










VTP2040

The Long-Range Transportation Plan for Santa Clara County

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CHAPTER ONE: PLAN FOR TOMORROW

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Since its inception, VTA has been a leader in providing transportation solutions for Santa Clara County. VTA's overarching goal is to provide transportation facilities and services that support and enhance the county's continued success by fostering a high quality of life for Santa Clara County residents, and the continued health of Santa Clara County's economy. Since the inception of the agency, our objectives have always been to provide a balanced transportation system that supports implementation of all modes of travel and provide a long-range planning framework that supports and implements VTA's strategic goals.

We are redefining the way we travel. This document is an articulation of the County's common interests and dedication to working towards a promising future.

A. THE PURPOSE OF VTP 2040

A vision for Bus Rapid Transit in Santa Clara County.

We are redefining the way we travel. This document is an articulation of the County's common interests and dedication to working towards a promising future.

The Valley Transportation Plan 2040 (VTP 2040) provides a long-range vision for the transportation system in Santa Clara County. VTP 2040 identifies programs, projects, and policies that Santa Clara Valley Transportation Authority's (VTA) Board of Directors is going to pursue over the lifetime of the plan. It connects projects and programs with anticipated funds and provides a framework for the development and maintenance of our transportation over the next 25 years. It considers all travel modes and addresses the links between transportation, land use, air quality, energy use, and community livability.

VTA, as the Congestion Management Agency (CMA) for Santa Clara County, is responsible for preparing and updating the VTP on a four-year cycle coinciding with the update of the Bay Area's Regional Transportation Plan (RTP).

The 2040 update to the RTP, called the *Plan Bay Area,* produced by the Metropolitan Transportation Commission (MTC), guides transportation funding and helps to inform planning throughout the nine-county Bay Area through the year 2040. The RTP includes a fiscally constrained list of projects and programs that have a reasonable expectation of being funded during the life of the plan. County level projects seeking state or federal funding, completing environmental clearances, or desiring to enter in construction must be included in the fiscally constrained list. The RTP helps to inform the development of the State Transportation Improvement Program (STIP), which prioritizes the use of State transportation funds. With the adoption of Senate Bill (SB) 375 in September 2008, RTPs and Countywide transportation plans assumed new challenges and responsibilities with regard to transportation and land use integration.

VTP 2040 and the RTP are based on the same land use projections, and the VTP transportation investment plan for Santa Clara County will help achieve the RTP goals. New regulations have also been introduced this cycle.

VTA Background

VTA performs multiple functions and has wide ranging authority to plan, fund and deliver the programs and projects identified in VTP 2040; and its composition is unique within the Bay Area. As a CMA, transit operator, funding conduit and designer and constructor of transit and highway projects, VTA is at the forefront of transportation planning and project delivery. In this capacity, VTA partners with the cities, towns and County of Santa Clara—VTA's Member Agencies—as well as intra-county agencies to develop practical multimodal transportation infrastructure and services.

As a special district, VTA occupies a unique position between city government and state government. It is led by a 12-member Board of Directors comprised of appointees who are directly elected to local governments within Santa Clara County. VTA has been granted tax authority status and can generate its own revenue, and revenue for its Member Agencies, by placing tax measures on the ballot.

Objectives of the VTP

- To facilitate the creation and support of an integrated multimodal transportation system that serves all socio-economic groups efficiently and sustainably.
- To pursue, develop, and implement advances in technology, management practices, and policies.
- To be the region's foremost advocate for transportation projects, programs and funding.

Themes

VTP 2040 has five overarching themes and objectives that permeate the document. These themes and objectives, by design, have mutually reinforcing and overlapping qualities that offer greater opportunities for implementation. These themes also support and work to implement elements of VTA's Strategic Plan.

Bikes on board transit provide more travel choices.

Efficiency and Mobility

Improvements in mobility will be largely driven by an interconnected multimodal system that provides people with more travel choices and expands access for those who are limited due to age, disability or income. VTP 2040 is focused on developing and connecting all modes into a comprehensive, integrated network. This vision includes roadway system refinements such as Express Lanes, maximizing arterial expressway efficiency combined with ITS technology to serve industry, relieve local streets and keep traffic out of neighborhoods, complete streets, improved transit services, and upgraded and interconnected bicycle and pedestrian corridors and facilities operating 24/7.

VTP 2040's vision for improving transit service focuses on key high-ridership corridors, system refinements, and improved operating efficiency. It also utilizes these improvements to develop an expanding ridership base by providing higher-quality, market-oriented service.

Sustainability and Growth

The performance of all modes of the transportation system is directly linked with land use and urban form. VTP 2040 looks to a shift in development patterns from spreading outward to growing upward, with future development clustered in downtowns and core areas, along major multimodal transportation corridors, and around rail and Bus Rapid Transit (BRT) stations.

More intensive and diversified development supports a greater range of local services and facilities, making transit service more productive, increasing opportunities for safe walking and biking and reducing trip lengths. VTP 2040 advances this goal by supporting a regional planning initiative to promote future growth in Priority Development Areas (PDA).

Connectivity and Technology

VTP 2040 addresses opportunities to better connect existing land uses with multimodal transportation choices, and plan for improved services and facilities to support changing land use patterns. VTP 2040 seeks to knit together opportunities for creating an integrated system of complete streets, and multimodal corridors to improve system connectivity. Moving into the future, technology, such as embodied in Intelligent Transportation Systems

and Smart Roads concepts, will have ever-increasing importance in providing connections and integrated systems, and will be pursued by VTA, and should be pursued by those Member Agencies most affected and engaged.

Air Quality and Energy Use

VTP 2040 has a significant role in addressing issues related to climate protection. It supports climate protection initiatives by asking our Member Agencies, the public, and ourselves, to support land use changes that make alternative modes more attractive, promote carpooling, encourage people to make fewer/combined trips, and allocate existing and future resources more efficiently. As a society we need to seek greater competitiveness with single occupant vehicles by promoting well-designed, compact and active development served by high-frequency transit and connected to bicycle and pedestrian networks. Ultimately, VTP 2040 seeks to foster changes in development patterns to make trips shorter, allow for reductions in Vehicle Miles Traveled (VMT), and increases in transit, bicycle, and walk trips.

Fiscal Sustainability and Responsibility

As individual capital projects are planned and implemented, the practical lifespan of projects within the context of the whole system must be considered. Whether it is transit, roadways, bike or pedestrian-ways, maintaining safe and effective operations of the existing system is crucial to a healthy and sustainable transportation system, economy, and land development patterns. Even though past VTPs and RTPs have emphasized a "fix-it-first" strategy, we still do not have adequate funds to meet all of our maintenance needs. We will need creative and innovative approaches to develop new fund sources to help maintain and operate the system.

In addition to funding for maintenance, the VTP 2040 will outline a range of strategies to increase transportation funding at local, regional, state and federal levels.

Plan Structure

VTP 2040 is a comprehensive long-term roadmap for the future. It is developed as a fully integrated and compatible document with VTA's *Strategic Plan.* VTP 2040 is organized into three main chapters, each of which carries out the Plan's overall vision through VTA's broad range of investments, services and programs.

Chapter 1: Plan for Tomorrow

Chapter 1 discusses the current setting within which this document was developed and examines the influences of growth and emerging new trends in policy and funding. VTP 2040's vision, mission and themes are introduced.

Chapter 2: Investing in our Future

Chapter 2 is the core of VTP 2040, providing a comprehensive look at VTA's capital investment plan for transportation projects in Santa Clara County. This chapter describes the fiscal setting underlying the development of VTP 2040, the fund sources and flow of money, the capital investments for each program area, the planning initiatives and studies which support these investments and the operation and investment needs for the local roadway and transit system.

Chapter 3: A Vision for Tomorrow

Chapter 3 provides a summary of VTP 2040 and discusses what could be achieved with meaningful changes in funding, policy, and development patterns beyond the current fiscal and regulatory constraints. The Plan concludes with a discussion of what lies ahead for opportunities and challenges facing Santa Clara County in the future.

B. DEFINING THE ISSUES

An old pattern of land use that does not encourage walking or commuting.

The pattern of development in this county has changed over the course of the past fifty years. There has been a transition from largely agricultural to suburban and employment-oriented land uses. This has separated jobs from housing and transit and has influenced the choices we make in how we travel and where we live. The result of many years of rapid, but largely uncoordinated growth and dependence on auto-oriented travel has consumed land at an unsustainable rate and resulted in an unsustainable demand on the transportation system. Growth is not necessarily a negative outcome, but it can sometimes have long-term—even irreversible—consequences if not managed skillfully. Growth, where carefully planned, can also transform existing communities into places that are more walkable, transit-supportive and mixed-use.

The effects of growth and constraints in resources challenge us to think strategically about how we plan for a future that will bring people and destinations closer together. The economic realities of the past several years have shown that federal funding remains uncertain and the quest to find adequate funding for all critical transportation projects will be daunting. Creative funding strategies and key planning initiatives will be fundamental to improving mobility and opportunities for expanding the multimodal transportation network. VTP 2040's approach focuses on prioritizing needs and finding cost-effective solutions to continue to provide quality transportation services now and in the future.

Disproportionate traffic flow in Santa Clara County.

Minton's Lumber Yard, across the street from the Mountain View Transit Center, is being redeveloped as high-density residential housing at both low-income and market rates. The development is walking distance to groceries, library, doctors, social services, shops, and restaurants.

Crescent Park Village stands on the location of the old Sony Campus on Zanker Road in San Jose. The high-capacity apartment village features a park, restaurants, and services for public consumption.

Transportation Investments and Land Use Decisions

Coordinating transportation investments with land use decisions is a critical tool for supporting land use goals because the decisions we make about how we grow our County have a profound effect on the future health and utility of our transportation system and community. It is also good public policy because a coordinated approach will yield the greatest return on investment. The goal is to offer various housing choices and viable multimodal transportation functions that work well together.

The integration of transportation and land use is important to Santa Clara County's transition towards a new urban and suburban form. A legacy of the high-tech boom—Silicon Valley businesses, corporate campuses in the north, and swaths of neighborhoods in the south—still dominate the landscape and influence travel patterns. The geographic imbalance of residences and job sites creates heavy morning and evening commutes that are often disproportionate in direction. However, these issues are evolving, albeit slowly, into new opportunities. Demand to live and work in Santa Clara County remains high as the County rebounds from the economic downturn that permeated VTP 2035. Housing prices are rising, growth is increasing in city centers and near transit stations and underused industrial sites are seeing new life as redeveloped residential and mixed-use areas.

VTP 2040 continues this focus of supporting intensified land uses within major transportation corridors. The backbone of the strategy is the Community Design and Transportation (CDT) Program which promotes smart growth at major transit centers. The plan also looks at strategies for pursuing the best opportunities to develop within transit corridors.

Behavioral/Societal

The existing land use patterns, coupled with the pricing structure favoring auto travel, has made us generally dependent on cars as our primary mode of transportation. As a result, many of our communities lack coherent structure, our roadways are congested, and we have limited choices about how we travel. This situation shows little sign of improving if we continue to grow in a spiraling horizontal pattern. Fortunately, we can build on good decisions in the past and support a more sustainable future. As an agency, and as citizens, we need to recognize policies already in place by other local agencies to limit suburban development.

We need to become more efficient and aware travelers. Over the next 30 years, Santa Clara County will grow by roughly 642,000 residents and 303,250 jobs—increases of 36 percent and 33 percent, respectively. We need to embrace carpooling, transit, biking, walking and making shorter and/or fewer trips. We also need to embrace technology that enhances the appeal of multimodal options, and "green" technologies that will allow us to travel by more energy efficient and environmentally friendly means. This means we must be open to and aware of current and evolving technologies that have potential to change the paradigm.

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If we **grow smarter, more creatively and efficiently, we will be able to become more resourceful travelers.** This means that we must shorten trip distances and make non-auto modes viable by creating walkable/bikeable communities and continuing to locate new growth in urban cores and near transit. At the same time, we must value and preserve our rural areas with its agricultural economy, natural resources, and open space, by addressing their transportation needs. We must continue to invest in non-auto modes to give them more advantages in competing with auto travel. To make this happen we will also need to embrace new technologies that use resources efficiently and invent new ways to travel. We must interconnect our systems so that pedestrian, bike, transit, and roadway travel are linked as seamlessly as possible. We need to price fuels to cover the full cost of roadway maintenance and raise the necessary resources to allow the sort of enhancements that make roadways points of community pride.

Transportation Funding

The past 30 years have seen a dramatic shift from primarily Federal and State funding for transportation projects in the 1960s and 1970s to a need for reliance on self-help measures to bring transportation projects to fruition in Santa Clara County. As funds began to decrease in the late 1970s, Santa Clara County was overwhelmed by unfinished capital projects. Highway infrastructure, such as overpasses, sat unfinished for years; construction was halted mid-project, leaving unfinished roadways across the county. Public bus service was also in its infancy. The County realized creative funding strategies were required in order to fund vital transportation and mobility projects. This led to Santa Clara County's first self-help measure in the form of a sales tax that would fund transportation projects. Soon after implementation of the sales tax, VTA's bus yards were built, the first High Occupancy Vehicle (HOV) lanes began to appear on Santa Clara County's freeways and expressways and by the late 1980s the first light rail tracks were in operation. Since then, self-help tax measures have been a vital source of funding transportation today.

As we move forward and Federal and State funding continue to dwindle while our funding needs for all transportation modes continue to grow, VTA will continue to be creative when seeking new funding from conventional and unconventional sources. Some of the innovative funding strategies can be coupled with pricing policies to generate positive impacts on congestion management and revenue generation.

The key element of a long-range transportation plan is the funding strategy. VTP 2040 has two main funding areas: Capital Investment and Operations and Maintenance.

Capital Investment

The Capital Investment Plan is financially constrained, encompassing VTA's anticipated capital project needs for the next 28 years. VTA works with member agencies and MTC to determine the projects of highest priority for the public and the agency. VTP 2040 also ensures that stakeholders are informed about VTA's capital priorities. All investment, prioritization, and grant applications refer back to the financially constrained list. A summary of capital funding allocations can be found in Chapter 2.

Operations and Maintenance

The other key component of VTP 2040 is the maintenance and operation of transportation assets. While new projects help Santa Clara County to grow smarter, investing in system operations, replacement, and rehabilitation is crucial to maintaining the existing system and preserving the investments we have already made. A summary of operation and maintenance funding can be found in Chapter 2.

C. VTP 2040 SETTING: LAND USE, TRANSPORTATION AND GROWTH

Transit supports and promotes community building.

Historical Context

Once primarily a farming community, Santa Clara County has experienced significant change, transitioning from an agricultural economy to one based around the high-tech sector. Santa Clara County has seen a decrease of 38,000 acres of prime agricultural land in 1984; 17,300 acres in 2010. Projected population and job increases equate to a further loss of 54,000 acres of prime agricultural land converted to residential development and 21,700 acres allotted to commercial and industrial land.

As the cities grew and developed around the burgeoning technology and research industry, corporate business parks began to emerge as a dominant feature of the County. Each successive wave of innovation—from electronics and silicon chips to integrated circuits and the internet—perpetuated the growth of the tech industry as well as the transition from orchards and farmlands into office parks and parking lots. Residential developments and shopping malls also became a common feature of the suburban landscape, further growing the County outward and establishing the trend of distancing jobs away from residential sites.

In the 1980s, integrated mass transit was introduced in Santa Clara County beginning with the operation of the first light rail trains. As the expansion of both the light rail and bus service grew, it provided much needed connection to corporate business parks in North San Jose, Sunnyvale and Mountain View. As the County continues to develop and mature, we must continue to provide commute alternatives and incentives, while recognizing that the demands for vehicle capacity are real and growing worse. We must continue to build upward around transit, bike and pedestrian networks, and emphasize focused growth and beneficial transportation investments to sustain and improve our role as an innovative employment center and desirable place to live.

Current State of Transportation System

Over the next 30 years, increased travel demand will continue to place a heavy burden on our existing roadway and transit systems. Our projected population and employment growth, coupled with the emergence of new developments and future destinations, requires our transportation system to grow and evolve to effectively meet the County's travel needs. But with limited room for expansion, the option for increasing roadway capacity to accommodate more trips and relieve congestion is

Local Paved Lanes: 9,900 Miles

Expressways: 62 Miles

Transit Coverage: 326 Square Miles

On-Road Bicycle Network: 325 Miles

Off Street Bicycle Network: 361 Miles

reaching its practical limit, yet we know if something approaching the demand is not provided, spillover traffic may affect residential neighborhoods. We can no longer rely on only conventional solutions to solve our mobility problems. To grow smarter and make better use of our limited resources, we must place greater emphasis on improving roadway and transit efficiency through system refinements and development of an integrated multimodal transportation system.

Making smarter, more targeted investments in the County's transportation system can help move us toward a more sustainable and efficient system, one that is focused on maintaining past investments in a state of good repair and also maximizing performance. Santa Clara County has a mature multimodal transportation system network that consists of 9,900 paved lane miles of local roads, 62 miles of expressways, an on-road bicycle network of 325 miles and an off-street bicycle network of 361 miles. In order to maintain our extensive transportation system network and make improvements over time, mobility management strategies and implementation of new technologies will play increasingly important roles. VTA's recent efforts to improve the capacity and efficiency of our transportation network includes opening the first Express Lanes corridor in the County, which provided much needed congestion relief along SR-237 and I-880 through smart congestion pricing, and introducing the Commuter Express service on the light rail system.

Street scene at the Sunnyvale Farmers Market.

Sustainability and Managed Growth (Capital and Operational)

The issue of growth is central to all long-range plans. Growth will come if we do no planning; the question is what can our planning achieve? Through effective management of new growth, we can reduce the negative impacts it poses on our limited resources, natural environment, and developed areas. VTP 2040 seeks to find implementable solutions that can potentially address how we grow without expanding outward, make our transportation system as efficient as possible, and fund the necessary transportation needs given available resources.

Accommodating growth. In the next 30 years, we expect to grow by more than one-third—more than any other County in the Bay Area. In order to manage and accommodate new growth, we need roadway capacity improvements, paired with smart growth solutions, that become necessary to maintain mobility. VTA's CDT Program addresses some of these concerns through encouraging infill development and connections to transit; however, VTA cannot do it alone. Partnership between VTA and its Member Agencies is critical to promote changes in land use decision-making. Transportation funding is one way to tie land use changes to transportation implementation.

Developing and delivering a program of projects. An effective long-range transportation plan identifies projects and programs that are multimodal and support

Express lanes opened on Highway 237 in 2012.

a wide range of needs. The VTP project lists are inclusive of our entire transportation system—from transit to highways to bicycles to the local roadway system. Consistent with our Vision and Mission, VTA will support and help develop projects that benefit the movement of all users.

Maintaining what we have. While most of the funds identified in VTP 2040 are related to capital improvements, VTP 2040 is also focused on identifying projects that maintain the transportation system in a state of good repair. Maximizing the value of our roadway assets and the maintenance and operation of our transit systems are critical to providing a robust transportation system. VTP 2040 also underscores the need to look for new sources of funding.

Securing funding. VTP 2040 outlines a capital funding strategy that is based on fund sources that are reasonably expected to occur during the life of the plan. Apart from expected revenue, we must also strategize to make sure we can complete the entire list of projects and do more. Some of our Member Agencies have recognized the need to collect fees for new development. VTA, as the transportation funding entity in Santa Clara County, has passed county tax measures that have helped fund many transportation improvements in the past 15 years. Although our voters have stepped up to pay for many of the services we need, there is more to be done and we must look at other sources of funding to help address our unmet needs.

Decreasing VMT and VHT. With the advent of AB 32 and SB 375, the State has placed greater policy emphasis placed on reducing greenhouse gases (GHG) and encouraging non-auto travel. Part of this is related to transportation, but there are also land use changes that can foster smarter travel and encourage more biking and walking. VTP 2040 includes a Multimodal Transportation Investments (MTI) program that is inclusive of all modes, from pedestrians and bicycles to street technologies.

Improving land use/transportation integration. Bay Area Regional Agencies are using the Regional Transportation Planning process to identify locations that are proximate to transit and accommodate the lion's share of housing and job growth. Land use integration with transportation is a theme that the VTA incorporates into the plan. VTA has taken a big first step with the development of the CDT Program in 2002. The program addresses the need to have development and land use match the transportation system. VTA works

with our local partners in developing a comprehensive and open process that addresses that connection to transportation to address land use changes.

Local Priorities and Regional Goals

The vision for our future is evolving from one that is focused on building out to one that focuses on targeted growth and beneficial transportation investments. VTA has been cultivating this vision for decades, recognizing that implementing a long-range vision will require mutual support and participation between local governments.

The efficiency of our transportation system is inextricably linked to the development patterns surrounding it, as land use patterns create specific travel needs and influence our ability to get around. While VTA is primarily responsible for providing transportation services, local governments are in a unique position to develop new land use patterns that can support more walkable, livable communities through effective land use policies and design of the local road network. Linked by this common interest, VTA and local jurisdictions must work closely together to better coordinate land use and transportation policy decisions.

Accomplishments Since VTP 2035

VTP 2035 was developed during an especially difficult economic period. Federal funding was in a state of uncertainty and sales tax receipts were flat, negatively impacting VTA's operating and capital budget projections. Despite these funding challenges, VTA remained committed to implementing innovative programs and carrying out necessary projects to improve and enhance our transportation system. The following highlights some of our accomplishments in the past 10 years, as well as our current efforts to improve the system for the future. Some highlights are listed below. Examples of accomplishments are found in Table 1.1.

Santa Clara County Express Lane Network. VTA, since 2006, has developed an Express Lanes program. It is a first of its kind in Northern California and VTA has been a leader in its implementation. The State has given VTA legislative authority for two Express Lane corridors, US 101/SR 85 and SR 237. In March 2012, the SR 237/I-880 Direct Express Connector project opened to the public. The US 101/SR 85 Express Lane Corridor is expected to open in 2016.

Table 1.1 VTP 2035 Accomplishments

VTA Extension of BART to Silicon Valley	San Jose Airport People Mover Study
Express Lane Program	Real Time Transit Information
Highway Planning/Design Studies (7)	Community Bus Program Implementation
Highway Capital Projects (5)	Community Design and Transportation Grants
MTC FPI Projects	Joint Development Program
Bus Rapid Transit Strategic Plan	Fleet Management Plan
LRT Systems Operational Analysis	Transit Facilities Maintenance Program
Express Bus Business Plan	Transit Waiting Environment Plan
Transit Signal Priority Projects	Bicycle Technical Guidelines
Santa Clara Alum Rock BRT	Paratransit Program Enhancements
Capitol Expressway Pedestrian Enhancements	Congestion Management Program Update
Community Based Transportation Plans	Local Streets and Roads Projects
County Expressway Projects	CDT Expressway Pedestrian Program
County ITS Operations Improvements	Vehicle Registration Fees

Integration of transit and mixed-use development along Tasman Drive.

Transit Efficiency. In 2007, VTA conducted the Comprehensive Operations Analysis (COA) in order to evaluate the performance of its bus service and identify improvements to increase ridership and operating efficiency. The product of this effort led to the launch of new bus service in 2008, which took a market-based approach to better match service with demand. Subsequently, VTA introduced new Express Bus vehicles to serve new markets and enhance service on existing lines as part of the new service launch. The second phase of the COA is the Light Rail System Analysis, which was adopted by the VTA Board of Directors in 2010. It recommended immediate development of several capital projects to improve the efficiency and effectiveness of VTA's Light Rail System. This includes various improvements along the light rail corridors to increase efficiency, provide better access to transit stations, and in some cases, provide express services. VTA is also implementing two Bus Rapid Transit Corridors that will provide enhanced bus service with passenger amenities beginning as early as 2014.

iTeam Program. Beginning in 2011, the VTA Board of Directors discussed a new partnership model between VTA and Caltrans that will create an Innovation Team (iTeam) in Santa Clara County. The iTeam has two objectives: 1) better service to Silicon Valley and 2) serve as an innovation test lab to develop best practices for Caltrans. VTA met with Caltrans monthly to discuss facets of the implementation plan, including, but not limited to, a project collaboration list, identifying Caltrans staffing for the first phase of the iTeam, funding for the phase one staff, and improvements and innovations to basic processes and procedures and best practices. The iTeam is implemented through a Memorandum of Understanding between Caltrans and VTA that would specify staffing, roles, responsibilities, delegation of authority, empowerment, conflict resolution, financial support, and performance metrics.

Multimodal Transportation. VTA has implemented numerous initiatives to support multimodal transportation. VTA's Bicycle Expenditure Program (BEP), initiated in 2001, has funded major bicycle projects throughout Santa Clara County. Most recently, several BEP-funded projects have been completed, including the Mary Avenue Bicycle and Pedestrian Bridge in Cupertino, the Campbell Avenue Bridge widening over Los Gatos Creek and the West Llagas Creek Trail in Morgan Hill. VTA also developed the Strategic Intelligent Transportation Systems (ITS) plan that will identify an implementation plan and project list for a number of technology projects to improve safety and efficiency of our transportation system. VTA has begun to develop a Complete Streets program to respond to State and Federal requirements.

Vehicle Registration Fee (VRF) Program. In November 2010, Santa Clara County voters approved Measure B, which levies $10 annual VRF on vehicles owned or registered by County residents. All revenue collected through the VRF remains in Santa Clara County and is distributed to cities to help fund their highest priority roadway improvements. The fees will

The Express fleet is one step toward meeting GHG targets and tapping in new markets.

be used to pay for local transportation improvements that directly benefit the owners of motor vehicles paying the fee and support "fix-it-first" efforts for local road improvements such as paving, pothole repair, traffic control signals and safety improvements.

What's New in VTP 2040

Since VTP 2035 was completed, several new developments at the federal, state, and regional levels have ushered in new requirements that affect our funding, policy and planning strategies. These changes are influential to the development of VTP 2040 and pose new considerations for VTA as we begin to implement VTP 2040. We must plan to meet aggressive GHG reduction targets set by the new Climate Protection Act Bill, honor past funding commitments and continue to move new projects forward under the newly authorized Federal Surface Transportation Bill, and determine growth strategies that complement both regional and local goals. These new mandates are discussed in more detail below.

FEDERAL LEVEL

Passage of Surface Transportation Funding Program: MAP-21

After three years of short-term extensions of current law, President Barack Obama, on July 6, 2012, signed into law the conference report for H.R. 4348, also known as Moving Ahead for Progress in the 21st Century (MAP-21) Surface Transportation Authorization Bill, the long-awaited successor to the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). MAP-21 includes important policy and structural changes to federal surface transportation programs. The following highlights some of the notable provisions under MAP-21 and discusses how these changes may affect funding availability and criteria for future projects.

MAP-21 took effect on October 1, 2012. While the bill reflects a number of substantial changes in funding structure, it maintains current funding levels which will provide certainty for many key transportation projects and local governments in the short term. Tightened federal budget for many of the funding programs means heightened competition for existing funding and grant opportunities. Local governments will need to continue to explore alternative funding sources as we transition into this new bill.

STATE LEVEL

Adoption of Environmental Legislation: SB 375

Senate Bill 375, Steinberg (SB 375) came into effect on January 1, 2009. The bill supports California's climate change law—the Global Warming Solutions Act, Assembly Bill 32 (AB 32). SB 375 has been referred to as the anti-sprawl bill because of its mandate to coordinate transportation and land use planning. The bill outlines a collaborative process between California's eighteen Metropolitan Planning Organizations (MPOs) and the California Air Resources Board

High-density housing near Diridon Station.

(CARB), to develop regional GHG targets for each region in California.

The land use and transportation strategy to reach those targets is presented in the form of a Sustainable Communities Strategy (SCS). The SCS is a growth strategy that is required to demonstrate how the region will reduce GHG emissions and meet CARB's targets. If the SCS strategy cannot meet the targets then the MPO must prepare an Alternative Planning Strategy (APS) that, if implemented, could meet the targets.

SB 375 also requires the coordination of the Regional Housing Needs Assessment (RHNA) process with the regional transportation plan process. As part of the housing element of a city's General Plan, RHNA is a measure of developable housing capacity that must be zoned during the eight-year planning period but is not a requirement to provide housing. RHNA helps identify existing and anticipated housing needs, which ensures that land use, jobs, and mobility can be coordinated to help reduce GHG emissions and keeps RHNA consistent with the SCS or APS development patterns. In turn, the SCS must reflect the RHNA allocation. As part of integrating RHNA with the SCS, the housing element update schedule is now aligned with the RTP adoption.

Although emphasis is being placed on the creation of the SCS or the APS, neither of these strategies will supersede a city or county's land use authority. SB 375 also does not require a city's planning policies to be consistent with either strategy. The SCS or APS are strategies that cities can use to provide a basis for determining eligibility of residential development or transportation projects for SB 375's CEQA streamlining incentives, if cities or counties choose to offer them. It is in the cities' best interest to consider the policies set forth by SB 375 because the Bill ties funding to projects that support the regional transportation plan.

REGIONAL LEVEL

Development of Priority Development Areas (PDAs)

As mentioned earlier in this chapter, we need to change our travel patterns and land uses so that we focus growth near transit and create and maintain vibrant and healthy communities. ABAG's FOCUS program directs financial assistance and other resources to Priority Development Areas (PDAs) and Priority Conservation Areas (PCAs). The program is one of the key strategies to support strategic growth to help meet emission reduction targets. PDAs are areas that are nominated by local government as ideal locations to

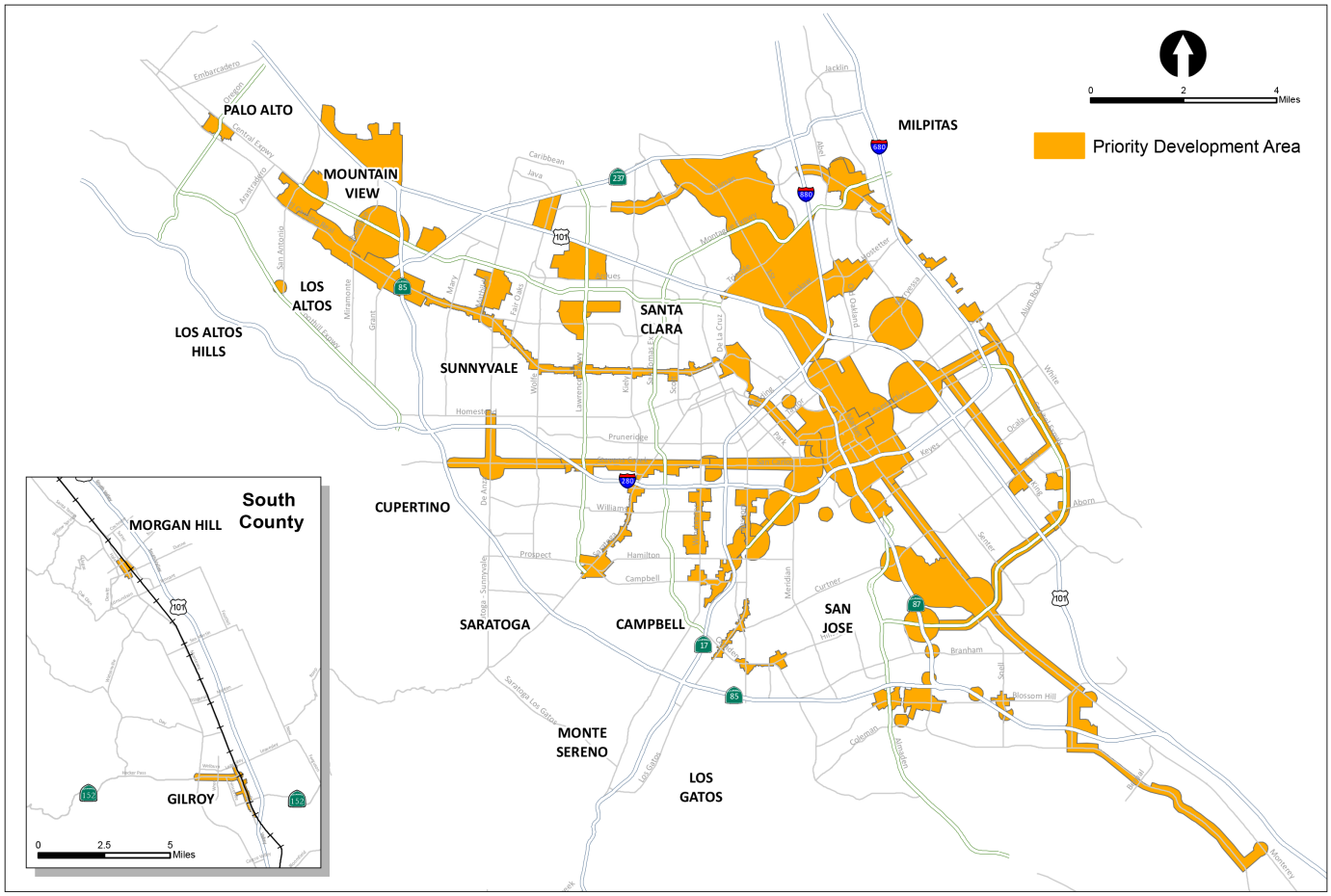


Figure 1.1 Priority Development Areas (PDAs). Source: VTA

concentrate growth because they contain good transit service or are accessible by walking or bicycling. VTA has begun the effort of incentivizing investments along transit corridors and in close proximity to transit stations by establishing the CDT funding programs. The CDT identifies Cores, Corridors and Station Areas (CCSAs) that are most suitable for focused developments. VTA supports the development of PDAs as an extension of the CCSA growth model of integrating land use and transportation decisions.

Compatible with PDAs is the Priority Conservation Areas (PCAs) which are regionally significant open spaces that have been identified for long-term protection from additional growth. Local governments nominate areas as PCAs because they provide important agricultural, natural, scenic, historical, cultural, and/or ecological resources. Funding opportunities are being explored in the regional level to safeguard local land conservation priorities.

New Approach to the Federal Flexible Program: One Bay Area Grant (OBAG)

New to VTP 2040 is the One Bay Area Grant (OBAG) which allocates at least 70 percent of available funds to projects that are located within a PDA or a PDA-serving corridor (Figure 1.1). The other 30 percent of the funds are available to projects in any areas. The new funding distribution approach in OBAG represents the first attempt by the Regional Agencies in tying transportation funding with land use decisions and performance measures such as Complete Street compliance and General Plan housing elements. Focused growth in PDAs is the strategy set forth by MTC and ABAG to help the region reach the SB 375 greenhouse gas emission reduction targets. The next section on modeling discusses the alternative growth scenarios within the PDAs and their effect on several performance criteria, including GHG emission reductions.

D. VTP 2040 ALTERNATIVES ANALYSIS

San Jose Convention Center.

This analysis allows VTA to test the impacts of land use and transportation network changes jointly under an unconstrained assumption. Housing and employment scenarios are tested to determine their impact on greenhouse gas emission reductions. Analysis of the constrained project scenario is included in Chapter 2.

Purpose

Travel demand modeling estimates the cumulative impact of individual travel decisions on the transportation system while also evaluating the influence of potential growth patterns and transit improvements on performance criteria such as transit ridership, mode share, VMT, and GHG. Project modeling was used in previous versions of VTP to evaluate the effectiveness of transportation projects alone in improving system performance, but SB 375 mandates that transportation modeling of alternative transportation/land use scenarios be employed to show that the SCS will meet the assigned GHG reduction targets of 7 percent by year 2020 and 20 percent by year 2035 in order to align with the goals of AB 32. As a response, VTP 2040 shifts the modeling work focus from project effectiveness to analyzing the joint impact of integrated transportation and land use policies.

The development of the VTP 2040 model was preceded by an assessment of the tools, assumptions and performance criteria that was used to evaluate plan alternatives. The primary analysis tool is the VTA Countywide Travel Demand Model. This section provides a summary of the performance measures analyses conducted by MTC and VTA, the results of the analysis, and the planning implications inferred by the results.

Regional Travel Demand Modeling

MTC is the regional authority charged with modeling the scenarios for the nine-county Bay Area Region. VTA also performed model runs of scenario alternatives in Santa Clara County as one of the VTP update efforts. The MTC model includes the entire Bay Area, which is important to analyze regional growth but does not

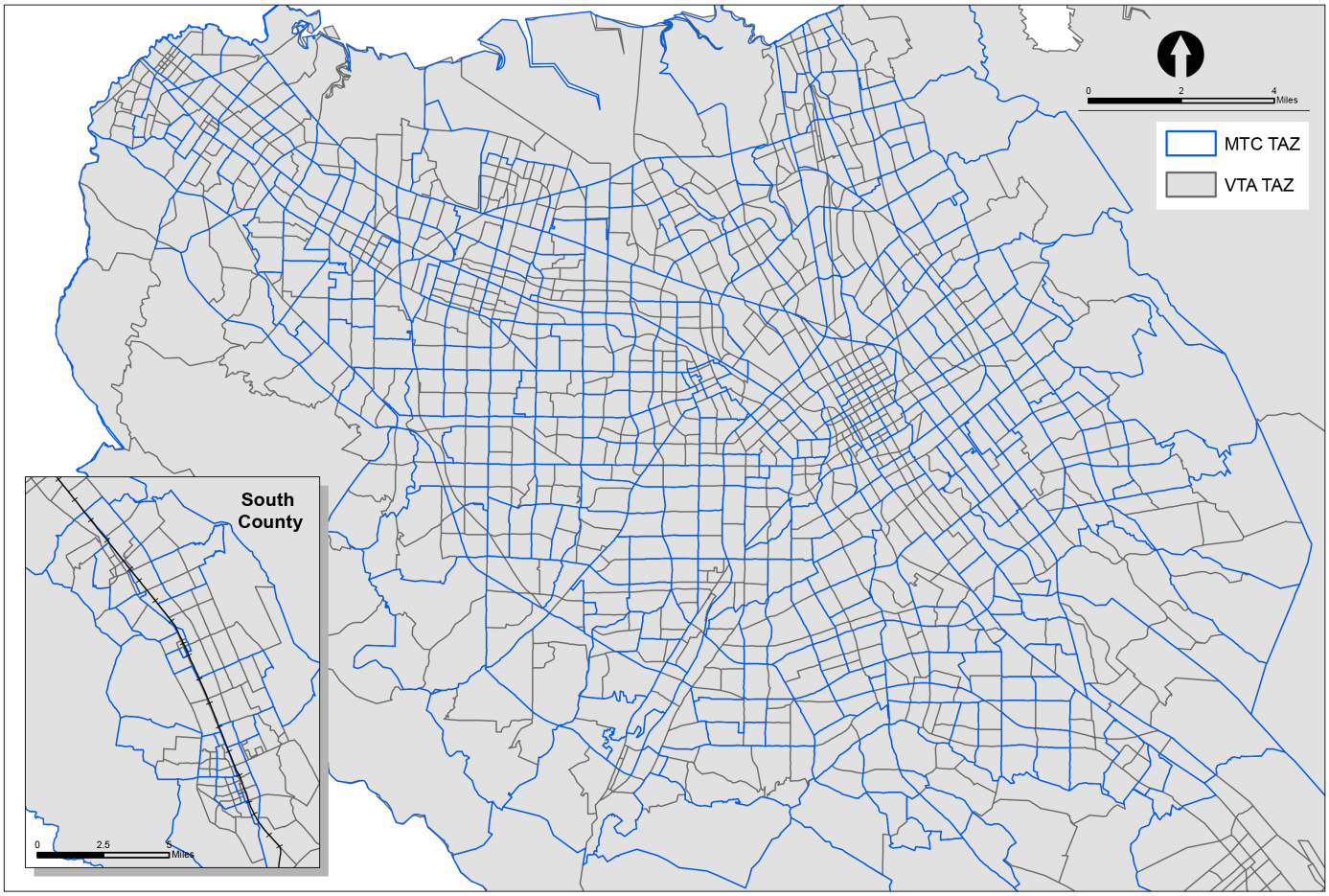


Figure 1.2 Comparison of MTC and VTA Traffic Analysis Zones. VTA uses over four times as many zones—over 1,500 altogether. Source: VTA

adequately account for localized travel patterns found in Santa Clara County. For example, MTC's model distributes data among 368 large zones in Santa Clara County where as VTA's model distributes the data over 1490 zones. The VTA model has more details because data is allocated to a greater number of analysis zones, thus it can more accurately predict land use impacts, which allows us to compare our results to SB 375 and other state mandates.

