over the life of the plan. A well-maintained multimodal transportation system is fundamental to the success of the more compact

future land use outlined in Chapter 3. Plan Bay Area fully funds operating needs for existing transit services and timely transit vehicle replacement while funding 76 percent of remaining high-priority transit capital needs. Furthermore, this investment strategy invests scarce resources in state bridge rehabilitation and retrofit.

Plan Bay Area dedicates 87 percent of all available funds to keeping the current transportation network in working order as shown in Figure 12. Roughly three-quarters of the draft plan's discretionary funds and 90 percent of the committed funds are dedicated to funding transit operations, maintaining transit





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capital assets, repairing and replacing bridges, and maintaining complete streets. This includes complementary funding in the OneBayArea Grant investment strategy (see page 77) and County Investment Priorities strategy (see page 86).

Plan Bay Area makes a greater financial commitment to system maintenance and management than do the plans of California's other large metropolitan regions. Approximately 87 percent of total Plan Bay Area funding goes toward sustaining the existing system, while other metropolitan regions in the state dedicate substantially smaller shares of funding for this purpose (see Figure 15). There are several reasons for the difference in priorities:

- The Bay Area has some of the oldest transportation systems in the state (and even in the country) — and old infrastructure requires more funding to maintain, renovate and replace than newer systems. San Francisco's Municipal Railroad recently celebrated its 100th anniversary, and BART operates the oldest railcar fleet in the country.

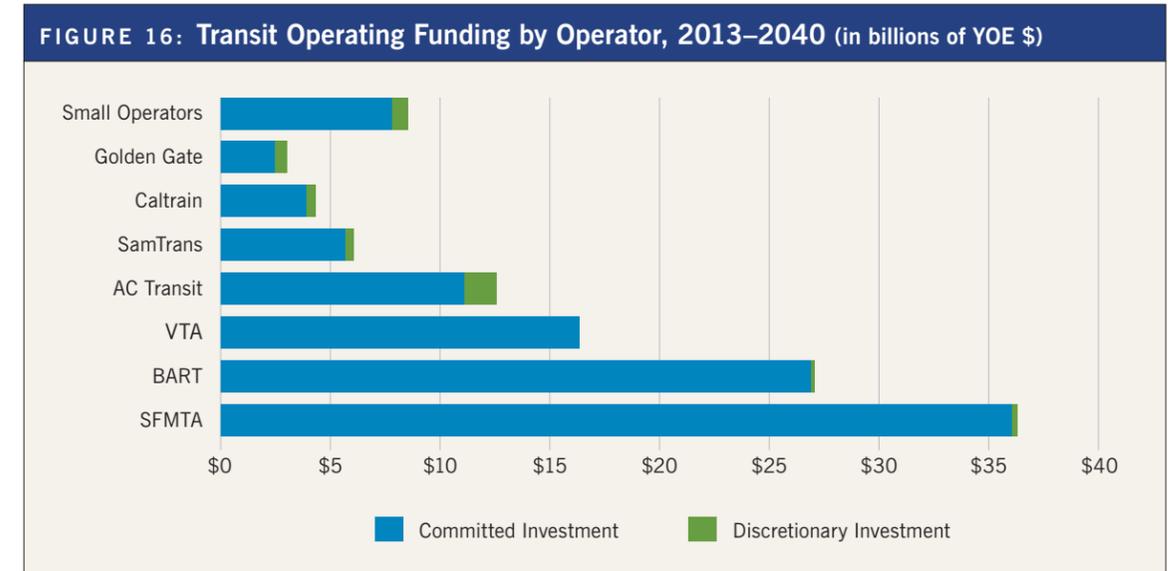
- Our region's greater reliance on rail services results in higher costs to maintain these capital-intensive modes. Plan Bay Area includes nearly \$3 billion for replacing BART's and Caltrain's aging fleets over the next decade.
- The Bay Area is relatively built-out compared to other newer, faster-growing urban areas, and our transportation system is correspondingly more fully developed. That means there is relatively less need to invest in new highways and transit lines, and relatively more existing infrastructure to maintain here than in other areas. Even so, all four of California's major metropolitan areas devote more than 50 percent of their future transportation budgets to upkeep of their current road and transit networks.

### Investment in the Transit System

#### Operating and Maintaining Transit: A Key Challenge

Buses, trains, ferries, light-rail vehicles, cable cars and streetcars not only provide mobility for people without cars — including those who are low-income, elderly, disabled or too young to drive — they also provide a viable alternative to driving for hundreds of thousands of area residents who do own cars. By reducing the number of vehicles on the roads, public transit helps to fight congestion and curb greenhouse gas emissions. It is also the essential transportation complement to Plan Bay Area's distribution of housing and employment in key locations throughout the region.

	Total Need 2013–2040	Committed Investment	Discretionary Investment	Remaining Need
Transit Operations	\$114	\$110	\$4	\$0
Transit Capital	\$47	\$21	\$9	\$17
<b>Total</b>	<b>\$161</b>	<b>\$131</b>	<b>\$13</b>	<b>\$17</b>



Yet despite the importance of transit to the Bay Area and its economy, maintaining and sustaining the network is an ongoing challenge. The cost of buying the fuel and paying the drivers, mechanics, dispatchers and other workers needed to operate a transit system — and paying for the replacement of buses, train cars, tracks, fare machines and other capital equipment — can outpace available funds. Delayed maintenance of the transit system leads to even costlier rehabilitation down the road. Plan Bay Area thus places a high priority on funding for transit operations and equipment.

Over the next 28 years, operating and capital replacement costs for Bay Area transit providers are projected to total \$161 billion. This includes \$114 billion in operating costs plus \$47 billion for capital replacement to achieve an optimal state of repair. Committed revenues over the same period are expected to total only \$131 billion (\$110 billion for operations and \$21 billion for capital). The result is \$30 billion in initial unfunded needs, approximately \$26 billion of which is needed to bring our capital assets up to an optimal state of repair.

To address transit operating and capital needs, Plan Bay Area invests a total of \$13 billion in discretionary revenues. This includes more than \$2 billion in

discretionary revenue plus almost \$2 billion in revenues that are expected to come from a future extension of the transportation sales tax in Alameda County to eliminate the \$4 billion forecasted operating shortfall over the plan period. Another \$9 billion in discretionary revenue will be invested in transit capital, leaving unfunded capital needs of \$17 billion to achieve a state of optimal repair that the region must take into account when pursuing new funding resources, as discussed in Chapter 6.

As illustrated in Figure 16, some transit agencies have operating needs that exceed the forecasted level of committed revenue — such as AC Transit, Golden Gate Transit, SamTrans, Caltrain and the small operators. The variability of the operating needs across the region results from the uniqueness of each system's forecasted cost growth and revenue availability. For example, on the revenue side, some transit operators have access to permanent sales taxes or are supported by general fund contributions, while others are not and are more reliant on fare revenues. As part of the investment strategy, MTC shored up the operating funding plan so that operations for existing services for all transit operators are fully funded through committed and discretionary revenues over the plan period.

### Transit Sustainability Project Helps Bend Operating Cost Curve

The region's operating cost projections assume a continuation of existing levels of service and also take into account the increased operating costs associated with committed transit expansion projects. Plan Bay Area reflects the recommendations of MTC's Transit Sustainability Project (TSP), a series of actions to complement recent individual transit agency efforts to control costs, improve service and attract new riders. By establishing performance metrics and targets, new investment and incentive programs, and additional focused efforts related to cost, service and institutional arrangements, the recommendations set a course toward a more sustainable transit system. The operating cost projections associated with implementing the Transit Sustainability Project recommendations assume a five percent drop in operating costs by 2018, then indexing those costs to inflation. Over the life of the plan, this results in billions of dollars of savings.

