# ALAMEDA COUNTYWIDE TRANSPORTATION PLAN



Final

June 2012

Submitted by the Nelson\Nygaard Team

ALAMEDA
County Transportation Commission

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# 1. INTRODUCTION

## What is the Countywide Transportation Plan?

This Alameda Countywide Transportation Plan (CWTP) is a long-range policy document that guides future transportation investments, programs, policies and advocacy for all of Alameda County through 2040. It addresses all parts of our complex transportation system, including capital, operating and maintenance of freeways, buses, rail, ferries and other modes. It also addresses transportation programs that serve varying needs throughout the county, such as paratransit services for seniors and people with disabilities and safe access to schools. This document establishes a vision for Alameda County's transportation system, inventories needs and available funding and identifies gaps where funding and needs do not match and where additional sources of funding need to be secured.

The CWTP allocates all available funding for transportation investments in Alameda County. The projects (specific capital improvements, such as extending a rail line) and programs (recurring funding distributed by grants or by formula, such as road maintenance funds) in this Countywide Transportation Plan will be included in the Regional Transportation Plan, which assigns money for state and federal funding. In order for a transportation project or program in Alameda County to receive funding it must be in this document.

Acknowledging that the future is unknown, and that changing conditions in the county will place new demands on the transportation system over time, this plan is updated every four years. The CWTP was last updated in 2008/09.

There are a number of factors that make this update of the CWTP unique from past plans, including a new sponsoring agency, the Alameda County Transportation Commission (Alameda CTC); the simultaneous development of a new transportation sales tax expenditure plan (TEP)[1]; and the concurrent development of a new Regional Transportation Plan by the Metropolitan Transportation Commission (MTC) and a Sustainable Communities Strategy (SCS) by the Association of Bay Area Governments (ABAG). The county is also facing growing needs and new unfunded policy mandates designed to promote sustainability and reduce carbon emissions in an era of increasingly limited resources. Perhaps most importantly, the priorities identified in this plan were determined through a performance based analysis, with input from the public, city and county staff and elected officials, to ensure that our investments are consistent with the goals of a sustainable Alameda County.

[1] The Alameda County Transportation Expenditure Plan (TEP) is a separate document from the CWTP. The TEP lays out the spending for a new sales tax measure, to be placed on the ballot in 2012. It can be accessed on the Alameda CTC website at www.alamedactc.org.

**The 2012 Countywide Transportation Plan is being developed at a time of substantial change in transportation policy at the federal, state and regional levels, as well as a time of great economic uncertainty.**

## A New Agency: The Alameda County Transportation Commission

In the past, the CWTP was prepared by the Alameda County Congestion Management Agency (ACCMA). This CWTP is under the guidance of a new agency – the Alameda CTC. The Alameda CTC is a countywide transportation agency, resulting from a merger of the ACCMA and the Alameda County Transportation Improvement Authority (ACTIA). ACCMA previously managed the planning and funding and project delivery of transportation projects in Alameda County. ACTIA previously managed the transportation sales tax revenues and expenditures. The merger of the two agencies eliminates redundancies; creates efficiencies in planning, programs and project delivery; and streamlines legislative, policy and funding efforts.

The mission of the Alameda CTC is to plan, fund and deliver a broad spectrum of transportation projects and programs to enhance mobility throughout Alameda County.

The Alameda CTC is also developing an expenditure plan for augmenting and extending the existing half-cent sales tax for transportation, known as Measure B. The merger of the two agencies ensures that county transportation priorities can be funded efficiently and that priorities can be implemented as quickly as possible.

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## New Context, New Challenges, New Approach

Historically, the need for transportation improvements across the county has far outstripped the amount of funding available to pay for improvements. Updating the CWTP is always an exercise in balance between different transportation modes, between maintenance of the current system and expansion and between meeting current needs and preparing for future needs.

Beyond making difficult choices between competing needs in an environment of limited resources, this CWTP update is taking place in a transformed economic, regulatory and social environment. The concept of creating a more sustainable way of living through transportation and land use investments has become a legislative mandate. These factors create a climate that is both challenging and opportune for crafting mobility solutions for the coming decades.

Current trends considered in this plan include:

- Demographic changes such as the aging of the population
- The need for affordable housing in close proximity to jobs
- Availability of housing choices for an increasingly socially and economically diverse population
- Increasing urban development patterns that support and benefit from non-automobile modes of travel
- Evolving consumer and lifestyle preferences that seek to capitalize on the benefits of living closer to job centers, transit services and daily needs

Each of these trends influences how we use our transportation system and the demands placed on our transportation infrastructure. All of this is occurring in the face of stark fiscal realities brought about by a recession that has had significant impacts on local, state and federal budgets.

**It is clear that Alameda County is in the midst of a lasting and profound period of change, which presents both a challenge and an opportunity for crafting mobility solutions.**

## New Policy Environment

In California, many legislative and regulatory changes have led to a new focus on coordinating transportation planning and investment decisions with existing and future land use patterns. Some key changes are:

- Assembly Bill 32 (AB 32)—the California Global Warming Solutions Act, 2006[2]
- California Senate Bill 375 (SB 375)—Redesigning Communities to Reduce Greenhouse Gas, 2008[3]
- MTC's Resolution 3434—Transit-Oriented Development (TOD) Policy for Regional Transit Expansion Projects, 2005[4]
- BAAQMD CEQA Guidelines—The Bay Area Air Quality Management District newly released guidelines for CEQA thresholds of significance, 2010[5]
- BCDC Sea Level Rise Estimates—The Bay Conservation and Development Commission (BCDC) Climate Change Planning Program and Sea Level Rise Index Maps, 2011[6]

AB 32 and SB 375's goals are to reduce greenhouse gas emissions through a set of regulatory and policy directives, while the MTC's Resolution 3434 links the expenditure of regional capital funding for transit expansion to the density of households allowed around future mass transit systems in the Bay Area. The BAAQMD new thresholds of significance for toxic air contaminants and fine particulate matter sets low limits for acceptable exposure to air contaminants for residents and other users of new developments, which could affect implementation of infill development near major generators of air pollution, such as freeways. The Bay Conservation and Development Commission (BCDC) has released a study of locations where sea level rise may occur; in these locations an assessment of risks should be conducted and possible shoreline protection measures may be needed. BCDC will be working with regional and local agencies to identify and, if needed, protect these areas.

As a result, this CWTP has taken a much closer look at coordinating transportation investments with the land use patterns of the county. Specifically, the relationship between job and housing locations and transportation investments with the effects of the many diverse, underlying land use policies established by different communities is being dealt with in a more direct way than ever before. This is described fully in Chapter 4.

> **This CWTP has taken a closer look at coordinating transportation investments with the land use patterns of the county.**

## Linkages to Regional Planning Activities

This update is taking place concurrently with an update of the Regional Transportation Plan (RTP), which is also responding to SB 375, building on years of work at the regional level to better coordinate land use and transportation planning with decision making to yield more sustainable outcomes.

Due to this legislation, the Regional Transportation Plan is required to include a "Sustainable Communities Strategy" (SCS)—a regional land use plan that must be incorporated into the regional transportation plan. The Association of Bay Area Governments (ABAG), a regional agency composed of nine counties and 101 cities in the Bay Area, whose planning efforts address regional economic, social and environmental challenges, is the regional agency responsible for developing the SCS. ABAG is working closely with the Metropolitan Transportation Commission (MTC), the lead agency responsible for developing the RTP, to ensure that land use and transportation planning decisions are fully linked. One result of this collaboration has been the development of new performance measures to reflect this new planning paradigm. MTC's new goals and performance measures are included as Appendix A. The preparation of the CWTP and TEP was closely coordinated with the preparation of the Regional Transportation Plan and the Sustainable Communities Strategy by MTC and ABAG. This process is further described in Chapter 4.

[2] AB 32 website: http://www.arb.ca.gov/cc/ab32/ab32.htm
[3] SB 375 website: http://www.arb.ca.gov/cc/sb375/sb375.htm
[4] Resolution 3434 website: http://www.mtc.ca.gov/planning/rtep/
[5] BAAQMD Updated CEQA Guidelines: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Updated-CEQA-Guidelines.aspx
[6] BCDC climate change website: http://www.bcdc.ca.gov/planning/climate_change/climate_change.shtml

## New Fiscal Realities

Funding is one of the greatest challenges in this CWTP. For years, highly volatile revenue sources and significant limitations to how each funding source can be spent have created a constrained financial environment. Increasingly, structural imbalances between state revenues and expenditures have led to significant cuts in transportation funding and the future continues to be uncertain as major policy changes are underway at the federal and state levels. Finally, the county faces the fallout from a recession that is projected by many to have had the worst economic impact on the country since the Great Depression.

The effect of the recession on transportation has been significant in a number of ways. A few examples:

- MTC estimates that Alameda County will face a multi-billion dollar shortfall in streets and roads maintenance revenue.
- Local transit service has undergone cutbacks due to revenue shortfalls at all levels. In response to the recession, cutbacks and the need to increase fares to help offset revenue shortfalls, transit service suffered ridership losses and thus fare revenue losses, creating a spiraling problem.
- Demand and costs for transportation programs and transit services continue to increase at a rate greater than revenue growth.

In order to align needs with decreasing budgets, this CWTP has required difficult choices. Stakeholders have had to think very carefully about use of resources, focusing more on cost effectiveness and leveraging investments that generate revenue or improve productivity. It is also clear that Alameda County will have to rely even more on local resources to meet our needs in the future. The recently passed Vehicle Registration Fee and potential augmentation of the local transportation sales tax are examples of Alameda County voters supporting local transportation priorities.

## Responding to Funding Shortfalls: A New Sales Tax Expenditure Plan

Currently, Alameda County has a half-cent sales tax dedicated to transportation, known as "Measure B." Measure B was originally approved by voters in 1986 and reauthorized in November 2000; the sales tax expires in 2022. The funding plan for sales tax revenue, called the Transportation Expenditure Plan (TEP), lists the specific projects and programs that are to be funded by sales tax revenue. These TEP projects and programs are drawn from projects and programs in the CWTP. The expenditure plan for the existing Measure B sales tax dedicates approximately 40% of the revenue to capital projects and 60% to ongoing programs including streets and roads maintenance, transit operations, specialized services for seniors and persons with disabilities, bicycle and pedestrian travel and transit-oriented development funds.

The current sales tax has been a critical funding source for transportation projects in Alameda County. In fact, these types of local sources have come to represent the bulk of money available for transportation in the entire region. State and federal sources have diminished over time and currently account for less than 40% of projected annual transportation revenue in the region.

Although the current expenditure plan for Measure B extends to 2022, a new TEP is being considered for a number of reasons. Most notably:

- Sales tax revenue has fallen short of original projections due to the economic recession; the county has received hundreds of millions of dollars less than planned for. This gap will continue to grow in coming years if nothing is done.
- The decline in revenues has had a particularly significant impact on services that county residents depend on for their daily mobility, such as bus service and transportation programs for seniors and people with disabilities; these programs depend on annual funding distributions for their ongoing operations.
- Capital projects have not been hit as hard because they have been able to identify replacement funding through federal stimulus and benefit from

lower costs due to the recession. In fact, as a result of lower costs and replacement funding, capital projects have been largely completed. So, without a new plan, the county would not be able to program local funds for new projects until 2022.

For all of these reasons, crafting of the CWTP update is concurrent with a new sales tax measure slated to go on the ballot in November 2012.

## Plan Development Process

Key milestones in the development of this CWTP were:

- **Vision and Goals, January 2011**: Adoption of a vision statement and nine goals by the Alameda CTC CWTP-TEP Steering Committee in January 2011 after input from the Community and Technical Advisory Working Groups (CAWG and TAWG).
- **Public Outreach, spring and fall 2011:** Major rounds of public outreach activities were undertaken in the spring and fall of 2011 to educate and solicit input related to transportation needs and priorities from communities throughout the county (described more fully in the section on public engagement below).
- **Performance Measures, March 2011**: Based on the nine adopted goals, performance measures were developed and adopted by the Steering Committee in March 2011, with input from CAWG and TAWG.
- **Call for Projects and Programs, March-May 2011**: The Alameda CTC solicited project applications from all jurisdictions and transportation operators to assess the range of funding need in the county. The CTC simultaneously assessed programmatic needs in the county based on public and stakeholder input.
- **Development of a Financially Constrained List of Projects and Programs, summer 2011**: Many factors were used to prioritize transportation investments in the CWTP. A multipart evaluation was conducted to assist decision makers in selecting transportation investments for Alameda County's future transportation system. Other factors, such as project readiness and existing commitment, were also taken into consideration. The development of a financially constrained list of projects and programs is discussed more fully in Chapter 6.
- **Review of Administrative Draft CWTP, fall 2011**: The first draft of the CWTP was reviewed by the advisory committees and Steering Committees.
- **Performance Evaluation, October-December 2011**: A technical evaluation was conducted to measure how the package of projects and programs contained in the CWTP performed against the adopted goals and performance measures.
- **Alignment with the Transportation Expenditure Plan and Regional Transportation Plan, January 2012**: The projects and programs in the CWTP were checked for consistency with the final version of the Transportation Expenditure Plan—adopted by the Alameda County Transportation Commission on January 26, 2012—and MTC's Regional Transportation Plan revenue assumptions.