In addition to a model that more accurately reflects local conditions, VTA works closely with local agencies through committees, working groups, and daily operations. Understanding local conditions provides a perspective and model advantage for the county.

Although VTA performs independent scenario analysis, the VTA model fits in with the MTC regional model. The analysis zones in the VTA model nestle inside and align with the analysis zones in the MTC model and the land use data at the MTC Traffic Analysis Zone (TAZ) serves as control totals which are preserved in the development of VTA land use data. The key difference is that VTA's model contains sensitivities customized to local conditions.

VTA Scenario Alternatives Modeled

The transportation system performance of the alternative scenarios is evaluated using: 1) the existing conditions in the region, 2) the current RTP 2035 scenario, 3) the preferred scenario that aggressively connects jobs and housing, and 4) the Initial Vision Scenario (IVS), which includes slightly higher parking costs and allocates the current regional plan data to the PDAs.

Figure 1.3 Residential and Employment Centers: locations for intensified growth in model runs. Source: VTA

The IVS is the Regional Agency's baseline comparison against which VTA alternative scenarios are measured because it uses the same underlying data as VTA's alternative scenarios. The alternative scenarios target growth in specific employment and housing areas (but still within PDAs) and with specific densities, while isolating the impacts of land use and transit improvement designations in the IVS baseline (Table 1.2). The areas for intensified growth were developed by reviewing the existing density and the locations of the constrained project lists (Tables 2.1–2.5) to develop employment and housing centers in Santa Clara County (Figure 1.4). By using this comparison, VTA was able to evaluate the effect of each alternative to either reduce or increase GHG, VMT, transit ridership, and non-motorized vehicle mode share.

Results

Concentrating job growth in employment centers and household growth in residential centers (Scenario F) realizes the largest reduction in VMT and GHG's while increasing transit and non-motorized mode share. The results highlight the synergy created when density in job and housing centers is high enough to support transit and transit service is frequent enough to support high-density housing. Based on the rest of the scenarios, when only one density is increased, the model shows poorer results.

The concentration of job growth in a few centers may have an inverse effect on emissions in the Bay Area due to slower speeds and congestion on the periphery of the growth centers. This effect can be mitigated by pairing job centers with residential centers. Alternatively, a small increase in parking costs in a city's downtown

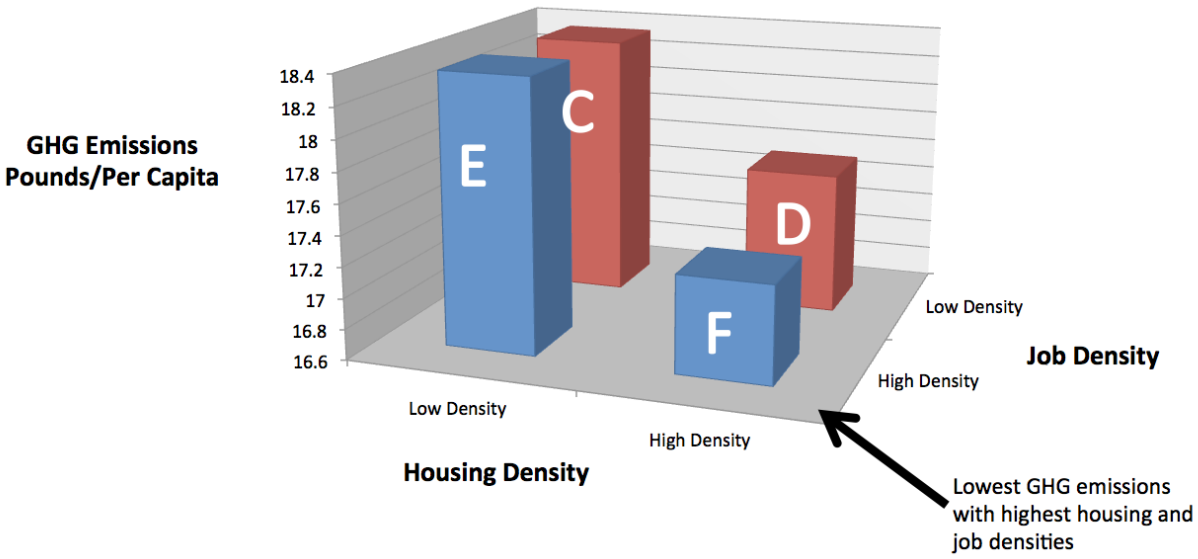


Figure 1.4 Intensified growth in both employment and housing centers has the greatest impact on greenhouse gases.

Table 1.2 RTP Baseline and Alternative Scenarios

Scenario	Name	Type	Description
A	MTC Initial Vision Scenario (IVS)	Baseline	Reallocation of current regional plan to PDAs
B	MTC Preferred Scenario	Baseline	Jobs-Housing connection made through transportation investment
C	IVS Base Growth in VTA CCSA	Alternative	Job growth placed in CCSA
D	IVS Enhanced Jobs in Residential Centers	Alternative	Job growth placed in CCSA and household growth concentrated in residential centers
E	IVS Enhanced Households and Employment Centers	Alternative	Household growth concentrated in CCSA and job growth concentrated in employment centers
F	IVS Enhanced HH Centers and Employment Centers	Alternative	Households concentrated in residential centers and jobs concentrated in employment centers

Convention Center Station.

will slightly decrease emissions in the entire Bay Area because people will opt for alternative modes of transportation as parking prices rise.

Planning Implications

The alternative scenarios have a similar underlying theme. They are jobs/housing connection strategies aimed at improving air quality and quality of life in Santa Clara County. Intensified job and housing growth in the PDAs will provide cleaner air, reduced congestion, and equitable housing options but the densities can only be supported with a balanced and connected transportation system that includes a strong transit component. Although VTA has long encouraged member agencies to focus growth around transit and transit centers through the adoption of the CDT manual, the directive to tie funding to PDAs and PDA-serving areas is still in its infancy. VTA is working closely with Member Agencies, MTC, and ABAG to develop fair and equitable guidelines to fund projects that will help us meet SB 375 GHG reduction targets while also enhancing livability throughout the County.

As we plan our way toward the year 2040, we must do so with the knowledge that we can no longer build our way out of transportation problems. Instead, we must focus on the operations and maintenance of the existing system, maximize the efficiency of the current system, and alter our land use patterns and policies. By doing so, we can assure that the transportation system remains sustainable over the long term.

The VTP 2040 constrained project list contains projects chosen because they help to close transportation gaps, provide vital connections to jobs and housing, help to balance the overall system, and take us a step closer to our vision of an efficient and sustainable multimodal transportation system that serves all socioeconomic groups. The projects and funding sources are the focus of the next chapter.

CHAPTER TWO: INVESTING IN OUR FUTURE

2

The VTP Financial Plan sets an outline of funding set aside for the projects and programs in the plan. One of the State requirements for developing long-range plans is to include a fiscally constrained list. The financial plan identifies Federal, State, and local funding available to this County in a 28-year forecast. This chapter identifies a funding chart that corresponds to all the fund sources used in the VTP. It describes the sources of funding in the VTP for the projects and programs and it explains the methodologies used to forecast future revenue. The total amount of constrained dollars within the plan is $13.3 billion. In addition, the chapter discusses the project lists and programs contained in VTP 2040.

A. FINANCIAL PLAN

Extra buses are an important element for serving Levi's Stadium.

Fiscal Setting

The economy of Silicon Valley is rooted in technological innovation and development. The high-tech industry, while prone to boom and bust cycles, remains a major driving force behind the region's economic prosperity and enviable standing in the global economy. The Valley's continued ability to foster talent, develop and fund innovation, and cultivate a vibrant community has allowed our region to weather the peaks and valleys of the economic cycles, including the most recent downturn that began in 2007. The last plan, VTP 2035, adopted in 2009, was developed in the midst of that financial turmoil.

The development of VTP 2040 features a much different economic climate than the one from which VTP 2035 was developed. Compared with the economic conditions in 2009, the current economy is improving, albeit slowly, and signs of positive growth are evident. Locally, sales tax receipts, which VTA relies heavily on, are showing modest increases following a decline of almost 16 percent in fiscal year 2009 (FY09). In FY10, sales tax receipts increased by 1.7 percent but FY11 and FY 12 showed strong economic recovery with increases of 9.7 and 8.4 percent in the respective years. VTA's biennial budget projects sales tax revenue to continue to increase 6.3 percent for FY13, reflecting a rebound in taxable sales since the recession.

At the federal level, a new surface transportation authorization bill called Moving Ahead for Progress in the 21st Century (MAP-21) was approved on July 6, 2012 after three years of short-term extensions. MAP-21 covers two fiscal years, FY13 and FY14, and will run through September 30, 2014. The bill includes several key changes such as the consolidation of almost 100 separate funding programs, elimination of earmarks and establishing performance-based planning requirements that align Federal funding with key goals. More importantly, the bill maintains surface transportation programs at current funding levels, with a small adjustment for inflation, for a two-year total of $105 billion. This means for federal-aid highway programs, the bill provides $39.6 billion in FY13 and $40.2 billion in FY14. For public transit, this means $10.5 billion in FY13 and $10.6 billion in FY14. While MAP-21 is only a two-year bill, it provides stability in terms of revenue sources with steady and predictable funding for federal highway and transit programs in the short term.

Funding Challenges

A significant challenge for VTA, and other public transportation agencies, is to find sufficient and reliable funding sources in the midst of continuing decline in Federal and State funding. The gasoline sales tax is the primary source of Federal and State transportation revenue but with the gas tax remaining fixed at 1993 levels, it has failed to keep up with current costs and inflation, resulting in a chronically underfunded transportation program. In addition, efforts to improve gas mileage through fuel-efficient vehicles have yielded unforeseen consequences—with better gas mileage comes lower gasoline sales, which means less revenue from the per gallon taxes levied at the federal and state levels. Along with improved fuel efficiency, the use of alternative transportation options such as transit, walking and biking are on the rise. With increased investments to make alternative transportation viable as well as cost-adverse consumers who want to avoid increasing fuel prices, more and more people are driving less. With these factors combined, gas taxes are increasingly becoming less reliable as a transportation revenue source.

In the 1970s, Federal and State funding accounted for approximately 80 percent of all transportation funds, while local funds counted for approximately 20 percent. By the 2000s, this ratio flipped with almost 60 percent coming from local sources and 40 percent from State and Federal sources. As time goes on, we can expect to see more reliance on local funding, and less on State and Federal funding.

Locally generated transportation revenue also has its challenges. A prime example is the volatility of sales tax-based revenues, which makes up a large portion of VTA's revenue. Approximately 71 percent of VTA's Transit Fund operating revenues are generated from sales tax sources, which include the 1976 half-cent local sales tax, a quarter-cent sales tax from Transportation Development Act (TDA), and 2000 Measure A half-cent sales tax revenue. Sales tax-based revenues are driven by the health of the local economy and therefore subject to the fluctuations of economic cycles, which directly and immediately affects transportation revenue. This unpredictability in sales tax revenue makes planning for long-term future revenue challenging.

To help account for these fluctuations, in 2012 VTA established the VTA Transit Sales Tax Stabilization Fund, that may be used to supplement budgeted declines in sales tax based revenues or offset declines in actual sales tax based revenue receipts. The VTA Transit Sales Tax Stabilization Fund supports VTA policy of maintaining a prudent level of surplus reserves to ensure sufficient funds are available in the event of either unavoidable expenditure needs or unanticipated revenue shortfalls.

Even with myriad challenges of predicting future funding levels VTA can develop a feasible long-range plan. The long-range plan does not guarantee funding for projects—it provides the most appropriate funding forecast for the programs and projects within the timeframe of the plan.

VTP 2040 Financial Plan

Funding for the projects, programs and services identified in VTP 2040 comes from a number of local, State and Federal sources. Generally, the plan focuses on larger sources that provide flexibility in programming and that are expected to provide significant revenues for transportation projects in Santa Clara County over the life of the plan.

Fund estimates provided by MTC are used as the starting point to develop the fund estimates for VTP2040. VTA adjusts these estimates using local sources that staff reasonably believes will be available over the life of the plan. Revenue from all fund sources for transportation projects and programs in Santa Clara County is estimated to be roughly $13 billion (all figures in 2013 dollars) from 2013 to 2040 (Table 2.1). This fund estimate provides the basis of the financially constrained project lists.

The revenue estimates include base sources such as existing State and Federal discretionary grants, and our current locally generated funding such as Santa Clara County's existing sales taxes, city transportation improvement funds ("developer fees") and the Vehicle Registration Fee. Augmented revenue sources include revenue from future express lanes, future tolls from the State Route 152 Corridor, and future Federal participation in the BART Silicon Valley and Bus Rapid Transit projects.

Transportation Capital Funding Sources for VTP 2040

Locally generated funds are normally governed by local initiatives or policies. Federal funds flow into the State and are divided up based on both Federal and State statutes and guidelines. State funds are essentially moved to the regional and local level through the State Transportation Improvement Planning (STIP) process, and allocated for specific purposes in accordance with the statutes and guidelines governing the STIP process.

The fund sources described below provide the revenue for capital transportation projects in Santa Clara County. Following, is a general description of each fund source, and 28-year estimates for each fund source is provided in Table 2.1.

Federal Funds

Federal New Starts (Section 5309—New Starts)

The Federal New Starts program is one of the Federal transit funding programs created in 1991 as part of the Intermodal Surface Transportation Efficiency Act (ISTEA). Eligible projects include light rail, rapid rail (heavy rail/BART), commuter rail (Caltrain), monorail, automated fixed guideway system (such as a "people mover"), or a bus way/high occupancy vehicle (HOV) facility, or an extension of any of these. Congress distributes these funds to projects based on project evaluations by the Federal Transit Administration (FTA).

VTA's BART to Silicon Valley Extension groundbreaking.

Federal Small Starts

The Small Starts program provides funds for smaller, low-cost capital projects that qualify for a highly simplified project evaluation and rating process by FTA. To qualify as a Small Starts project, the total project cost must be less than $250 million, with no greater than $75 million in requested Capital Investment Grant funding. In addition, the project must either (a) meet the definition of a fixed guideway for at least 50 percent of the project length in the peak period and/or (b) be a new fixed guideway project, or (c) be a new corridor-based bus project.

With the passage of the newly authorized transportation bill MAP-21, several changes were introduced to the FTA Major Capital Investment Program which includes the Small Starts program. MAP-21 maintains the Small Starts eligibility definition but provides expanded clarification on how Bus Rapid Transit (BRT) projects are defined. Similar to New Starts, this program is competitive where projects from around the country are evaluated based on a set of criteria established by the FTA. It is anticipated that VTA would receive $150 million in Small Starts funding for BRT projects during the life of the Plan.

Congestion Mitigation Air Quality Program (CMAQ)

STP and CMAQ are often called "flexible funds." STP funds can be used for virtually all transportation maintenance projects and will be shown later in the chapter as a revenue for Operations and Maintenance. CMAQ funds are limited to implementing the transportation provisions of the 1990 Federal Clean Air Act in Air Quality Non-Attainment areas. The Bay Area is currently a non-attainment area. The current estimate for CMAQ funds for Santa Clara County is $252 million over the life of the plan.

Table 2.1 VTP 2040 Program Area Allocations (2013 dollars, in millions, during the life of the VTP 2040 Plan)

PROGRAM AREAS	1. FEDERAL NEW STARTS	2. FEDERAL SMALL STARTS	3. MEASURE A and RENEWAL	4. 2000 TCRP	5. PROPOSITION 1A and 1B	6. HIGH SPEED RAIL	7. RTIP	8. ITIP	9. CMAQ	10. TA+TFCA+TDA	11. EXPRESS LANES/TOLL REVENUES	12. TIF and OTHER LOCAL CONTRIBUTIONS	13. MEASURE B VEHICLE REGISTRATION FEE	14. FREEWAY PERFORMANCE INITIATIVE	TOTAL
TRANSIT															
VTA	$2,000	$150	$3,713	$649	$119	$247	$89				$350	$35			$7,352
Caltrain/ACE/HSR				$31	$26	$722									$779
Transit Subtotal	$2,000	$150	$3,713	$680	$145	$969	$89				$350	$35			$8,131
HIGHWAYS															
Express Lanes/Toll roads								$331			$1,951				$2,282
Hwy.s							$282	$10			$306	$144		$50	$792
Hwy. Subtotal							$282	$341			$2,257	$144		$50	$3,074
LOCAL SYSTEM															
County Expressways							$106					$161			$267
Local Streets and Roads							$245					$295		$247	$787
Multimodal Transportation Investments							$342		$252	$259		$85	$62		$1,000
Local System Subtotal							$693		$252	$259		$541	$62	$247	$2,054
TOTAL	$2,000	$150	$3,713	$680	$145	$969	$1,064	$341	$252	$259	$2,607	$720	$62	$297	$13,259

Notes on Program Areas

1. Caltrain/ACE/HSR: Capital improvements and station area improvements for Caltrain, Altamont Commuter Express or High-Speed Rail.
2. Multimodal Transportation Investments subcategory includes Community Design and Transportation (CDT), Bicycle Expenditure Program (BEP), Intelligent Transportation Systems (ITS), Vehicle Emissions Reductions Based at Schools (VERBS), pedestrian improvements and other multimodal programs.

Notes on Fund Sources

3. Federal New Starts: the current Federal grant toward the SVRT Phase 1 project and future Federal participation.
4. Federal Small Starts: future Federal participation in Bus Rapid Transit.
5. Measure A and Renewal: the ½ cent Measure A sales tax and the assumed renewal starting 2036.
6. 2000 TCRP: Traffic Congestion Relief Program.
7. Proposition 1A and 1 B: 2006 Prop 1B and 2006 Prop 1A High-Speed Rail Connectivity Bonds.
8. High-Speed Rail: a reasonable share of additional fund sources associated with the High-Speed Rail project.
9. RTIP: Regional Transportation Improvement Program based on MTC estimates.
10. ITIP: Interregional Transportation Improvement Program. The amount is based on a reasonable share of the State total.
11. CMAQ: Congestion Mitigation and Air Quality based on MTC estimates.
12. TA+ TFCA+ TDA: the total estimated amount of the Transportation Alternatives, Transportation Fund for Clean Air, and Transportation Development Act programs based on MTC estimates.
13. Express lane/Toll Revenues: toll revenue from future Express Lanes and the State Route 152 Corridor.
14. TIF and Other Local Contributions: local transportation improvement funds ("developer fees") that are already committed to specific improvements and future anticipated amount based on projected developments.
15. Measure B Vehicle Registration fee: 2010 Measure B Vehicle Registration fee: The 15 percent assigned for the regional program is included.
16. Freeway Performance Initiative: a reasonable assumption of the amount that will be available for Santa Clara County projects from this program.

Transportation Alternatives (TA)

Transportation Alternatives Program is a new program under MAP-21. It consolidates Transportation Enhancements (TE), Safe Routes to School, Recreational Trails, and Scenic Byways into a new Transportation Alternatives Program. The TA estimate for Santa Clara County is $173 million.

State and Regional Funds

Traffic Congestion Relief Program

The Traffic Congestion Relief Program (TCRP) enacted in 2000, directed revenues generated by the State sales tax on gas and diesel fuel from the State general fund to transportation. The transfer was to occur for fiscal years 2003/04 through 2007/08, then end. However, in 2002, California voters passed State Proposition 42, which made the sales tax on gasoline a permanent funding source for transportation.

The TCRP established a list of 149 specific congestion relieving transit and highway projects designated to receive funds. Approximately $680 million was designated for projects in Santa Clara County. The CTC adopted a statewide TCRP allocation plan on September 24, 2008 that specifies a six-year payment schedule for the remaining $239 million, starting in fiscal year 2009. VTA expects the final two payments for the remaining $89 million in fiscal years 2014 and 2015.

State Transportation Improvement Program (STIP)

The State Highway Account (SHA) is divided into two programs: a Regional Improvement Program (RIP) and an Interregional Improvement Program (IIP). Together, these programs form the State Transportation Improvement Program (STIP). STIP funds may be used for road rehabilitation and capacity expanding capital transportation projects.

Traffic on I-880.

The current total STIP projection, in year of expenditure dollars, for Santa Clara County is $2.118 billion, consisting of $1.603 billion in Regional funds and $515 million in Interregional funds for projects nominated by Caltrans.

Transportation Fund for Clean Air (TFCA)

Funds generated by this State fee on motor vehicles are placed in the Transportation Fund for Clean Air (TFCA) account to be used for implementing projects and programs that reduce air pollution from motor vehicles. Expenditure of these funds is limited to specified eligible transportation control measures (TCMs) that are included in Bay Area Air Quality Management District (BAAQMD)'s 1991 Clean Air Plan, developed and adopted pursuant to the requirements of the California Clean Air Act of 1988. The BAAQMD administers 60 percent of these funds and 40 percent is administered by TFCA Program Managers such as VTA. The current TFCA 40 percent estimate for Santa Clara County is $49 million over the life of the plan.

Transportation Development Act (TDA) Article 3

TDA Article 3 funds are a portion of the sales tax on gasoline and diesel fuel, which is returned by the State of California to the county in which it was collected. TDA Article 3 funds are for use on bicycle and pedestrian projects.

MTC programs these funds in the nine Bay Area counties. Each year, VTA coordinates and submits countywide project priorities for this fund source. The VTA Board has set aside 25 percent of the annual allocation for the Countywide Bicycle Expenditure Program, less $150,000 per year for pedestrian improvements on County Expressways. The remainder distributed among the cities/towns and county by formula. The current 28-year estimate for TDA Article 3 funds is $56 million in the year of expenditure.

Freeway Performance Initiative (FPI)

The FPI program is a traffic management program developed by MTC to address deficiencies within the

transportation system such as signal timing, synchronization, ramp metering, and other technological improvements. In addition to freeways, these improvements may also be on the major corridors within cities.

In Santa Clara County, FPI funding will be directed to projects in VTA's Systems Operations and Management Program and Intelligent Transportation Systems (ITS) Strategic Plan. For VTP 2040 VTA assumes it will receive almost $347 million in FPI funding over the next 28 years.

High-Speed Rail (HSR)

In the Bay Area, a memorandum of understanding (MOU) was executed by MTC in 2012. Five Bay Area transportation agencies, including VTA; two municipalities, including the city of San Jose; and the High-Speed Rail Authority set up a framework for early investment in the Peninsula Corridor. The MOU includes a comprehensive financial strategy that contemplates investing a total of $1.456 billion to modernize and electrify the Peninsula Corridor. This investment will significantly improve Caltrain service in the near term, as well as prepare the corridor for the implementation of "blended" Caltrain and high-speed rail operations in the future. The financial strategy in the MOU identifies $106 million in Proposition 1A connectivity funds from the formula shares for VTA, Caltrain and BART, and calls for the High-Speed Rail Authority to contribute $600 million of its Proposition 1A money. The VTP projects $969 million from HSR towards Caltrain electrification, BART Silicon Valley Phase II and station improvements.

Local Funds

2000 Measure A Sales Tax

On November 2, 2000, the voters of Santa Clara County voted to approve Measure A Sales Tax for 30 years to fund a specified package of transit projects and programs. The 2000 ½ cent Measure A began on April 1, 2006, and ends on March 31, 2036. Eighteen and a half percent of Measure A funds are set aside for operating purposes and the remaining is for transit capital projects. In addition, the Plan assumes the renewal of the sales tax in similar terms starting 2036. Table 2.1 shows the remaining $3.712 billion available for capital projects between 2013 and 2040.

Express Lane/Toll Revenue

Tolling directly charges a user for the use of a facility at the time that the facility is in use. Such user fees address the market side of the equation by considering the interaction between demand for transportation services and the available supply. This results in a direct cost for the good—or service—being consumed. VTA's Express Lane Program is expected to generate $4.114 billion (in YOE dollars) during the plan time period. Approximately $2.398 billion will be needed to

California's high-speed rail (HSR) concept for Diridon Station.

finance, construct, operate and maintain the Express Lane system over the plan period. The express lanes will generate an additional $1.716 billion that will be used for transit services and other transportation improvements in the Express Lane corridors. The State Route 152 new alignment is planned to be a toll road. The Plan includes $917 million in year of expenditure dollars from future toll revenue from the new facilities to be used for the capital phase.

SB 83 Vehicle Registration Fee (VRF)

Senate Bill 83 (Hancock) was signed into law in 2009, authorizing countywide transportation agencies such as VTA to implement a vehicle registration fee of up to $10 on motor vehicles registered within the county for transportation projects and programs. The statute requires that the fees collected be used only to pay for programs and projects that have a relationship or benefit the owners of motor vehicles paying the fee. The projects and programs must be consistent with the regional transportation plan and requires the agency's board to make a specific finding of fact in that regard.

In June 2010, the VTA Board adopted a resolution placing 2010 Santa Clara Measure B before the voters of Santa Clara County. In November 2010 Santa Clara County voters authorized a $10 increase in the fees of motor vehicle registration for transportation-related projects and programs. Subsequently, the VTA Board adopted an expenditure plan for transportation-related projects and programs allocating 80 percent of the VRF revenue to the local road improvement and repair, and 15 percent for:

- Intelligent Transportation System Technologies
- Countywide Environmental Mitigation
- Matching funds for Federal/state/regional transportation grants

The remaining 5 percent goes toward Program Administration. In the Capital Program, there is approximately $95 million YOE for countywide projects.

Impact and Mitigation Fees

Development projects often contribute funding to transportation system improvements, as a way of mitigating transportation project impacts, enhancing project access, or providing benefits to the community. These fees and contributions currently provide an important source of local funding for transportation projects, and this funding role is expected to continue over the life of this Plan. Development-related fees and contributions may occur in a number of ways:

- As mitigation measures for impacts identified through the environmental review of a project under the California Environmental Quality Act (CEQA); a development project may entirely fund a transportation improvement project, or may contribute a portion of the funding;
- Through local agency policies and programs, such as a citywide or specific area Transportation Impact Fee (TIF); these are typically one-time fees levied on a new development at the rate proportional to its demand for transportation capital improvements;
- Through a Development Agreement negotiated between a developer and a City, or a voluntary developer contribution to provide a community benefit;
- Through the Congestion Management Program (CMP) Deficiency Planning Process. The CMP statute requires Member Agencies to prepare Deficiency Plans for CMP system facilities located within their jurisdictions that exceed the CMP Traffic Level-of-Service (LOS) standard; Santa Clara County's CMP traffic LOS standard is LOS E. A Deficiency Plan includes an a list of actions that will improve multimodal transportation performance and air quality, as well as an Action Plan for how and when it will be implemented.

There are many local examples of transportation improvements being funded as mitigation measures for impacts through the CEQA review process, and a number of examples of such projects being funded through Development Agreements. A number of cities in Santa Clara County currently have Transportation Impact Fee programs in place, either citywide or in specific areas. There are currently two CMP Deficiency Plans in place in Santa Clara County—an area wide plan in North San José and a citywide plan in Sunnyvale. Collectively, these development-related funding sources provide revenue for many specific transit, highway, expressway, and local road, bicycle, and TDM projects around the county. A total of $714 million for transit, roadway and multimodal improvements is estimated over the life of this Plan.

Additional Funding Strategies

VTP 2040 provides a structure for discussing and exploring strategies for seeking additional funding that VTA will explore during the timeframe of the plan. Descriptions of these potential fund sources are summarized below.

New Local Sales Tax

Santa Clara County is the first "self-help" county in California to vote in sales taxes for transportation programs and projects. Since the first vote in 1984 Santa Clara County has approved four measures for a range of transportation projects and programs that include bikes, transit, roadways and highways. As a self-help leader within the State and region, it is reasonable to believe that voters may approve additional sales tax measures within the life of the plan.

Transit Special District

Jurisdictions around the nation and in other counties are exploring and implementing Transit Special Districts (TSD) to generate funds to support new or expanded transit service and/or transit-related capital improvements in specific areas or corridors. The concept is that assessments would be levied to businesses, property owners, other special districts such as schools, or jurisdictions in general that request new transit service and that would benefit from those service improvements. The fees would support expanded transit operations that support new development or community-specific services such as community buses. This may also be a mechanism that would allow VTA to implement transit service improvements in advance of the land use in areas where VTA's Transit Sustainability Policy and Service Design Guidelines are not met. Several cities are in the process of preparing comprehensive General Plan updates and VTA will be working over the next few years with these jurisdictions to further explore this option in conjunction with these processes.

Joint Development Program

VTA has implemented a Joint Development/Land Development Program. This program responds to the Board's 2003 Ad Hoc Financial Committee Recommendations to pursue opportunities to provide VTA with a diverse revenue stream. VTA has a large portfolio of land assets that if developed, leased or sold and the revenues properly invested can generate a significant ongoing revenue stream for VTA.

Gas Taxes

Federal and State funds consist primarily of excise taxes on gasoline and diesel fuels. The federal Highway Trust Fund (HTF), which funds various programs for both highways and transit, is currently supported by an 18.4 cent per gallon motor vehicle gas tax which was last increased in 1993. With the gas tax remaining fixed for nearly two decades, it has failed to keep up with the rising costs in highway construction and repair. It also fails to account for improved fuel efficiency from hybrid and electric vehicles, which mean more vehicle miles, will not necessarily match higher gasoline sales. As revenue from gas taxes continues to decline, it has become apparent that gas taxes either need to be raised, fixed or replaced by an alternative tax that can adequately provide a reliable source of funding for transportation projects. A five cent per gallon local tax on gasoline/diesel fuel sales in Santa Clara County would generate about $40 million annual tax on gasoline/diesel fuel sales in Santa Clara County.

Consumption or Use Taxes

An alternative to or supplement to gas taxes are consumption or "user fee" taxes, such as a vehicle-miles-traveled (VMT) tax. A VMT tax charges a small fee for every mile a motorists drives.

Voluntary Fair Share Contributions

One approach taken by certain Cities in Santa Clara County is to identify contributions to improvements of freeway, transit and other regional facilities as mitigation measures for significant freeway impacts resulting from proposed land development projects. Staff has developed a structure for a program of Voluntary Contributions to Transportation Improvements. This structure provides guidance for local agencies pursuing contributions, and provides VTA staff a consistent approach to commenting on projects with significant transportation impacts. At the same time, the Program would provide an opportunity for all local agencies to have this voluntary program available in their "tool

box" to address freeway impacts as part of their project approval process.

The proposed voluntary program includes the following process and responsibilities:

a. VTA, in its role as the Congestion Management Agency, comments on projects with significant impacts on the Congestion Management Program (CMP) facilities, including freeways, County expressways, CMP intersections, bicycle and pedestrian facilities, and the transit system;

b. The local agency approving the project, in its role as the CEQA Lead Agency, could choose to request a voluntary contribution from the developer toward transportation improvements as a mitigation measure for impacts to freeways using one or more of the agreed upon formulas;

c. The local agency would subsequently condition the project to pay the determined voluntary contribution toward regional transportation projects, and may cite this contribution in their CEQA documentation;

d. VTA and the local jurisdiction would execute agreements that would provide for the transfer of funds to regional transportation projects.

Other Impact Fees

In addition to the current development-related transportation impact and mitigation fees described earlier in this section, there is the possibility that other impact fees may be established in Santa Clara County in the future. These revenue sources could originate from individual agencies, or could potentially occur at a multi-jurisdictional or countywide level.

In 2008, VTA investigated the option of impact fees to fund transportation improvements across Santa Clara County. The product of this research is VTA's *Traffic Impact Fee White Paper,* which summarizes findings of existing practices, methods of fee collections and the benefits and challenges of implementing a countywide impact fee program. The white paper is intended to identify best practices in implementing fee programs rather than provide recommendations on an impact fee scenario for Santa Clara County. Should VTA and its Member Agencies decide to pursue a countywide impact fee program, the fee program could have the following aspects:

- Fees charged directly to developers seeking permits to build within the county.
- Fees charged proportional to the impact (i.e., vehicle trip generation) of the specific land use type. Thus, the fee could be scaled according to the burden new development places on congested transportation infrastructure. The traditional approach to instituting a fee of this type is for all local jurisdictions to adopt the plan by a majority vote of their city council or board. Although no legal precedent has been established, an alternative strategy may be for VTA to institute a 50 percent matching requirement and give each jurisdiction the option of adopting the countywide fee as a means of generating its local match.

VTA Member Agencies may in the future develop their own Transportation Impact Fees or Citywide Deficiency Plans to implement transportation improvements as new development occurs.

Other Funding Opportunities

Local revenues can offer greater reliability and flexibility than State or Federal sources, and may be used strategically to leverage other funds. Forecasting the amount of revenue that many of these sources might generate is a difficult and inexact process over the long term. Potential local sources include, but are not limited to:

- City or county general funds
- Business tax and/or license fees
- Transient occupancy taxes
- Local assessment districts
- Right-of-way dedication
- California Environmental Quality Act (CEQA) mitigation
- Parking charges and taxes
- VMT tax
- Payroll tax
- Parcel tax
- Roadway pricing
- Other user fees

B. CAPITAL INVESTMENT PROGRAM

Commuters on El Camino Real.

The Capital Investment Program (CIP) sets forth a comprehensive set of transportation projects and programs that carry out a vision for an integrated, more efficient and sustainable multimodal transportation system serving all socio-economic groups, supporting existing and new developments, and embracing the future potential of Santa Clara County. This is reflected in an increased emphasis on Complete Streets principles, interconnectivity, and bicycle and pedestrian projects that augment other modes of travel, firmly establishing walking and cycling as viable forms of transportation. The projects and programs listed in the CIP serve as the basis for Santa Clara County's project submittals to the 2013 Regional Transportation Plan (RTP).

Many of the projects are location-specific improvements while others are listed as a subcategory, such as the Community Design and Transportation. In addition, VTP 2040 Program Areas diverge from the format of previous VTPs to a more simplified format where projects are assigned to one of three general program areas: Transit System, Highway System, and Local System as follows:

1. Transit System
   - VTA
   - Caltrain/High-Speed Rail
   - Altamont Commuter Express

2. Highway System
   - express lanes
   - highways

3. Local System
   - county expressways
   - local streets and roads
   - multimodal transportation improvements

Each program area is presented and discussed further in the following sections.

Program Area Definitions

Transit System. This program area includes transit expansion and improvement projects that VTA leads. It also includes the projects for which VTA provides capital funding or in which VTA is a partner such as developing rail corridor and station improvements for specific rail projects.

Highway System. This program area includes highway expansion, interchanges, on-/off-ramps, and operational efficiency projects. A major component of the Highway System Program Area is the development of express lanes throughout most of the freeway corridors within the County.

Local System. This program area encompasses improvements on the local facilities, such as County Expressways, local streets and County roads, Traffic Operating System, and bike and pedestrian facilities.

Development of the Constrained Project Lists

VTA develops financially constrained project lists to guide local investments and for submittal to MTC for inclusion in the financially constrained portion of the RTP. Funding for the financially constrained projects comes from a variety of sources that are reasonably expected to be available during the life of the plan (see Chapter 2A for more information on funding and fund sources).

The development of VTP 2040 project lists included outreach to VTA Member Agencies, community organizations, public officials, and the general public to help determine which projects should move forward to the constrained project list. Project lists were initially developed from existing lists and priorities set by VTA Member Agencies. Initial lists were refined through a review process involving VTA committees and Board of Directors as well as public meetings and workshops. Project list development is an iterative process that evolves over a period of 18-24 months.

In January 2012, the VTA Board of Directors approved a financially constrained list of projects to be submitted to MTC and included in the RTP. Further details on VTA's outreach efforts may be found in the VTP 2040 Community Outreach Implementation Plan.

The Programming Process

VTP 2040 is a long-range transportation planning document, and neither it nor the RTP set priorities or schedules for when projects are to be implemented. VTA works with MTC to ensure projects appearing in VTP 2040's Investment Program are included in the financially constrained portion of the RTP. Projects that want to seek State or Federal funds, and/or want to certify environmental clearances and move into final design/construction phases must appear in the RTP. Projects that require funding are then determined by using a set of Board-adopted criteria that is focused on elements of project readiness. Following VTA Board approval to program funds to specific projects from specific sources, MTC places those projects in its Federal Transportation Improvement Program (FTIP). Funds from State and Federal sources are released for obligation to these projects. Finally, the sponsors of the projects obligate the funds in order to finance construction.

Transit System Program Development

The Capital Investment Program identifies specific transit capital projects to be implemented during the timeframe of the plan. These projects include BART Silicon Valley extensions, light rail system improvements and extensions, bus rapid transit corridors, regional rail services, and enhanced commuter rail service. This section discusses VTA's plans to enhance and expand current services, descriptions of capital projects, and funding challenges to fully implement the Transit Program of projects.

Transit Capital Program

The VTP 2040 Transit Program is based on the currently adopted Measure A Expenditure Plan and planning work conducted since 2008. The Measure A sales tax is the most significant and reliable source of funds for major transit improvements in Santa Clara County. Eighteen projects, representing an eight billion dollar investment, are included in the financially constrained Transit project list (Table 2.2). In addition to the Measure A sales tax measure, a wide range of fund sources must be pursued to fully implement the Transit Program (Figure 2.1). These funds include Federal New and Small Starts, Santa Clara County Express Lane Program net revenues, TCRP, and other Federal and State funds.