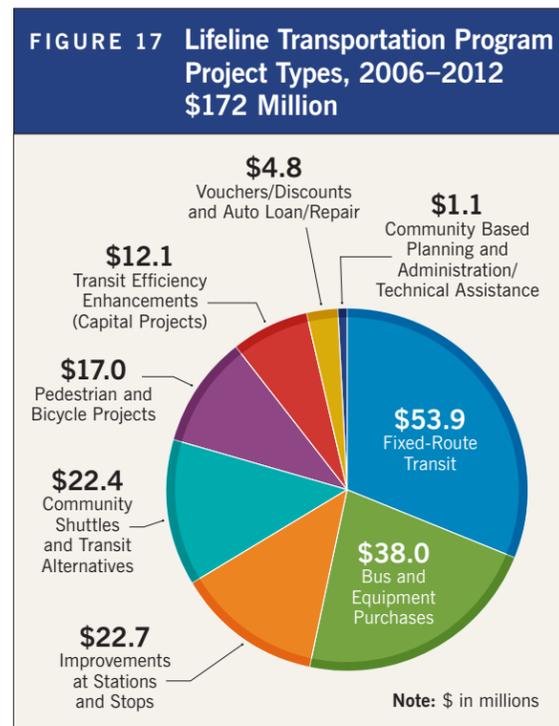
*More information on the TSP can be found in Investment Strategy 4, "Boost Freeway and Transit Efficiency."*

### Lifeline Transportation Program Improves Mobility and Accessibility

Plan Bay Area reaffirms the importance of addressing the mobility and accessibility needs of seniors, persons with disabilities, and residents in low-income



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communities throughout the region. The plan adds approximately \$800 million in discretionary funding for MTC's Lifeline Transportation Program over the 28-year period of the plan. In addition to continuing the types of projects that are currently being funded, an area of possible focus for the future is "mobility management," a strategic approach to connecting people to transportation resources within a community including services provided by human services agencies and other community sponsors. This strategy is especially key to the region's ability to address growth in the Bay Area's senior population and persons with disabilities. Through partnerships with many transportation service providers, mobility management enables communities to monitor transportation needs and links individuals to travel options that meet their specific needs, are appropriate for their situation and trip, and are cost efficient. The Lifeline program, which implements locally crafted Community Based Transportation Plans funded by MTC, has already invested over \$170 million in a diverse mix of projects to support high-need travelers. (See Figure 17.) In addition to

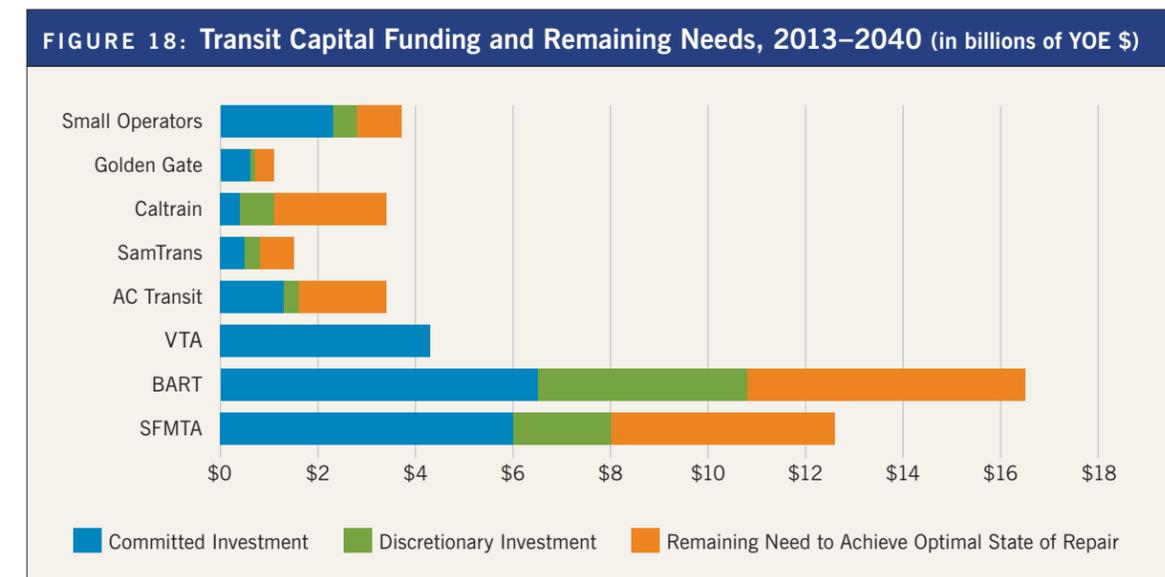
mobility management projects, Lifeline has invested in additional fixed-route transit, shuttles, and non-motorized safety and access improvements.

### Transit Capital Replacement and Rehabilitation: A Big Hole to Fill

On the capital side, Plan Bay Area assures that all vehicles are replaced at the end of their useful lives and receive all required rehabilitation on schedule, though large capital needs remain for other assets such as maintenance facilities and station upgrades to ensure the long-term health of the region's transit operations. (See Figure 18.) In particular, a robust and efficient public transit network, anchored by expanded local service, is a linchpin of Plan Bay Area's land use strategy to promote future development around existing and planned transit nodes. The plan falls short in achieving two voluntary performance targets that are key indicators of a sustainable transit system: fully funded maintenance and state of good repair of existing capital assets; and transit operating funding necessary to meet the projected growth in non-auto mode share to 26 percent of all trips.

Consistent with MTC's Transit Capital Priorities Policy, high-priority transit capital investments include revenue vehicles (buses, railcars and ferries) — which are Plan Bay Area's first priority for transit capital funds — as well as "fixed guideway" infrastructure (track, bridges, tunnels and power systems) and communications equipment to ensure the safe, reliable, and timely delivery of transit service throughout the region.

Nearly \$20 billion of the projected transit capital replacement and rehabilitation needs of the Bay Area's transit systems through 2040 are unfunded under the plan. Plan Bay Area will dedicate a significant portion of the revenue generated from Cap and Trade to these unmet transit needs. In addition, promptly after adoption of the plan, MTC will work with the region's operators and other stakeholders to develop a plan to address the gap in funding for transit capital replacement and rehabilitation needs, and to expand the funding available to support future increases in transit service.



Plan Bay Area’s total capital investment of \$30 billion in committed and discretionary revenues will be sufficient to fund all revenue vehicle replacements and 76 percent of fixed guideway and other high-priority needs, a substantial improvement over the 60 percent funded in the Transportation 2035 Plan. Chapter 6 outlines priorities for the region to cover the remaining capital needs, totaling \$17 billion, to achieve our performance target.

### Investment in Local Streets and Roads

A critical component of the OneBayArea Grant (OBAG) investment strategy discussed later in this chapter is the investment of discretionary funds for the purpose of preserving the existing local street and road network. While congestion management agencies have the flexibility to spend their OBAG county shares on any eligible OBAG programs, Plan Bay Area provides sufficient funding within the program to reaffirm the commitment to maintain the region’s pavement conditions at existing levels.

The 42,000 lane-miles of local streets and roads interconnect in a way that knits the region together, and they form the foundation of the region’s transportation system. They are the conduits to the highways, ports and farmlands that are vital to the economic vitality and sustainability of the San Francisco Bay Area. All trips begin and end on a local street and road, and all modes of surface travel rely on the local street and road infrastructure. In addition to pavement, the local street and road system includes all of the safety and accessibility infrastructure that makes a functioning network possible — sidewalks, curbs and gutters, storm drains, signs and signals, and so forth.

The typical life cycle of a pavement is about 20 years. Over the first three-quarters of its life, the pavement will deteriorate slowly, resulting in a 40 percent drop in condition. Past that point, pavement will begin to deteriorate rapidly. It costs five to ten times more to rehabilitate or reconstruct a roadway that has been allowed to deteriorate, than it costs to



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maintain that roadway in good condition. Through the OneBayArea Grant program, Plan Bay Area invests \$10 billion in discretionary funding to maintain the region’s existing pavement condition, currently at a regional average of 66 on a pavement condition index (PCI) scale of 0 to 100. Even with an infusion of discretionary funds, sizable funding gaps remain in each county to bring pavement up to a state of good repair, as shown in Figure 19.

The total amount of funding needed for the Bay Area to achieve a PCI of 75 (the plan’s adopted performance target, as discussed in Chapter 5) over the Plan Bay Area period is \$45 billion. Committed revenues over the same period of time are expected to cover \$15 billion, or about one-third of the need. Add in the \$10 billion in discretionary funds, and the region still falls \$20 billion short of the revenue needed to achieve the plan’s performance target, with the biggest shortfalls occurring in the region’s largest counties, as shown in Figure 19. Chapter 6 discusses ways to pursue the revenues that will allow the region to meet its targets for roadway preservation.