Many documents have been developed to inform this process. The most important documents are summarized throughout this CWTP and/or included in the appendices, including:

- **Vision, Goals and Performance Measures:** The vision and goals for the Alameda County transportation system, as well as the definition of the measures used to describe performance are summarized in Chapter 2 of this report.
- **The "Briefing Book," March 2011**: A comprehensive existing and future conditions report summarized in Chapter 3 and included as Appendix B.
- **Issue Papers, April 2011**: A more detailed analysis of key transportation issues, including relevant case studies and research. Topics include:
  - Transportation funding
  - Goods movement
  - Coordination with land use
  - Sustainability
  - Transit sustainability and integration
  - Parking management and transportation demand management (TDM)

  The issue papers are summarized in Chapter 3 and included in full as Appendix C.

- **Performance Evaluation, October-December 2011**: A performance-based evaluation of projects and programs included in the CWTP is summarized in Chapter 6 and included in full as Appendix D.

## Engagement of Public and Stakeholders

Public engagement and transparency are foundations of the development of this CWTP. Alameda County is tremendously diverse and there is no single mode or infrastructure investment category that would meet all of the needs in the county. Crafting a plan to meet the broad range of needs is a challenging undertaking. Therefore, significant efforts have been made throughout the process to ensure that this broad range of needs is integrated into the CWTP, that all voices are represented and that all decision making processes are clear and comprehensible. Particular emphasis has been placed on ensuring input from those communities historically disconnected from such decision making processes and communities that face particular transportation challenges, either because of affordability, disability, or age-related mobility limitations.

Many activities have taken place throughout this process to involve the community in the update of the Alameda CWTP and development of a new TEP. These include general public outreach activities, a website where all project information can be accessed and comments can be submitted and two standing advisory committees that represent diverse constituencies. These public involvement activities are described in more detail below. In addition, more detailed information is included in Appendix E, the Outreach Reports from outreach activities conducted in spring and fall 2011.

### Public Participation Activities

Two major phases of public outreach activities were undertaken to educate and solicit input into the CWTP from communities throughout the county. The first, in spring of 2011, collected input related to transportation needs and priorities and the second, in fall of 2011, sought input on the first draft of the CWTP and on specific projects and programs to be included in the TEP.

Approximately 1,600 Alameda County participants provided input to the Alameda CTC during both spring and fall outreach efforts. This input painted a broad picture of the county's transportation needs and priorities. Community input was used to develop the list of projects and programs in the CWTP and TEP. Input was solicited through a variety of methods, including:

- Ten public workshops, five in the spring and five in the fall.
- Two polls of registered Alameda County voters.
- Two online questionnaires.
- In-person small group dialogues using an "outreach toolkit" with the same questionnaire as the online version in both spring and fall. Dissemination of the toolkit expanded the reach of activities beyond those who could attend evening workshops.
- Community and technical advisory working group meetings.
- Steering Committee meetings.

The public participation process has been fully documented and all materials are available on the Alameda CTC project website, www.alamedactc.org.

### Plan Development Standing Committees

Two advisory working groups and a Steering Committee were formed to guide the development of these plans. All meetings were open to the public, all background documents and presentations were available on the CWTP-TEP website and copies were made available at the committee meetings.

#### Community and Technical Advisory Working Groups (CAWG and TAWG)

The CAWG was formed to assure that the CWTP and TEP meet the diverse needs of communities and businesses throughout Alameda County. The CAWG has 27 members representing a broad array of perspectives and stakeholders throughout the county, including business, civil rights, education, environment, faith-based advocacy, health, public transit, social justice, seniors and people with disabilities.

The TAWG provided technical input for CWTP development. The TAWG was comprised of 35 members, primarily staff members from cities across the county as well as staff from Alameda County, park districts and transit agencies.

These two groups served an advisory role to the Steering Committee. CAWG and TAWG also shared information with each other and assisted with disseminating information to their respective constituencies and publicizing opportunities for general public input. Members of both the CAWG and TAWG reviewed and provided input on issues such as cost-estimating, evaluation of project and program performance, public opinion polls and all planning reports and documents.

### Steering Committee

In May 2010, the Alameda CTC created a Steering Committee, comprised of a subset of the Alameda CTC Commission members, to lead the development of the CWTP and TEP and to make recommendations to the full Commission. Whereas the other two committees, CAWG and TAWG, were advisory in nature, the Steering Committee made final decisions and recommendations to the Commission to adopt official plan documents and approve key milestones in the Plan's development. The 13-member committee represented all areas of the county; the members are elected officials from cities across the county and the boards of Bay Area Rapid Transit (BART) and AC Transit.

Full committee membership rosters are available in Appendix F.

## Structure of this Report

This CWTP report is structured as follows:

*Chapter 2* sets the vision and goals for this update of the CWTP, establishing the foundation upon which all other work was conducted in the development of the CWTP. It also presents the performance measures that the Alameda CTC used to evaluate the projects and programs in this plan and to measure the benefits that are expected to be derived from implementation of the CWTP.

*Chapter 3* provides a summary of the Briefing Book's key findings regarding existing and future conditions, as well as the most salient issues and challenges associated with Alameda County's future transportation system, focusing on each mode.

*Chapter 4* elaborates on the integration of transportation and land use planning. Due to the new policy environment, coordination with land use planning plays a far more central role in this CWTP than it has in the past. This CWTP update has involved development of a Draft Land Use Scenario Concept that was used in the transportation project and program evaluation process and to inform the region's Sustainable Communities Strategy (SCS).

*Chapter 5* provides an overview of the complex financing of Alameda County's transportation system, describes the funding challenges facing the county and describes the revenues and funding sources available to finance transportation improvements in Alameda County through 2040. This chapter includes the current discretionary budget projection for Alameda County including all federal, regional and local funds available for allocation to projects and programs. This projection is subject to change as the policy and funding environment changes over time.

*Chapter 6* presents the transportation investment program, which describes the projects and programs that will receive funding over the life of the plan. This reflects the technical evaluation process and strategic investment choices made by the Alameda CTC to best maintain and enhance the county's transportation system. This investment program is updated every four years to respond to changing needs.

*Chapter 7* outlines an implementation work plan including short-term, long-term and ongoing actions that need to be taken to enable implementation of the plan. These could include legislative actions, studies or other actions by the Alameda CTC.

More detailed information on many of the topics in this CWTP can be found in the appendices.

# 2. A VISION OF THE FUTURE

## A New Vision & Goals

To implement the requirements of state legislation and the new emphasis on sustainability at the regional level, the development of this Countywide Transportation Plan update began with establishing a new vision and goals. By emphasizing sustainability and equity, the new vision and integrated transportation and land use goals diverge from prior plans that focused primarily on congestion relief. This reflects Alameda County's desire to reduce the number of miles driven in private automobiles, improve multimodal connectivity and travel choices, and change land use patterns to make the use of non-auto modes more viable. The vision and goals, shown on page 2-2, were adopted by the Steering Committee in January 2011. They form the foundation of all the work that was done to create the CWTP.

## Performance Measures

Based on Alameda County's adopted goals, specific performance measures were developed to provide an objective and technical means to measure how well projects and programs performed together to meet those goals. These performance measures were developed over several months with input from the Community and Technical Advisory Working Groups. They were designed to utilize available data and technical tools that represent the current state of the practice in California and the Bay Area, such as the Alameda County travel model, geographic information systems (GIS), MTC's pavement condition index (PCI) and MTC's regional transportation model. The evaluation used custom spreadsheets created to analyze data from each of these tools, generate data used in those tools and, where necessary, combine results with off-model data to create the required performance measures. Further detail on the analysis tools is included with the presentation of performance measure results, located in Appendix D.

The performance measures, shown on page 2-3, were adopted by the Steering Committee in March 2011. The project and program evaluation process is described in Chapter 6.

## Performance-Based Planning

Performance-based planning is a way for competing transportation investments to be compared to each other objectively. It allows policies and goals to be expressed in quantifiable terms and creates an analytical framework to determine the degree to which different investments meet the policies and goals. The performance evaluation process is designed to be objective, yielding the same results regardless of the analyst who does the evaluation.

This approach leads to a more systematic and analytical selection process for investment priorities. It also allows for ongoing monitoring of the performance of investments to inform future decision-making and to enable adjustments to be made as necessary as the plan is updated every four years. The region has been increasingly moving towards a performance-based approach for the past decade. Performance monitoring is discussed further in Chapters 6 and 7.

**Figure 2-1 CWTP Vision and Goals**

*Alameda County will be served by a premier transportation system that supports a vibrant and livable Alameda County through a connected and integrated multimodal transportation system promoting sustainability, access, transit operations, public health and economic opportunities.*

Our vision recognizes the need to maintain and operate our existing transportation infrastructure and services while developing new investments that are targeted, effective, financially sound and supported by appropriate land uses. Mobility in Alameda County will be guided by transparent decision making and measureable performance indicators and will be supported by these goals:

Our transportation system will be:

- **Multimodal**
- **Accessible, Affordable and Equitable** for people of all ages, incomes, abilities and geographies
- **Integrated** with land use patterns and local decision-making
- **Connected** across the county, within and across the network of streets, highways and transit, bicycle and pedestrian routes
- **Reliable and Efficient**
- **Cost Effective**
- **Well Maintained**
- **Safe**
- **Supportive of a Healthy and Clean Environment**

## Figure 2-2 CWTP Project Performance Measures

| Performance Measure Category | Performance Measure | Goals Met |
|---|---|---|
| Congestion | • Percent of lane miles moderately or severely congested during AM (PM) peak period | • Reliable and Efficient |
| Alternative modes | • Percent of trips made by non-automobile modes | • Multimodal |
| Activity center accessibility | • Percent of low-income households (<$25,000/year) within 20-minute drive or 30-minute transit ride of activity center or 0.5 mile from grade school | • Accessible, Affordable & Equitable<br>• Integrated<br>• Connected |
| Public transit accessibility | • Percent of low-income households (<$25,000/year) within 0.25 mile of a bus route or 0.5 mile of a rail transit stop | • Multimodal<br>• Accessible, Affordable & Equitable<br>• Connected |
| Public transit usage | • Daily public transit ridership | • Multimodal |
| Transit efficiency | • Transit passengers carried per transit revenue hour of service offered (bus only) | • Multimodal<br>• Reliable and Efficient<br>• Integrated |
| Travel time | • Average travel time per trip in minutes for selected origin-destination pairs in the AM (PM) peak hour, drive alone and transit trips | • Connected<br>• Reliable and Efficient |
| Reliability | • Average ratio of AM (PM) peak hour to off-peak hour travel times for selected origin-destination pairs, drive alone and transit trips | • Connected<br>• Reliable and Efficient |
| Maintenance | • Unmet maintenance needs over 28 years assuming current pavement conditions<br>• Percentage of remaining service life for transit vehicles in 2035 | • Well-maintained |
| Safety | • Annual projected injury and fatality crashes | • Safe |
| Physical Activity | • Total daily hours spent biking or walking | • Multimodal<br>• Supportive of Clean & Healthy Environment |
| Clean Environment | • Tons of daily greenhouse gas emissions<br>• Tons of daily particulate (PM 2.5) emissions | • Supportive of Clean & Healthy Environment |

# 3. EXISTING AND FUTURE CONDITIONS

## Introduction

This chapter provides an overview of both existing and future conditions for Alameda County's transportation network. It provides a basic summary of conditions by travel mode and highlights key findings related to each. Each section concludes with a summary of the most salient issues and challenges associated with Alameda County's future transportation system.

The primary source for the information in this chapter is the Alameda CTC *Countywide Transportation Plan (CWTP) and Transportation Expenditure Plan (TEP) Briefing Book*, which was finalized in March 2011. The Briefing Book examined current demographic, employment and travel conditions within Alameda County and identified projected trends for the future. In addition, the Briefing Book highlighted each mode's basic infrastructure, travel trends and associated issues and challenges. For more detailed information or in-depth analysis, it is recommended that readers review the complete Briefing Book and related Issue Papers, included as Appendices B and C of this document.