Table 2.2 Financially Constrained Transit Projects in Santa Clara County

VTP ID	Project Title and Description	Cost (2013 $M)
T1	**BART Silicon Valley: The Berryessa Extension**	**$2,400.0**
	Project connects the existing BART system from the Warm Springs Station in Southern Fremont through Milpitas to the Berryessa District of San Jose. It includes two new BART stations and facility modifications to the existing BART Hayward Yard for maintenance of BART vehicles. The official project ground-breaking occurred on April 12, 2012 and passenger service is expected to begin in 2018.	
T2	**BART Silicon Valley: The Santa Clara Extension**	**$3,605.0**
	Project continues the BART extension in a tunnel under downtown San Jose ending near the Santa Clara Caltrain Station and builds four new stations.	
T3	**El Camino Bus Rapid Transit (BRT)**	**$230.0**
	Project upgrades the current Line 522 service along El Camino Real and The Alameda between the Palo Alto Transit Center and Downtown San Jose. The project is projected to decrease transit travel times, lower operating costs, increase ridership and increase farebox revenue. Anticipated service date beginning 2016.	
T4	**Stevens Creek Bus Rapid Transit (BRT)**	**$151.0**
	Project implements BRT on Stevens Creek Blvd. and West San Carlos St., crossing I-880 and Winchester Blvd. with other segments of dedicated lane operations. Corridor improvements include segments of dedicated bus lane, special branded shelters, off-board fare collection, and other streetscape and urban design amenities. The anticipated service date is 2017.	
T5	**Santa Clara/Alum Rock Transit Improvement (SCAR) (BRT)**	**$128.0**
	Project constructs enhancement in the County's highest ridership corridor, including two miles of dedicated lanes on the eastern half of the corridor and mixed flow operations in the western segments. Construction to begin in early 2013 and revenue service to begin in 2015.	
T6	**BART Berryessa Connector**	**$60.0**
	The BART Berryessa Connector will link BART riders to their ultimate destination as well as provide a premium service for Santa Clara County residents destined for the Berryessa BART station. The service will likely utilize distinctive vehicles similar to those anticipated for VTA's Express Bus and Bus Rapid Transit services. Capital improvements that will facilitate the service could be developed in multiple corridors to facilitate premium service levels and enhanced passenger environments.	
T7	**Capitol Expwy. Light Rail Pedestrian and Bus Stop Improvements**	**$53.0**
	Pedestrian and bus improvements along Capitol Expwy. to accommodate pedestrian access and to improve safety, including new sidewalks, pedestrian and street lights, and a landscaping buffer between the sidewalk and roadway from Capitol Ave. to Quimby Rd. During this phase, reconstruction of the Eastridge Transit Center will also take place. Under construction, with an anticipated completion date in 2014.	
T8	**Capitol Expwy. Light Rail Extension**	**$276.0**
	Project would extend the light rail system 2.6 miles from the current terminus at Alum Rock Ave. to Eastridge Transit Center in San Jose. Light rail will operate primarily in the center of Capitol Expwy., with elevated track structures. The Eastridge extension will include three light rail stations: Story Rd., Ocala Ave., and Eastridge.	
T9	**Vasona Corridor Light Rail Extension**	**$176.0**
	Project would build the Vasona Corridor Light Rail Transit Extension, consisting of extending VTA's light rail system 1.6 miles from the current terminus at the Winchester Station in Campbell to a new Vasona Junction Station in Los Gatos.	

Table 2.2 *continued* Financially Constrained Transit Projects in Santa Clara County		
VTP ID	**Project Title and Description**	**Cost** (2013 $M)
T10	**Guadalupe Express Light Rail Improvement Project**	**$22.0**
	Project reconfigures the southern half of the Light Rail System's operations to provide express trains along the Guadalupe line. Requires modest track and signal improvements between Ohlone/ Chynoweth and Civic Center.	
T11	**Tasman Express Light Rail Improvement Project (Long T)**	**$49.0**
	Project provides infrastructure needed to Introduce a new light rail line linking Mountain View to Alum Rock in time for the opening of the critical Light Rail/BART connection at Montague Station in late 2016. The new service will feature peak period express trains between Mountain View and Santa Clara that will expedite access to and from the BART station while improving service to existing and future land uses along the Tasman corridor. The project requires track improvements and signal upgrades at several key points along the Tasman corridor.	
T12	**North First Speed Improvements**	**$9.0**
	Project provides several speed improvements for the North First St. corridor—roughly between Tasman and the Metro/Airport stations to allow Light Rail speeds to improve from 35 to 45 miles per hour. A key element of these improvements will be fencing along the Light Rail right-of-way.	
T13	**Caltrain Electrification Tamien to San Francisco**	**$608.0**
	Project provides Improvements to support a blended HSR/Electrified Caltrain rail system from the Transbay Transit Center to the Tamien station. The blended system coordinates the development and operation of high-speed rail with Caltrain passenger service on the existing two-track configuration. These investments will realize early implementation of modernized electrified Caltrain service by 2019, reduce noise and air pollution, minimize impacts on surrounding communities, reduce project costs, and expedite the implementation of high-speed rail in 2029.	
T14	**Caltrain: South County**	**$31.0**
	Double track segments on the Caltrain line between San Jose and Gilroy.	
T15	**Caltrain/HSR Station Improvements: San Jose Diridon and Gilroy Stations**	**$200.0**
	Provide station improvements needed to accommodate and support the high-speed rail service.	
T16	**Altamont Commuter Express (ACE) Upgrade**	**$16.0**
	This program will upgrade service by providing VTA's share of funds for rolling stock and track improvements. VTA will work with San Joaquin Regional Rail Commission staff to implement this program.	
T17	**North San Jose Transit Improvements**	**$35.0**
	Transit improvements projects included in the North San Jose Development Area Deficiency Plan.	
T18	**Mineta San Jose International Airport APM Connector**	**$81.0**
	Project would provide transit link to San Jose International Airport from VTA's Guadalupe Light Rail Transit (LRT) Line, and from Caltrain and future BART in Santa Clara, using automated People Mover (APM) technology. The environmental phase is included in VTP 2040.	
	TOTAL CONSTRAINED TRANSIT PROJECTS	**$8,130.0 M**

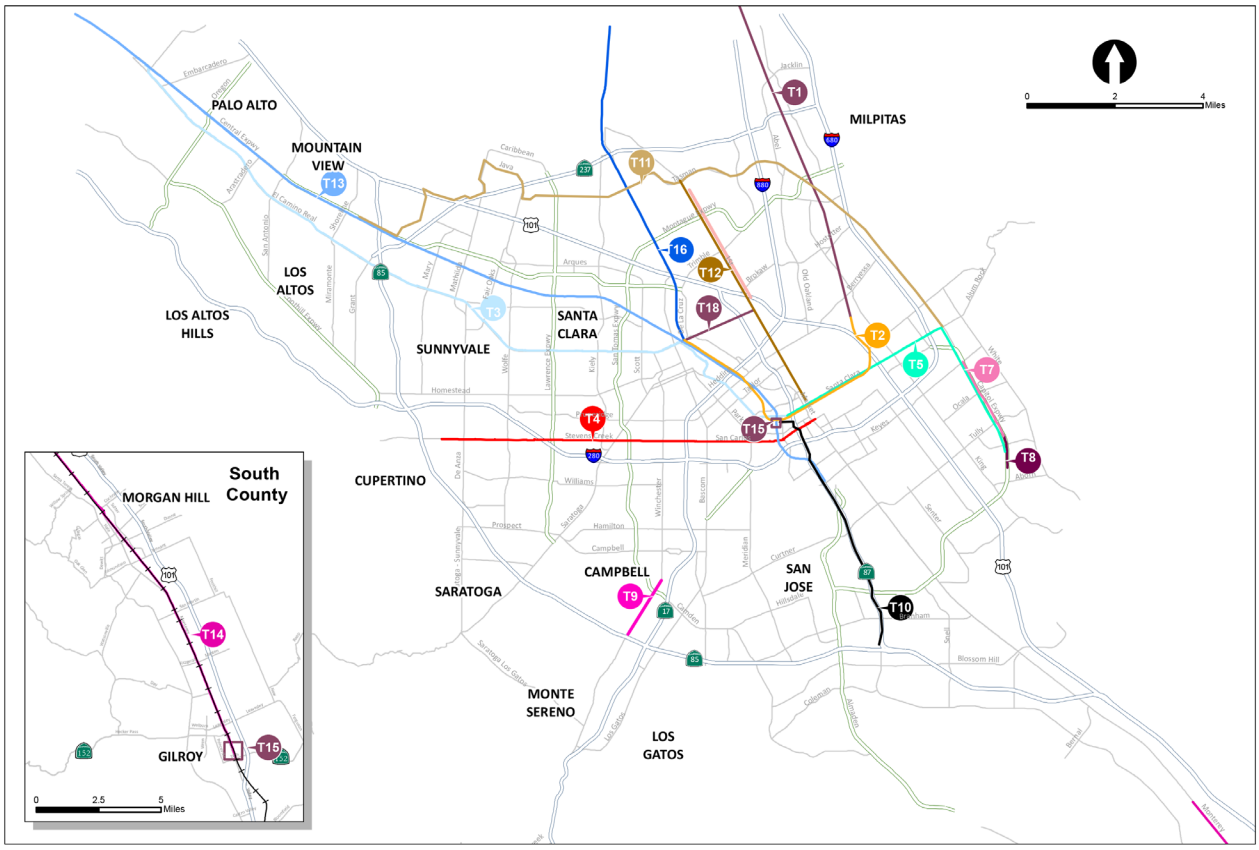


Figure 2.1 Transit projects in Santa Clara County. Source: VTA

Highway System Program Development

The VTP 2040 Highway Program includes ongoing efforts to expand the express lanes network, improvements to system operations, increased efficiency in key corridors, and enhancements that relieve congestion, alleviate bottlenecks, and increase safety. Capacity increasing projects are pursued if no other feasible alternative is found.

Highway Capital Program

Seventy-six projects, representing approximately $5.6 billion in costs, were evaluated using the Board adopted Highway Project Prioritization criteria, which are designed to allot fair consideration to the full range of low-cost, high utility improvements as well as higher cost mainline capacity and systems enhancements. Out of this unconstrained list the financially constrained projects were derived. The financially constrained project list consists of fifty-two projects totaling $3.1 billion dollars of improvements (Figures 2.2 and 2.3), including $2.3 billion for the comprehensive Silicon Valley Express Lane (SVEL) network in Santa Clara County. Revenues from the Express Lane Program will fund both operations and capital improvements.

VTA has legislative authority to implement and operate express lanes in the SR 237 and SR 85/US 101 corridors, and they are considered the highest priority express lanes projects in Santa Clara County.

Over the last several years, VTA and Caltrans have conducted highway planning studies to identify projects for development and that have been included in the VTP planning process. The highway projects in VTP 2040 focus on improving the existing highway network and were chosen because they address congestion, improve efficiency, and reduce commute times, all of which help to reduce greenhouse gases, vehicle miles traveled, and enhance the driving experience for travelers.

Table 2.3a Financially Constrained Express Lanes/Toll Facilities Projects in Santa Clara County			
VTP ID	**Route**	**Project Title and Description**	**Cost** (2013 $M)
H1	**SR 85**	**SR 85 Express Lanes: US 101 (South San Jose to Mountain View)**	**$181.0**
		Converts 24 miles of the existing high-occupancy vehicle (HOV) lanes along SR 85 to express lanes. The proposed facility will allow single occupancy vehicles access to the express lanes by paying a toll. An additional express lane will be added to create two-lane express lanes along a portion of the corridor. The project will also include the continuation of the express lanes for three miles to US 101 in South San Jose, through the SR 85/ US 101 Interchange, for a total of 27 miles.	
H2	**US 101**	**Convert Existing HOV Lanes to Express Lanes on US 101 from Whipple Ave. in San Mateo County to Cochrane Rd. in Morgan Hill**	**$465.0**
		Convert 34 miles of the existing HOV lane on US 101 between Cochrane Rd. and Whipple Ave. in San Mateo County to express lane operation. The proposed facility will implement two lanes of express lanes within the existing footprint to accommodate the projected travel demand for US 101.	
H3	**SR 237**	**SR 237 Express Lanes: North First St. to Mathilda Ave.**	**$20.0**
		Convert HOV lanes to express lanes on SR 237 between North First St. and Mathilda Ave.	
H4	**SR 87**	**SR 87 Express Lanes: SR 85 to US 101**	**$35.0**
		Convert HOV lanes to express lanes on SR 87.	
H5	**SR 237**	**SR 237 Express Lanes: Mathilda Ave. to SR 85**	**$81.0**
		Build new express lanes on SR 237 between Mathilda Ave. and SR 85.	
H6	**I-680**	**I-680 Northbound Express Lane: Calaveras Blvd. to Alameda County line**	**$36.0**
		Widen to add an express lane on I-680 Northbound between Calaveras Blvd. and the Alameda County Line.	
H7	**I-880**	**I-880 Express Lanes: Alameda County line to US 101**	**$23.0**
		Convert existing HOV lanes to express lanes on I-880 between the Alameda County line and US 101.	
H8	**US 101**	**US 101 Express Lanes: Cochrane Rd. to Masten Ave.**	**$107.0**
		Build new express lanes on US 101 between Cochrane Rd. and Masten Ave.	
H9	**US 101**	**US 101 Express Lanes: Masten Ave. to 10th St.**	**$68.0**
		Build new express lanes on US 101 between Masten Ave. and 10th St.	
H10	**US 101**	**US 101 Express Lanes: 10th St. to SR 25**	**$50.0**
		Build new express lanes on US 101 between 10th St. and SR 25.	
H11	**I-280**	**I-280 Express Lanes: Leland Ave. to Magdalena Ave.**	**$58.0**
		Convert existing HOV lanes to express lanes on I-280 between Leland Ave. and Magdalena Ave.	
H12	**I-280**	**I-280 Express Lanes: US 101 to Leland Ave.**	**$25.0**
		Convert one general purpose lane to express lanes in each direction on I-280 between US 101 and Leland Ave.	
H13	**I-280**	**I-280 Express Lanes: Southbound El Monte Ave. to Magdalena Ave.**	**$14.0**
		Build new express lanes on I-280 Southbound from El Monte Ave. to Magdalena Ave.	
H14	**I-680**	**I-680 Express Lanes: Calaveras Blvd. to Montague Expwy.**	**$20.0**
		Convert one general purpose lane to express lanes in each direction on I-680 between Calaveras Blvd. and Montague Expwy.	

Table 2.3a. *continued* Financially Constrained Express Lanes/Toll Facilities Projects in Santa Clara County

VTP ID	Route	Project Title and Description	Cost (2013 $M)
H15	**I-880**	**I-880 Express Lanes: US 101 to I-280**	**$186.0**
		Build new express lane on I-880 between US 101 and I-280.	
H16	**SR 17**	**SR 17 Express Lanes**	**$30.0**
		Convert one lane to express lanes between I-280 to SR 85.	
H17	**I-680**	**I-680 Express Lanes: Montague Expwy. to US 101**	**$35.0**
		Convert one lane to express lanes between I-280 to SR 85.	
H18	**SR 152**	**New SR 152 Alignment: SR 156 to US 101**	**$848.0**
		Project includes US 101 widening from Monterey St. to the SR 25/US 101 interchange; new interchange at SR 25/US 101; and a new SR 152 alignment that will be operated as a toll facility from US 101 to SR 156. SR152 iImprovements include roadway and access control improvements between SR156 and the County line, and new eastbound truck-climbing lanes over Pacheco Pass.	
		EXPRESS LANES PROJECTS TOTAL	**$2,282.0 M**

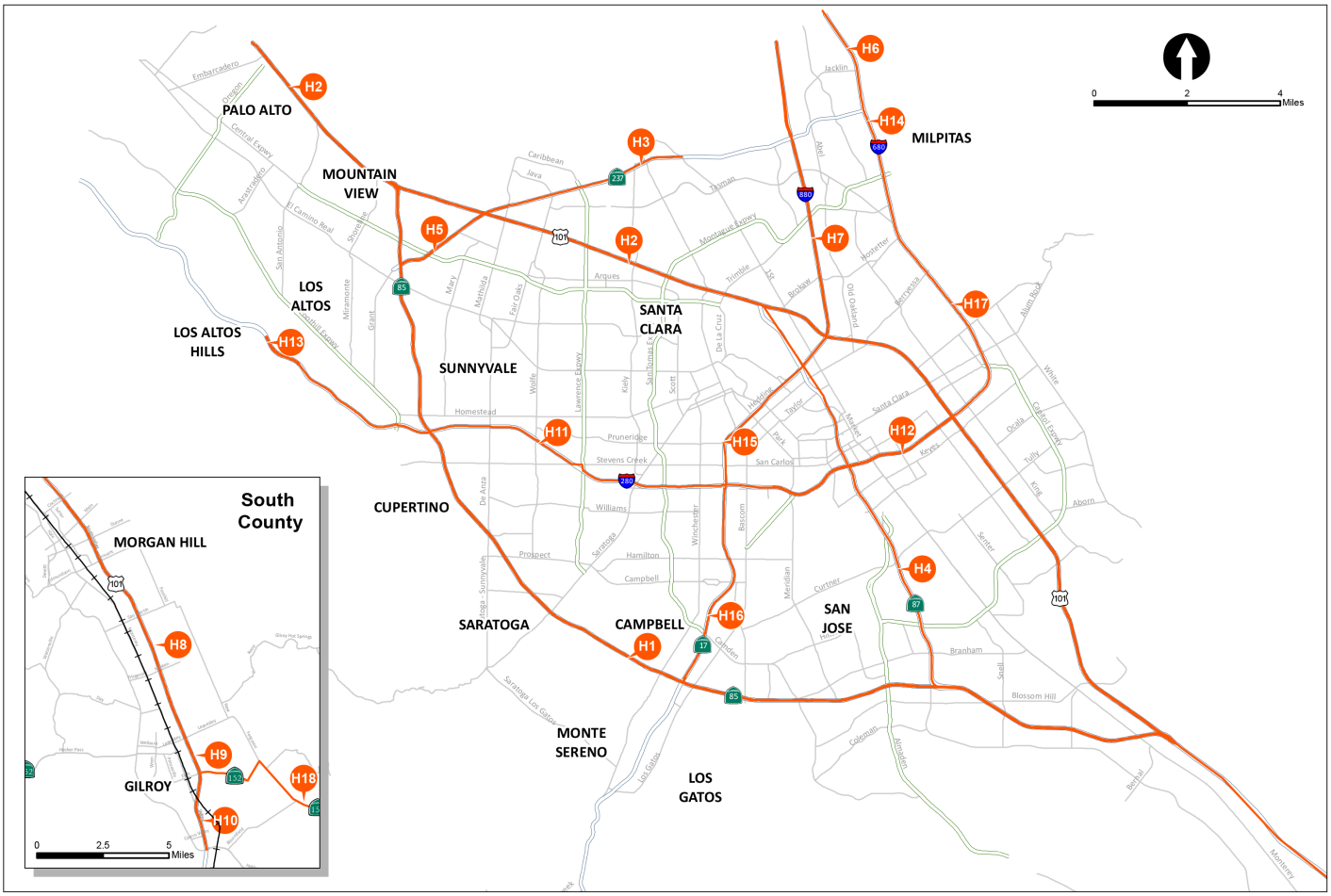


Figure 2.2 Express lane projects in Santa Clara County. Source: VTA

Table 2.3b Financially Constrained Highway Projects in Santa Clara County			
VTP ID	**Route**	**Project Title and Description**	**Cost** (2013 $M)
H19	**US 101**	**Double Lane Southbound US 101 off-ramp to Southbound SR 87**	**$1.0**
		Widen the existing ramp by providing a secondary lane on the off-ramp at SR 87.	
H20	**SR 17**	**SR 17 Southbound/Hamilton Ave. Off-Ramp Widening**	**$1.0**
		Widen off-ramp to improve operations on Southbound Route 17 at Hamilton Ave.	
H21	**SR 85**	**SR 85 Northbound to Eastbound SR 237 Connector Ramp and Northbound SR 85 Auxiliary Lane**	**$30.0**
		Widen off-ramp from Northbound SR 85 to SR 237 Eastbound to two lanes; construct auxiliary lane on Eastbound SR 237 between SR 85 on-ramp to Middlefield Rd.; construct braid off-ramp on Eastbound SR 237 between SR 85 and Dana St. These improvements will address the current congestion that extends from SR 237 to SR 85 El Camino Real interchange during the AM peak period. In addition, it would also remove the weave between traffic on Eastbound SR 237 exiting to Dana St. with traffic from Northbound SR 85.	
H22	**SR 85**	**SR 85/Cottle Rd. Interchange Improvements**	**$6.0**
		Reconfigure ramp interchange with minor improvements at SR 85 and Cottle Rd.	
H23	**SR 87**	**SR 87/Capitol/Narvaez Interchange Improvements**	**$12.0**
		Reconfigure the SR 87 interchange, with possible adjustment at Narvaez Ave.	
H24	**US 101**	**Montague Expwy. and US 101 Interchange Improvements**	**$17.0**
		Construct partial interchange at US 101 and Montague Expwy.	
H25	**US 101**	**US 101 Southbound/Trimble Rd./De La Cruz Blvd./Central Expwy. Interchange Improvements**	**$39.0**
		Modify existing loop cloverleaf ramp from Southbound US 101 to Trimble Rd. into a partial cloverleaf ramp (diagonal ramp with signalized intersection). Modify the Southbound US 101 on-ramp from De La Cruz Blvd./Central Expwy. to 1 mixed flow lane, 1 HOV lane with ramp metering equipment. The on-ramp will be modified to improve merging onto Southbound US 101. The De La Cruz Blvd. bridge across US 101 will be widened from four to six lanes. The segment between De La Cruz Blvd./Trimble Rd. intersections to bridge overcrossing will be widened by an additional lane.	
H26	**US 101**	**US 101/Blossom Hill Rd. Interchange Improvements**	**$23.0**
		Reconfigure interchange at US 101/Blossom Hill Rd. in San Jose; modifications are on the local roadway system, including widening of Blossom Hill Rd. over US 101.	
H27	**US 101**	**US 101/Mabury Rd./Taylor St. Interchange Improvements**	**$57.0**
		Construct a new interchange with full access to the US 101 freeway. The project will provide access to US 101 for the heavy local commuter traffic that currently is forced to use the congested Old Oakland Rd. interchange (north of Mabury Rd.). The interchange would also act as the primary access to the future Berryessa BART station.	
H28	**US 101**	**US 101/Old Oakland Rd. Interchange Improvements**	**$23.0**
		Interchange improvements at US 101 and Old Oakland Rd. and possible widening on Old Oakland Rd.	
H29	**US 101**	**US 101/Hellyer Ave. Interchange Improvements**	**$16.0**
		Widening the overcrossing from two to four lanes and installing traffic signals at each of the two off-ramp intersections. Widen the intersection with the southbound on- and off-ramps to include a second eastbound through-lane and a separate left turn pocket. Widen the southbound off-ramp will be widened to provide two left-turn lanes. At the intersection of the northbound off-ramp, widen Hellyer from one to two lanes in the eastbound direction and the westbound left turn pocket.	

Table 2.3b *continued* Financially Constrained Highway Projects in Santa Clara County

VTP ID	Route	Project Title and Description	Cost (2013 $M)
H30	**US 101**	**US 101/Zanker Rd./Skyport Dr./Fourth St. Interchange Improvements**	**$104.0**
		Constructs a new interchange connecting Zanker Rd. and Old Bayshore Hwy. with North Fourth St. and Skyport Drive at US 101. The interchange will provide an overcrossing across US 101 to improve limited existing connectivity across US 101 to the North San Jose employment centers. In addition, the interchange would improve access to Mineta International Airport (San Jose) from US 101. The existing intersections at North First St. and Skyport Drive, North Fourth St. and Old Bayshore Hwy., Northbound US 101 on- and off-ramp, Northbound US 101 off-ramp to Brokaw Rd. will be modified to construct this interchange.	
H31	**US 101**	**US 101/Buena Vista Ave. Interchange Improvements**	**$31.0**
		Constructs a full interchange at US 101 and Buena Vista Ave. The interchange includes a flyover southbound on-ramp to braid with the existing truck exit at the CHP Inspection Station. Off-Ramp diagonal ramps will be constructed.	
H32	**SR 237**	**SR 237 Westbound On-Ramp at Middlefield Rd.**	**$13.0**
		Construct westbound loop on-ramp from Northbound Middlefield Rd. to Westbound SR 237; eliminates signalized intersection at Middlefield Rd./Westbound SR 237 diagonal on-ramp; and realigns frontage road to form a new intersection at Middlefield Rd./Ferguson Drive.	
H33	**SR 237**	**SR 237/Mathilda Ave. and US 101/Mathilda Ave. Interchange Improvements**	**$17.0**
		Modify US 101/Mathilda and SR 237/Mathilda interchanges, reducing to one signalized intersection and increasing intersection spacing in the Mathilda Ave./SR 237 interchange area. Project to include ramp improvements, addition of auxiliary lanes, and construction of new ramp configurations.	
H34	**SR 237**	**SR 237/North First St. Interchange Improvements**	**$2.0**
		Interchange improvements at SR 237 and North 1st St.	
H35	**I-280**	**I-280 Northbound: Second Exit Lane to Foothill Expwy.**	**$2.0**
		Construct a second exit lane from northbound I-280 to Foothill Expwy.	
H36	**I-880**	**I-880/Montague Expwy. Interchange Improvement**	**$14.0**
		Construct partial interchange at I-880 and Montague Expwy., including improvements on Montague.	
H37	**SR 152**	**SR 152 Ramp/Intersection Improvements**	**$10.0**
		Construct eastbound right-turn lane at the intersection of SR 152 and Frazier Lake Rd.; widen SR 152 at the intersection of Bloomfield Rd.; construct additional turn lanes at SR 152 and Watsonville Rd.; signalize and widen SR 152 south leg and Ferguson Rd. from two to four lanes.	
H38	**SR 237**	**SR 237/El Camino Real/Grant Rd. Intersection Improvements**	**$5.0**
		Widen Westbound SR 237 within the existing median to extend both of the left-turn lanes; lengthen the Northbound El Camino Real right-turn lane onto SR 237 starting the lane at Yuba Drive; widen the Southbound El Camino Real left-turn lane within the existing median; and construct a right-turn lane on Southbound El Camino Real for traffic accessing Westbound Grant Rd.	
H39	**I-280**	**I-280 Downtown Access Improvements between 3rd St. and 7th St.**	**$29.0**
		Reconstruct the existing I-280 Northbound off-ramp at 7th St. to connect directly to 3rd St.; the I-280 Northbound on-ramp from 4th St. will be reconstructed to cross over the new off-ramp. The existing off-ramp connection to 5th St. will be eliminated.	
H40	**SR 85**	**SR 85/El Camino Real I/C Improvements**	**$23.0**
		Construct SR 85 auxiliary lanes between El Camino Real and SR 237, and SR 85/ El Camino Real interchange improvements.	

Table 2.3b *continued* Financially Constrained Highway Projects in Santa Clara County			
VTP ID	**Route**	**Project Title and Description**	**Cost** (2013 $M)
H41	**I-680**	**I-680/Montague Expwy. Interchange Improvement**	**$26.0**
		Construct partial interchange at I-680 and Montague Expwy. including improvements on Montague Expwy.	
H42	**US 101**	**US 101 Southbound Improvements: San Antonio Rd. to Charleston Rd./Rengstorff Ave.**	**$22.0**
		Construct Southbound improvements on US 101 from San Antonio Rd. to Charleston Rd./Rengstorff Ave.	
H43	**US 101**	**US 101/Oregon Expwy./Embarcadero Rd. Improvements**	**$55.0**
		Construct improvements to US 101/Oregon Expwy./Embarcadero Rd. interchange.	
H44	**SR 237**	**SR 237 Westbound to Southbound SR 85 Connector Ramp Improvements (Including SR 85 Auxiliary Lanes between El Camino Real and SR 237)**	**$40.0**
		Construct a collector/distributor road in the westbound direction on SR 237 from the Central Expwy. overcrossing to SR 85. Widen off-ramp from westbound SR 237 to Southbound SR 85 to two lanes. Add auxiliary lane in the Southbound direction between SR 237 and the El Camino Real interchange on SR 85.	
H45	**I-280**	**I-280 Northbound Braided Ramps between Foothill Expwy. and SR 85**	**$44.0**
		Conduct preliminary engineering, environmental studies and design to widen the existing off-ramp to Foothill Expwy. from Northbound I-280 from a single-lane exit to a two-lane exit opening at I-280. This solution is expected to improve the existing weaving traffic through this area.	
H46	**I-280**	**I-280/Senter Rd. Interchange**	**$50.0**
		Extend Senter Rd. and construct new on-/off-ramps and modify existing on-/off-ramps into a collector/distributor ramp system.	
H47	**SR 237**	**SR 237 Eastbound Auxiliary Lanes: Mathilda Ave. to Fair Oaks Ave.**	**$7.0**
		Construct SR 237 Eastbound; build auxiliary lanes between Mathilda Ave. to Fair Oaks Ave.	
H48	**US 101**	**US 101 Southbound Auxiliary Lane: Great America Pkwy. to Lawrence Expwy.**	**$3.0**
		Construct auxiliary lanes on US 101 from Great America Pkwy. to Lawrence Expwy.	
H49	**US 101**	**Southbound Auxiliary Lane Improvement Between Ellis St. and SR 237**	**$4.0**
		Construct a US 101 Southbound auxiliary lane from Ellis St. interchange to Eastbound Route 237. The project will reduce queue backup onto Southbound US 101 mainline during the morning peak period by providing additional storage. The project may also include Traffic Operation Systems (TOS) elements.	
H50	**All**	**Sound Walls**	**$15.0**
		Construct soundwalls on major highways and expressways. Projects to be determined through soundwall study.	
H51	**All**	**Hwy. Transportation Operations System**	**$50.0**
		Transportation Operations Systems installation and maintenance for metering ramps and other ramp improvements.	
		HIGHWAY PROJECTS TOTAL	**$792.0 M**

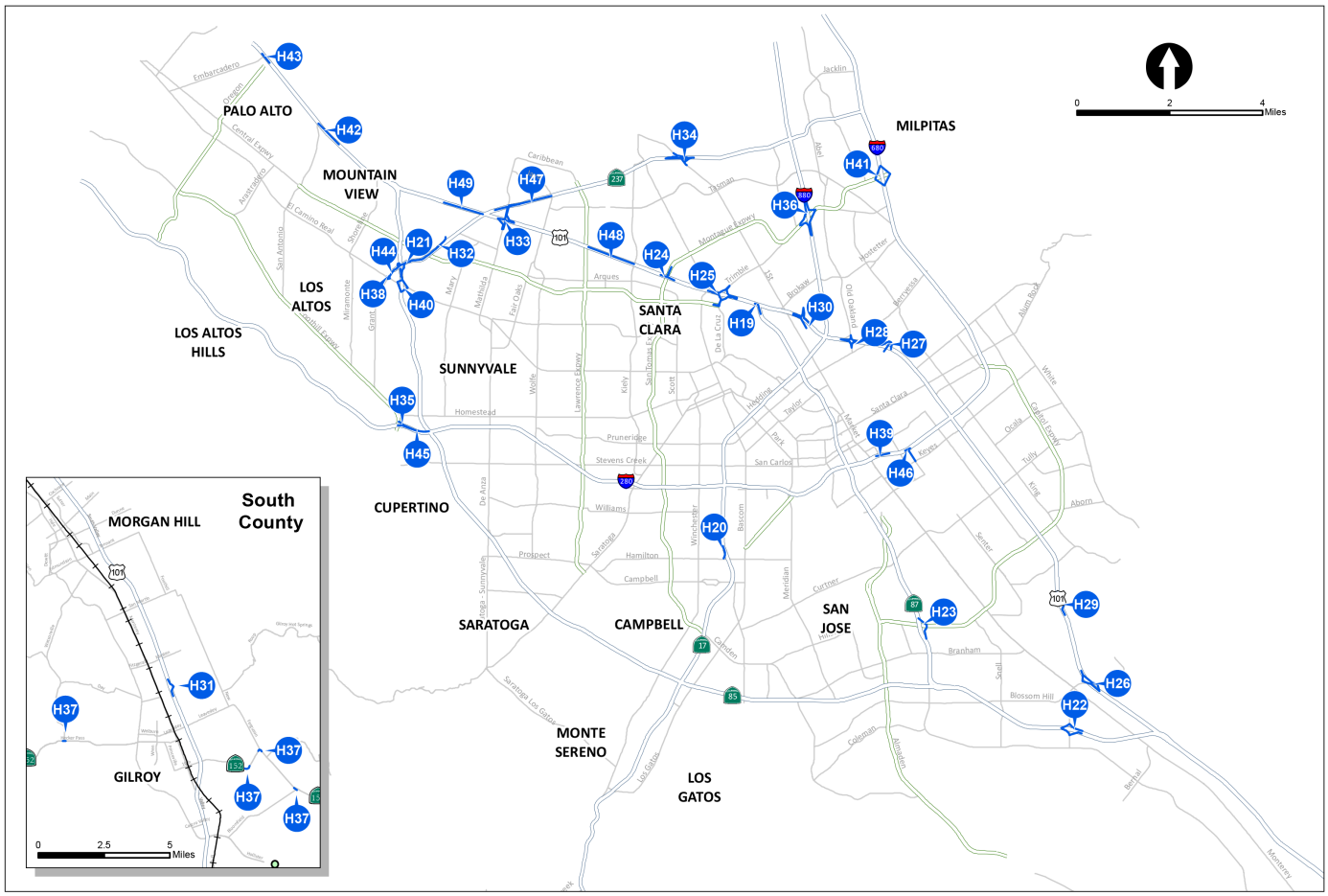


Figure 2.3 Highway projects in Santa Clara County. Source: VTA

Local System Program Development

The Local System Program area is a new organizational structure in the VTP document and encompasses a range of projects. The projects in this new program area have in the past been included in other VTP Program Areas, and are now consolidated into three primary categories:

- County Expressways
- Local Streets and County Roads
- Multimodal Transportation Investments (MTI)

The Local System Program area is intended to maximize funding flexibility and opportunities, and create a planning framework that encourages cities and county to look for project synergies—with the ultimate goals of improved project scope, cost savings, and increased administrative efficiency. Local System projects are largely generated by VTA's Member Agencies, with input from the communities, and address deficiencies within the local street and county road system. The Local System Program areas are each discussed in more detail below.

County Expressways

Santa Clara County is the only County in California operating a comprehensive expressway system within the urban areas. In 2008, the County of Santa Clara adopted its Comprehensive County Expressway Planning Study which provides a long-term plan for the improvement and maintenance of the expressway system. In 2013, the County initiated a comprehensive update to this plan, reflecting new conditions and opportunities, and addressing unresolved issues identified in the 2008 Study. This new plan; however, will not change the County's expressway project VTP 2040 submittals but will be the basis for the expressway project submittals in the next VTP.

The County placed expressway projects into five tiers based on criteria approved by the County's Expressway Study Policy Advisory Board. The top Tier was submitted by the County for inclusion in VTP 2040. All projects from the top Tier are included in the financially constrained project list (Table 2.4, Figure 2.4) with a proposed VTP 2040 allocation of $267 Million. That includes approximately $148 million in state and federal sources and $119 million from local development fees.

Local Streets and County Roads

The Local Streets and County Roads Program Area includes:

- New street connections and extensions, local road crossings of freeways and expressways
- Reconstruction of streets
- Roadway operational improvements including new lanes, intersection turn lanes, and roundabouts
- New grade separations at railroads and roadways

The VTP 2040 Program Area Allocation identifies up to $781 million for local streets and county roads (LS&CR) on the financially constrained project list (Table 2.5, Figure 2.5). Working through the Capital Improvement Program (CIP) Working Group of the Technical Advisory Committee (TAC), VTA developed this list of projects using program eligibility and scoring criteria adopted by the VTA Board. The criteria are based on street connectivity, congestion relief, safety, and support for land use. The following descriptions are representative of projects included in LS&CR.

Table 2.4 Financially Constrained Expressway Projects in Santa Clara County

VTP ID	Project Title and Description	Cost (2013 $M)
X1	**Almaden Expwy.: Widen Coleman to Blossom Hill**	**$12.2**
	Widen Almaden Expwy. to eight lanes between Coleman Ave. and Blossom Hill Rd.	
X2	**Central Expwy.: Auxiliary Lanes between Mary Ave. and Lawrence Expwy.**	**$19.7**
	Construct auxiliary acceleration and/or deceleration lanes along the grade-separated segment on Central Expwy. between Lawrence Expwy. and Mary Ave. to improve ramp operations and safety.	
X3	**Central Expwy.: Convert Measure B HOV Lane between De La Cruz Blvd. and San Tomas Expwy.**	**$0.1**
	Convert HOV lane on Central Expwy. between San Tomas Expwy. and De La Cruz Blvd. to mixed-flow in order to more fully utilize available system capacity.	
X4	**Central Expwy.: Six Lanes from Lawrence Expwy. to San Tomas Expwy.**	**$15.8**
	Widen Central Expwy. between Lawrence Expwy. and San Tomas Expwy. from four to six through-lanes to reduce delay and improve level of service by providing a consistent roadway width on Central Expwy.	
X5	**Foothill Expwy.: Extend Deceleration Lane at San Antonio Rd.**	**$0.8**
	Project extends the existing westbound deceleration lane of Foothill Expwy. at San Antonio Rd. by 250 feet.	
X6	**Foothill Expwy.: Loyola Bridge**	**$8.1**
	Widen Loyola Bridge over Foothill Expwy. to add left-turn lanes, six-foot shoulders for bicycle use, and five-foot sidewalks with pedestrian ramps. This project also includes circulation improvements for Loyola Drive on both sides of the bridge to calm traffic and improve bicycle/pedestrian access.	
X7	**Lawrence Expwy.: Additional Left-Turn Lane at Prospect Rd.**	**$3.0**
	Construct a second left-turn lane from Eastbound Prospect Rd. to Northbound Lawrence Expwy. and modify existing traffic signals.	