### Funding Active Transportation

Plan Bay Area makes a significant commitment to increase the convenience and safety of walking and bicycling by delivering complete streets for all

users. State Transportation Development Act (TDA) and local sales tax funds committed to bicycle and pedestrian improvements total \$4.6 billion during the plan period. In addition, the OneBayArea Grant program discussed in the next section includes \$14.6 billion over the life of the plan. These funds may be used for complete streets projects, including stand-alone bicycle and pedestrian paths, bicycle lanes, pedestrian bulb-outs, lighting, new sidewalks, and Safe Routes to Transit and Safe Routes to Schools projects that will improve bicycle and pedestrian safety and travel.

### Investment in State Bridges

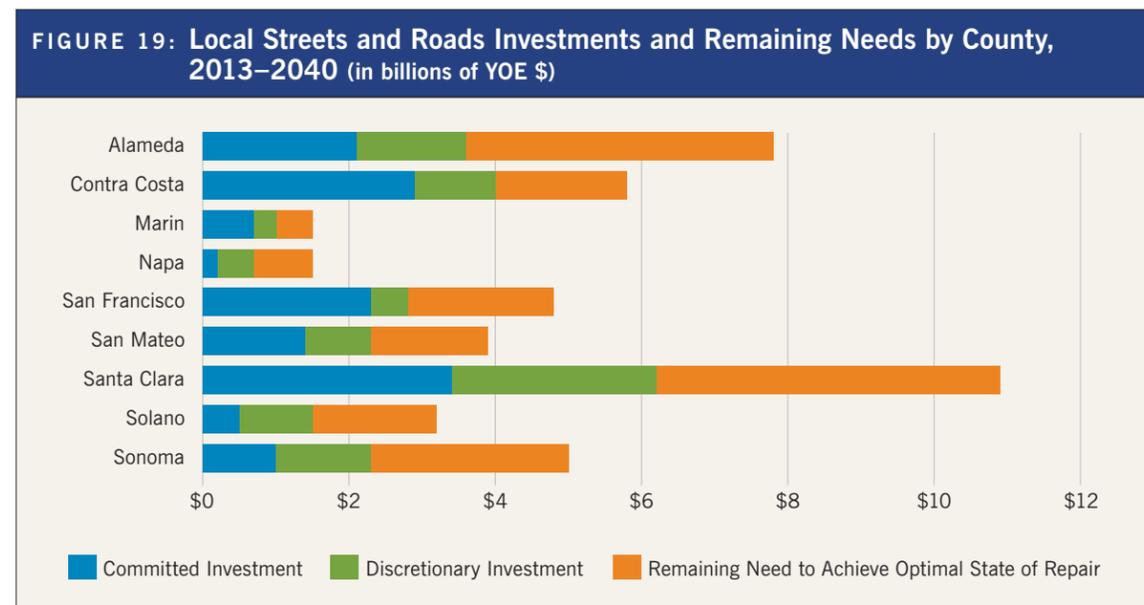
The bridges that span San Francisco Bay are critical transportation links for the region. It is vital to the economic health of the region and quality of life of its residents that these essential structures be kept in a state of good repair. Currently, existing toll revenues are used to strengthen, reinforce and maintain bridge structures and roadways on all of the seven state-owned Bay Area bridges; this includes replacing the eastern span of the San Francisco-Oakland Bay Bridge.

Plan Bay Area assumes a single one-dollar toll increase on all state-owned bridges, beginning in the year 2019. These new bridge tolls are considered a source of regional discretionary funds and total \$2.7 billion over the course of the plan.

Due to the important role that our toll bridges play in the ability of the region’s transportation network to function smoothly, Plan Bay Area assumes that approximately \$1 billion, or about one third of the \$2.7 billion in estimated new bridge toll funds, will be needed for additional maintenance or unforeseen repairs to the Bay Area’s bridges.

### Investment in State Highways

California’s 50,000 lane-mile state highway system is an essential contributor to the state’s economic vitality, linking people and goods with intermodal



“MTC’s new OneBayArea Grant program is an innovative way to use transportation funding to promote coordinated and environmentally responsible regional planning for jobs and housing. All Californians will benefit from such efforts to put SB 375’s sustainability principles into practice.”

— Senator Darrell Steinberg, President Pro Tempore, California Senate

transportation facilities, growing metropolitan centers, and major international airports and ports. The value of this important transportation resource is reckoned at more than \$300 billion. Of the total mileage, 6,500 lane-miles are within the nine-county Bay Area, giving residents a network of interstate, freeway, highway and arterial routes maintained and managed by Caltrans. These lane-miles carry more than one-third of our region’s vehicle miles traveled.

State law requires Caltrans to prepare a 10-year plan for the State Highway Operation and Protection Program (SHOPP). The SHOPP identifies the various needs for all state-owned highways and bridges. Bay Area highway maintenance needs over the 28-year life of this plan are forecasted to total about \$22 billion. Projected revenues over the same period are expected to cover only \$14 billion. Plan Bay Area has not yet identified any new funding sources for the \$8 billion in unfunded needs, despite its heavy emphasis on maintaining our current transportation system. The magnitude of the Bay Area’s highway rehabilitation needs and lack of available funding suggests that maintenance will have to be delayed or deferred on some highways. New state funding, as discussed later in Chapter 6, will need to be secured in order to ensure the long-term health of today’s system.

## Investment Strategy 2 Support Focused Growth

To encourage more development near high-quality transit and reward jurisdictions that produce housing and jobs, Plan Bay Area proposes to target transportation investments in Priority Development Areas (PDAs), support planning efforts for transit-oriented development in PDAs, and support Priority Conservation Areas.

In May 2012, MTC approved a new funding approach that directs specific federal funds to support more focused growth in the Bay Area. The OneBayArea Grant (OBAG) program commits \$320 million over the next four years (\$14.6 billion over the life of the plan), from federal surface transportation legislation currently known as MAP-21 (Moving Ahead for Progress in the 21st Century). OBAG is designed to support jurisdictions that focus housing growth in Priority Development Areas through their planning and zoning policies, and the production of housing units. Specifically the program rewards jurisdictions that accept housing allocations through the

Regional Housing Need Allocation (RHNA) process. The distribution of OBAG funds to counties is based on the following factors: population, past housing production and future housing commitments, and efforts to produce low-income housing.

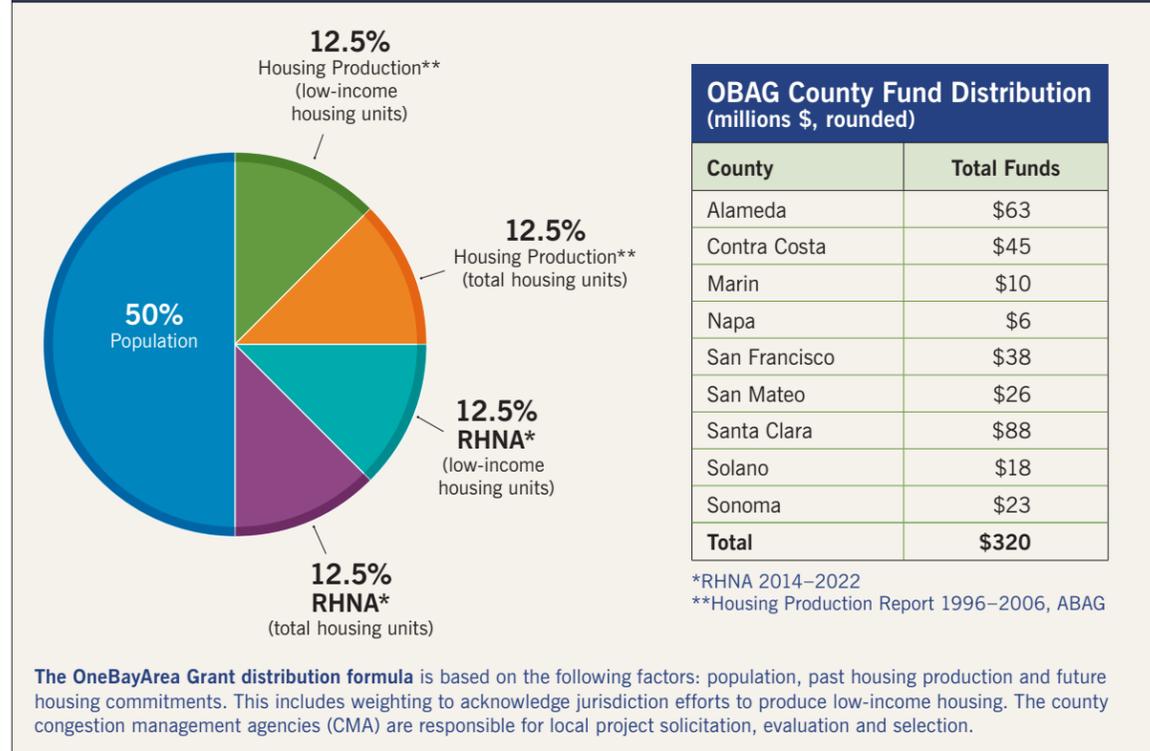
### Focus on Priority Development Areas

As outlined in Chapter 3, Priority Development Areas (PDAs) are transit-oriented, infill development opportunity areas within existing communities that are expected to host the majority of future development. The OBAG program allows communities flexibility to invest in transportation infrastructure that supports infill development by providing funding for bicycle and pedestrian improvements, local street repair, and planning activities, while also providing specific funding opportunities for Safe Routes to Schools

projects and Priority Conservation Areas. By promoting transportation investments in PDAs, the OBAG program supports the Sustainable Communities Strategy for the Bay Area.