It is also important to note that future trends discussed in this chapter are based on population and employment projections in the Alameda County Preferred Land Use Scenario Concept. This scenario assumes local governments in Alameda County will implement land use policies that seek to concentrate growth in higher density areas of the county. This scenario reflects input from regional and local planning agencies as well as the region's ongoing SCS planning process, discussed in detail in Chapter 4.

> **This chapter of the CWTP also provides a summary of the most salient issues and challenges associated with Alameda County's future transportation system.**

To generate estimates of future travel demand, population and employment data from the Alameda County Preferred Land Use Scenario Concept was entered into Alameda County's travel demand modeling software along with information about committed transportation investments. The travel demand model then produced estimates of transportation system performance in the future (2035). This forecasted future transportation data was then compared to the model base year. In this analysis, 2005 was chosen as the base year. The demographic, socioeconomic and transportation network data in the base year reflected conditions in 2005 based on estimates from ABAG, the U.S. Census Bureau and other local sources. This document uses the travel model 2005 base year when more recent data is not available. This includes transportation indicators such as travel volumes, congestion and travel delay. Comparing future forecasted results to a base year allowed for the identification of major trends affecting

the transportation system. All future conditions data in this chapter are derived from the county model analysis unless otherwise noted.

# Demographics and Travel Patterns

## Overview

Alameda County extends from the Bay Area's urban core to its rural periphery. It includes 14 cities and several unincorporated communities. The county has a residential population of approximately 1.6 million people and is home to an estimated three-quarters of a million jobs. The cities in Alameda County range in population from 10,000 residents over 400,000 residents. Oakland and Fremont are the most populous cities in Alameda County, while Emeryville and Albany have the smallest populations.

Historically, Alameda County's planning efforts have been organized into four planning areas, each with distinct development patterns and travel characteristics (shown in Figure 3-1):

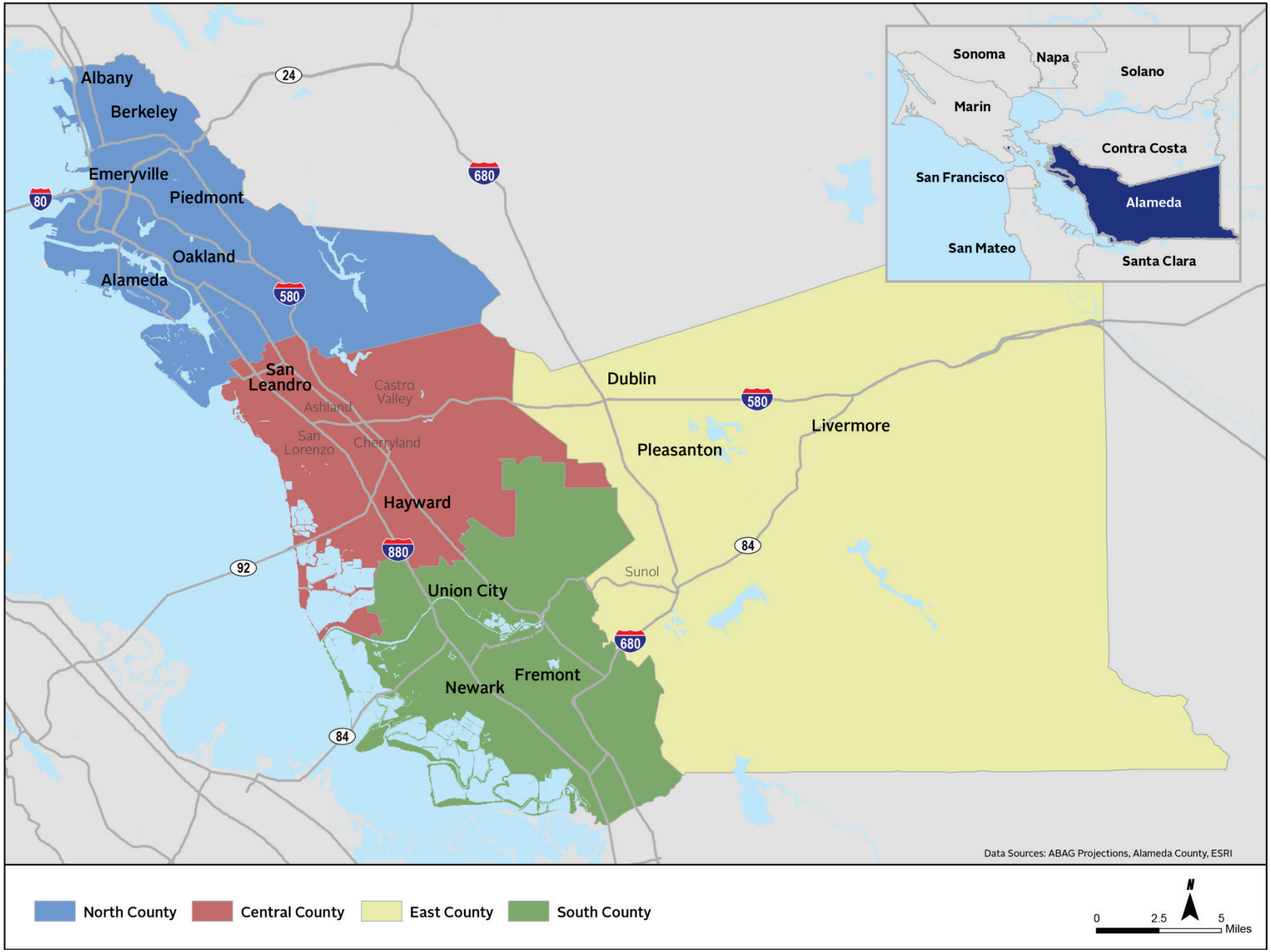
- **North County** encompassing Alameda, Albany, Berkeley, Emeryville, Oakland and Piedmont
- **Central County** encompassing the cities of Hayward and San Leandro and the unincorporated communities of Ashland, Castro Valley, Cherryland, Eden, Fairview and San Lorenzo
- **South County** encompassing the cities of Fremont, Newark and Union City
- **East County** encompassing the cities of Dublin, Livermore, Pleasanton and the unincorporated communities of Sunol and other smaller communities in the East Bay hills

Population density varies substantially throughout the county, with the urban North County being densest, Central County encompassing a range of densities and the more suburban South County and East County being the least dense. There are also large swathes of undeveloped land, representing the East Bay Regional Parks, regional wilderness areas (such as the Ohlone and Sunol Regional Wilderness Area) and state recreation areas.

Most importantly, however, is the diversity of Alameda County. From density, land use and employment opportunities to race, income and age, Alameda County is fundamentally defined by its diversity, requiring multiple transportation systems to address the variety of mobility needs. Residents, visitors, employees and businesses in Alameda County all drive, carpool, take transit, bike and walk in great numbers. Moving forward, Alameda County will need to plan for all of these modes and ensure that they continue to efficiently serve all of the region's stakeholders.

> **Alameda County is fundamentally defined by its diversity, requiring multiple transportation systems to address the variety of mobility needs.**

**Figure 3-1 Alameda County and its Planning Areas**

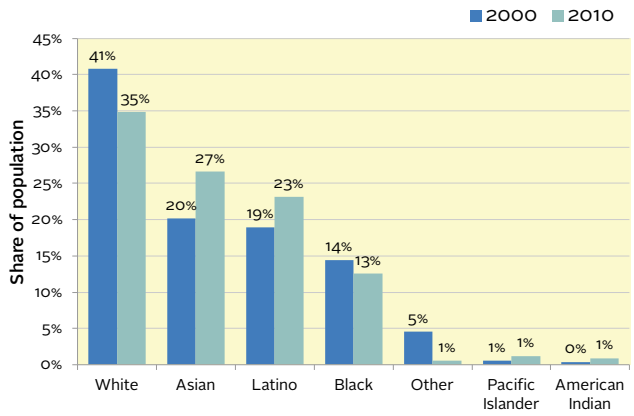


# Existing Conditions

## Race

Alameda County is racially diverse and has become even more so in recent years. In fact, no single ethnic or racial group makes up more than half of the population. In 2000, Caucasians were the biggest racial group at 41% of the population, but as of 2010, the proportion of white residents in Alameda County had decreased to represent roughly 35% of the population, while the share of Latinos and Asians had increased. (Figure 3-2)

**Figure 3-2 Increasing Racial Diversity Over Time (2000 and 2010)**




*Source: U.S. Census 2000 and 2010*

## Age

As of 2005, approximately 10% of the population of Alameda County was above 65 years of age. The largest share of the population (40%) is the 20-44 age group.[1]

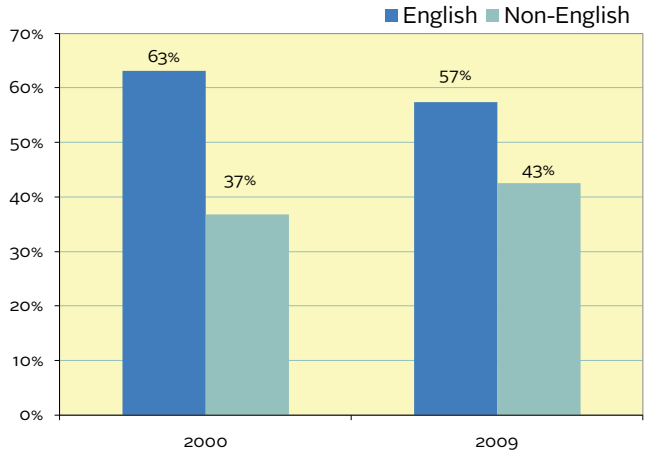
## Income

Alameda County also has a range of income levels, with household income distributed relatively evenly across all income levels: almost one-third of households earn less than $35,000 per year, another 22% earn more than $100,000 per year and the remainder earn between $35,000 and $100,000. Median household income has fallen slightly (about 3%) over the past decade. The highest concentrations of low-income residents in the county are in the western portions of the county, concentrated in Oakland and Berkeley.

## Language

The diversity of Alameda County is also reflected by the fact that a large, and growing, portion of households in Alameda County do not speak English as their primary language at home. In 2009, English was the primary language spoken at home for 57% of households, down from 63% in 2000, as shown in Figure 3-3. Non-English speakers are concentrated in parts of Union City, Fremont, Hayward and Oakland.

**Figure 3-3 English vs. Non-English Speaking Households (2000 and 2009)**




*Source: U.S. Census 2000, American Community Survey, 2009*

## Employment

The number of jobs and employment opportunities vary throughout Alameda County. According to ABAG estimates, employment is most heavily concentrated in Oakland (26% of all jobs), Fremont (13%), Berkeley (11%) and Hayward (10%). Together, these four cities accounted for 60% of jobs in Alameda County as of 2010.

## Vehicle Ownership

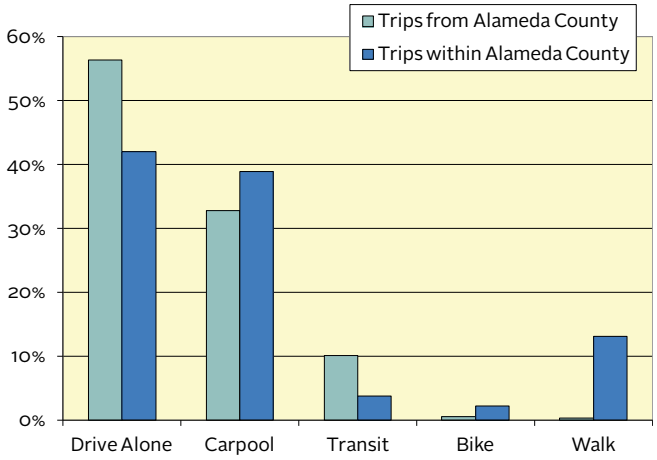
According to ABAG estimates, most households in the county own at least one vehicle, while a substantial share (approximately 14%) owns no vehicle. This represents the second-largest share of zero-vehicle households in the Bay Area counties after San Francisco. The largest shares of zero-vehicle households in the county are located in the downtown areas of Berkeley and Oakland.

[1] Source: ABAG socioeconomic projections for the Bay Area, 2007.

## Travel Mode

Alameda County residents and workers have a variety of modes of travel available to them. According to ABAG estimates, most (83%) of all trips to, from, or within the county are made by automobile, but almost half of all daily driving trips are made in carpools. Another 17% are made by transit, bicycling, or walking. These percentages are similar to Bay Area regional averages. Trips made just within Alameda County, however, are more likely to have a higher transit, walking, or bicycling mode share than trips traveling beyond the county's borders (Figure 3-4).