Table 2.4 Financially Constrained Expressway Projects in Santa Clara County

VTP ID	Project Title and Description	Cost (2013 $M)
X8	**Lawrence Expwy.: Close Median, Right In/Out**	$1.7
	Project closes the median at Lochinvar Ave. and right-in-and-out access at DeSoto Ave., Golden State Drive, Granada Ave., Lillick, Buckley St., and Lawrence Expwy./Lawrence Station on-ramp to improve operations by limiting access to this high-volume expressway.	
X9	**Lawrence Expwy.: Arques Square Loop Grade Separation**	$52.2
	Construct an interchange at the intersection of Lawrence Expwy. and Arques Ave. with square loops on Kern Ave. and Titan Way.	
X10	**Lawrence Expwy.: Expand to Eight Lanes from Moorpark Ave. to South of Calvert Dr.**	$6.0
	Widen Lawrence Expwy. from six to eight lanes between Moorpark Ave./Bollinger Rd. and south of Calvert Drive, with additional westbound through-lane at Moorpark Ave.	
X11	**Montague Expwy.: Eight Lanes from Lick Mill Blvd. to Trade Zone Blvd.**	$13.9
	Widen Montague Expwy. to eight lanes between Lick Mill and Trade Zone Blvds. including widening of Guadalupe River Bridge. Operate the new lanes as HOV lanes.	
X12	**Montague Expwy.: Trimble Rd. Flyover**	$37.1
	Construct a new flyover ramp at Trimble Rd. and Montague Expwy.	
X13	**Montague Expwy.: Eight Lanes from Trade Zone Blvd. to I-680**	$15.3
	Widen Montague Expwy. to eight lanes between Trade Zone Blvd. and I-680; designate new lanes as HOV lanes.	
X14	**Montague Expwy.: Mission College Blvd. At-Grade Improvements**	$5.7
	Project provides intersection improvements by enhancing and modifying the operational characteristics of the intersection.	
X15	**Oregon Expwy./Page Mill Rd.: I-280 Page Mill Rd. Modification**	$7.7
	Project modifies the I-280 freeway connections to enhance safety and improve operations for motor vehicles and bicyclists traveling on Page Mill Rd. through the interchange area.	
X16	**San Tomas Expwy.: SR 17/San Tomas Expwy. Improvements**	$3.0
	Project creates at-grade improvements at SR 17/San Tomas Expwy. that include: re-striping the eastbound through-lane on White Oaks Rd. to provide an optional left as third left-turn lane; provide second right-turn lane on southbound off-ramp; and study potential operational and safety improvements in the interchange area.	
X17	**San Tomas Expwy.: Box Culvert**	$15.3
	Rebuild 3.9 miles of box culvert under San Tomas Expwy. which has serious erosion and a deteriorating structure.	
X18	**San Tomas Expwy.: Eight Lanes between Williams Rd. and El Camino Real**	$47.2
	Widen San Tomas Expwy. to eight lanes between Williams Rd. and El Camino Real (SR 82) with an additional left-turn lane from eastbound and westbound El Camino Real to San Tomas Expwy. Project includes maintaining operations of existing HOV lane; adding a Class I bicycle/pedestrian path alongside a segment of the project; adding sidewalks along all other segments of project; and maintaining bicycle accommodations.	
X19	**Lawrence Expwy.: Ramp Improvements at SR 237**	$2.4
	Construct an auxiliary lane on Southbound Lawrence Expwy., between the SR 237 Loop ramps, that will improve merging on Lawrence Expwy.	
	TOTAL CONSTRAINED EXPRESSWAYS PROJECTS	**$267.2 M**

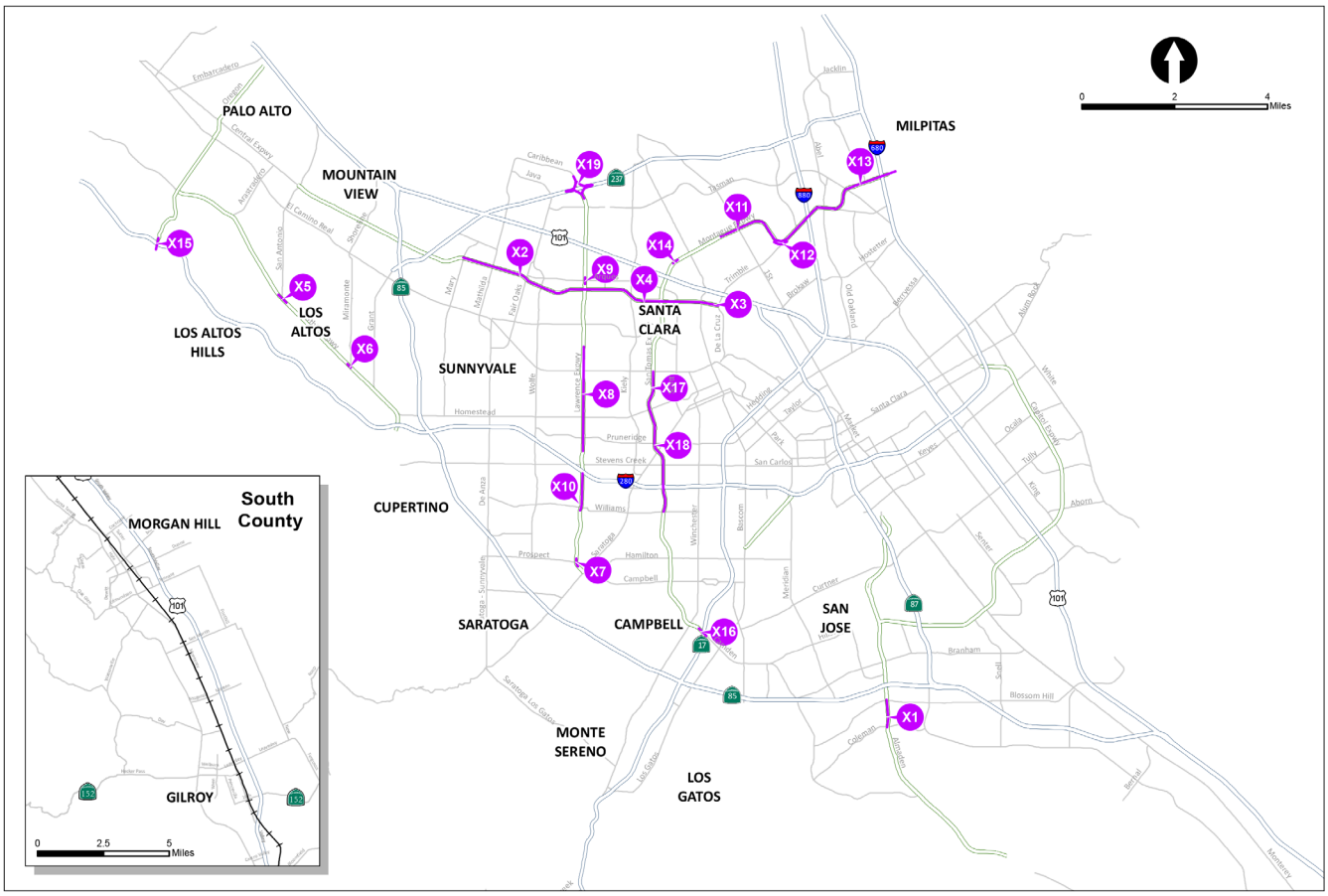


Figure 2.4 Expressway projects in Santa Clara County. Source: VTA

Table 2.5 Financially Constrained Local Streets and County Roads Projects in Santa Clara County

VTP ID	Sponsor/ Local Agency	Project Title and Description	Cost (2013 $M)
R1	**Campbell**	**Hacienda Ave. Improvements**	**$3.8**
		Reconstruct and reconfigure Hacienda Ave. between Winchester Blvd. and San Tomas Aquino Rd. by narrowing the roadway width and improving connectivity for bicycles to Winchester Blvd. and the future Vasona Light Rail Station.	
R2	**Cupertino**	**McClellan Rd. Widening**	**$2.8**
		Widen and/or pave existing shoulder where feasible between Foothill Blvd. and Byrne Ave., and between Stelling Rd. and De Anza Blvd. to provide four-foot shoulders for bike lanes.	
R3	**Gilroy**	**Gilroy Orbital Concept (Northwest Quad)**	**$9.9**
		Construct a new four-lane arterial that extends Buena Vista Ave. from Santa Teresa Blvd. to Monterey Rd.	
R4	**Gilroy**	**Tenth St. Bridge Project**	**$16.2**
		Construct a new four-lane bridge (twelve-foot lanes, six-foot bikeways, eight-foot sidewalks and a fourteen-foot median) across Uvas Creek to allow the extension of Tenth St. to Santa Teresa Blvd. (Glen Loma Development).	

Table 2.5 *continued* Financially Constrained Local Streets and County Roads Projects in Santa Clara County

VTP ID	Sponsor/ Local Agency	Project Title and Description	Cost (2013 $M)
R5	Los Gatos	**Los Gatos Blvd. Widening**	$6.4
		Widen Los Gatos Blvd. from Camino Del Cerro to Samaritan Drive to relieve traffic congestion in the area.	
R6	Milpitas	**Calaveras Blvd. Widening**	$81.1
		Replace the four-lane bridge, which has a single sidewalk and no bicycle lane, over the Union Pacific Railroad tracks with a six-lane bridge. Operational improvements include ten-foot-wide sidewalks, bicycle lanes in both directions and auxiliary lanes between Abel St. and Abbott Ave.	
R7	Milpitas	**Dixon Landing Rd./North Milpitas Blvd. Intersection Improvements**	$3.5
		Construct an additional Northbound left-turn lane with bicycle detectors, a southbound right-turn lane and the addition of an eastbound left- and right-turn lane.	
R8	Morgan Hill	**Butterfield Blvd. Extension**	$1.2
		Construct Butterfield Blvd. and North Rd. improvements that include a four-lane arterial, bike lanes, sidewalks, lighting and signal modification.	
R9	Morgan Hill	**Butterfield Blvd. South Extension**	$21.8
		Construct a new roadway segment by extending Butterfield Blvd. between Tennant Ave. and Watsonville Rd. Work will include a Union Pacific Railroad overpass structure, drainage channel, traffic signal upgrades, striping, median and landscaping, street lights, bike lanes and sidewalks.	
R10	Morgan Hill	**Santa Teresa Blvd. Improvements**	$11.8
		Project improves the roadway between Main Ave. and DeWitt Ave. The roadway section will encompass one lane of traffic and bike lanes in both directions. The project scope also includes sidewalks, street lights, overhead utility relocations, and traffic signals at three intersections: Main Ave., West Dunne Ave., and DeWitt Ave.	
R11	Mountain View	**Miramonte Ave./Park Dr. and Gladys Dr./Easy St. Intersection Improvements**	$0.6
		Realign Miramonte Ave. to eliminate the existing "exit lane" from Northbound Miramonte Ave. to Park Drive. Reconfigure the Park Drive and Miramonte Ave. intersection and reconfigure the Easy St./Gladys Ave. intersection.	
R12	Mountain View	**Rengstorff Ave. Grade Separation**	$71.0
		Project constructs a grade separation, depressing Rengstorff Ave. under the Caltrain tracks and reconnecting the roadway to a new at-grade Rengstorff Ave. and Central Expwy. intersection.	
R13	Palo Alto	**El Camino Real Regional Corridor Improvements: PAMF to Churchill Ave.**	$4.6
		Reconfigure El Camino Real between Palo Alto Medical Foundation and Churchill Ave. Improvements focus on utility undergrounding, new median islands and streetscape-focused improvements, and operational enhancements along adjacent streets.	
R14	Palo Alto	**Middlefield Rd.: Midtown Corridor Improvements**	$2.3
		Project includes sidewalk enhancements, transit stop improvements, lighting improvements, and traffic signal improvements.	
R15	San Jose	**Autumn Pkwy. Improvement from Union Pacific Railroad to San Carlos St.**	$38.3
		Extend new four-lane multimodal street from Union Pacific Railroad crossing to San Carlos St. and improve existing Autumn St. from Julian St. to San Carlos St. Project improves multimodal access and circulation to support planned transit-oriented development near Diridon Transit Center.	

Table 2.5 *continued* Financially Constrained Local Streets and County Roads Projects in Santa Clara County			
VTP ID	**Sponsor/ Local Agency**	**Project Title and Description**	**Cost** (2013 $M)
R16	**San Jose**	**Branham Lane/Monterey Hwy. Grade Crossing Project**	**$34.8**
		Reconstructs the Branham Ln. intersection with Monterey Hwy. below the Caltrain and Union Pacific Railroad corridor to improve safety and accommodate California High-Speed Rail (HSR).	
R17	**San Jose**	**Brokaw Bridge Widening over Coyote Creek**	**$23.2**
		Widen north side of the bridge to add an additional through traffic lane on westbound Brokaw Rd.	
R18	**San Jose**	**Caltrain Grade Separation at Skyway Dr.**	**$35.0**
		Roadway underpass grade separation at Caltrain railroad tracks and future HSR; includes significant safety and multimodal access improvements.	
R19	**San Jose**	**Charcot Ave. Extension over I-880**	**$30.0**
		Extend new two-lane roadway with bike lanes and sidewalks providing new multimodal connection to North San Jose employment center, improve bicycle/ pedestrian access across freeway corridor, and reduce traffic congestion at I-880/ Brokaw Rd. and I-880/Montague Expwy. interchanges.	
R20	**San Jose**	**Chynoweth/Thornwood Ave. Extension from Almaden Expwy. to Winfield Blvd.**	**$16.4**
		A new two- or four-lane connection on Chynoweth/Thornwood Ave. between Almaden Expwy. and Winfield Blvd. Will include construction of a new connector, bike lanes, and sidewalks.	
R21	**San Jose**	**Coleman Ave. Widening from I-880 to Taylor St.**	**$15.0**
		Widen Coleman Ave. from four to six lanes as part of an enhanced highway gateway to serve planned expansion of Downtown San Jose.	
R22	**San Jose**	**Downtown Couplet Conversions**	**$25.5**
		Convert one-way couplets to two-way streets, reduce lanes and add bike lanes along 10th and 11th Sts., Almaden Ave. and Vine St., and 2nd and 3rd Sts.	
R23	**San Jose**	**North First St. Core Area Grid Sts.**	**$70.7**
		To facilitate the efficient circulation of traffic within North San Jose, several new local streets will be constructed to form a grid system of streets. The new streets will be two-lane roadways connecting to the major roadways within North San Jose. Included within the system of streets will be the extensions of Zanker Rd. to Skyport Dr. and Component Dr. to Orchard Pkwy. Orchard Pkwy. will also be connected between Trimble Rd. and Atmel Way.	
R24	**San Jose**	**North San Jose Miscellaneous Intersection Improvements**	**$33.6**
		Various intersection improvements throughout North San Jose.	
R25	**San Jose**	**Oakland Rd. Improvements from US 101 to Montague Expwy.**	**$11.6**
		Provides median island landscaping and operational improvements in roadway corridor between North San Jose and Downtown San Jose area; widens Oakland Rd. from four to six lanes.	
R26	**San Jose**	**San Carlos St. Bridge Replacement and Widening at Caltrain/Vasona Light Rail**	**$10.9**
		Replace structurally deficient bridge with improved facilities for biking and walking.	
R27	**San Jose**	**Snell Ave. Widening from Branham Lane to Chynoweth Ave.**	**$4.6**
		Widen Snell Ave. and add median landscaping to relieve congestion, improve safety, and enhance aesthetics.	

Table 2.5 *continued* Financially Constrained Local Streets and County Roads Projects in Santa Clara County

VTP ID	Sponsor/ Local Agency	Project Title and Description	Cost (2013 $M)
R28	**Santa Clara**	**Zanker Rd. Widening**	**$62.6**
		Widen Zanker Rd. from four to six lanes to support traffic circulation in North San Jose area.	
R29	**Santa Clara**	**El Camino Real/Lafayette St. Improvements**	**$1.2**
		Project includes widening and capacity improvements, and signal systems upgrades at the intersection of El Camino Real and Lafayette St.	
R30	**Santa Clara**	**Great America Pkwy. /Mission College Blvd. Intersection Improvements**	**$7.5**
		Intersection improvements at the intersection of Great American Pkwy. and Mission College Blvd., which includes widening and capacity improvements to add triple left-turns in two directions, and traffic signal upgrades.	
R31	**Saratoga**	**Prospect Rd. Median Project**	**$2.3**
		This project will provide new medians with landscape along Prospect Rd. between Saratoga Ave. and Saratoga-Sunnyvale Rd.	
R32	**SC County**	**Center Ave. and Marcella Ave. Two-Lane Connection**	**$3.3**
		Extend Center Ave. approximately 0.2 miles as a two-lane roadway to connect to Marcella Ave. Project includes constructing a bridge over Llagas Creek.	
R33	**SC County**	**DeWitt Ave./Sunnyside Ave. Realignment at Edmunsen Ave.**	**$7.7**
		Align DeWitt Ave. with Sunnyside Ave. to eliminate the existing offset intersection and introduce shoulder treatments.	
R34	**SC County**	**Fitzgerald Ave./Masten Ave. Realignment at Monterey**	**$0.7**
		Straighten the existing off-set intersection to provide an aligned intersection and add a left-turn lane to Fitzergald Ave. Project will also provide bike lanes and sidewalks.	
R35	**SC County**	**Hill Rd. Extension from East Main Ave. to Peet Rd.**	**$9.3**
		Construct an extension of two-lane alignment for Hill Rd. from East Main Ave. to Half Rd. and connects to Peet Ave. Project also includes realigning the existing Peet Rd. approach to Half Rd. to line up and connect with Hill Rd.	
R36	**SC County**	**Marcella Ave. Two-Lane Realignment**	**$7.0**
		Realign existing two-lane Marcella Ave. into a straighter line (eliminate 90-degree zigzag along the alignment) to improve line of sight and operations.	
R37	**SC County**	**Railroad Crossing Improvements at Church Ave. and Monterey Hwy.**	**$0.8**
		Improves the railroad crossing and traffic operation and safety at the Church Ave. and Monterey Hwy. intersection for all modes of transportation.	
R38	**SC County**	**Watsonville Rd. Center Turn Lane**	**$8.1**
		Add center turn lane and right-turn improvements where needed to serve driveways/cross streets so drivers waiting to turn do not block traffic and do not intrude into the shoulders which are well-used by bicyclists. Project also includes improving paved shoulders for bicycle use.	
R39	**Sunnyvale**	**Lawrence Expwy./Wildwood Ave. Realignment and Signalization**	**$5.8**
		Realign Wildwood Ave. to connect directly with Lawrence Expwy., and create a new signalized intersection at Lawrence Expwy. and Wildwood Ave.	

Table 2.5 *continued* Financially Constrained Local Streets and County Roads Projects in Santa Clara County			
VTP ID	**Sponsor/ Local Agency**	**Local Streets and County Roads Project Title and Description**	**Cost** (2013 $M)
R40	**Sunnyvale**	**Mary Ave. Extension**	**$67.2**
		Extend Mary Ave. north across SR 237, reconfigure the Mathilda Ave./US 101 interchange, reroute Moffett Park Dr., and modify the Eastbound SR 237/ Northbound Mathilda Ave. flyover to create an alternative north/south route.	
R41	**Sunnyvale**	**Sunnyvale Local St. Improvements**	**$17.0**
		Intersection widening and sidewalk improvements at various locations citywide.	
		TOTAL CONSTRAINED LOCAL STREET AND COUNTY ROADS	**$787.2 M**

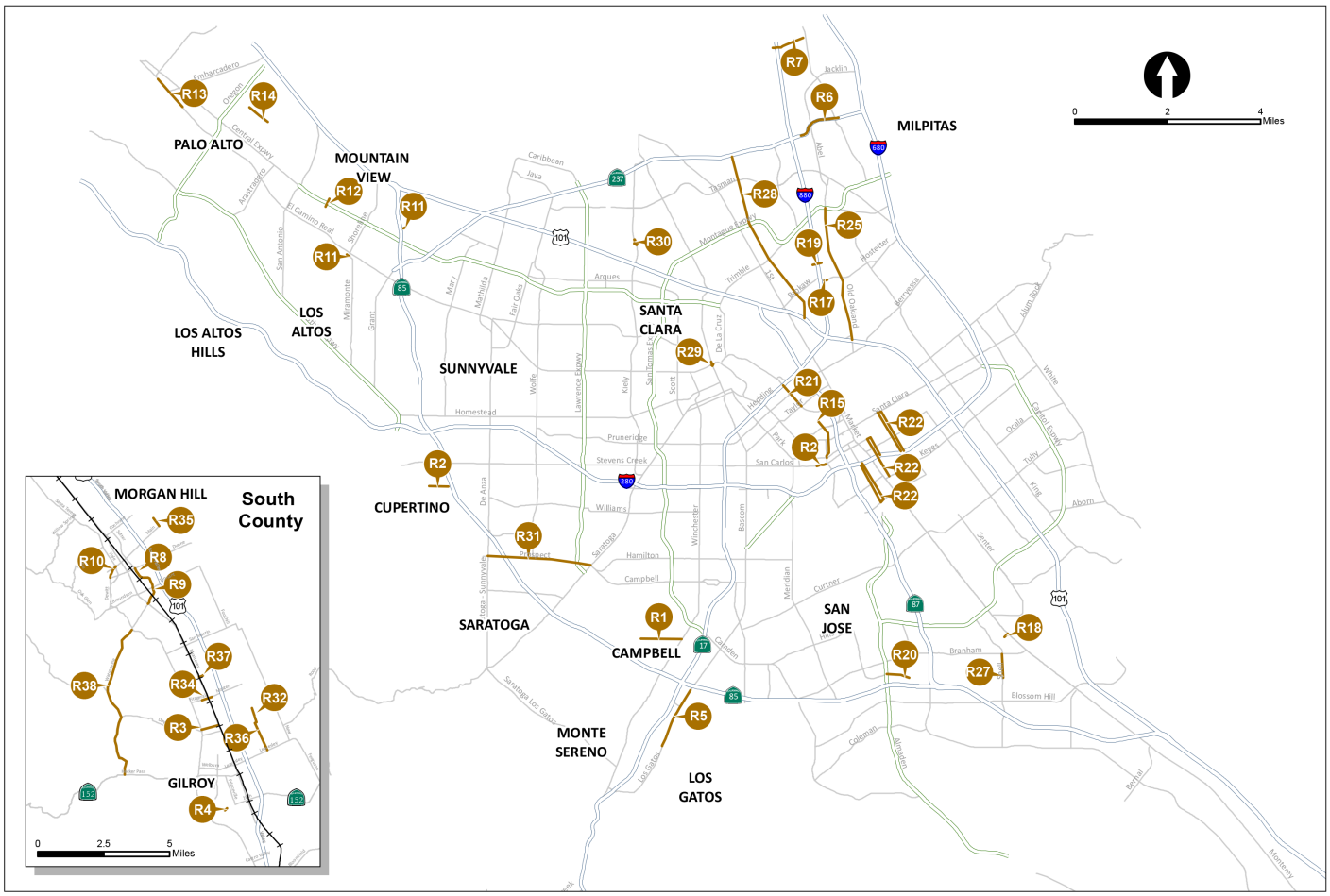


Figure 2.5 Local streets and County roads projects in Santa Clara County. Source: VTA

Multimodal Transportation Investments (MTI)

This new section of VTP is comprised of projects from Transportation Systems Operations and Management (TSOM), Bicycle Expenditure Program (BEP), streetscape components, pedestrian improvements; and the Community Design & Transportation (CDT) Program.

The MTI category is designed to provide funding for projects that have Complete Streets elements and enhance the quality of the roadway for all users of the system. These elements are listed and defined below:

1. **Multimodal Design.** Context-sensitive street design that accommodates all modes of travel with attractive streetscaping and encourages increased use of multimodes;
2. **Technology.** Technology upgrades such as traffic signal controllers, lighting, and bicycle, pedestrian and vehicle detection devices to improve operations and enhance safety of the roadway system;
3. **Connectivity.** A system of interconnected streets that provide improved access to all modes of transportation;
4. **Operations and Maintenance**. Management of activities related to operations and maintenance of the roadway network to acceptable standards and to a state of good repair.

Grouping these types of projects into one program category offers VTA and Member Agencies greater funding flexibility, fosters project bundling to increase cost-effectiveness and implementation efficiency, and helps to craft a framework for local and countywide Complete Streets Programs. By moving from individual project categories to a broader program, VTA intends to encourage and incentivize projects that integrate multiple components and serve multiple modes.

All MTI projects are exempt from regional air quality conformity as they do not add capacity for automobile travel or expand the transportation network. MTI projects may also support Complete Street elements. Many General Plans within Santa Clara County have circulation elements that reflect the requirements of the State's 2008 Complete Streets Act. The MTI program will be funded primarily by Congestion Management and Air Quality (CMAQ), Transportation Alternative, Transportation Fund for Clean Air (TFCA), the Santa Clara County's vehicle registration fees (VRF), and local funds.

A total of $1 billion is assigned to this category with projects and program areas that will enhance quality of life and contribute to VTA's vision for a complete multimodal transportation network. MTI is made up up four project categories: Bicycle Improvements, Pedestrian Environment Improvements, Transportation Systems Operations and Management Program, and CDT, Streetscapes, and Complete Streets. The financially constrained list of these MTI project categories is listed in Table 2.6.

Table 2.6 Financially Constrained MTI Project Categories in Santa Clara County

MTI Category Name	Cost (2013 $M)
Bicycle Improvements (Bicycle Expenditure Program)	$300
Pedestrian Environment Improvements	$100
Transportation Systems Operations and Management Program	$350
CDT, Streetscapes, and Complete Streets	$250
TOTAL CONSTRAINED MTI PROJECTS	**$1000.0 M**

Bicycle Expenditure Program (BEP)

The Bicycle Expenditure Program (BEP) is the funding mechanism for planned bicycle projects in Santa Clara County. It is developed in conjunction with the VTP update. The bicycle network is an essential component of a fully integrated, multimodal, countywide transportation system, and VTA is committed to improving bicycling conditions that will benefit all users 7 days per week and 24 hours per day, enabling people of all ages to bike to work, school, errands, and for recreation.

The BEP was first adopted by the VTA Board of Directors in 2000 as a financially constrained list of projects with a ten-year funding horizon. BEP projects are solicited from Member Agencies and evaluated by a committee consisting of BPAC members and VTA staff. The development of the BEP is guided by the Board-adopted Policies and Evaluation Criteria.

The funding for the BEP comes from several sources, including:

- Congestion Management Air Quality (CMAQ) through the One-Bay-Area Grant (OBAG) Program
- Transportation Funds for Clean Air, funded through the Bay Area Air Quality Management District (BAAQMD)
- Transportation Development Act Article 3 funds
- Local Matching Funds

VTA administers and distributes funds from these sources to Member Agencies, matching appropriate project types and funding amounts with the requirements of each fund source. VTA assists Member Agencies as necessary to comply with the various regional, state and federal procedural rules of each fund source. As part of the VTP update, the BEP projects list will be reviewed and re-adopted approximately every four years as part of the VTP process. In May 2013, VTA Board of Directors adopted the BEP Project List (Table 2.7a, Figure 2.6).

The process for developing the BEP Project List involves two main steps: 1) Developing a master list of projects, and 2) Constraining the master list to the financial constraints of the VTP. Per the BEP Policies, the projects were divided into two categories:

- Category 1—greater than or equal to 50 points
- Category 2—between 35 and 50 points

Category 1 Projects will receive priority funding consideration in BEP and VTA funding programs. Category 2 Projects are eligible to compete for BEP and other funds, but will not receive priority funding consideration.

Bike to Work Day, May 8, 2014

Table 2.7a Bicycle Expenditure Program Projects in Santa Clara County

CATEGORY 1

VTP ID	Sponsor/ Local Agency	Project Title and Description	Cost (2013 $M)
B1	Campbell	**Hamilton Ave. Median Bicycle and Pedestrian Enhancements: Bascom to Leigh**	$1.8
		Replace existing median on Hamilton Ave. east of the Bascom Ave. intersection. Install bike lanes and potential anticipated Streetscape Standards, including wider sidewalks.	
B2	Campbell	**Portals Project: Bike Lanes on Campbell Ave. at SR 17**	$4.2
		Widen the north and south sides of Campbell Ave. to accommodate bicycles with a widened bicycle lane. Remove existing curtain walls and install new retaining and tie back walls to provide pedestrian portal openings behind the existing abutment walls on both sides of Campbell Ave. Install new widened sidewalks in portal areas.	
B3	Cupertino	**Miller Ave. Bike Lanes: Stevens Creek Blvd. to Calle de Barcelona**	$0.1
		Complete bike lanes on Miller Ave. between Stevens Creek Blvd. and Calle de Barcelona.	
B4	Gilroy	**Lions Creek Santa Clara Valley Water District (SCVWD) Service Rd. Trail: West of Kern Ave. between Kern and Day**	$2.0
		Construct 12-foot-wide bicycle/pedestrian trail to follow the existing SCVWD service road elevation and alignment.	
B5	Gilroy	**Lions Creek SCVWD Service Rd. Trail: West of Santa Teresa Blvd./Day Rd. East (between Tapestry and Day Rd. East)**	$0.6
		Install 12-foot-wide bicycle/pedestrian trail segment, to connect Christopher High School to surrounding neighborhoods, on Santa Teresa Blvd. to the bicycle/ pedestrian bridge across Lions Creek.	
B6	Gilroy	**Northern Uvas Creek SCVWD Service Rd. Trail (Gilroy Gardens Extension Trail)**	$2.2
		Construct a 12-foot wide bicycle/pedestrian trail, to connect and expand the existing Uvas Creek trail system, on Santa Teresa Blvd. at Third St. to Burchell Creek Bridge.	
B7	Gilroy	**Western Ronan Channel SCWVD Service Rd. Trail**	$2.9
		Convert an existing unpaved creek-side maintenance road that is closed to the public to a multi-use public trail for use by bicyclists and pedestrians.	
B8	Los Altos Hills	**El Monte Rd.: Stonebrook to Voorhees (Segment 4)**	$0.6
		Provide new landscaping and intersection improvements to existing pathway.	
B9	Los Altos Hills	**Fremont Rd. Pathway Phase 2: Concepcion Rd. to Arastradero Rd.**	$0.9
		Construct standard pedestrian pathway and a Class I bike path along Fremont Rd.	
B10	Palo Alto	**Bicycle Boulevard Network Project**	$5.8
		Expand Bicycle Boulevard Network pursuant to adopted bicycle plan.	
B11	Palo Alto	**US 101/Adobe Creek Bicycle-Pedestrian Bridge**	$9.5
		Construct a year-round, Class I overcrossing of Hwy. 101 to replace the existing, seasonal Lefkowitz Tunnel.	
B12	San Jose	**Airport Blvd.: Guadalupe River Trail Bike and Pedestrian connection**	$2.8
		Construct a multi-use path along the north side of Airport Blvd. (at south end of Mineta San Jose International Airport) from the Guadalupe River Trail to Coleman Ave. connecting with existing Coleman Ave. bike lanes and future Santa Clara BART Station (via Brokaw Rd.). Construct a crosswalk on Airport Blvd., south of Skyport Dr. to Airport Blvd. at Coleman.	

Table 2.7a *continued* Bicycle Expenditure Program Projects in Santa Clara County			
CATEGORY 1			
VTP ID	**Sponsor/ Local Agency**	**Project Title and Description**	**Cost** (2013 $M)
B13	**San Jose**	**Auzerais Ave. Bicycle and Pedestrian Improvements: Sunol St. to Race St.**	**$2.2**
		Construct Class II bikeways, sidewalk improvements, crossing improvements, and bicycle parking.	
B14	**San Jose**	**Bird Ave. Bicycle and Pedestrian Corridor: Montgomery St. at Santa Clara to Bird Ave. at West Virginia**	**$3.5**
		Construct Class II and III bikeways, enhanced crossing/detection, and sidewalk improvements.	
B15	**San Jose**	**Blossom Hill Rd./Silver Creek Valley Rd. Multi-Use Path**	**$6.1**
		Construct a multi-use path connecting the Monterey Rd. Pedestrian Overcrossing at Blossom Hill Rd. with the Coyote Creek Trail east of Hwy. 101. The path will run along the eastern side of Monterrey Rd. between the bicycle/pedestrian bridge south of Blossom Hill to the Northbound Blossom Hill off-ramp at Monterey; along the Northbound off-ramp; and along the north side of Blossom Hill/Silver Creek Valley Rd. over Hwy. 101 to Coyote Creek Trail.	
B16	**San Jose**	**Blossom Hill Rd.: Calero Bikeways from Coleman Rd. at Blossom Hill Rd. to Palmia Dr. at Cottle Rd.**	**$0.4**
		Construct Class II bikeways, bicycle crossing improvements, and brief Class I segment through sidewalk widening at existing park.	
B17	**San Jose**	**Branham Lane Bikeway: Camden Ave. to Monterey Rd.**	**$2.4**
		Construct Class II enhanced bikeways for the entire length of Branham Lane (5.1 miles). Connect to planned Class III bikeways on Branham Lane East and a planned bicycle/pedestrian bridge over Hwy. 101 connecting to the Coyote Creek Trail.	
B18	**San Jose**	**Brokaw-Coleman Airport Bikeway: Airport Blvd. and the Guadalupe Trail to Airport Blvd. and Coleman Ave.**	**$1.2**
		Construct Class II bikeways, bicycle crossing improvements, and Class I multi-use path.	
B19	**San Jose**	**Capitol Ave./Capitol Expwy. Bikeway: Penitencia Creek Rd./Trail to Quimby Rd./ Thompson Creek**	**$0.3**
		Construct Class II bikeways and bicycle crossing improvements.	
B20	**San Jose**	**Charcot Bikeway: Orchard Pkwy. to O'Toole Ave./Hwy. 880**	**$0.5**
		Construct Class II bikeways and bicycle crossing improvements.	
B21	**San Jose**	**Cottle Rd. Multi-Use Path: Hospital Pkwy. to Poughkeepsie Rd.**	**$2.7**
		Construct Class I bikeway/multi-use path on east side of Cottle Rd. (0.8 miles); enhance crossings and signage along east side of Cottle Rd.	
B22	**San Jose**	**Guadalupe River Trail (I-880 to the Bay Trail) and Tasman Undercrossing**	**$0.0**
		Construct a partially paved trail segment along the Guadalupe River from Gold St. to Montague Expwy. Elements of the trail include a 12-foot-paved AC trail with striping and signage, a seating area midpoint, call boxes, and a gateway structure at Montague Expwy.	
B23	**San Jose**	**Havana Dr./Holly Hill Dr. Bike/Pedestrian Bridge at US 101**	**$8.5**
		Construct a 10-foot-wide, 380-foot-long bicycle and pedestrian bridge over Hwy. 101, connecting the east side with Class I, II, and III bikeways in San Jose.	
B24	**San Jose**	**Hedding St. Bikeway: Park Ave. to 17th St.**	**$0.3**
		Enhance on-street crosstown bikeway between San Jose/Santa Clara city limit with Guadalupe River Trail, Coyote Creek Trail, and Penitencia Creek Trail. Treatment will include bike lanes, sharrows, signs, etc.	

Table 2.7a *continued* Bicycle Expenditure Program Projects in Santa Clara County

CATEGORY 1

VTP ID	Sponsor/ Local Agency	Project Title and Description	Cost (2013 $M)
B25	**San Jose**	**Hwy. 87 Trail Connection Multi-Use Path: Unified Way through Curtner Light Rail Station Park & Ride to Carol Dr. at Hwy 87**	**$1.9**
		Provide multi-use path connecting discontinuous segments of the Hwy. 87 Trail near Curtner Ave. The multi-use path will run along the east side of Unified Way, from the Hwy. 87 Trail terminus at Unified Way southward to Curtner Ave.; on the southern side of Curtner from the Northbound Hwy. 87 off-ramp; through the Curtner Light Rail parking area; along Canoas Garden to Carol Drive/Hwy. 87 Bike Path entrance.	
B26	**San Jose**	**Hwy. 237 Bikeway: Great America Pkwy. to Zanker (Class I and II)**	**$0.5**
		Construct Class II bikeways and bicycle crossing improvements.	
B27	**San Jose**	**Los Gatos Creek Trail Reach 5d: Park Ave./Montgomery Ave. to Santa Clara Ave. (Diridon Station Segment)**	**$8.5**
		Completion of the last reach of the Los Gatos Creek Trail, including design, land acquisition and environmental review.	
B28	**San Jose**	**Los Gatos Creek Trail Reach 5b and 5c: Auzerais Ave. South of W. San Carlos Ave. to Park Ave./Montgomery Ave. (Trail and Undercrossing)**	**$5.8**
		Completion of the last reach of the Los Gatos Creek Trail including design, land acquisition and environmental review.	
B29	**San Jose**	**Monroe Bikeway: Newhall St. to Hwy 17 Pedestrian Overpass at Daniel Way/ Westfield Ave.**	**$0.3**
		Construct Class II bikeways and bicycle crossing improvements.	
B30	**San Jose**	**Newhall St. Bike/Pedestrian Overcrossing over Caltrain Tracks**	**$8.1**
		Construct bicycle/pedestrian bridge from Newhall St. west of Caltrain (near Elm St.) to Newhall St. east of Caltrain (near Newhall Drive).	
B31	**San Jose**	**North San Jose Bike/Pedestrian Improvements: Guadalupe River Trail/Coyote Creek Trail/Alviso Neighborhood**	**$35.0**
		Provide Class I, II, and III bikeways, enhanced crossings/detection, bike parking, sidewalk enhancements.	
B32	**San Jose**	**Park Ave./San Fernando St./San Antonio Bikeway**	**$0.3**
		Provide enhanced on-street crosstown bikeway (bike lanes, sharrows, signs) between San Jose/Santa Clara city limits with Diridon Transit Center, Downtown San Jose, San Jose Creek Trails (Los Gatos, Guadalupe, Coyote), SJSU and east San Jose.	
B33	**San Jose**	**Three Creeks Trail: West from Los Gatos Creek Trail/Lonus St. to Guadalupe River**	**$2.0**
		Construct landscaped trail system, with paved alignment along a former railway right-of-way. Signage, striping, mileage markers, seating, fitness stations, and decorative gateway elements at all at-grade roadway crossings.	
B34	**Santa Clara**	**Benton St. Bike Lanes: Lawrence Expwy. to San Tomas Expwy.**	**$0.5**
		Install Class II bicycle lanes with bicycle detection at signalized intersections.	
B35	**Santa Clara**	**Bowers Ave./Kiely Blvd. Bike Lanes: Cabrillo Ave. to Stevens Creek Blvd.**	**$1.0**
		Install Class II bicycle lanes with bicycle detection at signalized intersections.	
B36	**Santa Clara**	**Calabazas Creek Trail: From SR 237 to Calabazas Blvd.**	**$14.2**
		Construct Class I trail and bicycle/pedestrian overcrossing of Hwy. 101 and Central Expwy.	