Per OBAG requirements, congestion management agencies (CMAs) will develop a PDA Investment and Growth Strategy for their respective counties; this will be used to guide future transportation investments that are supportive of PDA-focused development. The growth strategy also will consider strategies and plans to increase the production of affordable housing in PDAs, as well as ways to preserve existing affordable housing opportunities. The CMAs in larger counties (Alameda, Contra Costa, San Mateo, San Francisco and Santa Clara) must direct at least 70 percent of their OBAG investments to the PDAs. For North Bay counties (Marin, Napa, Solano and Sonoma) the requirement is 50 percent.

FIGURE 20: OneBayArea Grant Distribution Formula: FY 2012–13 through FY 2015–16





Renee Goodard

A project lying outside the limits of a PDA may count toward the minimum provided that it directly connects to or provides proximate access to a PDA. A zoomable map of PDAs in the Bay Area is available at <http://geocommons.com/maps/141979>. The counties are expected to conduct an open decision process to justify projects that geographically fall outside of a PDA but are considered directly connected to (or provide proximate access to) a PDA.

To complement these locally administered funds, OBAG also directs additional funds to support the region's Priority Conservation Areas and Priority Development Areas. The first round of OBAG funding directs an additional \$10 million to the Bay Area's Transit Oriented Affordable Housing (TOAH) Fund. These funds will see TOAH grow from a \$50 million pool today to at least a \$90 million pool by 2014. TOAH will help finance affordable housing projects in transit-rich locations and target neighborhood-stabilization investments, including housing acquisition and rehabilitation, small-site acquisition and land banking in the region's PDAs. OBAG also includes \$30 million for the PDA Planning Program to assist cities and counties planning for employment and housing growth in their city centers and transit-served corridors. In addition, these funds will continue to facilitate the entitlement of affordable housing. Finally, the first

round of OBAG commits \$10 million to support the Priority Conservation Areas with funding for planning, farm-to-market projects, and to support strategic partnerships that seek to purchase conservation lands for long-term protection and use by Bay Area residents.

The OneBayArea Grant Program will provide a solid platform to advance Priority Development Areas as walkable, amenity-rich "complete communities," and to protect our Priority Conservation Areas for future generations. However, as outlined in Chapter 6, realizing the plan's full potential will require a concerted, collaborative effort on the part of federal and state agencies.

### Performance and Accountability Policies

In addition to providing funding to support Priority Development Areas, OBAG requires each jurisdiction to adopt policies to support complete streets and planning and zoning policies that are adequate to provide housing at various income levels, as required by the Regional Housing Need Allocation (RHNA) process. These requirements must be met before a jurisdiction is eligible for OBAG funding:

- **Complete Streets Policy Resolution:** In addition to meeting MTC's 2005 complete streets requirements, a jurisdiction will now need to adopt a complete streets resolution. A jurisdiction can also meet this requirement by having a general plan that complies with the California Complete Streets Act of 2008. All jurisdictions seeking future rounds of OBAG funding will be required to have the updated general plan language adopted.
- **RHNA-Compliant General Plan:** A jurisdiction is required to have its general plan housing element adopted and certified by the State Department of Housing and Community Development (HCD) to be eligible for OBAG funding.

## Investment Strategy 3 Build Next-Generation Transit

As discussed in Chapter 5, Plan Bay Area relied on a transportation Project Performance Assessment, which, together with public involvement, helped identify priorities for the next generation

of transit investments. These include improvements to the region's core transit systems, new bus rapid transit lines in San Francisco and Oakland, rail extensions that support and rely on high levels of future housing and employment growth, and an early investment strategy for high-speed rail in the Peninsula corridor. MTC's Resolution 3434, a 2001 framework that identified regional priorities for transit expansion projects, has served the region well.

TABLE 19: MTC Resolution 3434 Project Status

Project	Project Cost* (in millions of YOE \$)	Status
Caltrain Express: Baby Bullet	\$128	Open for Service
Regional Express Bus	102	
BART to Warm Springs	890	In Construction
East Contra Costa BART Extension (eBART)	493	
Transbay Transit Center: Phase 1	1,589	
BART/Oakland Airport Connector	484	
Sonoma-Marin Rail Initial Operating Segment	360	
Expanded Ferry Service to South San Francisco (Berkeley, Alameda/Oakland/Harbor Bay, Hercules and Richmond, and other improvements)	180	
MUNI Third Street Light Rail Transit Project – Central Subway	1,578	
BART: Warm Springs to Berryessa	2,330	Environmental Docs Approved
BART: Berryessa to San Jose/Santa Clara	3,962	
Transbay Transit Center/Caltrain Downtown Extension: Phase 2	2,596	
AC Transit Berkeley/Oakland/San Leandro Bus Rapid Transit	218	Environmental Docs in Process
Downtown to East Valley; Light Rail & Bus Rapid Transit Phases 1 & 2	559	
Caltrain Electrification	785	
Caltrain Express: Phase 2	427	
Van Ness Avenue Bus Rapid Transit	126	
Tri-Valley Transit Access Improvements to/from BART	168	
AC Transit Enhanced Bus: Grand-MacArthur corridor	41	
Dumbarton Rail	701	
ACE Right-of-Way Acquisition for Service Expansion	150	
Capitol Corridor: Phase 2 Enhancements	254	
<b>Total</b>	<b>\$18,121</b>	

\*Full project cost may not be included in Plan Bay Area.

**TABLE 20: New Starts and Small Starts – Plan Bay Area “Next Generation” Projects**  
(in millions of YOE \$)

Project	Cost	Previously Committed Funding	New Starts/ Small Starts	Other Funding from Plan Bay Area
BART: Berryessa to San Jose/ Santa Clara	\$3,962	\$1,355	\$1,100	\$1,507
Transbay Transit Center/Caltrain Downtown Extension: Phase 2	2,596	639	650	1,307
AC Transit Enhanced Bus/BRT: Grand-MacArthur corridor	41	0	30	11
Van Ness Avenue Bus Rapid Transit Project	126	66	30	30
AC Transit Berkeley/Oakland/ San Leandro Bus Rapid Transit	218	179	28	11
New Starts and Small Starts Reserve	660	—	660	—
<b>Total</b>	<b>\$7,603</b>	<b>\$2,239</b>	<b>\$2,498</b>	<b>\$2,866</b>

Roughly half of the projects are in service or under construction. Many of the others are reconfirmed as priorities for continued funding, or are included in the plan for early phases of work as the projects are being developed.

Resolution 3434 established the region’s priority projects for federal New Starts and Small Starts funds (see Table 19), creating a unified regional strategy to secure commitments from this highly competitive national funding source. In 2012, the Bay Area secured commitments for nearly \$2 billion in federal funding for its two most recent New Start projects — San Francisco’s Central Subway and the extension of BART to Berryessa in Santa Clara County. These successes pave the way for a new generation of projects that can leverage current and future development patterns to create financially stable transit service in these corridors.

Plan Bay Area assumes that the region can attract approximately \$2.5 billion in additional federal New Starts and Small Starts funding through 2040.