**Figure 3-4 Share of Current Daily Trips by Mode of Travel (2005)**




*Source: Alameda County travel demand model output representing 2005 conditions.*

# Future Trends, Issues and Challenges

## Population and Employment Growth

In 2035, Alameda County will be home to about 1.9 million people and 874,000 jobs, representing an increase of 28% and 27% respectively from 2010 (Figure 3-5). These growth projections take into account the impacts of the current economic recession and have been revised downward significantly from earlier projections, which predicted a nearly 50% increase in jobs by 2035.[2] Nevertheless, accommodating close to one million additional residents and employees combined will require significant new investments in the transportation system.

**Figure 3-5 Growth in Population and Employment**

| | 2010 | 2035 | Percent Change |
|---|---|---|---|
| Population | 1.5 million | 1.9 million | 28% |
| Employment | 690,000 | 874,000 | 27% |

*Source: ABAG SCS Alternative Land Use Scenarios and Alameda County Draft Land Use Scenario Concept. See Chapter 4 for additional detail. Total values are rounded.*

## Suburban Job Growth Projected

The Alameda County Preferred Land Use Scenario Concept redistributes some growth to higher-density locations within the county, particularly locations that are well served by transit. Even with this emphasis on higher densities, suburban job centers are expected to experience the highest rates of job growth relative to the older urban core cities. For example, the largest projected growth rate will be in Dublin, which is expected to experience a 73% increase in employment. By contrast, Oakland and Berkeley, where the majority of the county's current transit infrastructure exists, are projected to experience job growth of 23% and 18%, respectively (Figure 3-6).

[2] Source: ABAG 2007, as cited in the *Alameda CTC CWTP and TEP Briefing Book*.

**Figure 3-6 Projected Change in Employment by City, 2010-2035[3]**

| City | 2010 | 2035 | Change | |
|---|---|---|---|---|
| Alameda | 26,480 | 33,869 | +7,389 | 28% |
| Albany | 5,070 | 7,590 | +2,520 | 50% |
| Berkeley | 73,780 | 86,898 | +13,118 | 18% |
| Dublin | 17,490 | 30,188 | +12,698 | 73% |
| Emeryville | 16,350 | 24,495 | +8,145 | 50% |
| Fremont | 89,280 | 113,081 | +23,801 | 27% |
| Hayward | 63,960 | 79,345 | +15,385 | 24% |
| Livermore | 47,200 | 59,313 | +12,113 | 26% |
| Newark | 16,820 | 22,913 | +6,093 | 36% |
| Oakland | 196,600 | 242,785 | +46,185 | 23% |
| Piedmont | 2,100 | 2,140 | +40 | 2% |
| Pleasanton | 52,510 | 63,323 | +10,813 | 21% |
| San Leandro | 39,350 | 51,730 | +12,380 | 31% |
| Union City | 19,260 | 27,472 | +8,212 | 43% |
| Alameda Co. Uninc. | 23,480 | 28,610 | +5,130 | 22% |
| TOTAL | 689,730 | 873,752 | +184,022 | 27% |

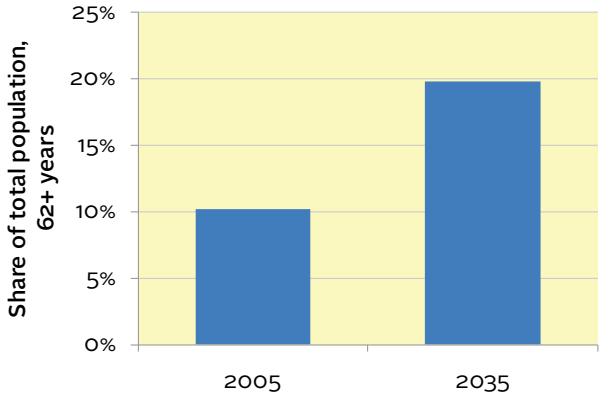
*Source: ABAG SCS Alternative Land Use Scenarios and Alameda County Draft Land Use Scenario Concept. See Chapter 4 for additional detail.*

## Growing Senior Population

Seniors are a sector of the population that has unique mobility needs requiring specially designed transportation services. In addition, the share of Alameda County's population made up by seniors is growing. According to population data from ABAG, in 2005 the share of the population aged 62 and older was just above 10%; by 2035 it will have reached nearly 20% (Figure 3-7). Between 2005 and 2035, about 150,000 additional residents in this age category will be living in Alameda County. As this demographic shift occurs, the needs of this sector of the population and the services and infrastructure to meet those needs will become an increasingly prevalent part of our transportation planning efforts.

[3] *It should be noted that these job growth figures by city may be different in the final SCS land use strategy currently being finalized by MTC and ABAG (anticipated for adoption in May 2012). Their process is discussed in more detail in Chapter 4.*

**Figure 3-7 Seniors as Share of Total Population**

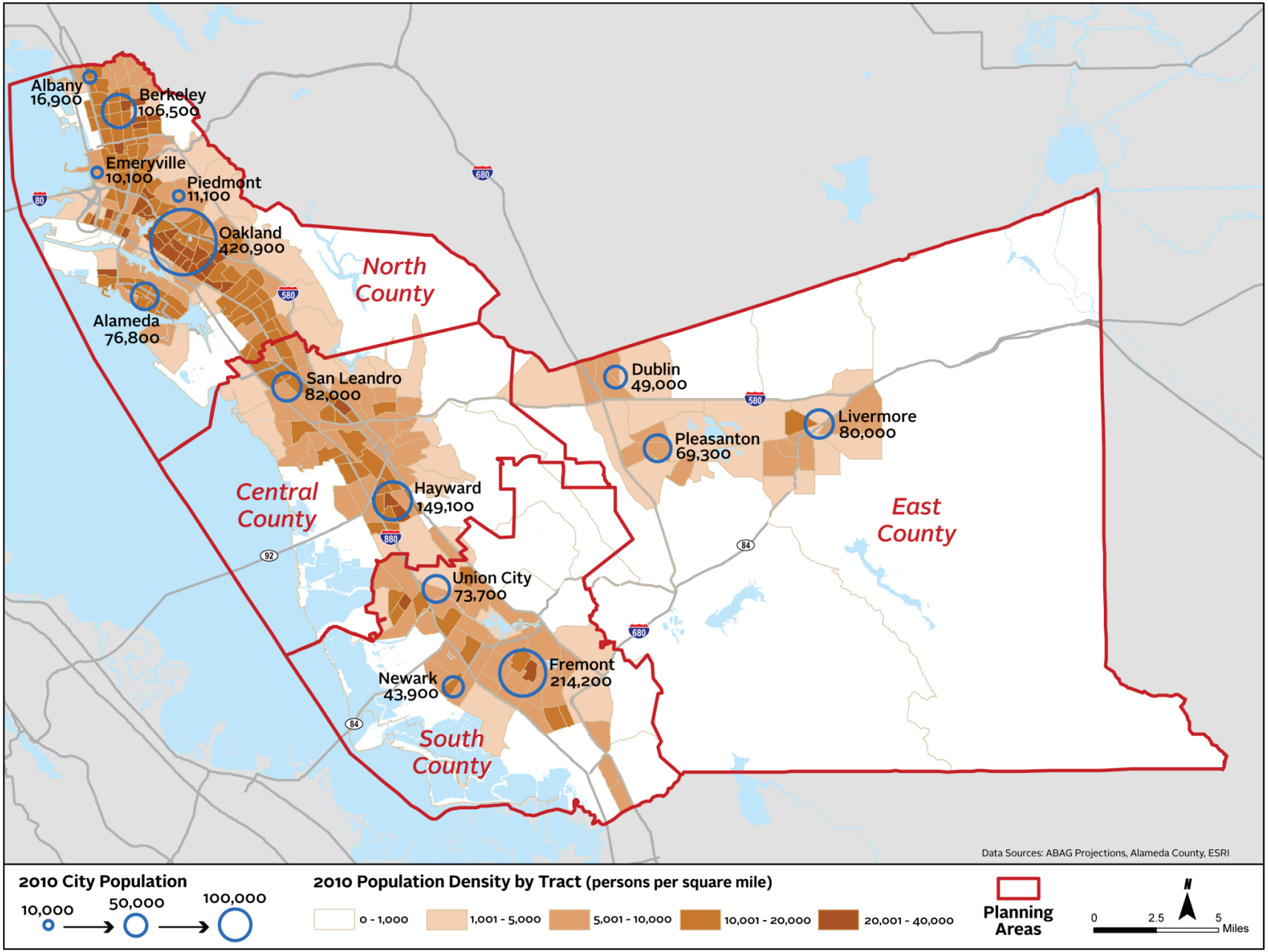



*Source: Alameda County Travel Model*

## Growing Share of Zero-Vehicle Households

The Alameda County travel model projects that the number of households in the county that do not own a vehicle will increase from approximately 14% in 2005 to 18% in 2035. The absolute number of households with zero vehicles will increase by about 50,000 over the same period. Households without cars include many that cannot afford a car, as well as a growing number of households that are car-free by choice. Alameda County will continue to have the second-largest share of zero-vehicle households in the Bay Area after San Francisco. This trend will likely translate into increased demand for mass transit services and bicycling and walking infrastructure.

**Figure 3-8 Alameda County Population and Density**



# Highways and Roadways

## Overview

Alameda County's roadways are the backbone of its transportation system, facilitating regional travel and connecting the county with major Bay Area destinations. For example, interstates I-80, I-580 and I-680 link Alameda County to San Francisco in the west and Solano, Contra Costa and San Joaquin counties to the north and east. I-880 connects Alameda County with San Mateo and Santa Clara counties to the west and south, which are home to many key employment destinations in Silicon Valley. Alameda County roadway facilities also connect to three Bay Area bridges that link the East Bay to San Francisco and destinations on the southern Peninsula. Finally, an integrated network of freeways internal to Alameda County (I-980, SR-24, I-238, Route 84) and a comprehensive system of arterial roadways and local streets facilitate trips within the county. Alameda County's highway and freeway network is shown in Figure 3-9.

It is important to remember that although our roadways are most often associated with auto trips, they are also essential for carrying all modes of travel including freight, auto, transit, bike and pedestrian trips. Ensuring their proper design, operation and maintenance, therefore, will benefit multiple modes of travel.

> **Though most often associated with auto trips, roads are also essential for carrying all modes of travel including freight, auto, transit, bike and pedestrian trips.**

## Existing Conditions

### Congestion

Alameda County is home to some of the most heavily traveled freeways and arterials in the San Francisco Bay Area. Five of the top ten most congested Bay Area freeway corridors are located within the county. For example, the I-80 westbound corridor (since the 1990s) and the I-580 eastbound and westbound corridors (since 2005) have been ranked as the top three most congested locations in the Bay Area for the top ten congested corridors in Alameda County (Figure 3-10).

### Vehicle Hours of Delay

Vehicle hours of delay (VHD) is a measure of the level and duration of congestion on a particular roadway. According to the Caltrans District 4 Highway Congestion Monitoring Data, the highest levels of delay occurred around 2001 and have fallen since then, likely due to the economic recession.