Table 2.7a *continued* Bicycle Expenditure Program Projects in Santa Clara County			
CATEGORY 1			
VTP ID	**Sponsor/ Local Agency**	**Project Title and Description**	**Cost** (2013 $M)
B37	**Santa Clara**	**Lafayette St. Bike Lanes: Agnew Rd. to Reed St.**	**$1.0**
		Install Class II bicycle lanes with bicycle detection at signalized intersections.	
B38	**Santa Clara**	**Lick Mill Blvd. Bike Lanes from Tasman Dr. to Hope Dr.**	**$0.2**
		Install Class II bicycle lanes with bicycle detection at signalized intersections.	
B39	**Santa Clara**	**Mission College Blvd. Bike Lanes from Mission College Blvd. to Wildwood Ave. (City Limits)**	**$0.2**
		Install Class II bicycle lanes with bicycle detection at signalized intersections.	
B40	**Santa Clara**	**Pruneridge Ave. Bike Lanes: Pomeroy Ave. to Winchester Blvd.**	**$0.8**
		Install Class II bicycle lanes with bicycle detection at signalized intersections.	
B41	**Santa Clara**	**San Tomas Aquino Creek Spur Trail Phase 2: El Camino Real to Homestead Rd.**	**$4.6**
		Construct an extension of the San Tomas Aquino Spur Trail on the west side of San Tomas Expwy. from El Camino Real to Homestead Rd. The trail will be 10 to 12 feet wide, paved with asphalt and concrete, and will include signage, striping, and landscaping. The trail will be separated from the expressway by a concrete safety barrier and lined with a community wall to provide a security barrier for the adjacent residential properties.	
B42	**Santa Clara**	**Saratoga Ave. Bike Lanes: Los Padres Blvd. to San Tomas Expwy.**	**$0.2**
		Install Class II bicycle lanes with bicycle detection at signalized intersections.	
B43	**Santa Clara**	**Saratoga Creek Trail: Cabrillo Ave. to Forbes Ave. and Undercrossing at Kiely Blvd. and Homestead Rd.**	**$2.7**
		Install Class I bicycle and pedestrian facility along Saratoga Creek per VTA Bicycle Technical Guidelines and current ADA requirements. The project will include 4,800 feet of paved trail, underpasses at Kiely Blvd. and Homestead Rd., two pedestrian bridges, ADA ramps, and landscaping.	
B44	**Santa Clara**	**Scott Blvd. Bike Lanes: Central Expwy to Monroe St.**	**$0.4**
		Install Class II bicycle lanes with bicycle detection at signalized intersections.	
B45	**SC County**	**Doyle Rd. Bicycle and Pedestrian Trail Connection to Saratoga Creek Trail**	**$0.5**
		Provide bicycle access from where Doyle Rd. dead-ends into Lawrence Expwy. to the trail west of Lawrence Expwy. Project involves adding a crosswalk on Lawrence Expwy., modifying the signal system for the crossing, modifying a sound wall to create an opening for access and other improvements necessary for trail access.	
B46	**SC County**	**Los Gatos Creek Trail: Lark Ave. to Blossom Hill Dr.**	**$1.8**
		Rehabilitate and enhance 1.8 miles of trail along a regionally significant trail alignment within the Vasona County Park.	
B47	**SC County**	**McKean Rd. Shoulder Improvements: Harry Rd. to Bailey Ave.**	**$7.4**
		Provide shoulder improvements to County-maintained segments of McKean Rd. to facilitate bicycle travel.	
B48	**SC County**	**Oregon Expwy/Page Mill Rd.: I-280 Interchange Modification from Old Page Mill Rd. to Arastradero Rd.**	**$1.4**
		Modify ramp configurations to enhance safe passage for bicyclists through the interchange area.	
B49	**SC County**	**Popular Bicycle Rural Roads Improvements**	**$1.0**
		Implement improvements such as widening shoulders and installing better signage to County-maintained rural roads that have high bicycle demand: McKean Rd., Uvas Rd., San Antonio Valley Rd., Page Mill Rd., Montebello Rd., Stevens Canyon Rd., Mt. Eden Rd., Kennedy Rd. and Shannon Rd.	

Table 2.7a *continued* Bicycle Expenditure Program Projects in Santa Clara County

CATEGORY 1

VTP ID	Sponsor/ Local Agency	Project Title and Description	Cost (2013 $M)
B50	**SC County**	**Santa Teresa Blvd. Bicycle Delineation and Shoulder Widening**	**$0.6**
		Project provides bicycle delineation at eight intersections between SR-152 and Castro Valley Rd.; provides bike slots and shoulder widening as needed through intersections with acceleration/deceleration lanes and free running right-turn lanes allowing for safer transitions for through traveling bicyclists.	
B51	**Sunnyvale**	**Belleville Way Bike Lanes and Bike Detection: Fremont Ave. to Homestead Rd.**	**$0.1**
		Construct approximately 6,800 linear feet of Class II bike lanes, bicycle detection at two signalized intersections, school route traffic controls, and pedestrian enhancements.	
B52	**Sunnyvale**	**Bernardo Ave. Bike Lanes and Bike Detection: El Camino Real to Evelyn**	**$0.2**
		Construct approximately 4,300 linear feet of Class II bike lanes and provide bicycle detection at three signalized intersections.	
B53	**Sunnyvale**	**Bernardo Ave. Bike Lanes and Bike Detection: Remington to Homestead**	**$0.2**
		Construct approximately 8,500 linear feet of Class II bike lanes and provide bicycle detection at two signalized intersections.	
B54	**Sunnyvale**	**Bernardo Ave. Caltrain Undercrossing: Evelyn Ave. to Central Expwy.**	**$9.9**
		Construct a bicycle/pedestrian undercrossing of the Caltrain railroad tracks and provision of pedestrian and bicycle crossing improvements to access the undercrossing, in order to connect disconnected segments of Bernardo Ave.	
B55	**Sunnyvale**	**California Ave. Bike Lanes and Bike Detection: Mary Ave. to Fair Oaks Ave.**	**$0.2**
		Construct approximately 8,000 linear feet of Class II bike lanes, and provide bicycle detection at four signalized intersections.	
B56	**Sunnyvale**	**El Camino Real Bike Lanes: West City Limits to East City Limits (plus bike detection at 13 intersections)**	**$0.3**
		Construct approximately 18,800 linear feet of Class II bike lanes and provide bicycle detection at 13 signalized intersections.	
B57	**Sunnyvale**	**Fair Oaks Ave. Bike Lanes, Medians, and Detection: Old San Francisco Rd. to Ahwanee Ave.**	**$1.2**
		Construct median improvements, grind existing striping, seal coat, and reconfigure roadway lane geometry, and provide bike lanes on three segments of Fair Oaks Ave. from Old San Francisco Rd. to Evelyn Ave., California Ave. to Arques Ave., and Wolfe Rd. to Ahwanee Ave.	
B58	**Sunnyvale**	**Hendy Ave. Bike Lanes: Sunnyvale Ave. to Fair Oaks Ave.**	**$0.0**
		Provide bike lanes from Sunnyvale Ave. to Fair Oaks Ave.	
B59	**Sunnyvale**	**Hollenbeck Ave. Bike Lanes and Bike Detection: Danforth Dr. to Alberta Ave.**	**$0.2**
		Construct approximately 8,400 linear feet of Class II bike lanes and provide bicycle detection at five signalized intersections.	
B60	**Sunnyvale**	**Java Dr. Bike Lanes and Bike Detection: Via Rd. Diet from Mathilda to Crossman Ave.**	**$0.1**
		Road diet to implement approximately 5,000 linear feet of Class II bike lanes and provide bicycle detection at five signalized intersections.	
B61	**Sunnyvale**	**Lakewood/Sandia Dr. Bike Lanes**	**$0.0**
		Provide bike lanes on Lakewood and Sandia Drive.	
B62	**Sunnyvale**	**Mary Ave. Bike Lanes: Fremont Ave. to Maude Ave.**	**$1.4**
		Provide bike lanes from Fremont Ave. to Maude Ave.	

Table 2.7a *continued* Bicycle Expenditure Program Projects in Santa Clara County			
CATEGORY 1			
VTP ID	**Sponsor/ Local Agency**	**Project Title and Description**	**Cost** (2013 $M)
B63	**Sunnyvale**	**Mathilda Ave. Bike Lanes: US 101 to El Camino Real**	**$4.1**
		Provide bike lanes from US 101 to El Camino Real.	
B64	**Sunnyvale**	**Maude Ave. Bike Lanes: Mathilda Ave. to Wolfe**	**$0.9**
		Construct median improvements, grind existing striping, seal coat, and reconfigure roadway lane geometry, and provide bike lanes on Maude Ave. from Mathilda Ave. to Fair Oaks Ave.	
B65	**Sunnyvale**	**Moffett Park Area East Channel Trail and West Channel Trail**	**$3.6**
		Construct multi-use bicycle and pedestrian trails along the Sunnyvale East Channel between Moffett Park Drive and Caribbean Drive and Persian Drive to Tasman Drive, and along the Sunnyvale West Channel from Mathilda Ave. to the Bay Trail.	
B66	**Sunnyvale**	**Sunnyvale Stevens Creek Trail and Structures: Dale/Heatherstone to Homestead Rd. (2.5 mi. bike path, four structures and 1.2 mi bike lane)**	**$20.0**
		Construct approximately four structures and two and one-half miles of Class I bicycle and pedestrian trail improvements and approximately 6,500 linear feet of on-street bicycle improvements.	
B67	**Sunnyvale**	**Tasman Dr. Bike Lanes and Bike Detection: Via Rd. Diet from Fair Oaks Ave. to Reamwood Dr.**	**$0.3**
		Construct approximately 6,100 linear feet of Class II bike lanes, pedestrian side paths and bicycle detection at four signalized intersections, with a road diet.	
B68	**VTA**	**Capitol Expwy. Pedestrian/Bicycle Crossing at Eastridge Transit Center**	**$10.0**
		Construct pedestrian/bicycle crossing of Capitol Expwy. at Eastridge Transit Center.	
B69	**VTA/SC/SJ**	**Santa Clara Caltrain Station Undercrossing Extension**	**$9.3**
		Construct an extension of the recently opened pedestrian/bike tunnel under the Caltrain tracks at the Santa Clara Caltrain/Altamont Commuter Express (ACE) station on the east side of the Union Pacific Railroad tracks. Construct ramp and pathway to connect tunnel to Brokaw road.	
		TOTAL OF CATEGORY 1	**$224.1 M**

Table 2.7a *continued* Bicycle Expenditure Program Projects in Santa Clara County			
CATEGORY 2			
VTP ID	**Sponsor/ Local Agency**	**Project Title and Description**	**Cost** (2013 $M)
B70	**Campbell**	**Hacienda Ave. Bike Lanes: Winchester Blvd. to San Tomas Aquino Rd.**	**$0.1**
		Replace existing street light poles with new LED street lighting system and pedestrian-level lighting system; add bus stop amenities on Hacienda Ave. between Winchester Blvd. and San Tomas Aquino Rd.	
B71	**Campbell**	**Los Gatos Creek Trail Expansion on West Side: Hamilton to Campbell**	**$2.9**
		Expand the Los Gatos Creek Trail on the west side of the creek by closing a gap in the trail between Hamilton Ave. and Campbell Ave. This project would construct a paved mixed-use trail beginning at the asphalt concrete path near Hamilton Ave., under Hwy. 17, and ending at the north end of Poplar Ave. near Campbell Ave.	
B72	**Campbell**	**San Tomas Aquino Creek Trail: Westmont High School to Virginia**	**$1.7**
		Construct a connection between the east and west banks of San Tomas Aquino Creek in conjunction with the development of a new San Tomas Aquino Creek Trail.	

Table 2.7a *continued* Bicycle Expenditure Program Projects in Santa Clara County

CATEGORY 2

VTP ID	Sponsor/ Local Agency	Project Title and Description	Cost (2013 $M)
B73	**Cupertino**	**McClellan Bike Lanes: Foothill Blvd. to Byrne Ave.**	**$2.4**
		Widen and/or pave existing shoulder where feasible between Foothill Blvd. and Byrne Ave. to provide three bike lanes.	
B74	**Cupertino**	**Saratoga Creek Trail Extension: Lawrence to Mitty**	**$7.1**
		Construct a Class I bike trail parallel to Saratoga Creek, which will connect the existing San Tomas Aquino/Saratoga Creek Trail to the south and extend the trail towards Stevens Creek Blvd. This segment is part of the San Tomas Aquino/Saratoga Creek Trail Master Plan Reach 5.	
B75	**Cupertino**	**Stevens Creek Trail Crossing: Stevens Creek Blvd. at McClellan Park Ranch**	**$0.4**
		Construct a trail crossing underneath Stevens Creek Blvd. connecting the sub-regional and multi-jurisdictional Stevens Creek Trail at the McClellan Ranch Park to future trail extensions north of Stevens Creek Blvd.	
B76	**Cupertino**	**Union Pacific Railroad Bicycle/Pedestrian Bridge Crossing: Stevens Creek Blvd. to Snyder-Hammond House/Rancho San Antonio Park**	**$2.0**
		Construct a new grade-separated bicycle/pedestrian bridge crossing over the Union Pacific Railroad tracks.	
B77	**Gilroy**	**Gilroy Sports Park Trail: Santa Teresa Blvd./Mesa Rd. to Sports Park Ticket Booth**	**$5.6**
		Construct a 12-foot-wide bicycle/pedestrian trail to connect Gavilan College and planned future residential development in Southern Gilroy to the Sports Park.	
B78	**Gilroy**	**Lions Creek Trail West: Gap Closure from Santa Teresa Blvd. at Day Rd. East to Just East of Kern Ave. Bridge**	**$1.3**
		Construct a paved 4,100-foot-extension of an all-weather 12-foot wide bicycle trail on Lions Creek connecting existing Lions Creek Trail East to Santa Teresa Blvd., area schools, public transit, regional transit centers, and to existing on-street bicycle facilities.	
B79	**Los Altos**	**Miramonte Ave. Bikeway Improvement**	**$1.6**
		Upgrade Class III bike route on Miramonte Ave. to a Class II bike lane between Mountain View city limits at the northern end of Foothill Expwy to the southern end.	
B80	**Los Altos**	**Stevens Creek Link Trail**	**$3.5**
		Provide a link from the proposed Stevens Creek Trail in the vicinity of San Antonio Rd. and Adobe Creek.	
B81	**Los Altos Hills**	**Hale Creek Path Connecting to El Monte Rd.**	**$0.5**
		Extend pathway in existing easement parallel to I-280. The proposed pathway will connect Magdalena Ave. with the entrance to Foothill College over on El Monte Rd.	
B82	**Los Gatos**	**Los Gatos Creek Trail Connector to SR 9**	**$1.2**
		Construct two trail connections from Hwy. 9 to Los Gatos Creek Trail. The first link will start at the sidewalk near Wraight Ave./Hwy. 9 intersection and run parallel to the Hwy. 9 overpass in the easterly direction. A bicycle/pedestrian bridge will be constructed to reach the Los Gatos Creek Trail. The second link will start at the Hwy. 9/Hwy. 17 South merger and arc northwards to the Los Gatos Creek Trail. The total estimated length of extension is 450 ft.	
B83	**Milpitas**	**Berryessa Creek Trail (Reach 4–6): Hillview Dr. to San Jose City limits**	**$6.9**
		Construct extension of Berryessa Creek Trail. Reach 4 would traverse city streets to the trail at Los Coches St. The trail would follow the west bank of Berryessa Creek from Los Coches St. to Yosemite Drive. Reach 5 would extend to Montague Expwy., giving cyclists access to the future BART Station. Reach 6 would continue along the east bank of the creek to a bicycle/pedestrian and to the I-680 overpass.	

Table 2.7a *continued* Bicycle Expenditure Program Projects in Santa Clara County			
CATEGORY 2			
VTP ID	**Sponsor/ Local Agency**	**Project Title and Description**	**Cost** (2013 $M)
B84	**Milpitas**	**South Milpitas Blvd. from Calaveras Blvd. to Montague Expwy. Bicycle Path and Sidewalk on east side (1.5 miles)**	**$29.0**
		Construct sidewalks and Class I bicycle facilities in both directions, on the east side of the roadway, with multimodal access to the BART Station.	
B85	**Milpitas/VTA**	**Montague Expwy. Bike/Pedestrian Overcrossing at Milpitas BART Station**	**$7.8**
		Construct bicycle/pedestrian overcrossing of Montague Expwy. from Milpitas BART station parking structure to the north side of Montague Expwy.	
B86	**Morgan Hill**	**Main Ave. Bike Lanes: Butterfield Blvd. to Condit Rd.**	**$0.2**
		Construct Class II bike lanes on Main Ave.	
B87	**Morgan Hill**	**Sobrato High School Bike Access Improvements: Bike Path Southeast from Burnett Ave. to Coyote Creek Trail**	**$0.5**
		Construct a bridge over Coyote Creek, shoulder widening and striping to provide bike access from Sobrato High School east to existing Coyote Creek Trail System.	
B88	**Morgan Hill**	**West Little Llagas Creek Trail: Main Ave. to Spring Ave.**	**$1.5**
		Construct Class I bicycle/pedestrian trail adjacent to West Little Llagas Creek.	
B89	**Mountain View**	**Permanente Creek Trail: Grade Separation at Charleston Rd. and Modification to Undercrossing at Amphitheatre Rd.**	**$5.3**
		Construct a new grade-separated undercrossing at Charleston Rd. and modify the existing undercrossing at Amphitheatre Pkwy. for the Permanente Creek Trail.	
B90	**Mountain View**	**Permanente Creek Trail: Old Middlefield Way to Rock St.**	**$0.5**
		Extend the existing Permanente Creek Trail from Old Middlefield Way to Rock St.	
B91	**Mountain View**	**Permanente Creek Trail: Rock St. to West Middlefield Rd.**	**$0.8**
		Extend the Permanente Creek Trail from its future terminus at Rock St. to West Middlefield Rd.	
B92	**Mountain View**	**Stevens Creek Trail Reach 4 Segment 2: Dale/Heatherstone to Mountain View High School**	**$15.0**
		Extend the Stevens Creek Trail from Dale/Heatherstone Sts. to Mountain View High School, completing the Stevens Creek Trail in Mountain View.	
B93	**Mountain View**	**Stevens Creek Trail: New Trailhead at Landels School**	**$1.5**
		Install a new trailhead for the Stevens Creek Trail at Landels School. Improvements will include new ADA curb ramp, signs, striping, bollard and other trail amenities at the new trailhead.	
B94	**Mountain View**	**Stevens Creek Trail: Middlefield Rd. North Side Access**	**$0.3**
		Construct a new access point for the Stevens Creek Trail in Mountain View along Stevens Creek Trail on the north side of Middlefield Rd. between Hwy 85 and Easy St. Project improvements will include new ADA curb ramp, signs, striping, bollard and other trail amenities at the new trailhead.	
B95	**Palo Alto**	**Adobe Creek Reach Trail: West Bayshore Rd. to Louis Rd.**	**$0.1**
		Extend Adobe Creek Trail between West Bayshore Rd. and Louis Rd.	
B96	**Palo Alto**	**California Ave. Caltrain Undercrossing: ADA Retrofit/Reconstruction**	**$13.0**
		Replacement of California Ave. bicycle/pedestrian undercrossing of Caltrain tracks with new ADA compliant structure.	

Table 2.7a *continued* Bicycle Expenditure Program Projects in Santa Clara County

CATEGORY 2

VTP ID	Sponsor/ Local Agency	Project Title and Description	Cost (2013 $M)
B97	**Palo Alto**	**Palo Alto Transit Center/University Ave. Undercrossing**	**$10.0**
		Construct new bicycle/pedestrian undercrossing of Caltrain tracks, near Everett or Lytton Sts., to connect Downtown with the University, Medical Center, and multi-modal transit center.	
B98	**Palo Alto**	**South Palo Alto Caltrain Pedestrian/Bicycle Grade Separation**	**$8.0**
		Construct grade separated bicycle/pedestrian crossing between California Ave. Caltrain station and at-grade crossing on E. Meadow.	
B99	**San Jose**	**Citywide Implementation: Several Projects from Bike Plan 2020**	**$5.5**
		Complete remaining gaps in the 220 mile bike network, not funded by other sources. Class I, II, and III bikeways, enhanced crossing/detection, bicycle parking.	
B100	**San Jose**	**Coyote Creek Trail (Montague Expwy. to Oakland Rd.)**	**$8.7**
		Complete the creek trail in the North San Jose segment.	
B101	**San Jose**	**Coyote Creek Trail (Oakland Rd. to Watson Park)**	**$8.7**
		Complete the creek trail in the Berryessa BART station segment.	
B102	**San Jose**	**Coyote Creek Trail (Watson Park to Williams St. Park)**	**$5.8**
		Complete the creek trail of the Northside to Naglee Park Neighborhood Segment.	
B103	**San Jose**	**Coyote Creek Trail (Williams St. Park to Kelley Park)**	**$3.3**
		Complete the creek trail of the I-280 underpass segment.	
B104	**San Jose**	**Neiman Blvd. Pedestrian Overcrossing at Capitol Expwy**	**$9.3**
		Construct bicycle/pedestrian bridge from Nieman Blvd., east of Capitol Expwy., to west side of Capitol Expwy., north of Moss Hollow Drive.	
B105	**San Jose**	**Upper Penitencia Creek Trail Connector Phase 2: Berryessa BART to Coyote Creek**	**$2.3**
		Construct a trail connector from Berryessa BART station to Coyote Creek.	
B106	**Santa Clara**	**Benton St. Bike Lanes: Monroe St. to Railroad Ave.**	**$0.2**
		Install Class II bicycle lanes with bicycle detection at signalized intersections. Existing four lanes will be reduced to road diet configuration to make room for bicycle lanes.	
B107	**Santa Clara**	**De La Cruz Blvd. Bike Lanes: Central Expwy to Brokaw Rd.**	**$0.6**
		Install Class II bicycle lanes with bicycle detection at signalized intersections.	
B108	**Santa Clara**	**Hetch-Hetchy Trail: Calabazas Creek to Lick Mill Blvd.**	**$7.6**
		Install Class II bicycle lanes with bicycle detection at signalized intersections.	
B109	**Santa Clara**	**Lafayette St. Bike Lanes: Calle de Luna to Yerba Buena Way**	**$0.3**
		Install Class II bicycle lanes with bicycle detection at signalized intersections.	
B110	**Santa Clara**	**San Tomas Aquino Creek Trail Underpass at 49er Stadium**	**$3.5**
		Construct Class I bicycle and pedestrian facility along west side of San Tomas Aquino/Saratoga Creek. The project will include 1500 feet of paved underpass at Levi's Stadium.	
B111	**Santa Clara**	**Tasman Dr. Bike Lanes: Calabazas Creek to Guadalupe River**	**$0.6**
		Install Class II bicycle lanes with bicycle detection at signalized intersections.	
B112	**Saratoga**	**Blue Hills School RR Crossing Safety Project**	**$0.4**
		Construct railroad crossing from Guava Ct. to Joe's Trail, linking Fredericksburg Dr./Williamsburg Ln. neighborhood to Blue Hills School/Azule Park.	

Table 2.7a *continued* Bicycle Expenditure Program Projects in Santa Clara County			
CATEGORY 2			
VTP ID	**Sponsor/ Local Agency**	**Bicycle Expenditure Program Project Title and Description**	**Cost** (2013 $M)
B113	**Saratoga**	**Joe's Trail: Saratoga-Sunnyvale Rd. to Prospect Rd.**	**$0.6**
		Construct an approximately 0.6-mile bicycle/pedestrian trail along an existing Pacific Gas and Electric (PG&E) easement between Saratoga-Sunnyvale Rd. and Prospect Rd. in Saratoga. The trail will be located adjacent to and southwest of the Vasona Branch of the Union Pacific Railroad spur, and will cross Arroyo de Arguello St.	
B114	**SC County**	**Coyote Creek Trail: Metcalf Rd. to Malaguerra Ave.**	**$3.2**
		Reconstruct trail to include widening and installation of two bridges at low-flow crossings of Coyote Creek.	
B115	**SC County**	**Fitzgerald Ave. Bicycle Shoulder widening from Santa Teresa Blvd. to Monterey Hwy.**	**$2.4**
		Install shoulders on Fitzgerald Ave. to support safe operations for bicycles.	
B116	**SC County**	**Watsonville Rd. shoulders from Santa Teresa Blvd. to SR 152**	**$7.9**
		Improve paved shoulder for bicycle use, add center lane and right-turn enhancements at select locations to accommodate vehicular turning such that sholders remain unobstructed for bicyclists.	
B117	**Sunnyvale**	**Fair Oaks/Tasman East Channel Trail from Greenbelt to Tasman Dr.**	**$0.7**
		Construct a multi-use bicycle and pedestrian trail along the Sunnyvale East Channel, between the John W. Christian Greenbelt to the south and Tasman Drive to the north. The project will connect residential areas to regional transit, parks and commercial facilities.	
B118	**Sunnyvale**	**Fair Oaks Junction Trail from Arques Ave. to Wolfe Rd. along East Channel Trail**	**$0.2**
		Construct Class I bicycle and pedestrian trail improvements along approximately 900 linear feet on the Sunnyvale East Channel.	
B119	**Sunnyvale**	**Olive Ave. Bike Lanes: Mathilda to Fair Oaks**	**$0.0**
		Construct Class II bike lanes.	
B120	**VTA**	**Upper Penitencia Creek Trail Connector Phase 1: Berryessa BART Station**	**$2.1**
		Construct 1/8th mile segment of shared use trail, one new T-intersection traffic signal trail crossing and supporting roadway improvements, trailhead gateways, interpretive signs, wayfinding and landscape buffers.	
B121	**VTA**	**Capitol Caltrain Station Undercrossing**	**$9.3**
		Eliminate a barrier for passengers deboarding at the Capitol Caltrain station by providing a safe crossing or grade separation of the train tracks to access the west side of the tracks.	
		TOTAL OF CATEGORY 2	**$213.7 M**

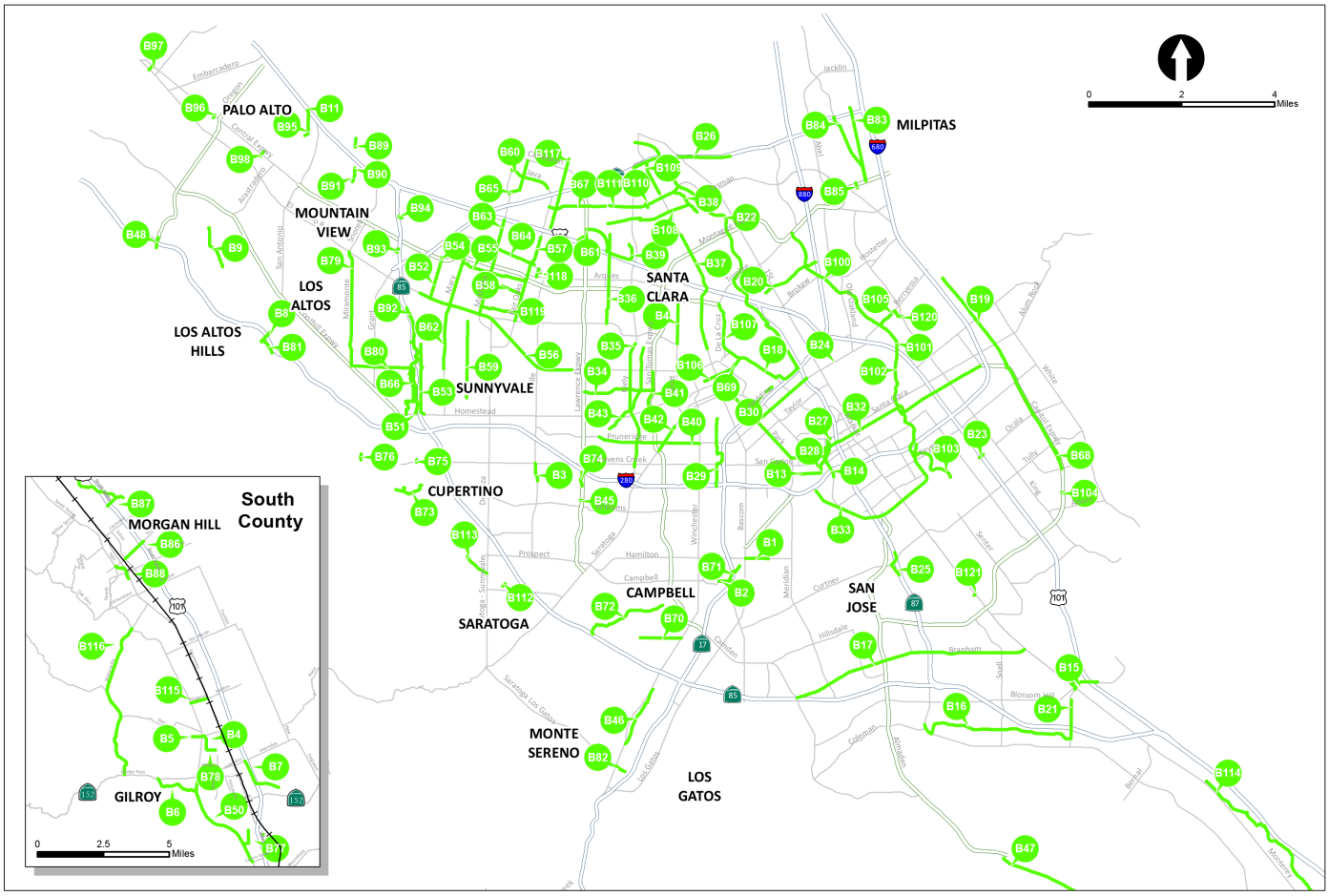


Figure 2.6 Bicycle projects in Santa Clara County.

Pedestrian Environment Improvements

Pedestrian projects have traditionally been difficult to define and fund. Pedestrian elements are often included in bike or street projects, and within traditional funding programs pedestrian projects have either been excluded or found it difficult to compete with criteria that favored other modes. Nevertheless, VTA has found, and continues to look for, opportunities to meet pedestrian project needs. As part of the VTP outreach process, the desire to find funding for pedestrian access and safety projects, especially the ones that improve safety for people with mobility limitations, was expressed. Many of these types of improvements have been identified and studied in Community-Based Transportation Plans and other VTA plans. VTA and interested parties all recognize the crucial role that pedestrian improvements play in the County's multimodal transportation network. Potential pedestrian-specific projects include:

- Transit access improvements, including first- and last-mile connections and shorten and/or improve the pedestrian experience
- Safe Routes to Schools projects
- Sidewalk gap closures, sidewalk improvements and upgrades
- Removal of safety and access barriers
- Pedestrian/Urban Design amenities such as signage, street lighting and buffer from automobile traffic

In coming years VTA will begin a planning process to determine the best way to develop a pedestrian program and identify capital projects.

Expressway Pedestrian Funding Program

The County Expressway Study identifies numerous pedestrian improvements throughout the expressway network. In order to provide a relatively secure and steady source of funds for pedestrian and bicycle improvements on the Expressways that are neither part of the Bicycle Expenditure Program (BEP) nor Community Design and Transportation (CDT) eligible, in 2009 VTA established the Expressway Pedestrian Funding Program that would direct up to $150,000 per year from the TDA Article 3 30 percent funding, and make them available to fund these projects.

In order to receive these funds, the County and the respective City(s) where the project is located are required to jointly sponsor the project, coordinate planning, and commit equal amounts of matching funds which would be matched by VTA on equal one-third shares. VTA's one-third share comes from the TDA funding noted above. VTP 2040 proposes the continuation of this program.

Transportation Systems Operations and Management Program (TSO&M)

The Transportation Systems Operations and Management (TSO&M) Program includes projects that use technology to improve the operation and management of the overall transportation system (Table 2.7b, Figure 2.7). The new technologies are collectively referred to as Intelligent Transportation Systems (ITS), and include electronics, computer, and communications infrastructure.

Development of the TSO&M Capital Program for VTP 2040 built on the Santa Clara County ITS Plan. The VTP 2040 TSO&M Capital Program is built off the development of an implementation plan lead by an ITS task force consisting of staff from VTA's Member Agencies, regional agencies, and Caltrans.

Students on field trip walking along transit mall.

Table 2.7b Financially Constrained Transportation Systems Operations and Management Projects in Santa Clara County

VTP ID	Project Sponsor/ Location	Project Title and Description	Cost (2013 $M)
S1	Campbell	**Hamilton Ave. Intelligent Transportation Systems (ITS)**	$0.5
		Project expands on the existing ITS infrastructure on Hamilton Ave. by retiming and linking three signals, via wireless Interconnect, to the Smart Corridor signals to the east.	
S2	Campbell	**Citywide Traffic Signal System Upgrade**	$0.3
		Project replaces older traffic signal controllers with new controllers and signal system software that is compatible with NTCIP and Silicon Valley-ITS Data Exchange Network Software protocols.	
S3	Campbell	**Winchester Blvd. Intelligent Transportation System**	$0.5
		Project expands upon existing ITS equipment on Winchester Blvd. by installing new conduit, fiber and fiber equipment.	
S4	Campbell	**Reactivation of Traffic Count Stations**	$0.1
		Reactivate traffic count stations in Campbell along arterials such as Hamilton Ave., Winchester Blvd., and Campbell Ave.	
S5	Cupertino	**Stevens Creek Blvd. Closed Circuit Television (CCTV) Cameras**	$0.1
		Project includes engineering and installing communication equipment and cameras. The existing fiber-optic infrastructure will be utilized to bring data from the cameras back to the Cupertino Traffic Operations Center. The locations are at the intersections of Stevens Creek Blvd. with the Southbound 85 ramp, Stelling, Blaney, Wolfe, and Tantau.	
S6	Gilroy	**City of Gilroy Adaptive Traffic Control System**	$1.1
		Project installs and implements adaptive traffic signal timing on various commute corridors through the City of Gilroy.	
S7	Gilroy	**City of Gilroy Event Management System**	$1.1
		Project develops and implements changeable message signs, highway advisory radio (HAR), information kiosk, and traveler information system for special events and incident management in the Gilroy area.	
S8	Gilroy	**City of Gilroy Traffic Signal System Upgrade**	$4.7
		Upgrade traffic signal controller and communications systems with the current technology, including Interconnect to replace outdated equipment and provide city with centralized traffic management system.	
S9	Gilroy	**City of Gilroy Flood Watch Camera Installations**	$0.6
		Deploy CCTV cameras to provide real-time video to the City of Gilroy Emergency Operations Center (EOC) to be used to conduct traffic management and emergency operations activities in times of significant flooding.	
S10	Gilroy	**ITS Enhancements on Santa Teresa Blvd.**	$2.4
		Project includes signalization modifications along Santa Teresa Blvd.	
S11	Gilroy	**10th St. and Downtown Signals Upgrade**	$1.8
		Project upgrades controllers, adaptive, detectors along 10th St. in Gilroy.	
S12	Gilroy	**SR 152 Signal System Upgrade**	$2.8
		Project replaces outdated traffic signal controllers and/or adds new signals along SR 152 in Gilroy.	

Table 2.7b *continued* Financially Constrained Transportation Systems Operations and Management Projects in Santa Clara County			
VTP ID	**Project Sponsor /Location**	**Project Title and Description**	**Cost** (2013 $M)
S13	**Gilroy**	**Gilroy Community Bus Signal Priority**	**$0.5**
		Install bus signal priority (BSP) equipment at signalized intersections on various commute corridors throughout the city. This will enhance the rapid community bus that connects neighborhoods to major employment centers, shopping centers, and transit centers such as the Caltrain Gilroy Station.	
S14	**Gilroy**	**Gilroy Other Signal Upgrade**	**$1.2**
		Project includes citywide replacement of obsolete traffic signal control assemblies and other related peripherals.	
S15	**Gilroy**	**Gilroy Downtown Parking Management System**	**$0.4**
		Project provides a system to track utilization of parking in downtown Gilroy and provides motorists with real-time parking information via on-street signage, the web and phone.	
S16	**Los Gatos**	**Town of Los Gatos Traffic Signal System Upgrade**	**$0.4**
		Project upgrades traffic signal system software to provide improved traffic monitoring and management.	
S17	**Milpitas**	**South Milpitas Blvd. SMART Corridor**	**$0.6**
		Install fiber-optic cables for traffic signal/city communications, deploy surveillance cameras, traffic data collection equipment, and advanced traffic signal controllers. Will allow for future connection to Milpitas Blvd. Extension for BART.	
S18	**Milpitas**	**Citywide Adaptive Bicycle and Pedestrian Timing**	**$0.5**
		Install adaptive bicycle and pedestrian timing technologies at various locations throughout the city.	
S19	**Morgan Hill**	**Citywide Traffic Signal Operation Center**	**$1.6**
		Project provides citywide improvements to signal timing in Morgan Hill.	
S20	**Morgan Hill**	**Citywide Wireless Vehicle Detection System Installation**	**$1.1**
		Install wireless vehicle detection system at all signalized intersections within Morgan Hill.	
S21	**Mountain View**	**Citywide Traffic Signal Upgrade and IP Traffic Signal Access**	**$3.0**
		Install new traffic signal controllers, software and Internet-accessible traffic signal communications to upgrade the City's existing traffic system.	
S22	**Mountain View**	**Shoreline Blvd. Adaptive Traffic Signals**	**$2.0**
		Project includes an upgrade the existing signal interconnect system to adaptive traffic signals on Shoreline Blvd. in Mountain View.	
S23	**Mountain View**	**Rengstorff Ave. Traffic Signal Improvements**	**$1.6**
		Project modifies signal timing and upgrades certain signals along Rengstorff Ave.	
S24	**Palo Alto**	**Citywide Traffic Signal System Upgrade**	**$2.2**
		Project replaces outdated traffic signal controllers, cabinets and communication chips including installation of time-of-day GPS system equipment for each signalized intersection in Palo Alto.	
S25	**Palo Alto**	**Citywide Traffic Signal CCTV/Emergency Vehicle Preemption Project**	**$1.7**
		Project is a citywide program to adjust signal timing to give priority to emergency vehicles.	