Building on the successful delivery of Resolution 3434, and the results of the Performance Assessment and transit-specific project evaluation, Plan Bay Area’s priorities for the next generation of federal New Starts and Small Starts funding include major rail and bus rapid transit (BRT) investments, as summarized in Table 20. Along with identifying these significant future transit investments, Plan Bay Area also retains \$660 million in financial capacity for projects that are in the planning stages. The \$660 million New and Small Starts reserve, or a regional investment equivalent, is proposed to support transit projects that are located in or enhance transit service in the East and North Bay counties, subject to future assessments of feasible alternatives, evaluation for cost-effectiveness, and for performance against MTC’s Transit-Oriented Development Policy.

*Reference maps of key local and regional transit projects are included at the end of this chapter.*

## Investment Strategy 4 Boost Freeway and Transit Efficiency

The Bay Area consistently ranks as one of the most congested metropolitan areas in the nation. In the Texas A&M Transportation Institute’s 2012 Urban Mobility Report (<http://mobility.tamu.edu/ums/report/>), San Francisco Bay Area ranked as the third most congested region in hours of delay caused by congestion. The same report estimated that congestion cost our region’s peak-commute drivers an average of more than \$1,200 per year. A decade or two ago, the response to congestion might have been simply to add additional roadway capacity. With today’s mature system of roadways and increased demands on available financial resources, it is no longer possible to build our way out of congestion. Instead, the region must find ways to operate our existing highway and transit networks more efficiently, and target expansion projects that will provide long-term and sustainable congestion relief.



Bill Hall, Caltrans

Plan Bay Area includes a discretionary funding commitment of \$3.9 billion over the next 28 years to support projects and programs that will boost system efficiency. These include the Freeway Performance Initiative (FPI) and the Transit Performance Initiative (TPI) that aim to use low-cost technology upgrades to dramatically improve the speed and reliability of roadways and transit service. In addition, efforts like San Francisco’s cordon pricing program and the Regional Express Lane Network will leverage revenues generated from pricing to improve the efficiency of the existing system while expanding travel choice.

**TABLE 21: Freeway Performance Initiative**

Program Elements	Description & Benefits
<b>Ramp Metering</b>	Activate 300 additional ramp-metering locations on freeways.
<b>Intelligent Transportation Systems Infrastructure</b>	Install and maintain traffic cameras, changeable message signs, speed sensors and other related infrastructure to improve travel-time reliability on freeways.
<b>Arterial Operations</b>	Implement traffic signal coordination, transit-priority timing and incident/emergency clearance plans on regionally significant routes.
<b>Incident and Emergency Management</b>	Maintain the Freeway Service Patrol and Call Box programs, and enhance transportation agencies’ and first responders’ capabilities to clear traffic incidents and respond to major emergencies through integrated corridor management.
<b>Traveler Information/511</b>	Collect, consolidate and distribute accurate regional traffic, transit and parking data for trip-planning and real-time traveler information.
<b>Operations &amp; Maintenance</b>	Maintain existing and future arterial and freeway technology improvements.

## Freeway Performance Initiative

Plan Bay Area supports MTC's Freeway Performance Initiative (FPI), which is designed to maximize the efficiency and improve the operations and safety of the existing freeway, highway and arterial network.

Owing to investments made through the Transportation 2035 Plan, FPI expanded the number of metered ramps throughout the Bay Area, directly resulting in reduced travel times and improved safety on major freeway corridors while managing the impact on local arterial operations. FPI investments also support the Program for Arterial System Synchronization (PASS), through which an average of 500 traffic signals are re-timed each year to improve coordination across jurisdictions, and provide priority signal timing for transit vehicles.

FPI funding for the Freeway Service Patrol and call boxes has enhanced the region's ability to quickly identify and respond to planned and unplanned freeway incidents. Currently, FSP includes 78 tow trucks that cover 552 miles of Bay Area freeways and respond to an average of 130,000 incidents per year. The 2,200 call boxes in place along the region's freeways and bridges receive an average of 22,000 calls per year.

Plan Bay Area calls for an investment of approximately \$2.7 billion in discretionary regional funds over the next 28 years to implement the FPI.



Noah Berger

## Transit Performance Initiative

The Transit Performance Initiative (TPI) makes a regional investment in supportive infrastructure to achieve performance improvements in major transit corridors where current and future land use supports high-quality transit. The TPI also provides incentives to reward agencies that achieve improvements in ridership and service productivity. Plan Bay Area dedicates \$500 million over the plan period to support this initiative, which is expected to result in reduced emissions and vehicle miles traveled, as well as an increase in the non-auto mode share of all trips.

MTC approved the first round of capital investment projects in the spring of 2012, providing over \$27 million to reduce travel times and enhance the passenger experience on major corridors served by AC Transit, San Francisco Municipal Transportation

Agency (SFMTA), and Santa Clara Valley Transportation Authority (VTA). (See Table 22.) These busy routes offer the potential to improve service quality, speed, and reliability, ultimately reducing travel times and increasing ridership.

MTC has also created an incentive program to reward transit agencies that achieve ridership increases and productivity improvements, and will allocate funds on the basis of performance, thereby encouraging all of the region's transit operators to continuously improve their service and attract more riders. In winter 2013, the first round of funding for the TPI Incentive program awarded over \$13 million to eight projects focused on increasing ridership and/or productivity, including youth and low-income pass programs.

## Regional Express Lane Network

Express lanes, otherwise known as high-occupancy toll (HOT) lanes, are carpool lanes that give solo drivers the option of paying a fee to use the uncongested carpool lane, while carpools and buses may use the express lane free of charge. Express lanes make better use of carpool lanes that often sit empty while solo drivers are stuck in traffic. Opening up the express lane to solo drivers has been proven effective across the nation in moving cars out of traffic. Fewer cars in general-purpose lanes reduce traffic even for those who do not choose to use the express lane.

Express lane tolls vary based on levels of congestion. They are priced low enough to attract drivers out of slow traffic in the regular lanes, but high enough to ensure a free flow of cars in the express lane at all times. Drivers pay based on distance traveled in the express lane. Tolls are collected through the FasTrak® electronic toll collection system.



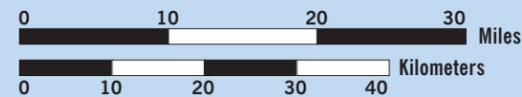
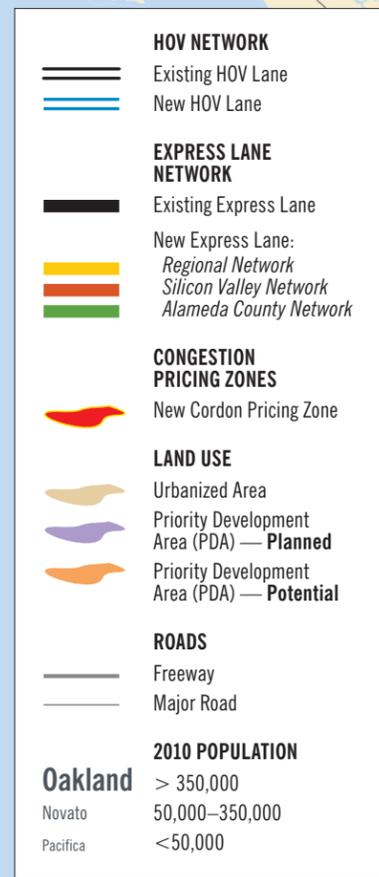
Noah Berger

In October 2011, the California Transportation Commission (CTC) approved MTC's plan to add 270 miles of express lanes on I-80 in Solano, Contra Costa and Alameda counties, I-880 in Alameda County, I-680 in Solano and Contra Costa counties, and the approaches to the Bay Bridge, San Mateo-Hayward Bridge and the Dumbarton Bridge. These will be operated by MTC in tandem with express lanes operated by county agencies on I-580 and I-680 in Alameda County and throughout Santa Clara County to form a seamless system of express lanes throughout the region. Of the proposed network, 150 miles would involve converting existing carpool lanes, or high-occupancy vehicle (HOV) lanes, to express lanes, and 120 miles would involve widening freeways to create new HOV/express lanes in both directions to close gaps in and extend the existing HOV system.

TABLE 22: Transit Performance Initiative Investments – Spring 2012

Sponsor	Project	Investment (millions \$)
AC Transit	Line 51 Corridor Speed Protection and Restoration	\$10.1
SFMTA	Mission Customer First	\$7.0
SFMTA	N-Judah Customer First	\$3.7
SFMTA	Bus Stop Consolidation and Roadway Modifications	\$4.1
VTA	Light Rail Transit Signal Priority Improvements	\$1.6
VTA	Stevens Creek – Limited 323 Transit Signal Priority	\$0.7

## MAP 8 Road Pricing Improvements



Map is for general information. For more information on local zoning or designations for a particular site or parcel, please contact your city or county.