### Average Travel Speeds

From 2006 to the present, overall average speeds have been improving for both freeways and arterials, particularly during the PM peak period. Overall, average travel speeds on the freeway system during the PM peak period increased by about four miles per hour between 2006 and 2010. On county arterials speeds increased 3.5 miles per hour between 2006 and 2010.[4]

### Maintenance

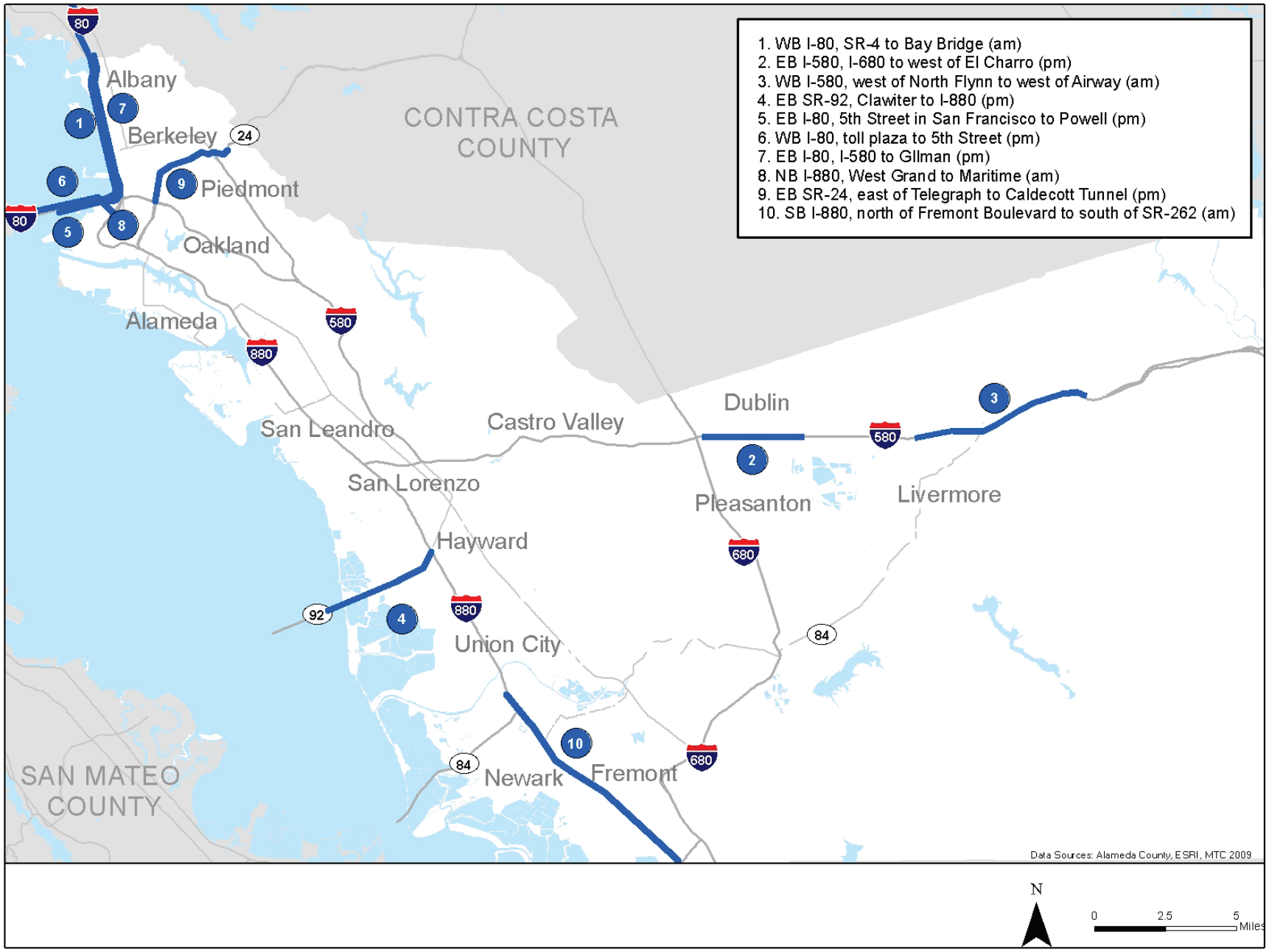
The pavement condition index (PCI) is a measurement of pavement quality and conditions. The PCI ranges from zero, which represents the worst conditions, to 100, which represents a newly paved road. According to an MTC summary of PCI reports by jurisdiction from 2006-2010, Alameda County has a mixed record for pavement quality. In 2010, Alameda County itself had a PCI of "Good" (PCI between 70-79), reflecting a general upward trend in pavement quality. However, PCIs by jurisdiction were very inconsistent. On one hand, the City of Dublin had PCIs of 80+ ("Very Good"), while the cities of Livermore, Union City, Pleasanton and Emeryville all had PCIs of "Good." By contrast, the City of Alameda and the City of Oakland were classified in the "At-Risk" category – PCI less than 60. These cities also appear to be on a consistent downward trend in PCI.[5]

[4] Source: Alameda County LOS Monitoring Reports

[5] MTC, *The Pothole Report: Can the Bay Area Have Better Roads?* June 2011. http://www.mtc.ca.gov/library/pothole_report/Pothole_Report_2011.pdf

**Figure 3-9 Alameda County Highways and Freeways**

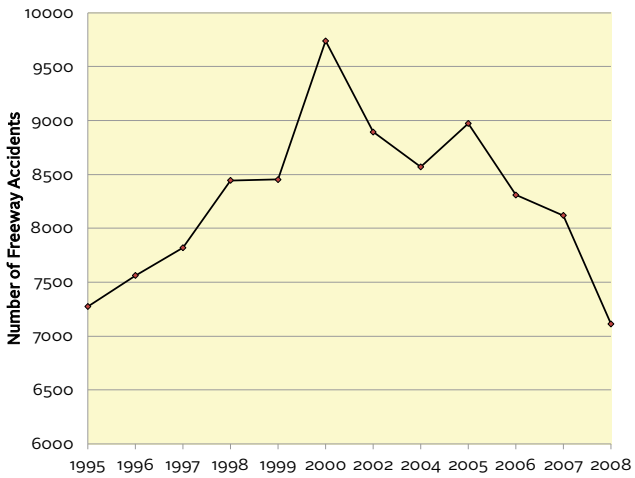
**Figure 3-10 Top 10 Congested Freeway Corridors in Alameda County 2009**



## Safety

The number of freeway collisions peaked in 2000, according to the Caltrans and Alameda CTC Annual Performance Report, but has been decreasing significantly since then, as shown in Figure 3-11. In 2008, the number of freeway collision occurrences was at its lowest since 1995. This is consistent with national trends, which have seen steep declines in the number of collisions and collision rates since the start of the economic recession.

**Figure 3-11 Collisions on Alameda County Freeways**




*Source: Caltrans, District 4 and Alameda CTC Annual Performance Report 2008-2009*

## System Management

A number of innovative strategies are currently being used to manage congestion, including Transportation Systems Management (TSM) programs. Major TSM programs in Alameda County include ramp metering on several segments of the freeway system and several signal coordination and phasing/timing optimization projects, including the East Bay Smart Corridors Program. The county also benefits from the 511®/Advanced Traveler Information System (ATIS) service available throughout the Bay Area.

# Future Trends, Issues and Challenges

## Increasing Roadway Usage

More people and more jobs in the Bay Area will mean more demand on Alameda County streets and regional highways. While Alameda County and the region are focused on reducing vehicle miles traveled (VMT), the Alameda County travel model forecasts that without significant changes in land use patterns and transportation investment policies, VMT in the county will continue to increase. Based on the future year model results, VMT is expected to increase in Alameda County by approximately 46% by 2035 (Figure 3-12). Demand is likely to be heaviest on expressways where traffic is already high, with a 117% projected increase. Regional trends are similar, with VMT increases of at least 20% in all counties in the region and up to 50% increases in some places.

**Figure 3-12 Change in Alameda County Vehicle Miles Traveled by Facility Type, 2005-2035**

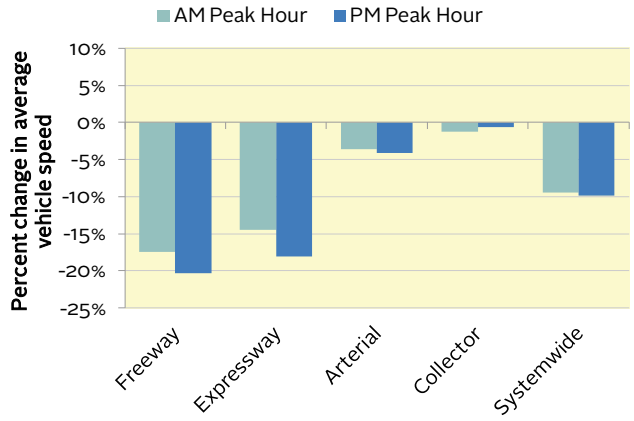
| Facility Type | Percent change in average daily VMT |
|---|---|
| Freeway | 42% |
| Expressway | 117% |
| Arterial | 53% |
| Collector | 44% |
| **Systemwide** | **46%** |

*Source: Alameda County travel model*

## Declining Travel Speeds

Average travel speeds on Alameda County freeways and expressways are also forecast to decrease by 15-20% during peak periods by 2035. According to the Alameda County travel model, for example, freeway speeds would drop from an average of about 53 miles per hour to less than 45 miles per hour in 2035. The evening peak period should expect the greatest congestion and decrease in travel speeds, as trips for work and evening recreation overlap on the county transportation network. As another example, average travel time from the southern to northern areas of the county (including Oakland) is projected to increase by over 50% during the AM peak hour and by over 15% in the PM peak hour.

**Figure 3-13 Percent Change in Vehicle Speed by Facility Type in Alameda County, 2005-2035**




*Source: Alameda County travel model*

### Increased Congestion

Additional VMT and increased travel times are signs that many of the county's top congested corridors will be operating over capacity, even more than is already the case. Congestion levels on some corridors in the county could increase up to 40% in the peak travel periods.[6] Similarly, travel times could increase in many areas of the county, adding up to 10 minutes of delay, on average, during peak periods in some corridors.

Some of today's most congested corridors (Figure 3-10) will remain very congested in the future, including the Bay Bridge Toll Plaza and adjoining freeways, sections of I-580 around Dublin and Livermore, I-80 and I-580 through Berkeley and El Cerrito and I-680 and I-880 in central and southern Alameda County.

### Poor Pavement Conditions

Increased automobile and freight travel will likely result in declining pavement conditions. This issue will be especially pronounced in older jurisdictions where infrastructure is more likely to be at the end of its life cycle. In addition, jurisdictions are faced with increasingly tight road maintenance budgets. Unless additional funding is identified, cities will likely have an even harder time keeping up with their road maintenance needs.

[6] Congestion is measured here as the volume-to-capacity ratio.

### Increased Number of Collisions

The Alameda County travel model forecast, combined with MTC crash rate estimates, showed increased automobile travel and a resulting increased number of roadway collisions in 2035, including collisions involving pedestrians and bicyclists. As noted above, VMT is expected to increase about 46% by 2035, resulting in an increase in total annual traffic incidents of approximately 50%.

# Transit

## Overview

Transit service in Alameda County includes multiple modes (rail, bus, ferry and shuttle) and is provided by a number of public and private operators. The two major operators in the county are BART and AC Transit, which account for the vast majority (close to 95%) of transit usage, as shown in Figure 3-14. Shuttles also play a significant role in the county's transit network, as they often bridge gaps between employment centers, medical or educational institutions, shopping centers and BART.

> **Short of dramatic changes in the funding outlook, transit operators will continue to have to rely on service reductions, fare increases and staff reductions to balance their budgets.**

## Existing Conditions

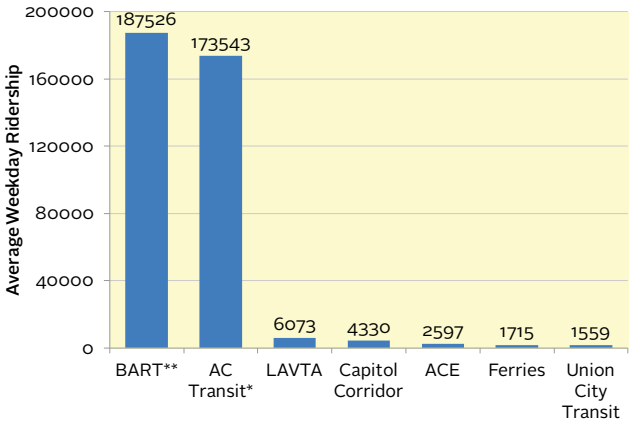
### Diversity of Service

There is a huge range of transit service within Alameda County. Listed below are the various transit systems that serve the county. Ridership for the major operators is provided in Figure 3-14, while a map is provided in Figure 3-15.