Table 2.7b *continued* Financially Constrained Transportation Systems Operations and Management Projects in Santa Clara County

VTP ID	Project Sponsor/ Location	Project Title and Description	Cost (2013 $M)
S26	Palo Alto	**Citywide Traffic Signal Retiming and Pedestrian Facility Upgrades**	$1.1
		Project includes upgrades to signalized pedestrian facilities to enhance safety and update pedestrian crossing times to conform to the latest Manual on Uniform Traffic C ontrol Devices (MUTCD) guidance.	
S27	San Jose	**San Jose Proactive Signal Retiming Program**	$30.0
		Project is a citywide program to monitor current traffic signals and improve them where necessary.	
S28	San Jose	**San Jose Transportation Communications Network Enhancements**	$0.0
		Project provides fiber-optic communications to support advanced traffic management infrastructure.	
S29	San Jose	**San Jose Traffic Signal System Upgrades**	$15.0
		Project is a citywide program to examine older signal systems and upgrade them where needed.	
S30	San Jose	**Downtown San Jose Area Freeway Management System**	$2.4
		Project uses an equipment package to monitor downtown freeways and provide incident management tools to assist with traffic.	
S31	San Jose	**Downtown San Jose Local St. Advanced Traffic Management System**	$3.6
		Project expands "real-time" traffic management system provided in the arena area.	
S32	San Jose	**Downtown San Jose CMS Upgrades**	$1.8
		Project upgrades aging changeable message sign infrastructure in Arena area.	
S33	San Jose	**King Rd./Story Rd. Area Advanced Traffic Management System**	$3.6
		Project provides "real-time" traffic management for high traffic congestion.	
S34	San Jose	**Silicon Valley ITS Program Upgrades**	$32.5
		Project upgrades infrastructure for existing countywide ITS system.	
S35	San Jose	**Integration of Silicon Valley Transportation Incident Management Center (TiMC) and San Jose Police Department**	$2.4
		Project upgrades infrastructure for existing countywide ITS system.	
S36	San Jose	**City of San Jose Red Light Running Enforcement Program**	$0.6
		Install cameras at various intersections to capture red light runner incidents.	
S37	San Jose	**San Jose Traffic Signal Interconnect**	$4.8
		Install surveillance cameras at various intersections, install new fiber-optic cable, and replace citywide signal controllers.	
S38	San Jose	**Silicon Valley Intelligent Transportation System (SVITS) Hybrid Analog/Digital Video System**	$0.2
		Project provides the video component of a greater traffic management system.	
S39	San Jose	**Silicon Valley TiMC: Ramp Metering Integration**	$9.6
		Install and upgrade new technology for ramp metering at the traffic management center.	
S40	San Jose	**Monterey Hwy. Intelligent Transportation System**	$5.8
		Install a system of signal upgrades, interconnect, and CCTV cameras throughout in the Monterey Hwy. area.	

Table 2.7b *continued* Financially Constrained Transportation Systems Operations and Management Projects in Santa Clara County			
VTP ID	**Project Sponsor/ Location**	**Project Title and Description**	**Cost** (2013 $M)
S41	**San Jose**	**San Jose Emergency Vehicle Preemption System**	**$8.2**
		Install an emergency vehicle traffic light preemption system for preemption of traffic lights at intersections to allow safe passage of emergency vehicles. The system includes a real-time status monitor of an intersection which is relayed to a control module for transmission to emergency vehicles as well as to a central dispatch office.	
S42	**San Jose**	**SVITS Connection to Sunnyvale**	**$4.2**
		Project encompasses a system of CCTV, signage, and the development of a traffic management center.	
S43	**San Jose**	**Winchester/Stevens Creek Area Advanced Traffic Management System**	**$2.4**
		Install a system of traffic cameras, signal timing upgrades, and other traffic management tools.	
S44	**San Jose**	**Eastridge/Evergreen Area Advanced Traffic Management System**	**$4.8**
		Install a system of traffic cameras, signal timing upgrades, and other traffic management tools.	
S45	**San Jose**	**Almaden/Blossom Hill Area Advanced Traffic Management System**	**$2.4**
		Install a system of traffic cameras, signal timing upgrades, and other traffic management tools.	
S46	**San Jose**	**Saratoga/Moorpark Advanced Traffic Management System**	**$2.2**
		Project provides improved monitoring and management tools to better manage the congestion within I-280/Saratoga Ave. interchange and adjacent near Saratoga Ave./Moorpark Ave. intersection.	
S47	**San Jose**	**Brokaw-Airport Area Advanced Traffic Management System**	**$2.2**
		Project provides improved monitoring and management tools to better manage the congestion around the roadways surrounding San Jose Airport.	
S48	**San Jose**	**San Jose Citywide Count and Speed Monitoring System**	**$8.7**
		Project deploys count and monitoring stations at key locations around the City to provide up-to-date traffic data for real-time traffic management and for investment decisions.	
S49	**Santa Clara**	**Santa Clara Communications Network Upgrade**	**$6.0**
		Convert City's existing copper twisted wire pair (TWP) communication infrastructure to new fiber-optic cable network.	
S50	**Santa Clara**	**Santa Clara Traffic Signals Upgrade**	**$5.0**
		Project modifies citywide traffic signals.	
S51	**Santa Clara**	**Santa Clara Traffic Management Center Upgrade**	**$1.3**
		Convert City's existing traffic operations room to a new Traffic Management Center (TMC).	
S52	**Santa Clara**	**Citywide Traffic Monitoring Cameras**	**$2.7**
		Install traffic monitoring and incident management cameras on major arterials.	
S53	**Santa Clara**	**Citywide Traffic Count and Travel time Monitoring System**	**$1.9**
		Install traffic count and travel time monitoring equipment at various locations citywide to provide real-time traffic volumes and travel speed information and integration with City's traffic management system.	

Table 2.7b *continued* Financially Constrained Transportation Systems Operations and Management Projects in Santa Clara County

VTP ID	Project Sponsor/ Location	Project Title and Description	Cost (2013 $M)
S54	Santa Clara	**Citywide Emergency Vehicle Preemption for Traffic Signals**	$2.7
		Install GPS-based emergency vehicle preemption units for fire and police vehicles to providepreemption of traffic signals.	
S55	Santa Clara	**Citywide Bicycle Detection**	$4.4
		Install bicycle detection at the stop bar at all of the City's signalized intersections in all approaches.	
S56	Santa Clara	**Citywide Pedestrian Signal Upgrades**	$3.8
		Install Countdown pedestrian signal indications, ADA pedestrian pushbuttons and Audible pedestrian signals at signalized intersections where none exist.	
S57	Santa Clara	**Santa Clara Adaptive Traffic Signal System**	$6.6
		Install Adaptive Traffic Signal system for major arterials.	
S58	Santa Clara	**Lafayette St. Reversible Lane Control Upgrade**	$3.3
		Project replaces Reversible Lane Control system, striping and indications along Lafayette St.	
S59	Santa Clara	**North Santa Clara Event Management System**	$8.2
		Install ITS elements, DMS, monitoring cameras, communications equipment, and advanced traffic management system throughout northern Santa Clara, north of Central Expwy.	
S60	Saratoga	**Citywide Signal Upgrade Project Phase II**	$0.6
		Project provides traffic management system at City Hall and communication equipment to all upgraded signals. Interconnect signals along coordination corridors and coordinate with management system.	
S61	Saratoga	**Herriman Ave./Saratoga Ave. Traffic Signal**	$0.3
		Install traffic signals at the intersections of Herriman Ave. and Saratoga Ave. that meets traffic warrants.	
S62	Saratoga	**Verde Vista Lane Traffic Signal**	$0.3
		Install traffic signals at the intersections of Verde Vista Lane and Saratoga-Sunnyvale Rd.	
S63	Saratoga	**City of Saratoga Citywide Signal Upgrade Project—Phase II**	$0.2
		Replace obsolete traffic signal control assemblies and other related peripherals.	
S64	Saratoga	**Citywide Accessible Pedestrian Signals**	$0.4
		Project updates audible signals for the visually impaired to replace all City-owned signals.	
S65	Sunnyvale	**Installation of Pedestrian Countdown Signals**	$0.2
		Install citywide pedestrian countdown signals at all signalized intersections.	
S66	Sunnyvale	**Traffic Adaptive Signal Controller Update**	$4.0
		Project expands Sunnyvale's adaptive traffic signal control system to all major arterials.	
S67	Sunnyvale	**Citywide CCTV Camera Deployment**	$1.3
		Install CCTV cameras for traffic monitoring and incident management on major arterials.	
S68	Sunnyvale	**Citywide Traffic Signal Controller Update**	$0.7
		Project includes acquisition and installation of new traffic signal controller and cabinets to upgrade City maintained traffic signals citywide in Sunnyvale.	

Table 2.7b *continued* Financially Constrained Transportation Systems Operations and Management Projects in Santa Clara County			
VTP ID	**Project Sponsor/ Location**	**Project Title and Description**	**Cost** (2013 $M)
S69	**Sunnyvale**	**Citywide Count and Speed Monitoring Stations**	**$1.2**
		Project deploys count and speed monitoring stations at various locations around the City to provide up-to-date/current statistical information regarding vehicular traffic on arterials.	
S70	**Sunnyvale**	**Citywide Intelligent Transportation System Communications Infrastructure**	**$2.0**
		Install fiber-optic cables to support ITS implementation, communication, video and data sharing within Sunnyvale and with adjoining municipalities.	
S71	**Sunnyvale**	**Traffic Management Center Integration**	**$0.4**
		Project includes implementation of a physical connection to the area-wide data and video information sharing networks to improve the ability to coordinate operations with neighboring transportation management systems in Sunnyvale.	
S72	**Sunnyvale**	**Emergency Preemption Receiver Installation**	**$1.2**
		Project provides priority and safe passage to emergency vehicles at signalized intersections.	
S73	**County**	**Santa Teresa Blvd. and Tilton Ave. Traffic Signal Improvements**	**$0.7**
		Install traffic signal at the intersection of Santa Teresa Blvd. and Tilton Ave. in unincorporated Santa Clara County.	
S74	**County**	**Santa Teresa Blvd. and San Martin Ave. Traffic Signal Improvements**	**$0.7**
		Install traffic signal at the intersection of Santa Teresa Blvd. and San Martin Ave. in unincorporated Santa Clara County.	
S75	**County**	**Capitol Expwy.: Traffic Operations Systems (TOS) Infrastructure**	**$7.7**
		Project adds TOS infrastructure on Capitol Expwy. between SR 87 and I-680.	
S76	**County**	**Santa Teresa Blvd/Hale Ave. Corridor: TOS Infrastructure Improvements**	**$5.8**
		Project adds TOS infrastructure on Santa Teresa Blvd. between Day Rd. and Castro Valley Rd. in unincorporated Santa Clara County.	
S77	**County**	**SCC Motorist Traffic Information and Advisory Systems**	**$5.8**
		Install traffic information outlets such as electronic information changeable message signs along expressways, advisory radio, cable TV feeds and web page to provide real-time traffic information to expressway users.	
S78	**County**	**Signal Coordination/Interconnect with Cross Streets**	**$5.8**
		Project implements signal coordination/interconnection between expressway signals and major cross street signals.	
S79	**County**	**Traffic Operations Systems Infrastructure Improvements**	**$11.6**
		Project enhances expressway traffic operations systems components and functions, and provides connectivity between Santa Clara County and cities for sharing of ITS data/communications.	
S80	**County**	**Expwy. Adaptive Pedestrian Timing Project**	**$2.2**
		Project includes adaptive pedestrian timing/dynamic Flashing Don't Walk (FDW) by detecting pedestrians in crosswalk.	
S81	**County**	**Expwy. and Santa Teresa Corridor Bike Detection**	**$2.5**
		Install bicycle detection on expressway shoulders close to stop bar at all signalized intersections in both directions of the expressway approach to the intersections.	

Table 2.7b *continued* Financially Constrained Transportation Systems Operations and Management Projects in Santa Clara County

VTP ID	Project Sponsor/ Location	Project Title and Description	Cost (2013 $M)
S82	**County**	**Magdalena at Country Club Intersection Signal**	**$0.8**
		Project replaces stop sign with traffic signal at intersection of Magdalena and Country Club.	
S83	**VTA**	**Countywide Freeway Traffic Operation System and Ramp Metering Improvements**	**$30.0**
		Project fills in gaps in both ramp metering and traffic operations systems throughout freeway corridors in Santa Clara County. This also includes improvements to meter on-ramps to add additional storage for queued vehicles waiting at the meters.	
S84	**VTA**	**Regional Transportation Operations Personnel Service**	**$6.0**
		Project encompasses a transportation and traffic engineering program that provides staff service to Local Agencies.	
S85	**VTA**	**Regional ITS Maintenance Service**	**$2.4**
		Project includes an operations and maintenance capital program to upgrade and replace ITS infrastructure.	
		TOTAL TSO&M PROJECTS COST	**$322.0 M**

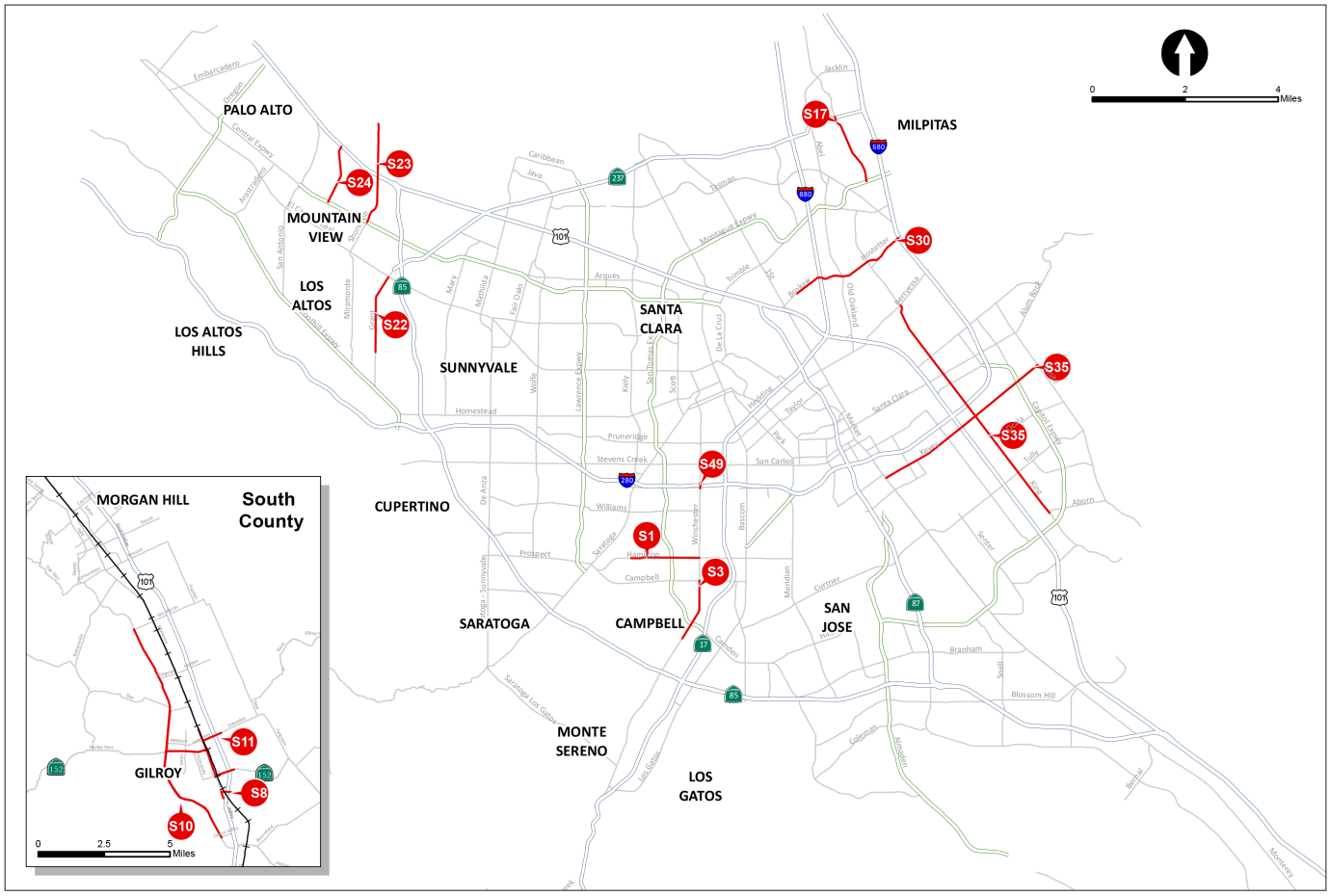


Figure 2.7 Transportation Systems Operations and Management Projects in Santa Clara County.

Community Design and Transportation (CDT) Program, Streetscapes, and Complete Streets

The CDT Program, Streetscapes, and Complete Streets category of the MTI category does not currently have a constrained project list. VTA will evaluate the best way to integrate the CDT Program with new policies developed by MTC to support implementation of SB 375. However, over the life of the plan, VTA expects to allocate $250 million to these programs. Table 2.8 shows examples of projects in this category.

The financially constrained projects included in the CIP are representative of what VTA and Member Agencies can accomplish with expected resources. The projects are intended to help meet state mandates for greenhouse gas reduction, increase mobility throughout the county, and contribute to a comprehensive multimodal transportation system. Since funding is constrained to $13.3 billion in the plan, we will highlight the needs and shortfalls to complete the full spectrum of projects and programs. In the next section, Operations and Maintenance, VTA begins to address needs and shortfalls of the system by identifying resources needed to have the transportation system operating at an efficient level. Finally, the Planning and Project Development section of Chapter 2 discusses near- and long-term planning initiatives, which includes many of the projects in the previous lists, in greater detail.

Table 2.8 Examples of Community Design and Transportation (CDT) and Pedestrian Projects in Santa Clara County

Sponsor/ Local Agency	CDT/Pedestrian Project	Cost (2013 $M)
Campbell	Citywide school sidewalks at various locations	**$1.0**
Campbell	Hacienda Ave. enhancements from Winchester to San Tomas Aquino Rd. (street lighting and bus stop amenities)	**$1.6**
Campbell	Harriet Ave. sidewalks from Westmont Ave. to Van Dusen Lane	**$0.8**
Campbell	Virginia Ave. sidewalks from Budd Ave. to Hacienda Ave	**$0.8**
Morgan Hill	Monterey Rd. local streets improvements	**$15.1**
Mountain View	Citywide crosswalk inventory/pedestrian safety improvements	**$0.6**
Mountain View	Maude Ave., Middlefield Rd., Ellis St., Louge, National Ave. sidewalks	**$0.8**
Palo Alto	Palo Alto community shuttle signage and shelter improvements	**$0.5**
Palo Alto	Palo Alto Smart Streets	**$4.6**
San Jose	City General Plan multiple street downgrades and streetscape projects	**$11.6**
Santa Clara	Citywide sidewalk connection	**$8.7**
Saratoga	Saratoga Ave. sidewalk improvement	**$0.3**
Saratoga	SR 9 pedestrian safety improvement (Phase 5 of larger project)	**$2.3**
Sunnyvale	Sunnyvale Downtown Specific Plan improvements	**$15.1**
Sunnyvale	Traffic signal reconstruction to downtown streetscape standards	**$2.3**

C. OPERATIONS AND MAINTENANCE PROGRAM

Light rail trains ready for maintenance.

Overview: The Purpose of the Operations and Maintenance Element

Transportation systems are in constant need of adequate operations and maintenance; and will need additional funds as systems expand to accommodate a growing population. While the VTP 2040 documents the long-range capital investment, it is also appropriate to illustrate the need for revenue to maintain the existing and expanded systems in the future. This section of the plan looks at the different program areas in the plan and estimates the funding required addressing these needs.

Table 2.9 shows the operations and maintenance needs in the same three Program Areas as the Capital Improvement Program: Transit, Highway, and Local System. The table shows the estimated need versus expected revenue, and the resulting shortfall expected through the timeframe of the plan. Comparing the need of the system to the expected revenue results in a revenue shortfall; the need is what is required to keep the system maintained and operated at an acceptable level. The revenue highlights the expected funding within these program areas in the next 28 years. Finally, the shortfall captures the remainder needed to maintain an optimum level of maintenance for the program areas.

VTA Transit Operations and Maintenance

VTA's responsibilities include planning, designing, and building, operating and maintaining new bus and rail projects, facilities, and paratransit service within the county. VTA is also responsible for overseeing the sales tax revenues established by Santa Clara County voters to fund and operate transit.

VTA operations and maintenance responsibilities also include contributions to other transit services within our jurisdiction such as Caltrain, Bay Area Rapid Transit (BART), and Altamont Community Express (ACE). VTA Board adopted the Transit Sustainability Policy (TSP) in 2006, which provides a process to evaluate performance of the transit system using Board adopted standards for productivity. The goals of the TSP are to: (a) Improve system ridership, productivity, and efficiency; (b) Improve farebox recovery; (c) Improve transit's role as a viable alternative mode; and (d) Use transit investments and resources more effectively.

The Short Range Transit Plan (SRTP) provides the near-term 10-year projections for the operations and maintenance of the transit system. This process allows VTA to project into the future the necessary needs of the entire transit system. Operations and Maintenance

(O&M) of the system is the primary theme of the SRTP. VTA's transit O&M costs are driven by the level of service and the cost associated with providing those service levels. The variables include items such as maintenance facilities, vehicle replacement, and maintenance of stations, track, communications systems, and other transit infrastructure. Transit operations assumed in VTP 2040 include funding for the current level of bus and light rail service, and some additional hours for a new LRT system operations plan, three Bus Rapid Transit Lines, and BART Silicon Valley Phase I (Berryessa Station). It also assumes that some redistribution of hours from low productivity services to high productivity services; this allows some efficiency to be realized.

Sources of Operating and Maintenance Funds

In the past few years, VTA has seen an increase in light rail and bus service ridership within the core system. VTA also anticipates ridership growth from the introduction of BART and BRT service in the County. Since a portion of maintenance funding comes from passenger fares, the

Table 2.9. Estimated Maintenance and Operations Needs and Revenue 2013–2040 (2013 $M)

Program Areas	Need	Revenue	Shortfall
TRANSIT PROGRAM			
VTA Bus[1]	$ 7,198		
VTA Light Rail[1]	$ 2,370		
VTA Paratransit	$ 805		
BART Silicon Valley[2]	$ 822		
Partner Agency Costs[3]	$ 876		
Other Operational Costs[4]	$ 206		
VTA Transit O&M Subtotal	$ 12,278	$ 12,278	$ –
State of Good Repairs[5] (=Core System Tier I and II)	$ 2,594	$ 2,594	$ –
Transit Subtotal	**$ 14,872**	**$ 14,872**	**$ –**
HIGHWAY PROGRAM			
SHOPP Maintenance[6]	$ 5,600	$ 2,100	$ (3,500)
Express Lanes Maintenance	$ 562	$ 562	$ –
Highway Subtotal	**$ 6,162**	**$ 2,662**	**$ (3,500)**
LOCAL SYSTEM PROGRAM			
Local Streets and Roads			
Pavement[7]	$ 5,776		
Non-Pavement[7]	$ 5,118		
Total Need	$ 10,894	$ 6,213	$ (4,681)
Expressway			
Maintenance[8] (excluding pavement)	$ 563	$ 150	$ (413)
Local System Subtotal	**$ 11,457**	**$ 6,363**	**$ (5,094)**
TOTALS	**$ 32,491**	**$ 23,897**	**$ (8,594)**

NOTES
1. VTA bus and light rail: based on RTP Submittal April 2012.
2. BART Silicon Valley costs reflect VTA payment to BART. It is the net operating cost.
3. Includes payments to services operated by Caltrain, ACE and Hwy. 17 Express.
4. The other operational costs include maintaining and operating reserve, debt service payments, and contributions to other VTA services.
5. State of Good Repairs: Based on SRTP2010–2019, Core System Tier I and II 10-year projection expanded.
6. SHOPP Maintenance data provided by Caltrans District 4.
7. Pavement and Non-Pavement comes from Plan Bay Area Pavement Assumptions 2012.
8. Expressway Needs come from Countywide Expressway Plan. Pavement needs are included in Local Streets and Roads.

plan assumes increases in fare revenues over time. VTA also relies on sales tax based revenues including the 1976 half-cent local sales tax and the 2000 Measure A Sales Tax-Operating Assistance which is derived from 18.5 percent of 2000 Measure A half-cent sales tax revenues, and the 2008 Measure B 1/8-cent sales tax dedicated to the operations of the BART Silicon Valley.

Federal 5307 Preventive Maintenance grants are another source of maintenance funding. The federal SAFETEA-LU program's Section 5307 Large Urban Cities grant program and Section 5309 Rail and Fixed Guideway Modernization programs are major sources of capital funding for VTA. Federal formula funds are awarded to the San Jose urbanized area based on demographics, ridership, levels of service, and operating measures. Another O&M funding source is the Transportation Development Act (TDA) State funding allocated to transit properties complying with regional plans.

Need

VTA's transit needs include two categories, O&M and State of Good Repair. The transit system O&M needs are derived from services that VTA directly provides and the subsidies that VTA pays to other operators, including Caltrain, BART and the Altamont Commuter Express (ACE). Table 2.9 shows VTA's need for the transit system O&M for the next 28 years is approximately $14 Billion. The Miscellaneous Costs include: (a) maintaining a board adopted operating reserve of 15 percent; (b) state of good repair capital activities; and (c) reduction of outstanding liabilities resulting from transit operations. VTA has established an operating reserve goal of 15 percent of the subsequent year's final operating budget in the VTA Transit Enterprise Fund. The purpose of this reserve is to ensure that sufficient funds are always available in the event of either unanticipated revenue shortfalls or unavoidable expenditure needs. Based on the operating budget in the duration of the Plan, VTA is required to maintain a 15 percent reserve range from approximately $56 to $64 million.

The second category is State of Good Repair, the costs to maintain the system at a level of good condition, while implementing fleet and facility changes needed to support the service level assumed in the Plan. The cost for the State of Good Repair is based on factors regarding the cost surrounding all the assets that VTA has. It also factors in the anticipated type of maintenance required for bus, light rail, and other transit vehicles. The cost to keep the system in a state of good repair is approximately $2.6 Billion.

Highways

Caltrans is responsible for the maintenance of the State Highway System. The maintenance associated with the State Highway System centers on pavement, litter removal and landscape maintenance, and ongoing technological maintenance related to ramp meters. For State

VTA buses are well maintained.

Highways not on the freeways system, pavement maintenance is done primarily by Caltrans; however, there are instances where the Local Agency agrees to maintain the project through a cooperative agreement. For example, a local agency may take charge of the litter removal for a specific interchange through an agreement with Caltrans.

Sources of Operating and Maintenance Funds

A majority of highway funding for operations and maintenance is derived from the State Highway Operation and Protection Program (SHOPP). This includes three separate categories: Preservation, Operations, and Mobility. Preservation includes the rehabilitation of the mainline freeways, pavement maintenance, and any improvements related to bridges. Operations include the installation and maintenance of both signals and signage. Mobility is inclusive of all miscellaneous improvements such as roadside assistance, collision reduction improvements, damage restoration projects, and other facility improvements.

Need

In the SHOPP program, the three elements mentioned above were calculated based on the number of freeway miles within Santa Clara County versus the amount of freeway mileage in the entire Caltrans District Four. Over the next 28 years, the State is expected to allocate about $2.1 Billion in SHOPP funds for the purpose of maintaining the system within Santa Clara County. For the purposes of VTP 2040, the overall need for the highway system in Santa Clara County estimated at $5.6 billion. This leaves a shortfall of approximately $3.5 billion.

VTA estimates the funding needed to maintain and operate the Express Lane Program in Santa Clara County is approximately $562 million over 28 years, and that these costs would be covered entirely by the toll revenue collected. Express Lane maintenance is not provided through the SHOPP.

Local System

The Local System consists of pavement management and non-pavement needs for the local roadways that the Cities and the County maintain. The local system also includes improvements to the Intelligent Transportation Systems (ITS) equipment and management of traffic. Pavement management projects are intended to repair or replace existing roadway pavement from outside edge of curb and gutter to opposite outside edge of curb and gutter. The following types of improvements occur with pavement system management: roadway reconstruction; overlays; pavement maintenance treatments; spot repairs; curb and gutter repair; replacing pavement markings and striping; and fiber-optic cable installation. They may also include bicycle striping if it is feasible.

Highways require a lot of maintenance.

Another set of maintenance needs revolves around the upkeep of traffic signals and traffic operating systems (TOS). These features have long been in need of maintenance. Most Member Agencies have stated that the biggest need in terms of operations and maintenance funding deals with the maintenance of the (TOS) system.

Sources of Funding for the Local System

For road rehabilitation and reconstruction, the preliminary source of funding comes from the Surface Transportation Program (STP). STP funds strictly go towards pavement maintenance and other indirect associated costs. Local funding is also used in many cases to maintain pavement within a particular City or the County. For the purposes of VTP, STP funding is assumed as the primary source for pavement maintenance in Santa Clara County. It is anticipated that a portion of funding from the Freeway Performance Initiative (FPI) and the Vehicle Registration Fee (VRF) would be available to fund TOS projects. However, the majority of FPI funds will go to capital projects needed, rather than the maintenance.

Need

The identified need was based on three categories: Local Streets and Roads maintenance, ITS maintenance, and Expressway system maintenance. The need for Local Streets and Roads maintenance centers on pavement maintenance. Through MTC's Pavement Management Program, the need for the County is determined by the Pavement Management System (PMS) program, which calculates the need for both actual pavement and associated non-pavement costs such as sidewalks, curb and gutter, etc. This estimate comes from MTC's Plan Bay Area 28-year Local Street and Road System Preservation Needs and Revenues report.

Pavement Management, as mentioned above, can consist of roadway reconstruction which is generally a large expense. The PMS program has a recommended standard for roadways. In a scale of 0 to 100, a score of 75 is considered to be the standard. Any roadway with a score of below 75 is considerably more expensive to maintain. As a roadway score nears 50, it requires reconstruction. It is always recommended that preventive maintenance of the roadways be a high priority. The cost for sealing and overlay of pavement is less expensive and prolongs the life of the roadway. However, while it is advisable to keep pavement maintenance at an optimum score of 75, funding to accomplish this is not readily available. Lack of adequate funding for road maintenance throughout the years, has caused many local streets and roads in Santa Clara County to fall below the score 75 threshold.

Non-pavement costs are those related to activities that are a part of pavement management but involves work that is incidental to the pavement project. For example, sidewalk maintenance and minor streetscape improvements that are part of the larger pavement project would be considered non-pavement activities. The ITS maintenance need for Santa Clara County is included within non-pavement costs. The total 28-year pavement and non-pavement need for Santa Clara County is estimated to be approximately $11 billion. The total revenue expected to be available is estimated to be approximately $6.2 billion, leaving a shortfall of nearly $5 billion for the County.

The Expressway system is managed by the County of Santa Clara. The Countywide Expressway Study of 2008 detailed the needs and resources available to maintain the system. It outlined an annual cost to maintain the Expressways. The total estimated maintenance need for the Expressways is approximately $563 Million over the 28-year period. This need does not include for pavement improvements, since that is included as part of the overall pavement. Revenue for Expressways is usually comes from local funding, STP funding, or other initiatives such as Sales Tax set-asides. Over the 28-year period of the plan, it is estimated that roughly $150 Million will be received, leaving an overall need of $413 Million.

Implications for Future Funding Strategies

The information and the discussion earlier in the section, were meant to highlight the overwhelming need to address the O&M shortfalls in the system. Even with an increase in Federal and State funding, there remains an increased level of maintenance needed to keep the system operating at an acceptable operational level. Similarly, if we want to be proactive in addressing this critical issue, we must look at other streams of revenue

both which need to be created or continue to advocate for funding through Federal and State sources. While we continue to stress the importance and functionality of our transportation system, many regional agencies are beginning to bring the issue of transportation maintenance at a higher visibility level. For example, MTC is identifying operations and maintenance to be a high priority in regional long-range plans.

In the 2035 RTP, MTC designated roughly 80 percent of revenues be allotted to the Operations and Maintenance of the transportation system, and the 2040 RTP increase this to 88 percent. Even with these large amounts of funding, the maintenance need is still great. The basic concern comes back to securing sufficient funding for operations and maintenance to ensure the high performance of the transportation system. Generally, it is more likely to secure fund sources for newer projects and implementation of existing capital needs. It is more of a challenge to pursue new fund sources for operations and maintenance, with a few exceptions.

Looking into the future, the VTP 2040 identifies strategies for increasing operations and maintenance funds. Many of these strategies are intended to begin the discussion on ways to address this large need. While some of these can be implemented by VTA, most of these require cities and counties to implement.

- **User Fees/Tolls for O&M**. The implementation of user fees or toll roads may be an alternative to current methods of funding. There are a few advantages of toll road implementation, one of which is a managed way of reducing congestion through charges that reflect current utilization. It may also provide funding where if congestion rises then so does the revenue generated. One of the uses of this revenue would be to fund O&M for the transportation system. An example of a user fee/toll road is the implementation of the Express Lanes Network in Santa Clara County. A portion of the revenue generated by Express Lanes would go toward the maintenance of the Express Lanes, as well as possible infrastructure maintenance of our local roadways and highways.
- **Vehicle Fees**. Another example can be the implementation of a Vehicle Registration fee that would apportion funding for maintenance related to ITS and pavement rehabilitation. State law requires that a large percentage of these fees would be returned to the transportation system. We should also look at using existing fund sources and apportioning out segments to fund operations and maintenance.
- **Implement Self-Help Measures**. In the past 35 years, Santa Clara County has implemented Sales Tax Measures to help fund both projects and system maintenance. The 1996 Measure B Program went a long way in providing road maintenance funding to our Member Agencies. Although it did not entirely meet the need, it provided a source of funding that did not require Federal approval for the implementation of projects. In addition, there are three sales tax measures that go into transit operations as discussed previously.
- **Consider Raising the State Gas Tax**. The State's Gas Tax was initially increased in 1994. The gas tax is approximately 36 cents per gallon. It was done mainly to finance a major highway construction program. California's infrastructure was designed for 25 million people, but we're fast approaching a population of 40 million. Motorists are buying less gas to travel the same distance because of newer fuels and efficient vehicles. But they're causing the same wear and tear on roads. A higher gasoline tax would encourage conservation, reduce our dependence on fossil fuels, and increase the demand for fuel-efficient vehicles and alternative means of transportation. A higher gasoline tax could also spur research and development in alternative energy sources and energy-efficient technology.
- **Development Impact Fees**. Many jurisdictions consider implementing or have implemented development impact fees, one-time charges applied to offset the additional public-service costs of new development. They are usually applied at the time a building permit is issued and are dedicated to provision of additional services. As in previous examples, costs for the maintenance of infrastructure can be included in developing the impact fee program. In Santa Clara County there currently are jurisdictions with local fees that are used for specific infrastructure improvements. There has been discussion regarding development of a countywide impact fee to address some of the needed operations and maintenance of the system, but that discussion has not moved forward.

- **Vehicle Miles Traveled (VMT) Tax**. This kind of tax would charge motorists based on their road usage measured in mileage. In many states, this would be considered an infrastructure funding mechanism to replace the gas tax. The gas tax revenue has gone down with the use of high efficiency vehicles. In many cases, a VMT charge is implemented using GPS units on board a vehicle to record distance, assign it to the appropriate taxing jurisdiction, and calculate the amount owed. A portion of revenue generated may also be applied for O&M of the roadway. It is a controversial method of generating revenue, but its effects can be studied. Currently, Bay Area-wide, MTC is looking at studying such a policy to see if it can be applicable here in the Bay Area.
- **Public/Private Partnerships**. Developer financing involves the payment of capital transportation improvement costs by private developers in return for dedicated land, construction of specific facilities, traffic control measures, changes in existing zoning and building regulations, or other facilities. The developer is directly responsible for assisting in providing maintenance for the roadway improvements if required through an agreement or other statute. Private ownership includes the sharing of ownership costs between transportation agencies and private entrepreneurs or development of an alternative structure with authority to finance, construct, charge fees, and maintain.
- **Legislation**. The current structure of sales or gas taxes in the state usually are return to source funds that are set aside to develop more capital improvements and needs. There could be discussion to use revenue generated from taxes to be diverted into operating and maintaining the transportation system rather than adding a project that would be difficult to maintain once constructed.
- **Local Assessment Districts**. These locations within a city that geographic area in which real property is taxed to pay all or part of the costs of a public improvement. This is different than Special Districts because they do not have a governance structure associated with them. These use special assessments to finance local improvements. While many of these improvements are typically construction of transportation facilities, these assessments can be applied to maintain roads and other infrastructure needs.

Walkways require maintenance and improvements.

- **Parking Pricing**. Another method of generating revenue for maintenance improvements is parking pricing, in which motorists directly for using parking facilities. The revenue generated from parking pricing may also be applied to O&M. It must be noted that while this is something to think about, it can only be applied and enacted by cities that choose to implement such a policy.
- **Transit Special District**. This type of district identifies assessments that would be levied to jurisdictions that would want increased transit service. This would take the willingness of a city to support services and a desire to identify policies that provide special services. Again, any assessments could go towards maintaining and operating a transit service.

D. PLANNING AND PROJECT DEVELOPMENT

Express Bus serving Fremont BART Station.

We plan because we believe our actions today will have a positive outcome in the future. A large part of VTP 2040 centers on this belief through its planning and development programs. Planning and project development activities provide the incremental steps necessary to achieve the long-range goals of the plan. VTA's investments are supported and complemented by an array of ongoing and future planning initiatives. These efforts take the form of research policies, plans and studies that range in application from specific projects to how VTA functions as an agency. They address key goals such as improving the efficiency of the system, developing new sources of funding, and improving our model of growth to embrace shorter trips and multiple travel modes. Taken as a whole, these initiatives support the mission and vision of VTA and form a roadmap for meeting the challenges Santa Clara County faces over the next 28 years.

While VTP 2040 includes a range of traditional transportation modes—bus and rail transit, and highways and local roads—it has increasing focus on multimodal transportation projects. These programs and projects seek to find synergies between modes and maximize benefits to everyone who utilizes the transportation system—whether walking, biking, riding transit or driving. VTP Planning and Project Development activities are organized in the same structure as the Capital Investment Program: Transit Program, Highways Program, and Local Systems Program. This section discusses the breadth of planning initiatives and capital project development within the program areas.

Transit Program

VTA plans for, builds and operates a full range of transit services—from local community bus lines to inter-regional heavy rail services such as Caltrain and BART. VTA is committed to continually improving its services through planning, project, and policy development. In 2007 VTA adopted its Transit Sustainability Policy

(TSP) and accompanying Service Design Guidelines (SDG). The policy framework and performance standards provided by the TSP/SDG guide the development of new transit capital projects and transit services through standards and metrics for the range of VTA transit service types. This innovative approach has resulted in the development and implementation of a new model for delivering transit service.

Strategies for Service Improvements

VTA develops strategies for service improvements that increase ridership and improve efficiency of the transit system. The goal is to operate full vehicles to make the most efficient use of the system. This means planning for market needs and optimizing operations, both of which are described below.

Planning for Market Needs

VTA's transit planning program begins with an understanding of market needs—much like business companies seek to understand what their customers want and need. VTA applies the same approach to transit service delivery: understanding what will make people ride transit in Santa Clara County, and how to plan for those needs. Using information from Market-Segmentation studies, surveys and other plans and studies, VTA is in a constant state of design and redesign of its existing transit system to better serve existing and capture new high-ridership markets. A market-based approach is designed to match basic elements such as travel, attitudes, desired amenities, environment and services in a way that VTA can prioritize the deployment of its resources and maximize its market share. Another dimension to this study will be identifying the origins and destinations of these markets.

Operating Optimization and Effectiveness

Ongoing efforts, informed by VTA's many system studies, will allow VTA to explore options for improving operational efficiency and flexibility to offer premium services such as faster transit speeds and express (skip stop) trains on the LRT system.