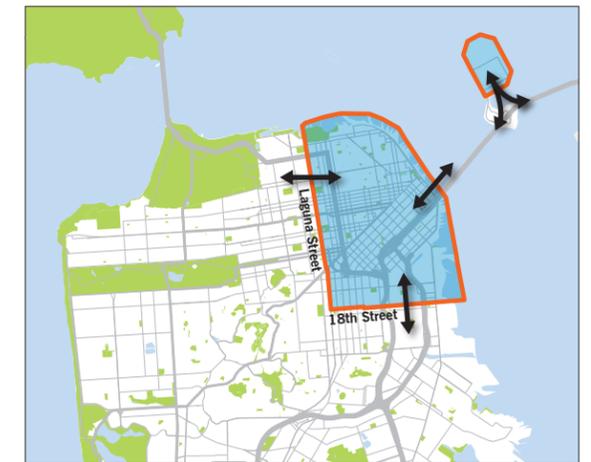
The goals of the Regional Express Lane system remain the same as they were in the Transportation 2035 Plan:

- **Connectivity** – Use express lane toll revenue to close gaps within the HOV lane system and to increase travel-time savings for carpools and buses. Without express lane toll revenue, the region’s HOV system will remain fragmented for the foreseeable future.
- **Efficiency** – Optimize throughput on freeway corridors to better meet current and future traffic demands, using excess capacity in the existing HOV system to reduce travel time for all travelers.
- **Reliability** – Provide a reliable, congestion-free transportation option.

Express lane toll revenue will be used first and foremost to fund the operations and maintenance of the express lanes. Plan Bay Area invests \$600 million in discretionary revenue in order to complete the financing package for construction of the Regional Express Lane Network in Solano, Contra Costa and Alameda counties. Conversions of existing HOV lanes will be built first. Revenues from those early express lanes will be used to bond-finance the gap closures first, and, eventually, the extensions. Express lanes in Santa Clara County will be financed by bonds that are fully supported by committed express lane toll revenue.

All project-level environmental clearances will comply with applicable requirements for environmental justice, and focused outreach will be conducted with low-income communities as part of the express lane network development and implementation. Furthermore, MTC will study the potential benefits and impacts of converting general purpose lanes to express lanes in order to inform implementation of the express lane network.

A map of other critical roadway improvements proposed in the Plan Bay Area investment strategy is included at the end of this chapter.



Proposed congestion pricing locations in downtown San Francisco and Treasure Island.

### San Francisco Congestion Pricing

Congestion pricing involves charging drivers a fee to drive in congested areas, and using the revenue generated to fund transportation improvements — such as better transit service, signal coordination, and bicycle and pedestrian projects — that improve travel options and traffic flow. Congestion pricing is being advanced in San Francisco through a demonstration project as a part of the Treasure Island development project, and through ongoing planning for congestion pricing in downtown San Francisco.

### Treasure Island

In June 2011, the city of San Francisco approved development plans for Treasure Island (a Priority Development Area), including 8,000 residential units, along with retail and commercial uses. The Treasure Island Transportation Implementation Plan, adopted as part of the development project’s approval, calls for an integrated approach to managing traffic and improving mobility management, including a congestion fee to be assessed for residents traveling by private automobile on or off the island during peak hours. The congestion fee, in combination with parking charges and a pre-paid transit voucher for each household, will help fund a comprehensive suite of transportation services including new ferry service to San Francisco and enhanced East Bay bus services.



London congestion pricing The Guardian UK

### Downtown San Francisco

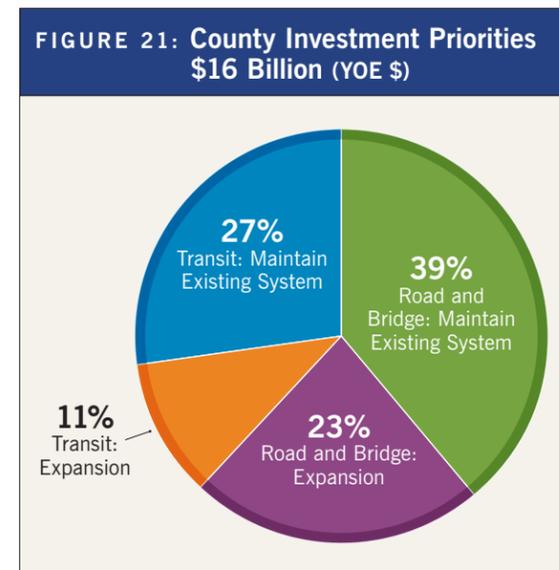
During rush hours, congestion in the greater downtown area results in average bus transit and automobile speeds below 10 miles per hour. Congestion is already a problem, and the city has ambitious growth plans for the future. Unless bold measures are taken, downtown San Francisco streets will be unable to accommodate expected levels of housing and job growth, and gridlocked conditions will threaten the city's and region's economic development plans. A recent study found congestion pricing in downtown San Francisco to be a feasible and potentially effective way to manage and grow the transportation system while supporting new businesses and residents. The mobility and pricing program could result in:

- 12 percent fewer peak-period vehicle trips and a 21 percent reduction in vehicle hours of delay
- 5 percent reduction in greenhouse gases citywide
- \$60–80 million in annual net revenue for mobility improvements
- 20–25 percent transit speed improvement and 12 percent reduction in pedestrian incidents

Plan Bay Area supports the implementation of these congestion pricing projects in San Francisco with a \$150 million investment over the plan period.

## Investment Strategy 5 County Investment Priorities

The county congestion management agencies have identified key local transportation priorities during the development of their county transportation plans. This process resulted in \$29 billion in discretionary funding requests, which is nearly twice the \$16 billion that is expected to be available over the life of the plan. Overall, the county funding priorities are closely aligned with the investment strategy, including an investment of 66 percent of these funds dedicated to maintaining and sustaining current transportation systems. Their priorities complement a number of the regional discretionary investment strategies including the OneBayArea Grant, Build Next Generation Transit, and Freeway and Transit Efficiency strategies. The county programs also include complete streets programs that will deliver substantial bicycle and pedestrian improvements. Figure 21 summarizes the counties' investment priorities; more details can be found in the Online Project Database, listed in Appendix 1.



**TABLE 23: Summary of Climate Initiatives Program**

Policy Initiative (from most to least cost-effective)	Cost (in millions of YOE \$)	Per Capita CO <sub>2</sub> Emissions Reductions in 2035
Commuter Benefit Ordinance	\$0	-0.3%
Car Sharing	\$13	-2.6%
Vanpool Incentives	\$6	-0.4%
Clean Vehicles Feebate Program	\$25	-0.7%
Smart Driving Strategy	\$160	-1.5%
Vehicle Buy-Back & Plug-in or Electric Vehicle Purchase Incentive	\$120	-0.5%
Regional Electric Vehicle Charger Network	\$80	-0.3%
Climate Initiatives Innovative Grants	\$226	TBD
<b>Total</b>	<b>\$630</b>	<b>-6.3%</b>

## Investment Strategy 6 Protect Our Climate

Pursuant to SB 375, the California Air Resources Board in 2011 assigned the Bay Area a per capita greenhouse gas (GHG) emissions reduction target of 7 percent by 2020 and 15 percent by 2035. These are aggressive targets that we are determined to meet and possibly exceed. In terms of its development, the Bay Area is a relatively mature region, with a well-established transportation system and a large population already in place. While it can focus the pattern of future growth, Plan Bay Area does not significantly rearrange the development pattern that already exists. So in harmony with our multimodal transportation network and focused land use plan, we have to invest in technology advancements and provide incentives for travel options to help meet these emissions targets. The Plan Bay Area climate initiative invests \$630 million in the eight programs highlighted in Table 23.