- AC Transit
- BART (Bay Area Rapid Transit)
- Livermore Amador Valley Transit Authority/Wheels (LAVTA)
- Amtrak Capitol Corridor
- Altamont Commuter Express (ACE)
- Union City Transit (UCT)

- Alameda/Oakland Ferry Service (AOFS)
- Alameda Harbor Bay Ferry (AHBF)
- Shuttles:
  - Emery Go-Round
  - "B" Line
  - AirBART
  - San Leandro LINKS
  - West Berkeley Shuttle
  - UC Berkeley Bear Transit
  - Lawrence Berkeley National Laboratory shuttle
  - Estuary Crossing Shuttle
  - Other institutional shuttles
  - Senior/disabled shuttles

**Figure 3-14 Average Weekday Ridership, by Alameda County Operator**




** Estimated FY 2009-10 daily boardings in Alameda County, based on calculation using service hours and population from ACCMA 2006-07 Performance Report*
***January 2010 trips with one or both exists in Alameda County*

*Sources:*
*Metropolitan Transportation Commission (MTC): Statistical Summary of Bay Area Transit Operators, June 2011*
*Capitol Corridor Joint Powers Authority: Capitol Corridor Business Plan Update – FY2011-12 – FY 2012-13, March 2011*
*BART: Monthly Ridership Report, January 2010*
*All data is FY 2009-10 except: BART Ridership (January 2010)*

## Important Role for Paratransit

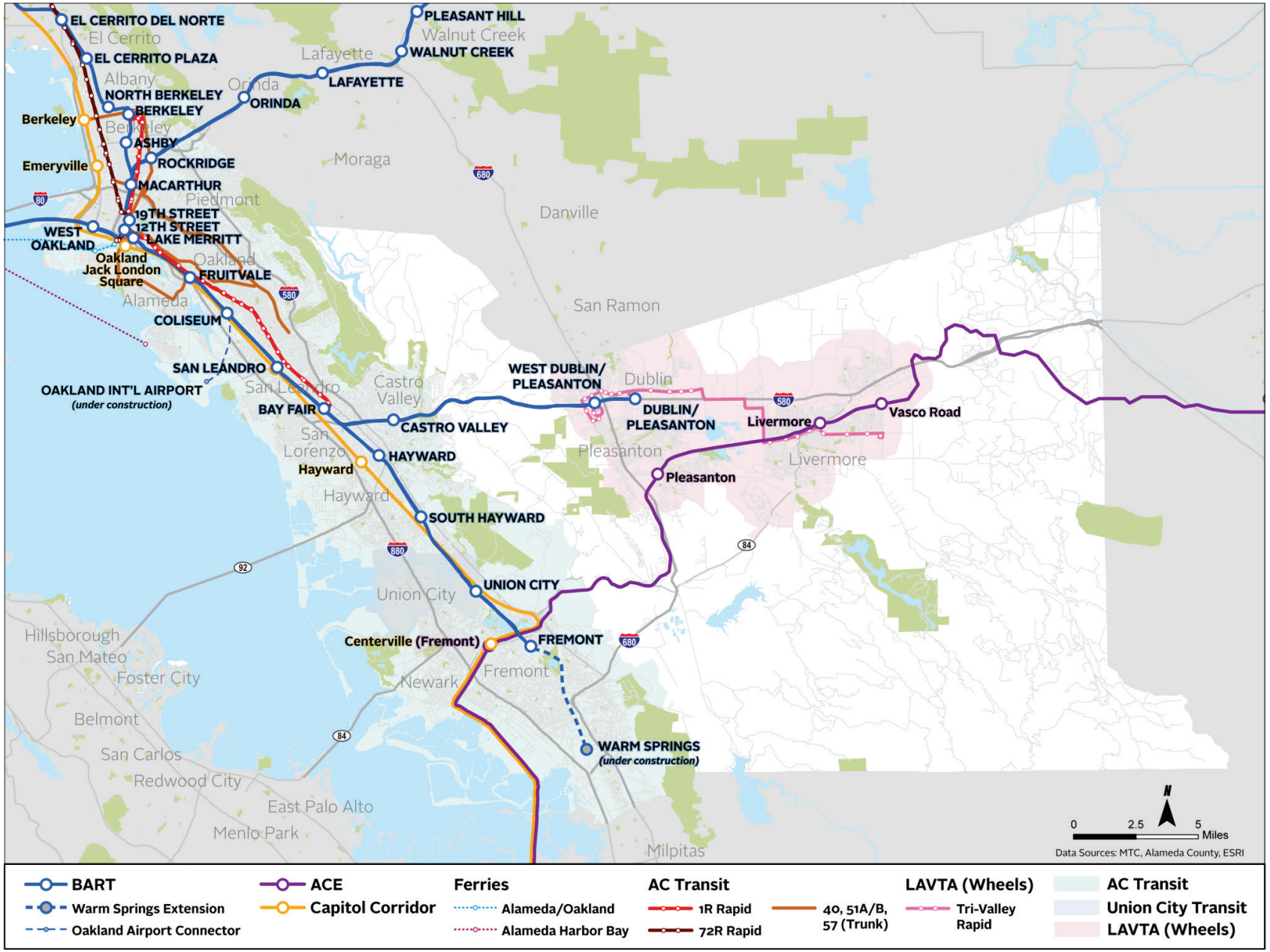
Under the Americans with Disabilities Act (ADA), transit providers are required to provide demand-responsive, origin-to-destination service within three-quarters of a mile of their routes for people with disabilities who are unable to ride standard buses or trains. All public transit operators in Alameda County provide these services. East Bay Paratransit (the paratransit provider for AC Transit and BART) provides close to 700,000 annual trips for ADA paratransit registrants. Approximately 66,000 annual paratransit trips are also provided on LAVTA's Wheels service and another 18,000 on Union City Transit's paratransit service.

In addition, there are a number of transportation services for seniors and people with disabilities, such as city-based shuttles and taxi subsidy programs, provided throughout the county and funded by the county sales tax, Measure B and city funds.

## Emerging New Technologies

In order to overcome existing barriers related to coordination between transit systems, as well as the challenges that passengers can experience managing fares and transferring from one transit system to another, many of the major transit agencies in the Bay Area (BART, AC Transit, Caltrain, Golden Gate Transit & Ferry and Muni) are transferring to Clipper "smart cards." The use of real-time arrival, departure and travel time information through Google Transit, NextBus and 511 has also emerged as a common tool for transit agencies to improve customer experience.

Figure 3-15 Alameda County Major Transit (Existing and Under Construction)



## Future Trends, Issues and Challenges

Though many differences exist among the transit operators in Alameda County, they are united by a number of common themes and challenges. These include the following:

### Increasing Transit Demand

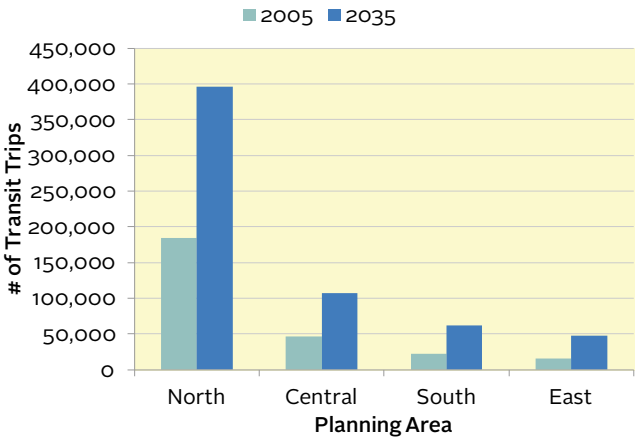
Public transportation currently accounts for about 6% of total trips made in, to or from Alameda County. The programmed transit projects and service levels combined with the latest land use assumptions are expected to increase the transit mode share, leading to a 130% increase in daily transit trips.

As shown in Figure 3-16, the greatest increase in the number of transit riders is expected in the North County planning area where the greatest population and employment densities are located. North County also has key transit connections to San Francisco and other key regional destinations. While North County will likely generate the largest number of new transit trips, the other three planning areas will also generate many more transit trips and in fact will experience a larger percentage increase in transit trips than North County, where the percentage of trips made on transit is already high.

These projections suggest more riders on the busiest routes, increased need for new service in growing areas of the county and strain on Alameda County's diverse transportation agencies to maintain service quality goals. The increasing demand for transit services comes at a time when transit systems across the county are facing significant funding challenges, resulting in both reductions in service and increases in fares.

As demand increases, transit capacity constraints are likely to become a major concern for Alameda County's transit services. MTC is currently working with transit operators to analyze transit crowding and capacity constraints as part of *Plan Bay Area*.

**Figure 3-16 Alameda County Daily Transit Trips, 2005-2035**




*Source: Alameda County travel model*

### Lack of Financial Sustainability

All major transit operators in Alameda County (BART, AC Transit, LAVTA and Union City Transit) are facing severe financial shortfalls and this trend may continue in the future. These operators have all been forced to cut service, raise fares and/or reduce staff in recent years to balance budgets. Furthermore, all operators are facing significant challenges in identifying and securing funding for future capital expenditures and maintenance needs. Meanwhile, traditional funding sources, such as operating dollars from the state, are declining. Short of dramatic changes in the funding outlook, transit operators will continue to have to rely on service reductions, fare increases and staff reductions to balance their budgets.

The Alameda CTC has sought to explicitly address these funding shortfalls through dedication of approximately 48% of total new sales tax revenue in the TEP to transit operations of fixed route and paratransit service. Although no single source of funding can be the entire solution, this will represent a significant funding infusion to the County's transit operators if the measure is approved by voters.

### Balancing Expansion with Service Enhancements

These financial challenges have arisen in part from a longer-term structural problem of reductions in state and federal funding, coupled with increasing wage and benefit costs (and to a lesser extent, fuel costs), which have resulted in declining cost-effectiveness. This indicates a need to increase ridership (which aligns

with other goals of decreasing roadway congestion and auto mode share). However, this need is often met through service expansion, which must be balanced against sustaining and enhancing current service for existing riders who depend on it.

### Need for Improved Connectivity

Many transit riders in Alameda County must use more than one transit system to meet their daily travel needs and are acutely aware of the fragmented nature of the regional system. Also, transit systems in Alameda County are often faced with the problem of "last mile" connections, which generally refers to the last mile gap between a transit station and a user's origin/destination. Improving connectivity and coordination is a key element of transit system effectiveness.

### Need for Cost-Effective Solutions

Several high-profile transit capital investments have already been planned for the future, including the BART extension to Warm Springs, the Oakland Airport Connector and several others are in various stages of planning, design and environmental review. Quality bus service, including Bus Rapid Transit and enhanced transit priority treatments to improve the speed and reliability of bus travel, is an important part of a transit strategy for the county and can also serve to complement and supplement regional rail service. In short, a balanced approach to new transit investments that maximizes cost-effectiveness is needed as Alameda County plans for the future.

MTC's *Transit Sustainability Project* (TSP) is an initiative currently underway that is addressing many of the transit issues and challenges identified in this Plan. Alameda CTC will be working closely with MTC to implement the recommendations of the TSP.

# Bicycling

## Overview

Bicycling is a vital part of Alameda County's transportation system. It provides a healthy way to explore many of the county's unique recreational opportunities and also serves as a crucial commute and travel mode for many during their daily activities. The importance of bicycling will only continue to grow as people seek out healthy, cost-effective and non-polluting ways of getting around in the coming decades. The county has made significant strides in developing appropriate and safe infrastructure for bicyclists, but additional investment is needed to meet both current and future demand.

It is beyond the scope of this document to describe in detail the local and regional bicycle network in Alameda County. For more information on the existing and proposed bicycle network please refer to the Alameda CWTP Briefing Book (Appendix B), the Alameda Countywide Bicycle Plan and each jurisdiction's bicycle master plan.

> **Although bicyclists are still a small share of overall commuters, the data shows a 22% increase in bicycling over the past decade, reflecting the growing popularity of bicycle transportation.**

## Existing Conditions

### Bicycle Ridership

In 2000, MTC estimated that approximately 593,000 bicycle trips were made every week in Alameda County, or almost 85,000 trips daily. These figures do not include trips to transit, which comprise more than 77,000 weekday trips to various transit systems throughout the county.

More recently, the U.S. Census indicates that 1.51% of all commute trips are by bicycle, up from 1.24% in 2000.[7] Although bicyclists are still a small share of overall commuters, the data shows a 22% increase in bicycling over the past decade, reflecting the growing popularity of bicycle transportation.

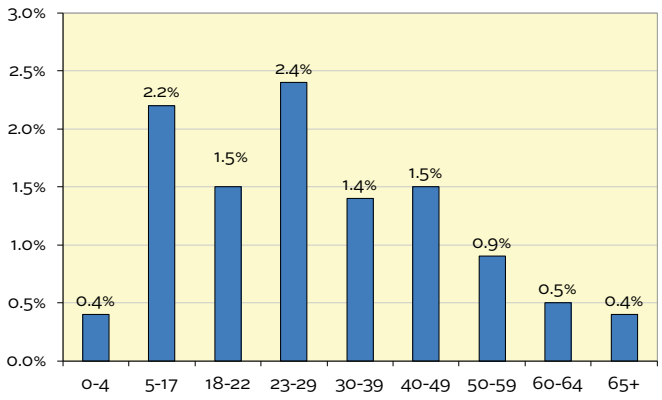
[7] 2000 U.S. Census and 2006-10 American Community Survey

## Bicyclist Demographics

In Alameda County, as in the U.S. as a whole, far fewer women bicycle than men. Women make only one-third of all bicycling trips, or just under half as many as men. Furthermore, commuting by bicycle is more popular for men, as 1.9% of male commute trips and 1.0% of female commute trips are by bicycle in Alameda County.

Age is also a key determinant of bicycling ridership. Not surprisingly, as people get older they typically use bicycles less often as a means of transportation. The highest share of all bike trips are taken by residents ages 23-29, as shown in Figure 3-17.