Annual Transit Service Planning Process

VTA continually monitors use of its transit network to determine where and when service improvements and expansions may be needed, and this process is now guided by the TSP/SDG mentioned above. This information is considered as VTA develops its biennial ten-year Short Range Transit Plan (SRTP), and its Annual Transit Service Plans. These plans are used to implement detailed transit service improvements, route changes and refinements, and improve productivity. Until new sources of additional funding can be secured for operations, VTA will work within the existing resources it has for operations, and will to continue to improve services to its current and potential new customers.

VTA has made a commitment to continually evaluate the system based on performance standards established in the Service Design Guidelines. The Quarterly Service Performance Report provides a report card on the performance of every line in the system. Based on these quarterly updates, the Annual Service Management Plan will modify bus and rail service through measures such as increases or decreases in service hours or frequency, marketing and promotion or routing changes.

Accessible Transportation Services and Programs for People with Disabilities and Senior Citizens

To meet the expected increase in demand for alternative modes of non-automobile transportation, VTA is continuing to plan for accessible fixed-route bus, light rail and paratransit services during the next 30 years. These efforts include a fleet of accessible bus and light rail vehicles, ensuring adequate operating and capital funds

Transporting fans to the game.

Seniors travel on bus using Clipper card.

to address demand for paratransit services, meeting and exceeding accessibility standards at transit facilities, developing new technologies to improve access to transit information, and provide training and educational opportunities for seniors and persons with disabilities about their mobility options.

Fixed Route Bus and Rail Service

To ensure that seniors and customers with disabilities have access to work, school, medical care and recreational activities, all of VTA's buses, light rail vehicles, and transit facilities are 100 percent accessible. Bus and light rail operators receive comprehensive training in providing service to seniors and persons with disabilities.

Persons with disabilities may apply for a Regional Transit Connection (RTC) Discount Clipper Card to obtain transit fare discounts that are mandated by state and federal law for eligible individuals. With a RTC Discount Clipper Card, persons with qualifying disabilities are entitled to reduced fares on fixed-route bus, rail and ferry systems throughout the San Francisco Bay Area. The card makes it easier for qualified persons to demonstrate eligibility for the reduced fares.

Senior citizens (65 or over) may obtain transit fare discounts on VTA buses and light rail trains and on the region's other transit services through the use of the Senior fare payment Clipper Card.

Customers who are found eligible for paratransit have the option to use their paratransit photo identification cards to ride VTA bus and light rail services at no cost when they are able to.

Paratransit Services

Customers who cannot independently use VTA's fixed route service for some or all trips can apply to use VTA's ADA paratransit service. Paratransit service is provided within the VTA service area and is available on the same days per week and during the same hours of the day as bus and light rail service.

VTA's on-going planning for paratransit seeks to continually refine and improve the service, from both cost efficiency and quality of service perspectives. The key focus of VTA's paratransit planning will be to continue to provide the operating and capital funds necessary to meet the ever growing demand. VTA has contained operating costs by purchasing high mileage eco-friendly Toyota Prius sedans. Costs have also been reduced by entering into fuel purchasing and maintenance agreements with the County and relocating the vendor's operating yard to three VTA-owned facilities. VTA has positioned itself well to meet demand growth in the coming years by taking action now to contain operating costs and has achieved a 22 percent reduction in the cost per trip. Overall costs have declined because demand for paratransit has been reduced. As the county's Consolidated Transportation Service Agency and Mobility Management Center, VTA's paratransit broker, Outreach & Escort, Inc., is able to lessen demand for paratransit service by working with the county's social and medical service agencies to offer coordinated mobility options and alternatives to persons with disabilities and seniors, consistent with FTA's "United We Ride" and Map 21.

Paratransit serves areas not reached by VTA buses and light rail.

BART Berryessa Extension Groundbreaking.

Transit Facilities

VTA's transit facility projects are completed within ADA accessibility standards and provide improvements that benefit both seniors and persons with disabilities. VTA has also worked with our local disabled advisory committee, the Committee for Transit Accessibility (CTA) to implement features that exceed ADA accessibility such as the guide tiles that are installed at transit centers. Some current and upcoming facility projects include VTA's ongoing bus stop improvement program. This program constructs improvements at bus stops throughout the county to meet ADA accessibility guidelines, improve the overall pedestrian environments and build a safe operating area for buses. This program is annually funded, often using federal grants. The CTA reviews the priorities for these bus stop improvements.

Transit Capital Projects

BART Silicon Valley, Berryessa Extension (T1) and Santa Clara Extension (T2)

The planning work that began in 2001 to bring BART from Alameda County into Silicon Valley took a giant leap forward in 2011 with the award of a $900 million grant from the Federal Government and the signing of a Full Funding Agreement, and the 2012 ground-breaking of the first phase from Warm Springs to Berryessa in San Jose. The proposed 16.1-mile extension of the BART system is planned to operate along the existing railroad alignment south of the planned BART Warm Springs Station in Fremont and extend along the previous Union Pacific Railroad Corridor to US 101. It would continue in a tunnel under downtown San Jose and end near the Santa Clara Caltrain Station. The project includes six stations: one in Milpitas, four in San Jose, and one in Santa Clara. Phase I Berryessa Extension is scheduled to open in 2018 for service.

Near-term BART Silicon Valley activities include the continued construction of the Phase I Berryessa Extension, and Phase II Project Definition activities, such as project refinement development, Phase II funding plan development, environmental clearance activities, and analysis of delivery strategies. Planning Studies include:

Berryessa Transit Connector (T6)

The Berryessa Transit Connector Study will investigate the most effective ways to serve the future Berryessa BART station by transit. The Transit service options for the station could include Bus Rapid Transit, Express Bus, Local Bus or a specially branded BART bus service that links BART riders to destinations and origins in close proximity to the station. The feasibility study will develop alternatives and recommend a service profile prior to the larger BART Transit Integration Planning effort (see below).

BART Transit Integration Study

With the opening of the Berryessa BART extension in 2018 creating new travel demand, VTA will evaluate transit service to the two new BART stations in Santa Clara County. The Transit Integration Study will survey transit customers and potential riders, conduct analysis of current and future travel patterns, and develop a service plan that integrates existing bus and light rail service to complement future BART service, and possibly new lines or routes.

Warm Springs BART Express Bus Business Plan Addendum

With the opening of Warm Springs BART in 2015, the Express Bus connection location to BART will change. The Express Bus Business Plan Addendum will revisit some of the recommendations in the 2010 Express Bus Business Plan and evaluate changes to the existing service on the remaining half of the Express Bus services.

Bus Rapid Transit Program

The Bus Rapid Transit (BRT) Strategic Plan—adopted by the VTA Board in 2009—established a design and service basis for future VTA BRT service and identified three primary corridors for immediate implementation. A fourth corridor will be re-evaluated based on its connection to the Berryessa BART station. Planning, design and implementation work is ongoing in the three primary corridors. Detail about each corridor follows:

Santa Clara Alum Rock Transit Improvement Project (T5)

The Santa Clara Alum Rock BRT project is in the Final Design phase, fully funded, and is anticipated to open in fall 2015. The project is a 7.2-mile corridor linking residential areas of East San Jose with Downtown. The corridor features two miles of dedicated lanes and 11 stations that feature uniquely branded shelters, enhanced corridor lighting, public art, real-time information, and off board fare collection.

El Camino Real Bus Rapid Transit (T3)

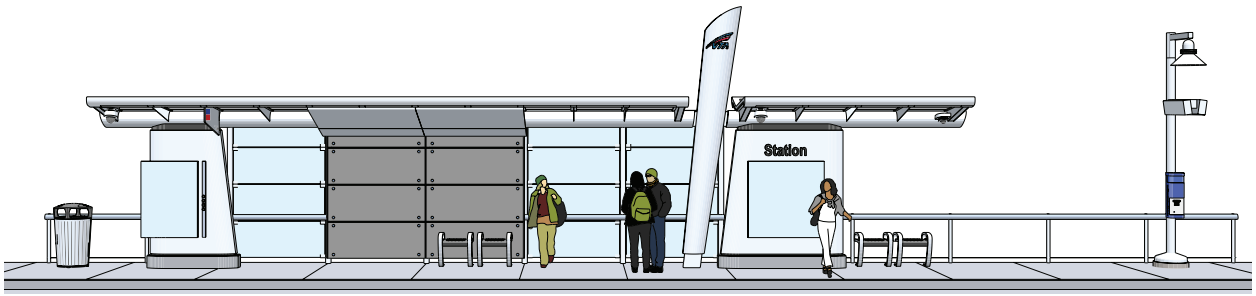
The El Camino Real BRT project is in the preliminary engineering (PE) and environmental phase, with construction projected to begin in 2016 and an anticipated opening in 2018.

The project will serve 16 BRT stations over the 17 mile corridor and will use two street configurations: mixed flow—where the bus operates in the right lane, with cars—and dedicated lane—where one travel lane in each direction is converted to a bus-only lane and stations are located in the median. BRT Stations will feature uniquely branded shelters, real-time information and off-board fare collection, which will allow for fast all-door boarding and lighting.

The El Camino Real corridor traverses six cities between Downtown San Jose and Downtown Palo Alto. The cities and VTA have partnered with San Mateo cities to establish a vision for El Camino Real as a multimodal boulevard in the Grand Boulevard Initiative. El Camino Real is a state-owned facility between Santa Clara and Palo Alto; as such, any change to the roadway must be approved and accepted by Caltrans. In addition, VTA is pursuing Federal Small Starts funding for the project and is also subject to the requirements of that program. Ultimately, the project is a partnership between VTA, the corridor cities, the State and the Federal government.

Stevens Creek Bus Rapid Transit (T4)

The Stevens Creek BRT project began Conceptual Engineering activities in the summer of 2012. The



Santa Clara Alum Rock BRT project is in the Final Design phase.

corridor extends for eight miles from De Anza College, on Stevens Creek Boulevard, to Downtown San Jose, on West San Carlos Street, linking the cities of Cupertino, Santa Clara and San Jose. The corridor is currently is served by Local Buses 23 and 323. Key destinations in the corridor include Downtown San Jose, the San Jose Convention Center, Valley Fair, Santana Row, Vallco Shopping centers and De Anza College.

Stations and vehicles will feature passenger amenities such as real-time information, uniquely branded shelters, and off-board fare collection. Planning and design work will continue through conceptual engineering, preliminary engineering, final design, and environmental clearance. The anticipated operational date is 2019.

Stevens Creek Transit Signal Priority

Using funds from the region's Transit Performance Initiative program, transit signal priority will be implemented along VTA's 23/323 route in advance of BRT improvements, as an interim improvement for service on the corridor. The project will be closely coordinated with the cities of Cupertino, Santa Clara and San Jose, and will be in operation by the end of 2014.

Light Rail Efficiency Program

The Light Rail System Analysis—adopted by the VTA Board in 2010—recommended immediate development of several capital projects to improve the efficiency and effectiveness of VTA's Light Rail System. These projects, summarized below, will transition through design and implementation phases through 2017.

Guadalupe Express Light Rail Improvement Project (T10)

The Guadalupe Express Project will reconfigure the southern half of the Light Rail System's operations to provide express trains along the Santa Teresa line, interline the Almaden spur line with the Tasman West to Mountain View line and create an independent Winchester line. The project work includes both feasibility analysis and initial designs with the goal of the revised service being in operation by the time the BART to Berryessa Extension opens.

Santa Clara-Alum Rock BRT ribbon cutting at King Road.

Tasman Express Light Rail Improvement Project (Long T) (T11)

The Tasman Express Project will introduce new light rail service linking Mountain View and Alum Rock in time for the opening of the critical Light Rail/BART connection at Montague station. The new service will feature peak period express trains between Mountain View and Santa Clara that will expedite access to and from the BART station while improving service to existing and future land uses along the Tasman corridor. The project requires track improvements and signal upgrades at several key points along the Tasman corridor.

North First Speed Improvements (T12)

Several improvements for the North First Street corridor—roughly between Tasman and the Metro/Airport stations—are envisioned to allow Light Rail speeds to improve from 35 to 45 miles per hour. A key element of these improvements will be fencing along the Light Rail right-of-way.

Light Rail System Transit Signal Priority Project

Using a grant from MTC's Transit Performance Initiative program, VTA will be upgrading and installing Transit Signal Priority at traffic signals throughout the Light Rail network. This project will speed operations for Light Rail trains, improving operating efficiency and customer travel times.

Light Rail Express Trains launched October 2010.

Light Rail Station Access Plans

In an effort to increase ridership and access to transit the VTA will develop Light Rail Station Access Plans for key stations in the system. The plans will focus on improving multimodal connections to light rail stations within a "catchment" area, identifying areas for improvement to increase access to transit.

System-wide Speed Improvements Program

As a spin-off of the Light Rail Systems Analysis, VTA will continue with its analysis of the light rail system. This ongoing effort is intended to identify capital projects and operational changes to speed up operations, make systems operation more efficient, and reduce travel times for riders. Attention to existing market opportunities and potential/emerging markets will help to establish study priorities and focus planning efforts on areas of highest return on investment.

Light Rail Station Consolidation Study

VTA will develop a methodology for evaluating future opportunities and requests for new stations on the Light Rail system. The Transit Sustainability Policy and Service Design Guidelines will be incorporated into the methodology. The resulting methodology, metrics and evaluation criteria will be designed to address both requests for new stations and requests for station consolidations—where one or two stations might be removed and replaced with a new station.

Capitol Expressway Light Rail Pedestrian and Bus Stop Improvements (T7)

The first phase of the Capitol Expressway Light Rail Project includes pedestrian and bus stop improvements along the Capitol Expressway corridor from Capitol Avenue to Tully Road. Pedestrian improvements include continuous sidewalk/multiuse path, landscape buffer and lighting. Bus stop improvements include bus stops at Ocala Avenue and at Story Road intersections with bus pads to accommodate future Santa Clara Alum Rock BRT. Construction of this phase began in October 2012.

The next phase of the project will reconstruct the Eastridge Transit Center to meet current transit demands and future BRT lines serving the transit center. The upgraded transit center will include additional bus bays and layover areas for operational flexibility, and new pedestrian connections to Capitol Expressway, Quimby Road and Eastridge Mall.

Capitol Expressway Light Rail Extension (T8)

The Capitol Expressway Light Rail Extension Project extends the light rail system 2.6 miles from the current Tasman line terminus at Alum Rock Avenue to Eastridge Transit Center in San Jose. The light rail will operate primarily in the center of Capitol Expressway, with elevated, double track structures.

The extension completes the corridor by providing a regional rail connection by directly connecting downtown San Jose and the future Milpitas BART station to Eastridge Mall, one of VTA's busiest destinations and transfer points, and high-density residential areas.

Vasona Corridor Light Rail Extension (T9)

Light rail from downtown San Jose to Winchester Station in Campbell was completed in 2005. Phase II of the Vasona Corridor Light Rail Extension project would

extend VTA's light rail system 1.5 miles from the current terminus at Winchester Avenue in Campbell to Vasona Junction in Los Gatos.

Mineta San Jose International Airport People Mover Connector (APM) (T18)

An automated people mover system connecting San Jose International Airport with nearby transit hubs was included in 2000's voter-approved Measure A sales tax initiative. Since then, Airport expansion plans have changed. The City of San Jose recently evaluated of the possibility of developing an airport "pod car/personal rapid transit" system using a public/private partnership funding arrangement. Future planning efforts may include study of applying more proven mass transportation technologies to provide better transit connections to the airport—especially through public/private partnerships.

Transit Planning Studies

The VTP 2040 vision for improving transit service focuses on key high-demand/ridership corridors, system refinements, and improved operating efficiency. To get more from existing and future investments, take advantage of "green/sustainable" transportation opportunities, and address specific community needs, VTA will use new technologies, innovative planning and marketing strategies and smaller-sized vehicles where appropriate. The vision for these improvements is to develop an expanding ridership base by providing higher-quality, market-oriented service.

VTP 2040 outlines several planning initiatives and studies to be conducted to prepare for transit delivery, refinement and expansion. These studies, outlined below, are designed and deliver more effective and productive service.

First and Last Mile Connections Study

Providing efficient transit services, which rely on density and concentrated job centers, is difficult and costly because of Santa Clara County's many-to-many travel patterns. The benefits of offering high frequency transportation services represented by commuter rail, light rail or bus rapid transit—or even conventional bus lines—are often lost at either the origin or destination where potential transit riders are confronted by long walks over difficult terrain or unfriendly environments. Providing efficient and attractive options for the "first and last mile" connection is the focus of this study, which will explore shuttles and other innovative approaches to connecting riders to home, work place and major activity centers.

Express and Limited-Stop Bus Service Concepts Study

The Express and Limited-Stop Service Concepts Study will explore new and hybrid models for providing express bus services, focusing on the commute market. The goal of this effort is to explore ways grow express bus commute market share, and to realize improved service efficiency and cost recovery. The study will include exploration and analysis of opportunities for public /private partnerships, new technology applications, and market analysis.

Vasona Corridor opening, 2005.

New Transit Corridors Program

The New Transit Corridors Program consists of a series of studies intended to establish a rational planning framework for future transit capital expansion. While each study investigates a different aspect of the transit capital program, the studies are linked by policy and program objectives established by the VTA Board of Directors.

Transit Corridor Improvement Plans

Transit Corridor Improvement Plans are defined in VTA's TSP and Service Design Guidelines as an option for cities or communities that are seeking transit enhancements in a corridor but do not reach the minimum thresholds for upgrades to higher levels of service. VTA will work with cities and communities as needed to develop Transit Corridor Improvement Plans that will identify future transit upgrades. This process will have special importance with the comprehensive General Plan updates recently completed or currently underway in many Santa Clara County cities. Moreover, based on the evaluation contained in the Bus Rapid Transit Strategic Plan and Light Rail Systems Analysis, corridors identified for potential future upgrades to Bus Rapid Transit or Light Rail may require or benefit from Corridor Improvement Plans. Additional corridors that are identified for further analysis in other studies and other forums such as Board Workshops will also be subject to these plans.

Eastridge Transit Center groundbreaking.

Bus Stop Improvement Program

This effort will evolve VTA's current program to actively study, identify, select, and develop capital improvements for key bus stops. The bus stop is the most predominant public icon of the transit system, but they are usually overlooked. VTA has over 4,000 bus stops and each one represents an opportunity to establish a sense of place for transit, a community identity, and work long term towards making the transit system—as system—truly integrated and embraced by the community at-large. The study would also include an examination of funding opportunities ranging from minimal within current expected budgets to maximum with the injection of funding from outside sources (cities, assessment districts, private/individual donors and other sources). Subsequent maintenance and funding needs will also be examined.

Transit Passenger Environment Plan

The Transit Passenger Environment Plan explains VTA's approach to designing bus stops, determines the appropriate level of amenities for each location and outlines how cities, developers and the public can partner with VTA to improve bus stops. The document also identifies a new, modern, more functional bus stop design for the agency. The document is designed like a handbook and is intended to be easy to understand and to make it easier for others to work with VTA.

A pilot program, funded by a federal grant, will install the new bus stops at select locations in Santa Clara County. In addition to providing a better waiting environment, these stops will serve as a learning opportunity for VTA that can inform system-wide deployment over the next decade as examples for cities and neighborhoods that may wish to upgrade their current stops.

Establish a Research and Development Program

Research into transportation, land use, and related policies can be invaluable to enhancing effectiveness and efficiency, the success and sustainability of transportation systems and services. Research and development of new transportation ideas, technologies, modes and vehicle types also benefit efforts in economic vitality, and community livability and sustainability. Through this program, VTA will capitalize on its position in

Silicon Valley and its proximity to world-class colleges and universities to identify and develop opportunities to engage in research and development activities. Activities included through this program may include but not be limited to, collaborations and partnerships with private companies to develop transportation technologies, academia, advocacy and other groups. It may also include creating a more formalized consortium of business, elected officials, academics and community leaders to simply explore new ideas that may lead to implementation or development concepts.

EcoPass Evaluation Study

The first phase of the EcoPass Evaluation Study was completed in 2013 after 20 months of study and input from EcoPass stakeholders. The study is revisiting the program goals of increasing ridership while remaining revenue neutral. The study also explores eligibility and categories of users to determine the optimal program design given customer needs in VTA's service area. The initial phase sets a framework for continued evaluation and modification of the program that results from further studies.

Bus stops at the Great Mall Transit Center.

Caltrain Electrification and High-Speed Rail Blended System Study (T13 and T15)

The California High-Speed Rail Authority (CHSRA) is responsible to plan, construct, operate, and maintain a safe, clean and reliable statewide high-speed rail system. The high speed train network will connect major metropolitan areas via corridors in northern, southern, and central California in anticipation increased travel

Artist rendering of the new Eastridge Transit Center.

demand between the Bay Area and Southern California. The initial phase calls for concurrent improvements in the Central Valley, the Los Angeles Basin, and the Caltrain Peninsula Corridor. Future planning work will support the pursuit of a Blended Rail System (e.g., Caltrain and HSR operating in the same corridor). Investments include projects to modernize and electrify Caltrain, and prepare the corridor for HSP service in 2029.

Caltrain Capital Needs Study and Caltrain Station Access Study

This update to the 2007 Capital needs study examines needs in Santa Clara County in context with the new "blended system" approach. As the scope of this study develops, it may be combined with a Caltrain Station Access Study. Products of the studies may include a plan, programs, and capital projects. This study will help identify needs and opportunities for upgrading stations throughout the county.

Community-Based Transportation Plans

In partnership with MTC, VTA will conduct Community-Based Transportation Plans (CBTP) in areas defined by MTC. The goal of the CBTP process is to advance the findings from MTC's Lifeline Transportation Network Report adopted by the Commission. The Lifeline Transportation Network Report identified transit needs in economically disadvantaged communities throughout the San Francisco Bay Area region, and recommended local transportation studies to further efforts to address them. Each community-based transportation study will involve a collaborative approach that includes residents and community-based organizations (CBOs) that provide services within minority and low-income neighborhoods. VTA has completed CBTPs for Gilroy, East San Jose, Milpitas, and Alviso. Future study areas include Sunnyvale, South San Jose, San Martin and Palo Alto.

Transit Center and Park & Ride Lot Evaluation Study

This study will examine the operations, safety and security concerns, market demands, and aesthetic needs of VTA Transit Centers and Park & Ride Lots. Potential study area include transit center expansion and/or circulation requirements, urban design enhancements, safety improvements, methods to attract more riders, and ways to better integrate with the surrounding environment. Potential for on-site retail services, bike storage facili-

Caltrain at the Mountain View Transit Center.

Santa Teresa Light Rail Station and Park & Ride Lot.

ties or other active uses, and ways to make Park & Ride safer are also potential study topics.

Short Range Transit Plans

The Short Range Transit Plan (SRTP) is required by federal, state and regional funding agencies and is a 10-year forecast of a transit agency's capital and operating needs together with revenue expectations. In addition, the SRTP presents an agency's transit products, funding partnerships, marketing plan and an evaluation of its services. VTA produces an SRTP a minimum of every two years and it serves as context and a precursor to the development of its two-year budget.

Highways Program

The planning and development of highways in Santa Clara County since the mid-1980s has been due to sales tax measures, when Santa Clara County became the first county in the state to implement a local sales tax to fund transportation improvements. VTP 2020 (December 2000) first articulated that it would become more difficult to build our way out of congestion; VTP 2030 (February 2005) continued this theme and coupled it with the idea of building roadway improvements that generated revenues through roadway pricing; and VTP 2035, for the first time, included a highway plan that included a specific listing of the development of a network of express lanes in Santa Clara County and declared the US 101/SR 85 and the SR 237/I-880 corridors as the first two corridors for near-term implementation. Although the concept of having drivers pay for using the roadways has existed for decades as cited in VTP 2030, the scarcity of transportation funding now is drawing even more attention to roadway pricing as a viable way to help pay for the capital, maintenance and operations costs of roadways.

In addition to the need to continue to find new ways to pay for improving highways, there is a need to continue to apply technological solutions to get maximum throughput from existing highway infrastructure while controlling costs through streamlined methods for project delivery, and developing a system that caters to a wide range of travelers.

US cities have evolved through several generations of Highway Programs—Generation 1.0—began in the 1950s with the construction of the national Interstate Highway System. Generation 2.0, completion of the highway system, came during the 1980s and 1990s with many local jurisdictions implementing self-help measures to fund projects to complete the network, as was the case in Santa Clara County. Generation 3.0, which concentrates on pricing and improving efficiency, begins in Santa Clara County with VTP 2035. We're now moving toward Gen3a, which brings viable new technologies into play that promise an evolution to true smart roads system. New materials, such as silicon-rich roadway surface material, could bring not only more durable, longer lasting roadway surfaces but also a means to generate electricity and provide vehicle communications. This next generation will evolve first through demonstration/proof of concept projects, and VTA as the Silicon Valley's transportation agency, intends to pursue these projects in partnership.

Streamlined Project Delivery Practices

With funds available to transportation declining, attention has been turned to improving how projects are delivered. Such streamlining of project delivery practices factors would improve efficiency and directly result in lower project costs. With the backdrop of national efforts by the Bipartisan Policy Center, the Eno Center and others to study how the environmental review process can be accelerated while maintaining strong environmental protections, VTA has initiated an effort to examine the project delivery process related to work with the State Department of Transportation (Caltrans). Streamlining of project delivery practices is expected to speed up project delivery which in turn means lower costs to deliver projects.

iTeam

The iTeam is a new partnership model between VTA and Caltrans that is designed to improve transportation project delivery in Santa Clara County. Working together, the team will develop and implement improved and creative methods to deliver transportation projects and services that will save time, reduce costs, and provide the much needed focus on Santa Clara County's significant project work. Ultimately, the iTeam program may lead to a new and innovative project delivery structure by Caltrans.

A Master Agreement between VTA and Caltrans has laid the groundwork for the demonstration program. iTeam program staff has located in Santa Clara County starting in mid 2013. The program will commence with focus on three specific areas: Capital Project Delivery, Traffic Operations, and Local Assistance. The following activities are anticipated to be addressed by the iTeam:

- Delivery of CMIA-funded improvement projects
- Delivery of SR 152 Trade Corridor Project
- Delivery of Silicon Valley Express Lanes projects
- Delivery of Freeway Performance Initiative, Traffic Operations Systems and State arterial operations improvements
- Oversight on capital projects (BART Silicon Valley-Berryessa Extension, Bus Rapid Transit, US 101/Trimble/De La Cruz Boulevard interchange improvement, and other PID work plan projects)
- Local Assistance Program tasks

Technology

The application of technology to transportation is often referred to as Intelligent Transportation Systems (ITS). This includes systems to assist operations (such as ramp metering and dynamic message signs) and to help the traveling public (such as real-time information systems). ITS projects are also listed under the Transportation Systems Operations and Management Program in this document.

Highway Planning Studies and Projects

Over the last several years, VTA and Caltrans have conducted highway planning studies to identify projects for development and that have been included in the VTP planning process. These studies have led to implementation projects such as the US 101/Tully Road interchange reconstruction where a ribbon cutting was held on June 15, 2012, the I-880 HOV lanes project that

US 101/Tully Road improvement project.

I-280/I-880/Stevens Creek Boulevard groundbreaking.

opened for service in 2013, the US 101 Auxiliary lanes project that opened for service in 2014, the US 101/ Capitol Expressway/Yerba Buena Road interchange project which went into construction in late 2012, and the I-280/I-880/Stevens Creek Boulevard improvements with construction starting in late 2012.

VTA, working with Caltrans and local agencies, is currently engaged in highway planning studies to inform the next generation of highway projects. A major shift in the development of highway projects is that highway projects in Santa Clara County no longer have access to locally generated sales tax measure funding. This means that moving forward there will be greater focus on projects such as Express Lanes and toll roadway projects that have the potential to generate revenue, on lower cost technology-based enhancements that work to squeeze even more throughput carrying ability out of the existing highway system, and on lower cost projects that provide focused operational benefits. The following are a few projects representative of the development efforts that are underway as part of the highway program.

SR 85/US 101 Express Lanes

These projects include the preliminary engineering and environmental studies required to develop express lanes for the SR 85/US 101 corridor. Completion is expected for 2013 with the design and construction efforts slated to follow shortly after and targeted for completion in the 2015 to 2016 timeframe. As part of this effort, the application of innovative project delivery approaches continues to be studied. This includes both innovative approaches to project delivery and project funding.

State Route 85 Express Lanes (Phase I): US 101 in South San Jose to US 101 in Mountain View (H1)

Convert 23.7 miles of the existing high-occupancy vehicle (HOV) lanes along SR 85 to combination HOV/Express Lanes. The proposed facility will allow single occupancy vehicles access to the combination HOV/express lanes by paying a toll. An additional express lane will be added to create a double express lane along a portion of the corridor to provide congestion relief and operational benefits. The project will also include the continuation of the Express Lanes for 3.3 miles to US 101 in South San Jose, through the SR 85/US 101 Interchange, for a total of 27 miles.

US 101/Capitol Expressway and Yerba Buena interchange improvements.

SR 85/US 101 North interchange project.

Traffic data collection, traffic validation, and traffic forecasting are underway for the Project Approval (PA)/ Environmental Document (ED) phase. Preliminary conceptual engineering drawings are also under development to identify design exceptions to be approved by Caltrans. The PA/ED phase expected to be completed in early 2015.

US 101 Express Lanes: Convert Existing HOV lanes to Express Lanes on US 101 from Whipple Avenue in San Mateo County to Cochrane Road in Morgan Hill (H3)

Convert 34 miles of the existing carpool network on US 101 between Dunne Avenue in Morgan Hill and the San Mateo County line to express lane operation. The current recommendation is to implement two lanes of express lanes within the existing footprint to accommodate the projected travel demand for US 101.

In December 2010, VTA began work on the initial phase of the PA/ED for the project and submitted a Project Study Report/Preliminary Development Study (PSR/PDS) for Caltrans review in March 2012, prior to producing a PA/ED. A cooperative agreement to reimburse Caltrans in reviewing the PSR/PDS has been executed. The Draft ED will be scheduled to be completed by early 2015.

SR 237 Express Lanes

The 237 Express Lanes projects include the preliminary engineering and environmental studies necessary to extend the express lanes that were opened for service on March 20, 2012 at the SR 237/I-880 interchange. The project is expected to be completed in 2015 with the design and construction efforts slated to follow. As part of this effort, the application of innovative project delivery approaches continues to be studied. This includes both innovative approaches to project delivery and project funding.

State Route 237 Express Lanes (Phase II): North First Street in San Jose to Mathilda Avenue in Sunnyvale (H4)

Utilize the available capacity in the existing SR 237 High Occupancy Vehicle (HOV) lanes to provide relief to the traffic congestion on the corridor. The project is an extension of the SR 237/I-880 Express Connectors project that became operational in March 2012. SR 237 is a six-lane facility with two general purpose lanes and a HOV lane in each travel direction in the segment under consideration for pricing. In the westbound direction, the SR 237/I-880 Express Connectors project extends to the Lawrence Expressway interchange, with the zone between North First Street and Lawrence Expressway, a distance of approximately two miles, serving as a transition zone. From this point to the west is a designated

HOV lane to just east of the Fair Oaks Avenue overcrossing, a distance of less than one mile. The proposal is to extend express lanes operations as far to the west on SR 237 as is practical.

In the eastbound direction, the existing SR 237 HOV lane begins approximately one-half mile east of the Mathilda overcrossing and extends approximately four miles to the start of the SR 237/I-880 Express Connectors project that begins at the Zanker Road overcrossing. This project would convert the eastbound HOV lane to an express lane with the limits of work potential extending back to US 101 to accommodate the needed advance signing. The Project proposes to convert the HOV lanes to express lanes within the existing freeway footprint within the existing Caltrans right of way. This approach ensures that the existing corridor is fully utilized, while not environmentally affecting the adjacent right of way.

VTA staff released a Request for Proposal (RFP) for the project. The RFP includes the development of a Project Study Report (PSR) and environmental analyses. The PSR, along with preliminary engineering and cost analysis will be completed in 2015.

State Route 237 Express Lanes (Phase III): Mathilda Avenue to SR 85 (H5)

Build new express lanes on State Route 237 between Mathilda Avenue and State Route 85.

SR 152 Trade Corridor Project: SR 156 to US 101 (H18)

Santa Clara and San Benito counties along with Caltrans are working together to develop and deliver infrastructure improvements for SR 152 between U.S. 101 and the Santa Clara/Merced county line. The improvements will accommodate the long-term travel needs of commercial, commuter, and recreational traffic by enhancing travel safety and improving traffic operations. Additionally, these improvements would enhance the quality of life for the local communities and economic vitality of the region.

The project includes four major components:

1. New SR 152 Alignment—Construct a new four- to six-lane freeway between the U.S. 101/Monterey Road Interchange in Santa Clara County and just east of the SR 152/SR 156 interchange in San Benito County, a distance of approximately 12 miles.
2. Reconstruct a full interchange at the intersection of US 101 and SR 25, including an extension to Santa Teresa Boulevard and improvements on SR 25 from the new SR 25/US 101 interchange to the Santa Clara County line.
3. Eastbound SR 152 Climbing Lane at Pacheco Pass—Widen SR 152 to construct an approximately 4-mile long, climbing lane on the eastbound ascent to Pacheco Pass together.

Express lanes help manage congestion.

4. Access Control Improvements—close uncontrolled private and local road access points to SR 152. New frontage roads, shared private driveways, standard right-in and right-out only driveway access, new interchanges and overcrossings will be included as needed.

VTA, in coordination with Caltrans, is leading development of this project. The study, including preliminary engineering, environmental studies and public outreach, would wrap up with environmental documentation of the selected improvements in 2015.

US 101 Widening Project (Monterey Road to SR 129)—Environmental Phase Only

Extend US 101 as a six-lane facility to SR 129 in Santa Clara and San Benito Counties to meet future traffic demands and provide access control. The project also entails widening and replacing bridge structures, correcting existing horizontal curves, constructing a new interchange at the intersection of US 101 and SR 25, and adding additional ramp lanes at State Route 129. The extent of the project is approximately 2.6 miles in San Benito County and approximately 4.1 miles in Santa Clara County. The portion of US 101 from Monterey Road to SR 25 would overlap with the planned work for the SR 152 Trade Corridor project. Currently, this project is in the Preliminary Engineering and draft Environmental phase.

US 101 Southbound/Trimble Road/ De La Cruz Boulevard/Central Expressway Interchange Improvements (H25)

VTA and the City of San Jose propose to make the following key improvements to relieve existing and future traffic congestion at the US 101/De La Cruz Boulevard/ Trimble Road interchange: replace existing 101 overcrossing, reconstructing the southbound three quadrant cloverleaf interchange to a partial cloverleaf and incorporating a new intersection on De La Cruz Blvd; widening the De La Cruz/Trimble Road overcrossing structure from four lanes to six lanes; realigning the southbound off- and on-ramps from and to US 101/De La Cruz Boulevard to facilitate a bike and pedestrian friendly design; realigning the northbound on-ramps from US101/De La Cruz Boulevard to facilitate a bike and

SR 152/156 Improvement Project.

pedestrian friendly design; adding a new southbound US 101 auxiliary lane from De La Cruz Boulevard to the SR 87 Exit ramp; and constructing improvements at adjacent intersections on Trimble Road and De La Cruz Boulevard These interchange improvements have been developed applying multimodal design practices and principles. Currently the project is in the PSR phase. It is expected to go into construction in 2015.

I-280/Foothill Expressway Improvements (H45)

This project includes the preliminary engineering, environmental studies and design to modify the exit ramp to Foothill Expressway from northbound I-280 from a single-lane exit opening to a two-lane exit opening at I-280. The existing situation has a large volume of traffic from northbound SR 85 attempting to enter onto northbound I-280 while another stream of traffic from I-280 is attempting to exit to Foothill Expressway. This low-cost, near-term modification is expected to improve the

existing weaving traffic through this area. The project is proposed to be completed as an encroachment permit project. Currently the project will be funded through savings in the CMIA program for VTA. Construction is anticipated to begin in 2014 and end in 2015.

US 101/SR 237/Mathilda Avenue Interchange Improvements (H33)

Interchange improvements include modifications to both the US 101/Mathilda Avenue and SR 237/Mathilda Avenue interchanges, as well as the widening the northbound direction of Mathilda Avenue. The modifications to the US 101/Mathilda Avenue interchange include the following: removing the northbound US 101 to southbound Mathilda Avenue loop ramp and adding left-turn lanes at the US 101 off-ramp at southbound Mathilda Avenue with traffic signals; extending the northbound US 101 deceleration lane to Mathilda Avenue off-ramp to accommodate the additional traffic from northbound US 101 to southbound Mathilda Avenue; constructing a diagonal ramp for southbound Mathilda Avenue to northbound US 101 traffic in the northwest of the interchange; and constructing an auxiliary lane along northbound US 101 from the Mathilda Avenue interchange to the US 101/SR 237 interchange.

The modifications to the SR 237/Mathilda Avenue interchange will include the following: realigning the westbound SR 237 off-ramp to Mathilda Avenue; removing Moffett Park Drive between Mathilda Avenue and Bordeaux Drive; and removing the existing on-ramp to westbound 237 in conjunction with the termination of Moffett Park Drive east of Mathilda Avenue and Bordeaux Drive. VTA will work with the City of Sunnyvale to develop a Project Initiation Document (PID).

Freeway Performance Initiative (FPI)

The Freeway Performance Initiative (FPI) is an effort by MTC to improve the operations, safety, and management of the Bay Area's freeway system through the application of technology-related enhancements (also referred to as Intelligent Transportation Systems or ITS) to squeeze more throughput carrying ability out of the existing transportation systems. According to MTC, "the program targets predictable congestion caused by the onslaught of commuters using the freeways during rush hours as well as non-recurrent congestion resulting from unanticipated incidents." The majority of the existing 620 center-line miles of freeways in the Bay Area does not have a complete installation of the transportation technologies that could be installed to aid motorists and those operators responsible for maintaining and operating the freeway system.

Substantial progress has been made in the implementation of additional freeway ITS in Santa Clara County through FPI.

The effort has been a collaborative process involving Caltrans, MTC, VTA and local agencies with the technical discussions being led by local agency staff represented on the Systems Operations & Management Working Group (SOMWG) of VTA's Technical Advisory Committee (TAC). New ramp metering was implemented on SR 87, SR 85, and US 101 in 2009 through FPI funding. In 2011, new ramp metering was implemented for I-880. By the end of 2012, new ramp metering was completed for I-280.

At the same time, FPI efforts to design additional freeway Traffic Operations System (TOS) and ramp metering improvements by Caltrans and VTA are underway for various locations along SR 9, SR 17, SR 85, SR 87, US 101, SR 237, I-280, I-680 and I-880. A key improvement under design is the conversion of the southbound US 101 to southbound SR 87 ramp from a single-lane connector to a two-lane connector. The existing single lane design results in routine traffic back-ups from SR 87 onto the US 101 mainline that also results in back-ups that extend back onto the adjacent De La Cruz Boulevard/Trimble Road local roadway and Central Expressway.