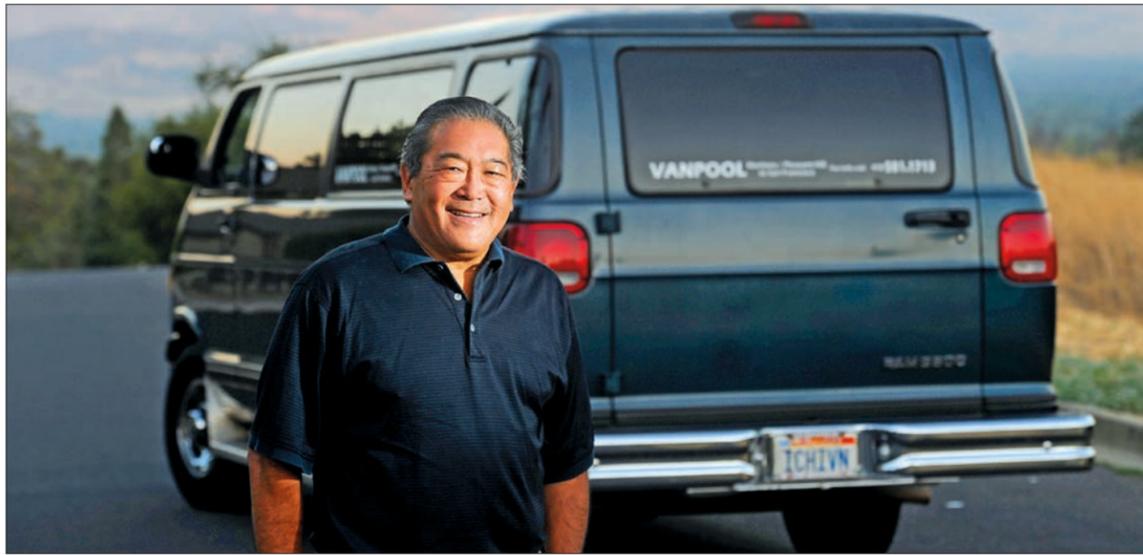
### Commuter Benefit Ordinance

Senate Bill 1339 authorizes the Bay Area Air Quality Management District (BAAQMD) and MTC to jointly adopt a regional commuter benefit ordinance as a

means to reduce GHG emissions and to improve air quality. Commuter benefits would include pre-tax benefit programs, employer-provided subsidies, free shuttles or vanpools, or an employer-chosen alternative that would provide an equal or greater benefit in terms of reducing GHG emissions. The agencies are required to report to the Legislature in 2016 on the results of the program, including vehicle miles reduced and greenhouse gases reduced.

### Car-Sharing

Car-sharing services have been available in the Bay Area since 2001, and in that time the number of vehicles available and the number of subscribers has grown. Bay Area wide, there were an estimated 60,500 members in 2012 and fleets with hundreds of cars to serve those customers. Car-sharing allows people to rent cars by the hour, for as short a time as 30 minutes up to a full weekend. Car-sharing saves families and individuals hundreds of dollars every month in car payments, insurance, gas, registration and repairs. This investment strategy proposes to invest \$13 million to expand car-sharing services to ensure vehicles are available at high-demand locations, and to expand services in suburban communities.



Noah Berger

### Vanpool Incentives

The Bay Area has had an organized vanpool program since 1981. Currently managed by local, county and regional partners including MTC's 511 program, the region's vanpool service helps people with long commutes that are not well-served by transit. This strategy will enhance the appeal of vanpooling by dedicating \$6 million to reduce the cost of van rentals. Encouraging more people to participate in the vanpool program can help to remove personal cars from crowded freeways and reduce overall emissions.

### Clean Vehicles Feebate Program

A "feebate" charges a fee to one user, and that fee is used to provide a discount to another user. The feebate program in Plan Bay Area would charge a one-time, point-of-purchase fee on new vehicles with low miles-per-gallon ratings to help purchase fuel-efficient vehicles that emit much less pollution.

Although the fees and subsidies from the program are revenue-neutral, this strategy still includes \$25 million to pay for the administrative costs of the program over the period of the plan.

### Smart Driving Strategy

Despite Plan Bay Area's targeted efforts to incentivize the purchase of fuel-efficient vehicles, many of the cars currently on the road fall short of current and future emission or fuel-efficiency standards, yet they work well and are not ready to be retired. Smart driving tactics are easy-to-implement actions (e.g., change in driving style, more-frequent vehicle maintenance, etc.) that any driver can do to save gas and reduce emissions. Plan Bay Area provides a total of \$160 million to develop a public education campaign for the region's drivers and to provide rebates for in-vehicle, real-time fuel efficiency gauges.

### Vehicle Buy-Back/Purchase Incentive Program for Plug-ins or Electric Vehicles

While the federal government and the state are offering incentives for the purchase of electric vehicles, most EVs still cost more than many gas vehicles at the time of purchase. Typically when consumers buy new cars, their older, less-efficient vehicles are re-sold rather than being removed from the fleet. As long as older vehicles are still on the road polluting, it is hard to significantly reduce emissions. Plan Bay Area sets aside a total of

\$120 million for a voluntary incentive program to accelerate the removal of low-mpg vehicles from the region's roads. In return for trading in their car, which is retired from service, people can receive a cash incentive towards the purchase of a new plug-in hybrid or electric vehicle.

### Regional Electric Vehicle Charger Network

BAAQMD, in partnership with regional and local partners, and auto manufacturers and service providers, is charting the Bay Area path for electric vehicle use in the Bay Area. The Electric Vehicle (EV) Readiness Plan, completed in late 2012, sets forth short-term strategies to increase EV usage. A long-term strategy is currently under development. Plan Bay Area supports this initiative with supportive strategies to help clean our air and cut the region's GHGs.

The Bay Area is expected to be a successful clean-vehicle market, but due to the limited range of today's all-electric vehicles (EVs) it is projected that many EV purchases will be plug-in hybrid electric vehicles (PHEVs) that can switch over to a gasoline engine once they have used up the energy in their batteries. Plan Bay Area allocates \$80 million to install more EV chargers at Bay Area workplaces. The proposed investment will allow vehicles to be charged during the day, ready to make the drive back home without using the gasoline engine.



Noah Berger

### Climate Initiatives Innovative Grants

With the adoption of the Transportation 2035 Plan, MTC created a new Climate Initiatives Innovative Grant program and invested \$33 million in innovative and creative pilot grants to reduce greenhouse gas (GHG) emissions from the transportation sector. The grant categories included: Safe Routes to Schools, which encourages children to bike and walk to school; Parking Pricing; Transportation Demand Management, which includes strategies to reduce travel demand or shift demand in order to relieve congestion; and Showcase Projects, for creative ideas that did not fit neatly into the other categories. These grants are still being implemented and evaluated, but many of the pilot projects show promise in their potential to reduce GHG emissions. Plan Bay Area sets aside \$226 million to invest in the expansion of the most successful strategies identified in the innovative grants program.



Peter Beeler

# Key Transit and Road Improvements

The following maps show priority transit and road projects from the Plan Bay Area investment strategy. These projects reflect a mix of committed and discretionary investments, with local, state and federal investments all in support. The maps show key road and highway improvements, local transit projects, and regional transit projects. More details on these and other Plan Bay Area-funded projects and programs are available in the Online Project Database, listed in Appendix 1.



Caltrain

Peter Beeler

## Regional Transit System Improvements\*

### BART Projects

- 1 BART Extension to San Jose/Santa Clara

### Commuter Rail Projects

- 2 Caltrain Electrification & Frequency Improvements
- 3 Caltrain Downtown Extension (4th & King to Transbay Transit Center)
- 4 eBART to Antioch
- 5 SMART Commuter Rail (Larkspur to Windsor)

### Infill Stations & Bus Terminals

- 6 Transbay Transit Center
- 7 Irvington BART Station
- 8 Union City Commuter Rail Station
- 9 Hercules Commuter Rail Station

### Ferry

- 10 New Ferry Routes: Treasure Island, Berkeley, Richmond, Hercules, Redwood City

\* For clarity, only major expansion projects or operational improvements with costs exceeding \$50 million are depicted.



# Local Transit Improvements\*

## Bus Rapid Transit (BRT) Projects

- 1 Van Ness BRT
- 2 Geary BRT
- 3 Geneva-Harney BRT
- 4 East Bay BRT
- 5 Grand-MacArthur BRT
- 6 Alameda-Oakland BRT
- 7 El Camino BRT
- 8 Santa Clara-Alum Rock BRT
- 9 Stevens Creek BRT
- 10 King Road Rapid

## Light Rail (LRT) Projects

- 11 Central Subway (Chinatown to Caltrain)
- 12 Embarcadero Streetcar (Fort Mason to Caltrain)
- 13 Parkmerced Light Rail Extension
- 14 Bayshore Light Rail Extension
- 15 Oakland Airport Connector
- 16 San Jose Airport People Mover
- 17 Vasona Light Rail Extension
- 18 Capitol Expressway Light Rail Extension

## Other Projects

- 19 Transit Effectiveness Project
- 20 Dumbarton Express Bus Frequency Improvements

\* For clarity, only major expansion projects or operational improvements with costs exceeding \$50 million are depicted.