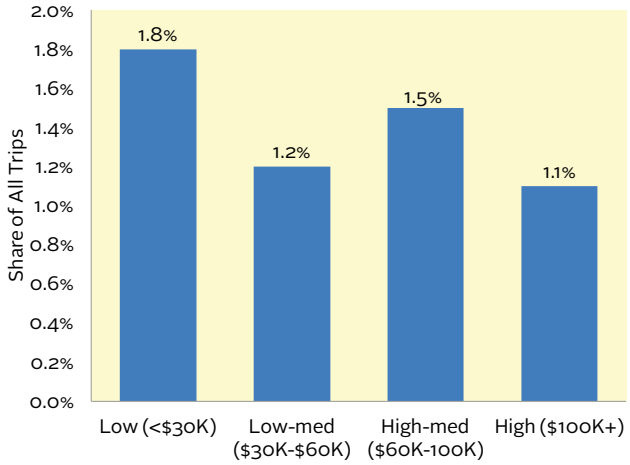
**Figure 3-17 Bicycle Mode Share by Age Group, All Trips**




*Source: Bay Area Travel Survey (BATS) 2000. The most recent household, BATS 2000, travel survey was done by MTC in 2000. No additional MTC regional travel surveys have been performed since.*

Bicycle mode share also varies by income level. In Alameda County, the highest mode shares for bicycle travel are in the "low" (less than $30,000) and the "high-medium" ($60,000-$100,000) income groups (Figure 3-18).

**Figure 3-18 Bicycle Mode Share by Household Income Level in Alameda County**

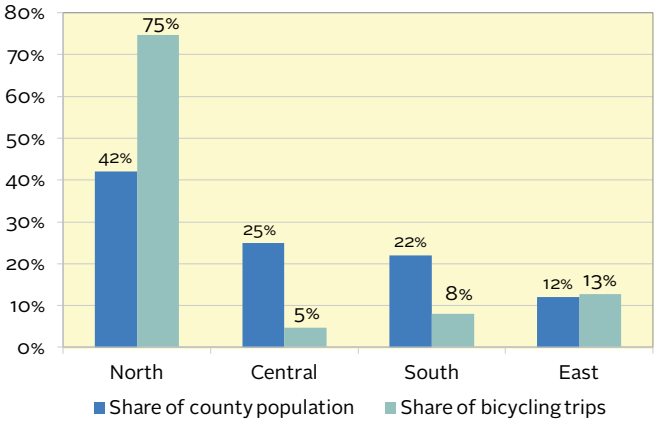



*Source: BATS 2000*

## Bicycle Trip Distribution

Approximately 75% of all bicycle trips in the county are in North County, which is far more than its population share of 42%. Fewer Central and South County residents are bicycling. These two areas account for almost 50% of the population but only 13% of the county's bike trips. In East County, the share of bicycle travel and share of population are relatively balanced (13% and 12%, respectively), as shown in Figure 3-19.

**Figure 3-19 Share of Bicycle Travel in Alameda County Compared with Share of Population by Planning Area**




*Sources: BATS 2000, 2000 Census*

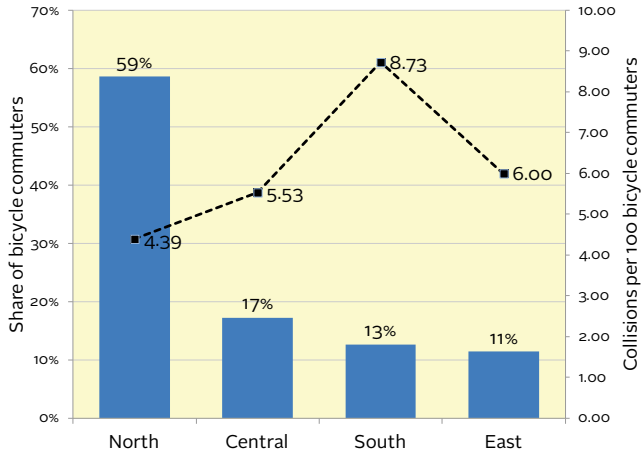
## Bicycle Collisions

The number of bicycle collisions has been relatively stable since 2001. From 2001 to 2008, there was an average of 547 bicycle collisions in Alameda County, with just under three fatalities per year. In 2008, there was a spike to 669 collisions.[8]

## Bicycle Collision Rate

Due to higher overall use of bicycles, North County has the highest share of bicycle collisions, but the fewest collisions per 100 bicycle commuter trips.[9] Although it has a smaller overall share of the county's bicycle collisions, South County has a collision rate of 8.73 per 100 bicycle commute trips, a rate almost double that of North County. Figure 3-20 illustrates this contrast, showing the share of total bicycle collisions as "bars" and the collisions per 100 bicycle commute trips as a line.

**Figure 3-20 Share of Bicycle Collisions and Collisions per 100 Bicycle Commute Trips**



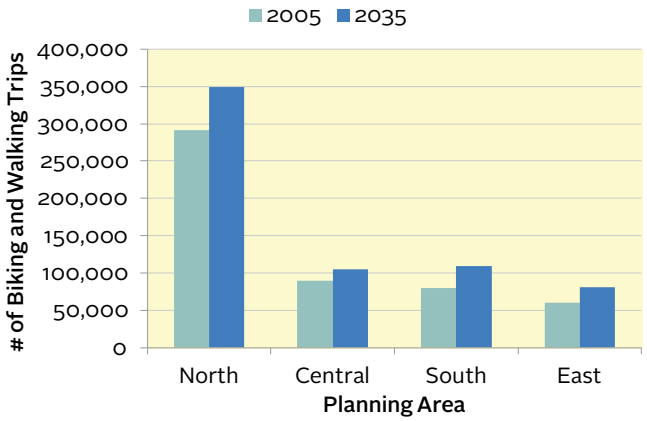

*Sources; SWITRS, 2000 Census, 2006-2008 ACS*

# Future Trends, Issues and Challenges

## Increased Demand for Bicycling

Although the share of trips made by bicycle is projected to stay constant, population and employment growth will lead to increased demand for bicycling and walking, which will require additional infrastructure investment. As seen in Figure 3-21, the number of daily bicycling and walking trips is expected to increase in all planning areas, with the greatest increases in the North County and South County.

**Figure 3-21 Growth of Daily Walking and Bicycling Trips, 2005 & 2035**




*Source: Alameda County travel model*

## Network Gaps and Barriers

Many of the most common reasons people cite for not biking—lack of safe facilities, concerns about traffic safety and long distances—are at least partly related to physical barriers or connectivity gaps in the bicycle network and, for longer trips, to transit hubs. Automobile and rail infrastructure, highways, railroads and interchanges create a majority of the physical barriers in the existing network throughout Alameda County. Key gaps include missing segments of off-street, often multi-jurisdictional, pathways; lack of on-street bike lanes; and intersections that are inhospitable to bicycle traffic.

## Insufficient Funding to Meet Demand for Facilities

Almost every local jurisdiction cites lack of funding as a major barrier to making bicycle improvements. A 2010 online survey of all 15 Alameda County jurisdictions identified an initial estimate of the level of funding required to meet bicycle infrastructure and maintenance needs. For example, the City of Oakland identified over $35 million in funding need for bicycle projects, while the City of Pleasanton identified close to $30 million in bicycle funding need.

[8] California Highway Patrol, Statewide Integrated Traffic Records System (SWITRS)

[9] An analysis based on commute trips is the most appropriate because commute data is the most accurate and consistently updated. In reality, collision rates based on *all* bicycle trips would be much lower.

# Walking

## Overview

Nearly every trip by any travel mode begins or ends as a walking trip. In fact, more Alameda County trips are made on foot than by any other non-auto mode. As such, the ability of pedestrians to travel with comfort, ease and safety is vital to ensuring that Alameda County has an efficient and multimodal transportation network.

The importance of safe and accessible pedestrian facilities will only continue to increase in Alameda County in the future. Projected demographic trends and policy mandates indicate an increase in the amount of urban development conducive to short walking trips. Such trends make addressing these needs more and more important. Furthermore, the growing need to address rising energy costs and climate change will continue to shift demand to travel modes that are sustainable and cost-effective.

It is beyond the scope of this document to describe in detail all of the pedestrian facilities and infrastructure for each Alameda County jurisdiction. For more information on the existing and proposed pedestrian network please refer to the Alameda CTC Briefing Book, the Alameda Countywide Pedestrian Plan and each jurisdiction's pedestrian master plan.

> **Nearly every trip by any travel mode begins or ends as a walking trip.**

## Existing Conditions

### Walking Mode Share

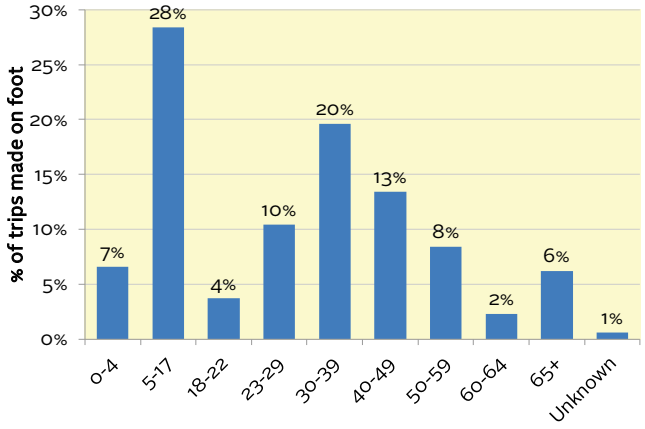
In 2000, MTC estimated that approximately 3.3 million trips were made primarily on foot every week in Alameda County. This translates to more than 470,000 daily walking trips. If walking trips to or from transit are also included, the weekday number of walking trips in Alameda County nearly doubles, including approximately 360,000 trips to AC Transit bus stops, almost 53,000 to BART stations, plus additional trips to the county's other transit agencies.

According to the 2006-2010 American Community Survey, approximately 3.61% of work commuters in Alameda County walked to work, an increase from 3.23% in 2000. This represents a 12% growth in the number of daily pedestrian commuters over the past decade.

### Pedestrian Demographics

Walking rates in Alameda County vary widely across age groups, as shown in Figure 3-22. Children between the ages of 5 and 17 make up 28% of all walking trips in the county, which is consistent with data indicating that schools are the county's most popular walk destinations. People age 30-39 make the second highest number of walk trips in the county.

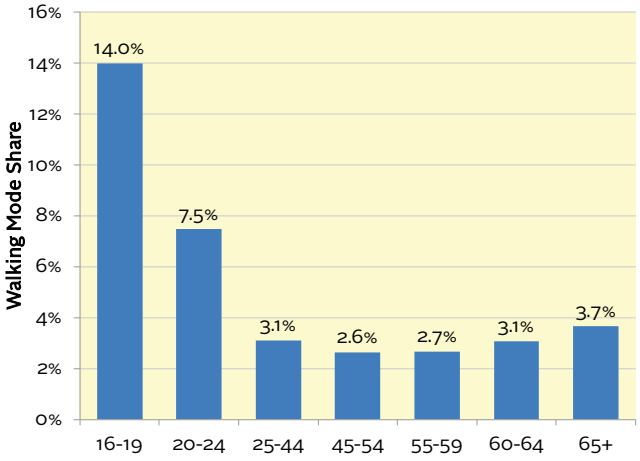
**Figure 3-22 Percentage of Total Walk Trips by Age Group in Alameda County**




*Source: BATS 2000*

Walking as a share of commute trips is highest among those 16 to 19 years of age (14%), but declines steadily until the age of 55. In fact, only 2.6% of those 45 to 54 years of age walk to work. However, commute trips on foot begin to increase slightly beyond the age of 55, as shown in Figure 3-23.

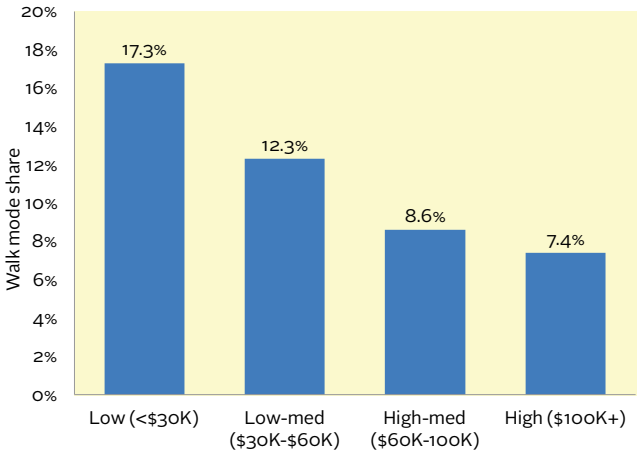
**Figure 3-23 Walking Mode Share for Commute Trips by Age Group in Alameda County**




*Source: ACS 2006-10*

Walking mode share also varies with household income. In brief, households in the lowest income group (under $30,000) make a far higher portion of their trips on foot than the highest income group (17.3% versus 7.4%).