The current MTC effort to update the regional transportation plan, Plan Bay Area, has widened the reach of FPI to also include arterials with the premise being that maximizing the efficiency of the freeway system requires coordination with and optimization of the major parallel and freeway intersecting arterials. The application of FPI to arterials will provide opportunities to modernize and synchronize traffic signal systems along major arterials.

Innovative Projects

In the pipeline are other technology-based initiatives related to the highway system. These include the following:

- Adaptive Ramp Metering Systems
- Express Lanes Occupancy Detection System
- Remote Monitoring Ramp Metering System
- Transit Credit-Based Congestion Pricing System

These are potential new technology applications that could work to enhance already existing systems. The adaptive ramp metering system would allow better coordination between groups of metered ramps. The occupancy detection system would provide for technology to help with the determination of the number of occupants in a vehicle for managing and operating express lanes. The current method for determining occupancy based purely on visual observation by CHP officers. The remote monitoring ramp metering system would place ramp metering operations capabilities directly into the hands of Caltrans staff responsible for the operation of the meters. The current practice requires field staff to interact directly through the controller cabinets housing the metering equipment roadside. The transit credit-based congestion pricing would provide a way to link Clipper accounts with FasTrak accounts and perhaps incentive for increase use of public transit.

System Efficiency Projects

System efficiency projects are designed to improve the efficiency of the existing highway system, including interchanges and ramp improvements. The projects include auxiliary lanes in select areas, ramp improvements focusing on the additional capacity, and lane extensions to address merge frictions. MTC has shown interest recently in system efficiency projects by allowing the FPI to assist with project implementation. It is expected that MTC will consider several VTP 2040 projects as system efficiency projects and potentially provide funding for these projects to VTA. The revenue may offset expenses and allow for additional projects to be added to the highway constrained project list.

Santa Clara County Goods Movement Study

This study examines truck, freight rail and air cargo infrastructure and services to ensure our connections to gateway facilities, such as ports and airports, remain economically competitive and major goods movement transportation corridors remain efficient and vital links of the system. The study would require development of databases to track shipping and trip movements through the region /county and make projections of how goods movement s will change over time. Resulting products may include Goods Movements programs and capital projects.

Local System Program

County Expressways

Santa Clara County's expressway system is owned and operated by the County Roads and Airport Department. Expressway planning is guided by the Comprehensive County Expressway Planning Study (CCEPS), which was approved in November 2008. Expressway Plan 2040 is the successor to the 2003 Comprehensive County Expressway Planning Study and the 2008 Updates. The 2003 Study developed and documented consensus for capacity and operational enhancements, pedestrian and bicycle facilities, sound walls, and landscaping. The Study also addressed expressway maintenance and operational needs. In 2008, the Santa Teresa Boulevard/ Hale Avenue Corridor in South County was added to the Study. Expressway Plan 2040 takes a fresh look at the needs of the expressways and the Santa Teresa/ Hale Corridor based on city land use plans, projected 2040 traffic growth and Complete Streets planning. Expressway Plan 2040 will also identify new challenges and positive developments or opportunities, recommend any necessary policy changes, and revise funding requirements and implementation strategies. Expressway Plan 2040 is expected to be completed by June 2015.

Lawrence Expressway Grade Separation

The Lawrence Expressway Grade Separation Project is a study that will look at the intersections at Reed Avenue/Monroe Street, Kifer Road, and Arques Avenue to address traffic congestion. Lawrence Expressway within the study area currently serves over 80,000 vehicles per day. This large volume results in congestion and long delays for vehicles and creates a challenge for bicycles and pedestrians crossing the Expressway. Traffic congestion is anticipated to grow as the area redevelops

Bike to Work Day, May 8, 2014.

and the economy improves. The goals of the project are to identify long-term corridor transportation improvements for Lawrence Expressway between Reed Avenue/ Monroe Street and Arques Avenue to serve motorists, bicyclists, pedestrians, and transit on both Lawrence Expressway and the cross streets. A proposed concept includes depressing Lawrence Expressway below the surface, provide ramps in median to access cross-streets, and provide grade-separated pedestrian/bicycle corridor along Lawrence with ramps to cross-streets. The project still is in the development phase, with numerous public meetings taking place throughout 2014.

Local Streets and County Roads

VTA's Board of Directors created the Local Street and County Roads (LS&CR) Program to address the difficulties faced by Member Agencies to raise revenues for LS&CR projects not connected to new development projects. Member Agencies are lead sponsors for most projects in this program area. They are responsible for project design and implementation but the projects are closely coordinated with, and receive input from, VTA staff to ensure the projects meet the long-range vision for the county and contain desirable features such as Complete Streets principles. Projects that are planned for under LS&CR program area encompass local issues such as new street connections, crossing freeways and expressways, reconstructing streets, turn lanes, traffic circles, and grade separations.

Multimodal Transportation Investments (MTI)

The MTI planning area encompasses non-capacity enhancing projects in the areas of bicycle and pedestrian planning, Intelligent Transportation System Projects, Streetscape improvements and the Community Design & Transportation (CDT) Program.

Bicycle and Pedestrian Programs

The past few decades have seen an increase in the number of bicycle trails, paths, lanes and facilities in Santa Clara County. VTA's bicycle program aims to continue this trend by expanding the number of bicycle facilities and bicycle-friendly thoroughfares and by promoting bicycle-friendly design.

As the countywide planning agency for bicycle projects, VTA plays a lead role in the advancement of bicycling as a significant mode of travel in Santa Clara County. Some of the initiatives being led by VTA are the development and implementation of the Countywide Bicycle Plan and the creation of the Bicycle technical guidelines (BTG). VTA also manages the Bicycle Expenditure Program (BEP) in the Bicycle Element of the VTP; BEP is the

funding mechanism for countywide bicycle projects, utilizing several fund sources. Finally, VTA is one of several agencies working to bring bike share to Santa Clara County and the rest of the Bay Area. Details about all of these programs are discussed below.

Countywide Bicycle Plan

In August 2008, VTA adopted the Santa Clara Countywide Bicycle Plan (CBP). The CBP complements Member Agencies' bicycle plans, which are more focused on improvements serving local needs. The CBP contains policies and actions designed to improve bicycle facilities and inter-agency coordination, and promote bicycling and bicycle safety in Santa Clara County. The CBP guides the development of major bicycle facilities by identifying regional needs and new capital projects including a financially unconstrained master list of bicycle infrastructure projects. These projects are eligible for consideration for inclusion in the future Bicycle Expenditure Program updates. This list is useful in other VTA and local agency activities such as development review, transit planning, highway projects review, prioritizing local streets and roads projects, and collision monitoring. Lastly, by including these projects in the CBP, Member Agencies may apply for outside (non-BEP) funds.

VTA will be updating the CBP beginning in 2015, with a focus on opportunities for providing exceptional, 24/7, multi-jurisdictional bikeways designed to support safe and comfortable riding for people of all ages and abilities. The Plan will identify alignments that have potential to alleviate traffic congestion, connect to transit and cross major barriers. Bikeway design will emphasize safety and comfort, with designs providing physical separation from motorists or slow, shared streets. The Plan will identify amenities necessary to provide a comfortable and convenient bicycling environment, such as lighting, fountains, bike parking, maps and wayfinding signage, connections to transit, and direct access to adjacent destinations. This Plan will guide VTA and Member Agencies toward the development of an interconnected system of bicycle corridors.

Bicycle Technical Guidelines

The Bicycle Technical Guidelines (BTG) is a manual that contains optimum standards and best practices

Bay Area Bike Share launched in August 2013.

for roadway and bikeway design. It is intended to help Member Agencies to plan, design, and provide optimal bicycle facilities in their jurisdictions, while ensuring that bicycle and roadway planning remains consistent countywide.

The BTG complements the Countywide Bicycle Plan (CBP) and the Bicycle Expenditure Program (BEP) and should be used as a resource by both roadway and bikeway planners and designers. First adopted by VTA in 1999, the BTG has undergone two revisions, the most recent of which includes newly adopted State standards for, and new technical developments in, bicycle planning. The latest BTG was adopted by the Board of Directors in December 2012.

Bike Share

In 2009, VTA began work to develop, fund and implement a bike share program in Santa Clara County. In 2010, VTA joined efforts with the Bay Area Air Quality Management District and other local agencies to launch bike share as part of a region-wide program. The Bay

Area Bike Share Program was launched in August 2013 with 700 bicycles in San Jose, Mountain View, Palo Alto, Redwood City and San Francisco. Santa Clara County has joined the select few U.S. cities to provide bike sharing as an alternative transportation option to make short trips, connect to transit and improve access to transit services. The Program will be expanded to 1,000 bikes in 2015. The goal of the program is to continue program operations and expansion following the pilot period.

Pedestrian Access to Transit Plan

People walk using sidewalks, crosswalks, paths and trails every day, alone or as a part of longer trips connecting with other modes. Most trips, especially longer ones, involve relying on more than one mode of transportation to reach a destination. For shorter local trips, walking often becomes the primary transportation mode, yielding greater importance to having comprehensive pedestrian facilities. In this context, all places are universally linked through walking or using mobility aids on sidewalks, crosswalks, and other public spaces. A well-connected pedestrian network encourages short trips to be taken by foot, and effectively reduces traffic congestion by eliminating local car trips.

Well-designed paths and amenities maintain safety as the paramount feature for pedestrians of all ages and abilities. One major area of focus is to improve safety in the design of all pedestrian facilities and connections, especially for people with limited mobility. Pedestrian paths and public spaces contribute to vibrant and livable communities, and help establish a sense-of-place. Combining unique, visually striking design with practical amenities for pedestrians helps strengthen the emotional bond between people and the cities built around them. The pedestrian network contributes to healthy communities and active lifestyles.

These ingredients for a robust, enjoyable, and safe walking experience lie in vigilant planning and engineering. In the fall of 2013, VTA began developing a County-wide Pedestrian Access to Transit Plan. Through this process, VTA is cataloguing pedestrian conditions at the county level, and will conduct focused field work at areas of high transit and pedestrian activity to identify opportunities for improving the pedestrian network. The plan will address good urban design, streetscape projects, and capital investments. The Plan will build on and leverage with the existing efforts carried out by VTA and its Member Agencies, such as the bus stop improvement program, Cities' pedestrian plans and their Capital Improvement Programs, and grass root efforts.

Similar to the Bicycle Program, the Pedestrian Program will encompass its own programs, capital projects, and will complement VTA's Complete Streets effort.

Transportation Systems Operation and Management Program

The Transportation Systems Operations and Management (TSO&M) Program seeks to improve the operation and management of Santa Clara County's transportation system through the use of new technologies, including electronics, computers, and communication infrastructure.

Everyone in Santa Clara County is a pedestrian at some point during their journey.

Smart Streets Study

This exploratory study examines new technologies and applications, and their suitability for implementation in Santa Clara County. It is the first step towards developing a smart streets plan, programs, and capital projects. This study may also position Santa Clara County to receive federal grants for proof of concept projects or programs and engage Silicon Valley Hi-Tech firms to enter public/private partnerships with VTA and other local government agencies. Possible concepts for examination are:

- **Smart Road Intersections**. These fully-instrumented signalized intersections are dynamically reconfigurable (e.g., turning lanes and crosswalks can be added as needed) for all approaches and are outfitted with customized controllers, vehicle presence sensors, and wireless communications.
- **A system of Smart Roads** to cost-effectively improve traffic flow by installing sensors, cameras and automatic toll readers that are integrated with vehicles and other systems.
- **New materials and technologies** such as high tech road surfaces, which offer such features as durability, renewable materials, permeability, or the ability to generate solar power.

Silicon Valley Intelligent Transportation Systems (SV-ITS) Program Enhancements

Through a partnership of local, regional and State agencies, work will continue on the integration of technology-based systems to provide improved operations of the transportation system. The program has four projects underway or near completion that expand camera surveillance, coordinate traffic signal operations, and share traffic information in areas covering Los Gatos north to Fremont in Alameda County, around the San Jose Mineta International Airport, and westward from downtown San Jose to Cupertino. The SV-ITS program has plans to upgrade its existing Wide Area Network (WAN) to current networking standards and to interface with the Caltrans—District 4 Traffic Operations Center (TOC) in Oakland, CA.

Advertisement for Transit Live, a Real-Time Transit Information project.

Santa Clara County TSO&M Projects from the Freeway Performance Initiative

MTC's FPI program aims to make improvements to ramps through technology improvements and greening existing ramp meters. In Santa Clara County, the VTA will manage a set of projects. All of these projects will be implemented beginning in mid 2013, with completion of these sets of projects to occur in 2015.

Ramp Metering Implementation

This project will implement ramp metering along southbound US 101 between Embarcadero Road and De La Cruz Boulevard, the entire length of SR 87, and southbound SR 85 between Almaden Expressway and Cottle Road during the AM and PM peak periods. Ramp metering improvements to the I-880 corridor between SR 237 and I-280 were subsequently added and implemented. Caltrans has recently requested assistance with similar ramp metering improvements on the I-280 corridor between US 101 and I-880.

Regional Transportation Operations Personal Service (RTOPS) and Regional Intelligent Transportation Systems Maintenance Service (RITSMS)

VTA and its Member Agencies are interested in using these systems to fullest potential and developing these programs to meet a regional need to manage, maintain, and operate existing traffic operations systems (e.g., traffic signals, traffic surveillance cameras, traffic data collection, and communication peripherals). Current, some of these systems are not staffed or funded with appropriate levels. These programs will develop, enhance or augment existing management, mainte-

nance, and operations staff/programs for these systems to ultimately move traffic more efficiently in the region. Both RTOPS and RITSMS in near future will be funded through regional portion of the Santa Clara County Vehicle Registration Fee (VRF) funds.

San Jose Traffic Signal Communication and Synchronization Project

In 2008, the California Transportation Commission approved a grant through the Traffic Light Synchronization Project (TLSP) to the City of San Jose for $15 million to upgrade 785 aging traffic signal controllers, install 36 miles of fiber-optic communications to support real-time traffic management, and install 141 traffic surveillance cameras to support real-time traffic management, implementation of traffic responsive corridors in seven key business and commercial districts in the City of San Jose, and synchronize the traffic signals.

County Expressway Traffic Operations System

The County of Santa Clara Roads and Airports Department has on-going effort to implement the deployment of fiber-optic communications, traffic signal system improvements and surveillance cameras along all eight expressways. Much of this improvement project was funded by the 1996 Measure B sales tax; however, in 2008, the California Transportation Commission approved a grant through the Traffic Light Synchronization Project (TLSP) to the County for $0.9 million to enhance its existing data collection systems. The enhancement would be used by the County TOC staff and the centralized traffic signal control systems to optimize traffic signal timing to meet changes in demand.

Real-Time Transit Information Project (Formerly Dynamic Passenger Information Project)

The Real-Time Transit Information (RTI) project incorporates various state-of-the-art Intelligent Transportation System (ITS) technologies at light rail/bus transit centers and park and ride lots. This project includes Internet-based information, real-time electronic transit schedules linking to Automated Vehicle Location (AVL) on buses and light rail, transit information signs, and other on-site transit user amenities.

Transportation Operations Strategic Plan for Santa Clara County (TOSP)

The TOSP, previously referred to as the ITS Implementation Plan, is derived from the 2008 Transportation Operations Strategic Plan for Santa Clara County. It describes a strategy for making better use of real-time actions to enhance the operation of public surface transportation facilities in Santa Clara County, California, and provides input to the VTP. The facilities of interest are all publicly owned major roads and transit systems in the urban portion of the county. The real-time actions of interest are those taken minute-by-minute by personnel or automated systems to monitor system information and make changes as needed.

This strategy is intended to help refocus Santa Clara County agencies on effective and cooperative transportation operations. This is especially important now that travel demand is growing again after a downturn following the recent technology-industry recession.

The strategic ITS planning effort generated a list of projects and initiatives and revealed a shift in the original fund allocation recommendations, where operations, management and maintenance needs have become the greatest need in the region. The greatest needs in order of greatest frequency are as follows:

1. Operations, management, and maintenance programs
2. Traffic flow improvement project for all users such as traffic signal timing; improve access for pedestrians and bicycles; improve transit operations; and safety
3. Traffic Signal Systems projects
4. Traffic Operations Center (TOC) projects
5. Traffic Surveillance projects such as cameras and in pavement loops
6. Communications between traffic signals, TOC, and other traffic operations systems (TOS)
7. Emergency Response System projects
8. Other projects that do not fall under any of the above listed project types

Community Design and Transportation Program, Streetscapes, and Complete Streets

Community Design and Transportation Program

The CDT Program is VTA's primary method for aligning transportation with development and services, as well as defining principles, practices, and actions that lead to more inviting and vibrant places throughout the County. Adopted in 2002, the CDT program is the first of its kind in the Bay Area to present a new paradigm for growth and development in Santa Clara County by intensifying land use and transportation alternatives around Cores, Corridors and Station Areas (CCSA).

Ten years later, the concepts presented in the CDT have been integrated into local and regional planning practice by agencies throughout the Bay Area. At VTA, the Pedestrian Technical Guidelines are a direct result of the CDT Program, as are several of VTA's grant programs. Regionally, the CDT principles and practices are incorporated into the Plan Bay Area due to the transportation and land use mandates of SB 375. MTC and ABAG designated many CCSA's as PDA's, which has blurred the lines between the CCSA concept of the CDT and the PDA concept of the RTP.

Unlike the PDA concept, however, the CDT considers that, although focused growth around transit and activity nodes is vital to the long term success of the County, areas that do not fall within a PDA are important and should be enhanced and revitalized with treatment appropriate for those neighborhoods. The CDT program is designed to consider these non-PDA areas and committed to making them inviting and connected places that draw people by non-automobile modes of travel.

The CDT Manual of Best Practices and other supporting documents are being updated. The CCSA and PDA boundaries may also be revised. It also means incorporating best practices to increase livability in traditional car-oriented suburban housing developments that are not within the CCSA/PDA boundaries. The urban design and land use patterns advocated for in the CDT Program are critical to realizing the full potential of our transportation investments.

PDA Investment and Growth Strategy Program

In September 2012, MTC and ABAG initiated a process that focused on transportation and housing needs of the PDA communities in Santa Clara County. Through the implementation of the One Bay Area Grant, the regional agencies developed the investment and growth strategy as a tool to evaluate growth in housing and employment within PDAs. Development of the Investment and Growth Strategy developed through an outreach effort through discussions with City staff City Councils, and public advocacy groups. In November 2012, the VTA convened a Growth Strategy Forum to gather input for the development of the first report. The first Investment and Growth Strategy Report was adopted by the VTA Board of Directors in June 2013.

For the second report, VTA took another approach that may set the stage to identify future needs in order for PDAs to fully develop. This report attempts to give a sampling of the current efforts taking place within the PDAs, as well as new developments occurring within the PDAs. The efforts highlighted in the report show the level of work being done by each City that has a PDA. There is potential for this report to lay the foundation for the ability to develop site specific strategies for each of the PDAs. A final draft of the Investment and Growth Strategy will be completed in late 2014 to meet the annual requirement.

New construction on Tasman.

Other Planning Initiatives

Land Use and Transportation Integration

Coordinating land use and transportation planning is one of the fundamental ways to ensure that transportation investments are used effectively and land uses are supported by the appropriate transportation infrastructure and services. VTA has an extensive history of working closely with Member Agencies on land use and transportation integration, while balancing regional planning principles with the integrity of local planning initiatives and plans. Maintaining this balance will help us achieve SB 375 requirements, meet the goals of the RTP, and strive for our collective vision for a vibrant Santa Clara County.

As the modeling results in Chapter 1 showed, reaching the greenhouse gas reduction targets set forth by SB 375 will require us to intensify housing and job production around transportation nodes. We cannot do this without the express help of local jurisdictions, who have land use decision-making authority. To elicit the highest and best use from transportation investments, and deliver a world-class multimodal transportation system, VTA must rely on the concerted efforts of its Member Agencies. Land use policies and commitments by Member Agencies are important factors in VTA's decision-making process for transportation improvements because opportunities to add capacity to roadways and expand fixed-rail transit are limited and expensive. VTA expects to see its commitments of billions of dollars, in capital and on-going operating funds to Member Agencies, work in concert with coordinated land use and policy decisions that focus development along major transportation corridors or around transportation nodes.

VTA works with its Member Agencies to promote land use and transportation integration through several efforts. These include policy-level coordination when Member Agencies update their General Plans; project-level coordination through VTA's Proactive Congestion Management Program (CMP) and Development Review Program; and ongoing information-sharing and discussion at the agency staff level through VTA's Land Use/Transportation Integration (LUTI) Working Group.

Integration of transit and land use on El Camino Real.

Complete Streets Corridor Program

VTA will explore developing a complete streets program. This program will seek to create new opportunities to maximize the investments of VTA and local agencies. This will include ways to combine program elements and funding for bicycles, pedestrian, streetscape, safety and transit improvements in corridors.

Policy-Level Coordination— General Plan Updates

Local agency General Plans are the fundamental policy documents that guide land use change, define the local transportation system, and determine the vision for other elements such as parks, public facilities, and infrastructure. In the past few years, several cities in Santa Clara County have completed updates to their General Plans, including San Jose, Santa Clara, Mountain View, and Los Gatos. Other cities, such as Sunnyvale, Palo Alto, and Milpitas are in the process of updating portions of their General Plans. VTA often provides input to its Member Agencies on these policy updates in an effort to promote a coordinated land use and transportation system. VTA also works closely with Member Agencies that have recently updated their General Plans, to help with General Plan implementation.

Proactive Congestion Management Program (CMP) and Development Review Program

VTA also coordinates with its Member Agencies to promote land use and transportation integration at the project level. As the Congestion Management Agency for Santa Clara County, VTA reviews development proposals circulated by Member Agencies to ensure that transportation impacts are minimized, to facilitate use of alternative transportation modes, and to encourage a balanced approach to addressing congestion. The CDT program is a fundamental component of this review process. The Proactive CMP process coordinates two project review processes engaged in by VTA staff:

1. Review of environmental documents, site plans and related documents as part of VTA's Development Review Program
2. Review of Transportation Impact Analysis (TIA) reports of proposed projects meeting the Congestion Management Program TIA Guidelines requirements

VTA is currently enhancing its efforts in the Proactive CMP Program and Development Review Program. These improvements are intended to forge a stronger partnership between VTA, its Member Agencies and the development community to promote more transit-supportive and livable communities.

VTA Land Use/Transportation Integration (LUTI) Working Group

As a part of its land use-related activities, VTA has recently introduced a new Land Use/Transportation Integration (LUTI) Working Group of its Technical Advisory Committee. This Working Group is composed of Member Agency and VTA planning staff and provides a forum for information-sharing and discussion of topics with transportation and land use implications. The LUTI Working Group has also helped VTA in its role as a liaison between the regional agencies and Member Agencies in the development of the Sustainable Communities Strategy under SB 375.

Congestion Management Program (CMP) and Transportation Impact Analysis Guidelines Update

In accordance with California law, Santa Clara County has established a Congestion Management Program (CMP). The intent of the CMP legislation is to develop a comprehensive transportation improvement program among local jurisdictions that will reduce traffic congestion and improve land use decision-making and air quality. VTA administers the CMP and serves as the Congestion Management Agency (CMA) for Santa Clara County. As a part of its CMA role, VTA maintains the technical guidelines and standards for the transportation analysis of development projects and plans in Santa Clara County. VTA is continually looking to improve its CMP policies, standards, and technical documents. Santa Clara County/Silicon Valley is a unique region, and VTA recognizes that its CMP should adapt to the changing landscape and emerging trends in Santa Clara County, the Bay Area, and beyond.

One of the areas that VTA is updating is the VTA CMP Transportation Impact Analysis (TIA) Guidelines that Member Agencies use when analyzing the transportation impacts of land use and development projects on the CMP transportation system. A number of recent trends have occurred since the TIA Guidelines were last updated in 2009, which provide an impetus for updates and improvements. These trends include progress on the implementation of SB 375 and the emphasis on reductions in auto trips and Vehicle-Miles-Traveled; the 2010 updates to the CEQA Transportation checklist which allowed Lead Agencies more flexibility in determining how to perform transportation analysis; the release

Transportation and land use integration promotes community.

Fans taking light rail to the game.

of the 2010 Highway Capacity Manual including new Multimodal Level of Service measures; and additional emphasis on Complete Streets policies. An update to the TIA Guidelines focusing on the improvements described above involved consultation with the VTA Technical Advisory Committee and its Working Groups, other VTA Board Committees, and other stakeholders. It was approved by the Board in 2014.

Multimodal Level of Service

In December 2010, the Transportation Research Board (TRB) released an updated version of the Highway Capacity Manual (HCM 2010) which includes new methodologies for measuring Pedestrian, Bicycle, and Transit Level of Service (LOS) on urban streets. Since 2011, VTA has been making efforts to educate its own staff as well as Member Agency staff on the new Multimodal LOS methodologies.

VTA will be working with its Member Agencies over the next few years to determine the best way to incorporate multimodal performance measures in the Congestion Management Program (CMP).

CMP Technical Studies Program

This ongoing Program is designed to improve VTA's CMP through the application of new academic and industry research, real world experiences of other agencies, and original research conducted by VTA. Original research may include but not be limited to parking demand, management, and design; multimodal streets; modal level-of-service standards (i.e., bicycles, pedestrians and vehicles), and trip generation/trip reduction rates and strategies. VTA may partner with other institutions such as nearby universities to conduct research, and may pursue grant funding. This work is intended to provide specific, local information to help update VTA's CMP guidelines and standards, with the ultimate goal of incentivizing better development and transportation projects.

Joint Development Program

VTA's Joint Development Program furthers the VTP land use goal and objectives and supports VTA's strategic and fiscal goals. To govern the activities of the Joint Development Program, the VTA Board of Directors approved a comprehensive policy framework in 2009 that significantly improves upon VTA's previous Joint Development Policy, originally adopted in January 2005. The policy framework provides the principal concepts behind the Joint Development Program, and the Implementation Plan lays out a consistent process to advance Joint Development opportunities. The program identifies the most suitable private and public sector development opportunities from VTA's extensive portfolio of VTA-owned property at, and adjacent to, transit stations and corridors. VTA envisions its station areas and transit corridors as vibrant, prosperous community assets that create a strong sense of place for transit, pedestrians, and the surrounding community.

The mission of the Joint Development Program is to be accomplished through the pursuit of the following three goals, in priority order:

A. **Revenue**. To provide a long-term, stable source of revenue for VTA by obtaining fair market value on the sale or lease of its real property assets through an open and competitive development process;

B. **Transit Oriented Development (TOD)**. To carry out TOD, where appropriate, that provides the highest and best use of each site, conforms to the regulations of the affected jurisdiction in which the site is located, and achieves the goals set forth in VTA's Community Design and Transportation Manual for high quality design and community benefits; and

C. **Transit Operations**. To create development that results in ridership growth on multimodal transit systems and/or enhances VTA's operational infrastructure.

All of these goals are to be accomplished through a consensus-driven, site-appropriate development process, which includes both comprehensive intra-agency coordination and extensive collaboration with external stakeholders. As a whole, the approach outlined in VTA policy framework is intended to be clear and uniform for all projects; to involve close communication and collaboration with affected jurisdictions; to follow a competitive developer selection process; to include best practices in the public/private contracting arena; and to be fair and transparent to developers, jurisdictions, real estate markets, and the public.

Of the three goals, determining the appropriate level of parking for TOD poses one of the major obstacles to the Joint Development Program. As a transit agency, VTA is strives to provide convenient parking for transit patrons, but as a requirement for a potential development, project parking must also be satisfied based on local land use regulations and zoning requirements. In early 2011, through a grant issued by MTC, VTA conducted a Replacement Parking Study for a subset of station areas to ascertain the appropriate approach to Transit-Oriented Development Parking. The results of the study were finalized in March 2012 and concluded that the replacement parking should be determined on a project by project basis. The project-specific replacement parking will vary depending on myriad factors, such as parking demand, potential to implement Transportation Demand Management practices, access improvements, and potential for the ridership levels to increase as a result of the transit-oriented development. VTA will continue to evaluate station-specific replacement parking and seek shared-parking opportunities were applicable.

A station-specific Joint Development opportunity is located at Tamien Station in San Jose. VTA has engaged a consultant to advance the project with the ultimate goal of obtaining entitlements for a high-density housing project. Phase I of the analysis is underway and will include feasibility and site planning studies. The first Phase will also include preliminary analysis for the opportunities and constraints for development and will require extensive coordination between VTA, its consultants and the City of San Jose.

Policy Initiatives

Congestion Pricing

Congestion pricing seeks to maintain a constant acceptable level of operation by charging users a fee. As applied to Santa Clara County, congestion pricing would first take the form of express lanes on highways. Express lanes are modified HOV lanes that allow non-carpool drivers to use the lane for a fee that varies depending on traffic conditions.

This strategy takes advantage of excess capacity in HOV lanes and has the added benefit of raising revenue for future corridor improvements including express or freeway-based BRT services operating in the lanes. By allowing non-carpool drivers to use express lanes, the burden on mixed-flow lanes is reduced. Legislation is in place that allows the development of two express lane corridors. US 101 and SR 85 are the top corridors for near-term implementation. VTA will seek authority to complete the entire network. VTA has recently completed and opened the SR 237 Express Connector project this past March and work will commence to work on the remaining sections of SR 237.

Fees

Dwindling transportation funds at the state and federal level require VTA to explore innovative funding strate-

VTA light rail serving the Fourth of July fireworks event in downtown San Jose.

gies that use old, new, or non-traditional financing techniques to raise the funds necessary to deliver transportation projects efficiently and cost effectively. The use of fees to supplement traditional funding sources is an important strategy for managing demand and meeting operations and maintenance needs, while also enhancing and expanding Santa Clara County's multimodal transportation system. This broad planning area includes many strategies that align real costs with the users who benefit from the transportation product. Aligning users and costs creates a natural progression where demand for some projects will decrease while revenues from other projects will increase.

VTA is committed to working with member agencies, regional authorities, and the public to transparently develop and implement fee programs, which will be multimodal in focus and protect the public interest in the transportation system. The following list contains potential fees or fee-based partnerships that may be implemented during the life of the plan.

- Gas taxes
- Planning activity fees
- User fees (e.g., toll roads)
- Variable parking fees
- Pay as you drive car insurance
- Vehicle registration fees
- City or county general funds
- Transient occupancy tax
- Right-of-way dedication
- Parking charges and taxes
- Payroll tax
- Congestion pricing
- Tax increment financing (e.g., Special Transit District)
- County-wide tip
- VMT fees
- County-wide deficiency plan
- Public/private partnerships. (e.g., Asset leases)
- Impact mitigation fees
- Business tax/license fees
- Local assessment districts
- VMT tax
- Parcel tax
- California Environmental Quality Act (CEQA) mitigation

CHAPTER THREE: A VISION FOR TOMORROW

3

The future success and vitality of our County will depend on how we grow, develop and evolve in the years to come. VTP 2040 presents a vision for the future that is based on a broad set of goals and objectives that can respond to the many challenges we face—how to grow efficiently, preserve the health of the environment and maintain sufficient funding resources, while providing all socio-economic groups access to transportation and opportunity. Developing a long-range vision is an iterative process, one which requires us to revisit our goals and make adjustments to our assumptions to better respond to new opportunities and challenges in the future. It also requires that we embrace both a visionary and practical approach to plan for outcomes we want to achieve but also recognize that the outcomes we desire from this Plan will not be the result of any one project, decision, or jurisdiction. It will be based on the cumulative impact of the choices and investments we make over time. VTP 2040 embodies these principles and reflects our intent to support a more efficient and sustainable transportation system.

VTA serves Levi's Stadium.

CONCLUSIONS

The future success and vitality of our County will depend on how we grow, develop and evolve in the years to come. VTP 2040 presents a vision for the future that is based on a broad set of goals and objectives that can respond to the many challenges we face—how to grow efficiently, preserve the health of the environment and maintain sufficient funding resources, while providing all socio-economic groups access to transportation and opportunity. Developing a long-range vision is an iterative process, one which requires us to revisit our goals and make adjustments to our assumptions to better respond to new opportunities and challenges in the future. It also requires that we embrace both a visionary and practical approach to plan for outcomes we want to achieve but also recognize that the outcomes we desire from this Plan will not be the result of any one project, decision, or jurisdiction. It will be based on the cumulative impact of the choices and investments we make over time. VTP 2040 embodies these principles and reflects our intent to support a more efficient and sustainable transportation system.

Challenges Ahead

Looking toward the future, we are faced with complex challenges that have real economic, social and environmental impacts—a growing population, increasing congestion, changing climate, fluctuating gas prices, and declining financial resources among many others. Our ability to maintain and improve the quality of our transportation system over the next 28 years will be challenged by a combination of these factors, many of which relate to the physical landscape of Santa Clara County and some which are external forces outside of our direct control. Nevertheless, achieving much of this shared vision requires a concerted effort between VTA and its partner agencies to find common ground in aligning local and regional interests in transportation, land use, air quality and environmental concerns.

Past experience has shown us that Santa Clara County is responsive to innovative solutions to address the growing demand for transportation mobility. As a "self-help county," Santa Clara County residents have demonstrated support for implementing programs and projects that improves transportation services throughout the

years. As a result, VTA has and will continue to roll out innovative transportation solutions like congestion pricing, better information technology, and offer faster, and more customer-focused transit service. VTA will work with its Member Agencies to gather the political will and support necessary to further advance similar innovative strategies contained in VTP 2040.

The recommendations outlined in this Plan are not exceptional or unattainable—they describe what we can do given the available resources and what we can accomplish if we plan strategically. However, implementing this shared vision will require many years and significant resources to accomplish. The County has already taken great strides in creating our own funding opportunities by generating local revenue through sales tax measures. We must continue to stretch our local revenue dollars and seek additional resources that can help fund investment priorities now and anticipated project needs in the future. This will require innovative financing with the revenue we know that we can expect in combination with other approaches.

Opportunities for Change

Challenges which may seem daunting often present tremendous opportunity for meaningful change and the chance to demonstrate leadership. We are fortunate to have in place the key elements essential to make meaningful change in the future: 1) an informed and engaged community, 2) forward-thinking partners dedicated to creating strong communities and 3) a proactive government and local agencies working together to seize opportunities in providing high quality transportation programs and services.

In an effort to respond to a range of challenges, make the most of our regional assets and realize our Plan vision, VTP 2040 outlines a menu of transportation investments designed to help meet the needs of Santa Clara County in the next 28 years. The Plan also includes a fresh assessment of opportunity areas that will help broaden the range of transportation options available.

Tie land use and transportation with funding. The passage of SB 375 is the beginning of what could potentially be a transformative change in better integration of land use and transportation decisions in Santa Clara County. A critical component to encouraging focused growth and strategic growth is to tie funding to projects near transit. VTP 2040 supports the regional strategy of incentivizing focused growth to support the Priority Development Areas (PDA's) with One Bay Area Grant Program (OBAG) funding.

Sensible Growth. Even though VTA supports focused growth in PDAs, we must also consider local land use policies and local initiatives that support smart growth. We must think of growth that does not just focus on housing, but also employment. The health of the economy affects this County as well and we must not lose sight of that. At the same time, we cannot use that as an excuse that prohibits VTA and its partners from our efforts. This simply is a call for us to use our resources wisely in our PDAs and also continue our focus outside of those areas that play a role in change.

Make the most of what we have. While we actively pursue innovative solutions that can address traffic congestion and efficiency in travel time, we can also improve existing transportation systems through better system management. We must take advantage of the intelligent transportation tools that help keep traffic flowing, improve bottlenecks, and enhance public transit. VTA is actively pursuing efforts to increase mobility through the advocacy of multimodal level of service which will encourage complete design and multimodal planning.

Invest in public transit. VTA is actively pursuing efforts to invest in significant transportation improvements. To increase speed and service levels on our light rail system calls for an intensive investment in capital transit projects. The VTA also envisions increased light rail connections to new destinations and Bus Rapid Transit projects that will improve ridership and increase express service along major corridors. Improvements to our active bus fleet will also ensure high quality vehicles that reduce the impact on the environment.

Offer more travel choices. Projects which would increase bicycling and walking mode shares are a significant component of the Bicycle Expenditure Program. VTA and its Member Agencies are driving the change towards making bicycling and walking viable transportation modes by investing in well-maintained bicycle and pedestrian facilities, improved access to transit facilities, and enhanced safety features though better street design. In addition, the County is demonstrating its strong commitment towards non-motorized transportation systems by rolling out new programs like bike sharing and introducing treatments such as protected bike lanes and "green lanes."

Build partnerships. VTA, working in partnership with its Member Agencies, take an active role in planning for improvements that benefit mobility and air quality. Currently, through the development review process, VTA has been able to advocate for best practices in new developments around the County. Member Agencies have also begun the process to address climate change through General Plan updates. As General Plans are updated, there is a movement to implement complete street practices, consider land use changes, and develop Climate Action Plans.

What Lies Ahead

The Plan calls for us to look deeply into the future and anticipate changes in the planning horizon which can affect our quality of life. The Plan indicates a number of trends which will likely continue into the future with investments in multimodal transportation services, system refinements, demand management and maintenance of existing infrastructure. However, transportation improvements will only take us so far. Changes in land use pattern must also evolve to support existing and future transportation investments. By integrating these two policy objectives, we can succeed in maximizing limited transportation dollars while advancing the goals of VTP 2040.

Technology will undoubtedly play a key role in future transportation strategies. Just as technological developments have improved fuel efficiency and introduced greater efficiencies in energy consumption, emerging technologies will be a critical component to address new challenges in transportation and energy use in the years to come. As one of the objectives in VTP 2040, the application of new technology will be embraced as a strategy for its potential to further reduce vehicle emissions, improve system operations, increase roadway safety and harness energy sources.

The pursuit of new fund sources will continue to be an ongoing effort. More financial resources are needed in order to accomplish the County's goals of operating and maintaining high quality transit services, maintaining the existing roadways and improved operational efficiency, expanding bicycle and pedestrian improvements and strengthening ties between land use and transportation. It is important to explore possible sources of new funds which may include express lane net revenue, local gasoline tax, or countywide impact fees in the future.

We have accomplished a lot since the adoption of the last VTP document and we continue this momentum in VTP 2040 by refining our vision and enhancing our implementation strategies to pursue the next phase of investment priorities. Our shared success moving forward will require that we continue an open dialogue within our community and with other partners throughout the region to develop innovative, collaborative solutions that will help maximize limited resources and deliver quality transportation projects and programs. VTP 2040 seeks to guide the County toward a more sustainable future by integrating transportation, land use and funding opportunities to create communities that are a great place to live, work and play.

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