Future Oakland Airport Connector

BART



# Highway System Improvements\*

## US-101 Corridor

- 1 Widening from Story Road to Yerba Buena Road
- 2 Operational Improvements along Presidio Parkway/Doyle Drive and in the Twin Cities/Greenbrae Corridor
- 3 New Auxiliary Lanes from Oyster Point to San Francisco county line and from Marsh Road to Embarcadero Road
- 4 Interchange Improvements at: Petaluma Boulevard, Greenbrae, Candlestick Point, Produce Avenue, Broadway, SR-92, Woodside Road, Willow Road and Oregon Expressway
- 5 New Interchanges at: Zanker Road/Skyport Drive and Mabury Road/Taylor Street

## I-80 Corridor

- 6 Widening from I-680 to Airbase Parkway
- 7 Integrated Corridor Management (Emeryville to Crockett)
- 8 Interchange Improvements at: I-680/SR-12, San Pablo Dam Road, Ashby Avenue, and Yerba Buena Island

## I-280 Corridor

- 9 Interchange Improvements at: SR-85 and Senter Road

## I-580 Corridor

- 10 Widening from Greenville Road to North Flynn Road
- 11 Interchange Improvements at: Vasco Road and Greenville Road

## I-680 Corridor

- 12 Interchange Improvements at: SR-84 and SR-4
- 13 New Interchange at: Norris Canyon Road

## I-880 Corridor

- 14 Interchange Improvements at: Jackson Street, 23rd Avenue, 29th Avenue, A Street, Industrial Parkway, Whipple Road, and SR-262

## SR-4 Corridor

- 15 Widening from Somersville Road to SR-160 and from Lone Tree Way to Balfour Road
- 16 Interchange Improvements at: SR-160/Phillips Lane

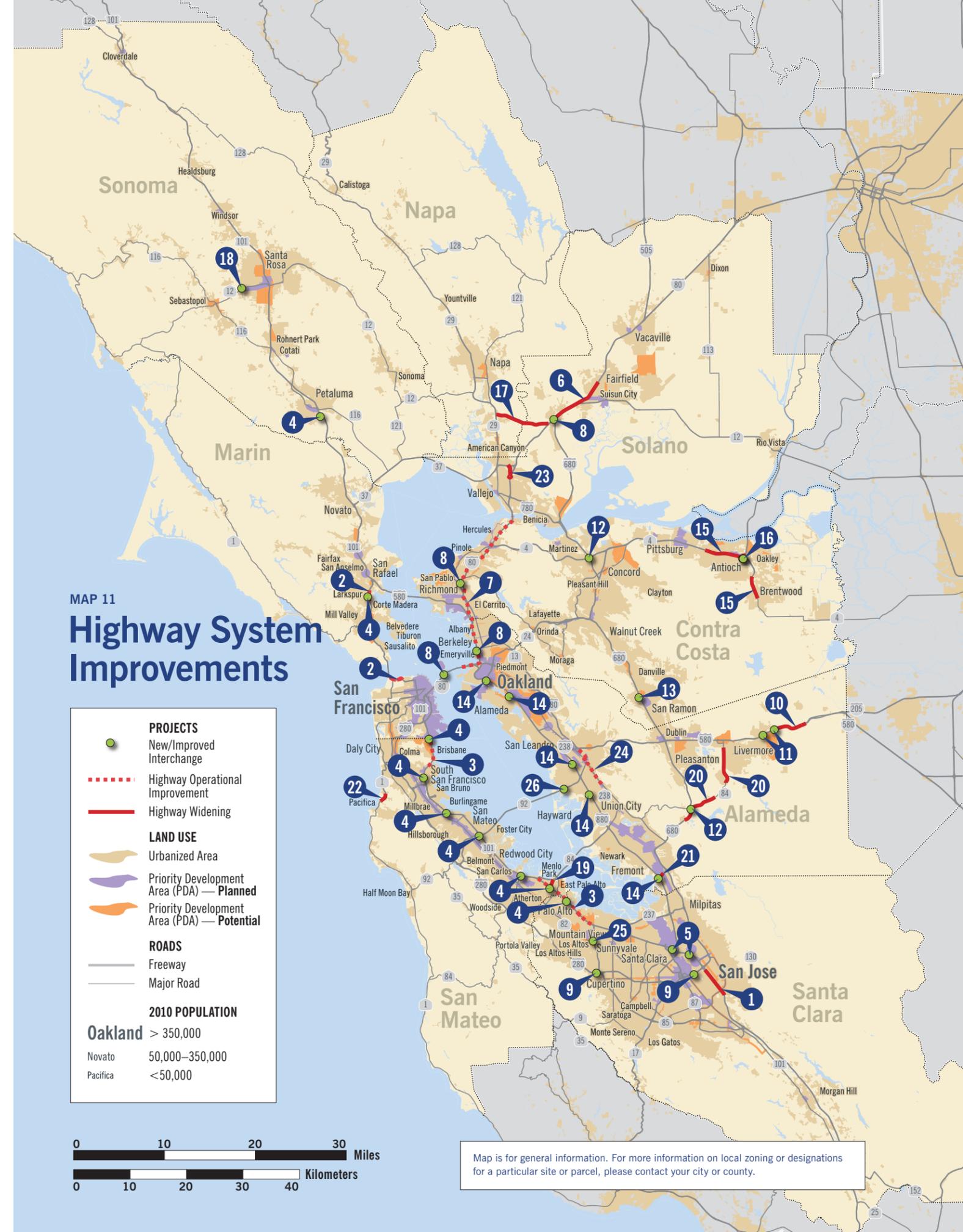
## SR-12 Corridor

- 17 Jameson Canyon Widening
- 18 New Interchange at: Fulton Road

## Other Projects

- 19 Willow Road Expressway (SR-84 to US-101)
- 20 SR-84 Widening (I-680 to Jack London Boulevard)
- 21 SR-262 Widening (I-680 to I-880)
- 22 SR-1 Widening (Fassler Avenue to Westport Drive)
- 23 Redwood Parkway/Fairground Drive Widening
- 24 SR-238 & SR-185 Operational Improvements
- 25 SR-85/SR-237 Interchange Improvements
- 26 SR-92/Clawiter Road/Whitesell Street Interchange Improvements

\* For clarity, only major expansion projects or operational improvements with costs exceeding \$50 million are depicted.



**TABLE 24: Plan Bay Area Investment Strategy Summary – Discretionary Revenues**  
(in billions of YOE \$)

Strategy	Investment	% of Total
<b>1 Maintain Our Existing System</b>	\$15	25%
<b>2 Build Next Generation Transit*</b>	\$7	12%
<b>3 Boost Freeway and Transit Efficiency</b>	\$4	7%
<b>4 Support Focused Growth – OBAG</b>	\$14	23%
<b>5 County Investment Priorities</b>	\$16	27%
<b>6 Protect Our Climate</b>	< \$1	1%
<b>7 Reserve</b>	\$3	5%
<b>Total</b>	<b>\$60</b>	<b>100%</b>

\*Includes \$2 billion in funds retained for future New/Small Starts and High-Speed Rail projects.

## Summary

The investment strategies for the \$60 billion in discretionary revenue support key priorities that will help our region to surpass our per-capita greenhouse gas target, deliver the long-term land use strategy, maintain the infrastructure investments made by past generations, and provide for future economic growth. Table 24 above summarizes the investment strategies and their respective funding levels of discretionary revenue in Plan Bay Area.

Plan Bay Area also sets a path for the region to participate in and inform the California Transportation Plan (CTP 2040). This plan, scheduled for completion by the end of 2015, will integrate regional planning efforts from around the state into a comprehensive plan. CTP 2040 will address the state’s mobility, reduce greenhouse gas emissions from the transportation sector, and define performance-based goals, policies and strategies to plan, enhance and sustain California’s statewide, integrated, multimodal transportation system.



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