**Figure 3-24 Comparison of Walk Mode Share by Income Group in Alameda County**

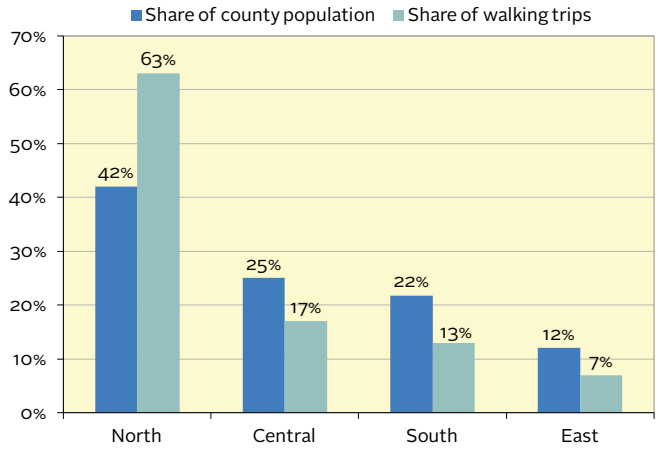



*Source: BATS 2000*

## Pedestrian Trip Distribution

More than half of all walking trips in the county take place in North County (63%), far above its population share (42%). Central, South and East County all have lower shares of the county's walking trips than of the county's population, as shown in Figure 3-25. North County residents also walk more often, taking 16% of their trips on foot, almost three times higher than East County residents, who take 6% of all trips by foot.

**Figure 3-25 Share of County Population and County Walking Trips by Planning Area**

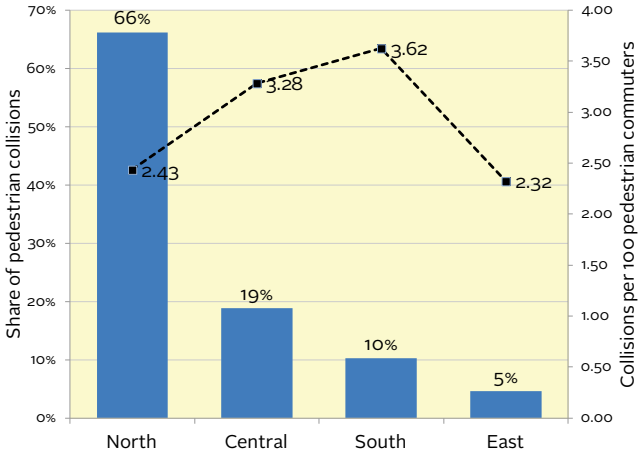



*Source: BATS 2000, U.S. Census 2000*

## Pedestrian Collision rate

South County has the highest pedestrian collision rate with 3.62 collisions per 100 pedestrian commute trips. North County, by contrast, while having the highest share of pedestrian collisions, has among the lowest collision rates, at 2.43 per 100 pedestrian commute trips. Figure 3-26 illustrates this contrast, showing the share of total pedestrian collisions as "bars" and the collisions per 100 pedestrian commute trips as a line.

**Figure 3-26 Share of Pedestrian Collisions and Collisions per 100 Pedestrian Commute Trips**




*Sources: SWITRS, 2000 Census, 2006-2008 ACS*

## Future, Trends, Issues and Challenges

### Increased Demand for Walking

As shown in Figure 3-21, the number of walking and biking trips is expected to increase in all planning areas, with the greatest increases in the North County and South County, likely due to the greater employment and residential densities in these areas.

### Network Gaps and Barriers

Many of the same physical barriers and connectivity gaps that prevent Alameda County residents from bicycling also deter them from walking. Auto and rail infrastructure, such as wide, high-speed arterials, highways, interchanges and railroad tracks, create significant barriers throughout the county. Key gaps include roadways without sidewalks, lack of frequent crosswalks, non-pedestrian-actuated traffic signals and gaps in the countywide multi-use trail system.

### Insufficient Funding to Meet Demand for Facilities

Almost every local jurisdiction cites lack of funding as a major barrier to making pedestrian improvements. Demand for local streets and roads funding, which would cover sidewalk maintenance, is far above available funding. A 2010 online survey of all 15 Alameda County jurisdictions identified an initial estimate of the level of funding required to meet pedestrian facility needs. For example, the City of Livermore identified $7.4 million annually for 10 years to clear the backlog of sidewalk projects and $2.7 million annually each year after.

# Goods Movement

## Overview

Efficient goods movement enhances the region's competitiveness and reduces the costs of goods and services in Alameda County and the Bay Area. It facilitates both domestic and international trade by providing access to markets for local manufacturing and providing connections to major consumer goods suppliers. International trade is the fastest growing component of local and regional goods movement, with major gateways such as the Port of Oakland and Oakland International Airport located in Alameda County.

Trucking serves most freight demand, as it moves a wide range of commodities and serves all freight markets. Rail provides transportation for long-haul bulk movements and supplies important transportation links to the Port of Oakland, which is serviced by both of the Class I railroads that operate in the region. With the region's largest port, a major airport and numerous rail and trucking resources, Alameda County is a critical hub for goods movement nationwide.

> **With the region's largest port, a major airport and numerous rail and trucking resources, Alameda County is a critical hub for goods movement nationwide.**

The goods movement sector, however, also has noise and pollutions impacts on communities, both those near the port and airport as well as those along major road and rail freight routes. The development of quiet zones and evaluation of environmental impacts of freight on communities is another important consideration for goods movement.

## Existing Conditions

### Truck

Trucks move about 80% of the freight tonnage in the Bay Area, with the I-880/I-80 corridor carrying the highest volumes of truck traffic in the region and among the highest volumes of any highway in the state. Increasingly, regional distribution centers have located in the San Joaquin Valley and trucks use the I-580

corridor to access them. The largest truck trip generators in the county are the Port of Oakland and the Oakland International Airport.[10]

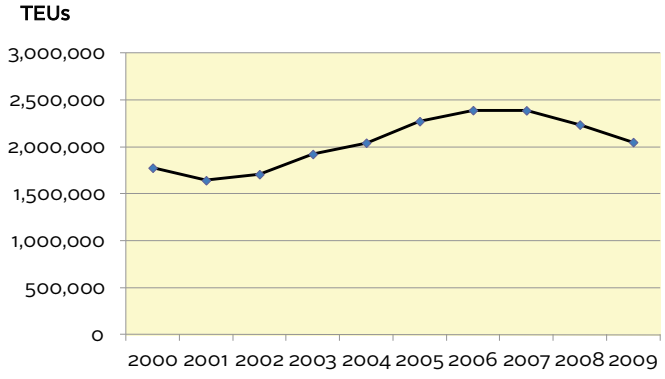
### Rail

Rail carries 6% of the freight tonnage in the Bay Area, with Oakland as the center of Alameda County's rail network. Two Class I railroads operate in the county: Burlington Northern Santa Fe Railway (BNSF) and Union Pacific Railroad (UP). Rail provides transportation for long-haul bulk movements and provides important transportation links to the Port of Oakland.[11]

### Waterbourne

Alameda County's waterborne freight includes containerized cargo at the Port of Oakland. Over two million 20-foot equivalent units (TEUs) are handled annually by the port, of which about 58% are exports and 42% imports. In 2008, $33 billion worth of goods passed over the port's wharves. Although port container volumes have decreased in the last three years (by 7% annually), overall the port has exhibited a positive trend in the last decade with a 15% increase from 2000 to 2009, as shown in Figure 3-27.

**Figure 3-27 Port of Oakland Container Volume**




*Source: American Association of Port Authorities (AAPA)*

### Air

Oakland International Airport (OAK) is one of the three major airports in the San Francisco Bay Area, with 197 daily departures, of which 57 are all-cargo flights. In 2007, about 14.6 million passengers got on or off a plane at Oakland International Airport; the airport has experienced a 72% increase in passenger volumes over the last two decades. However, in recent years there has been a drop in passenger volume (35% decrease from 2007 to 2009), mainly attributed to a shift of domestic traffic from Oakland International Airport to San Francisco International Airport (SFO).

Air freight in the Bay Area is mostly handled by Oakland International Airport. In 2007, the airport handled about 661,000 tons of air cargo. Although this fell to 483,000 tons in 2009, in that same year, Oakland was ranked number 12 out of the North American cargo airports for handling freight volume.[12]

## Future Trends, Issues and Challenges

### Increased Demand, Yet Fewer Supportive Land Uses

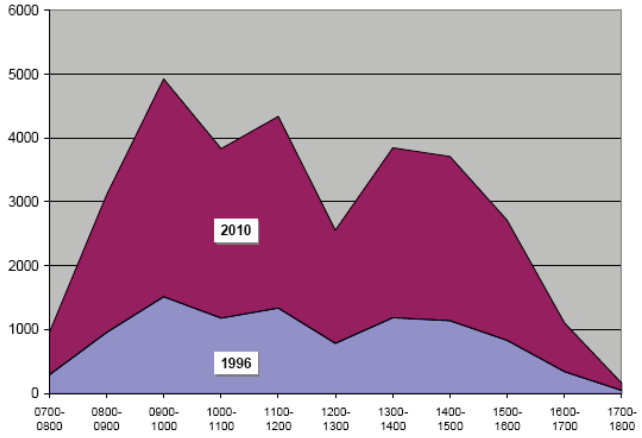
Recent studies have found that development trends and regional growth forecasts indicate increased demand for goods movement services, coupled with a reduction in the availability of affordable, close-in sites for land uses related to goods movement. More specifically, a large share of the central Bay Area industrial land supply may transition to new higher-value uses (office, residential and commercial). These trends could lead to relocation of goods movement related land uses to areas outside of central corridors, potentially leading to increases in land use conflicts, more truck miles and emissions and higher costs of goods distribution.

### Increased Congestion for Trucks

All the major truck corridors identified in Alameda County expect growing levels of recurrent congestion that will affect the cost of goods movement. Trucks are will find it more difficult to avoid peak period congestion in the future, since congestion is expected to spread into traditionally off-peak hours (Figure 3-28).

[10] MTC 2004 Bay Area Regional Goods Movement Study Report
[11] MTC 2004 Bay Area Regional Goods Movement Study Report
[12] Source: Oakland International Airport website

**Figure 3-28 Weekly Port Truck Flow and Peaking (1996 and 2010)**




*Source: Final PID to Support the Central Alameda County LATIP, 2009*

## Competition for Rail Infrastructure

Freight rail traffic demand is expected to increase greatly over the next 50 years. At the same time, there is growing competition between freight rail needs and passenger needs, especially in the Capitol Corridor and Altamont Pass.

## Climate Change and Sea Level Rise

The impact of sea level rise may prove a significant consideration not just for the Oakland Airport, but for all low-lying infrastructure in the Bay Area. The 2009 *Caltrans Vulnerability of Transportation Systems to Sea Level Rise Preliminary Assessment* explains that impacts may include: flooding of tunnels and airport runways, washouts of coastal highways and rail tracks, submersion of dock and port facilities and a potential shift of demand in transportation. Critical facilities at the Oakland and San Francisco International airports would be highly vulnerable with just inches of additional sea level rise.

The map shown in Figure 3-29 represents a best estimate conducted by the Bay Conservation and Development Commission (BCDC) of locations where sea level rise may occur. This is not a flood map, but rather an indication of locations where an assessment of risks should be conducted and where possible shoreline protection measures may be needed.

There are no additional regulations governing these areas between the flood zones and the potential sea level rise area. Therefore, BCDC will be working with regional and local agencies to identify and, if needed, protect these areas.

## Limited Funding for Capacity Enhancements

The Port of Oakland has a number of major projects planned or underway to accommodate expected growth in container traffic. These projects include major redevelopments of the marine terminals and a new rail terminal. However, these projects face significant funding gaps.

## Minimizing Impacts on Neighborhoods

Our transportation system must provide safe and efficient connections to bring goods to markets while seeking to minimize impacts on our residential neighborhoods. Projects that reduce conflicts between freight movement and other modes, reduce greenhouse gas production in the transport of goods and mitigate environmental impacts of freight movement on residential neighborhoods, such as quiet zones and grade separations, will become ever more important.

**Figure 3-29 Shoreline Areas Vulnerable to Sea Level Rise: 2040-2060**

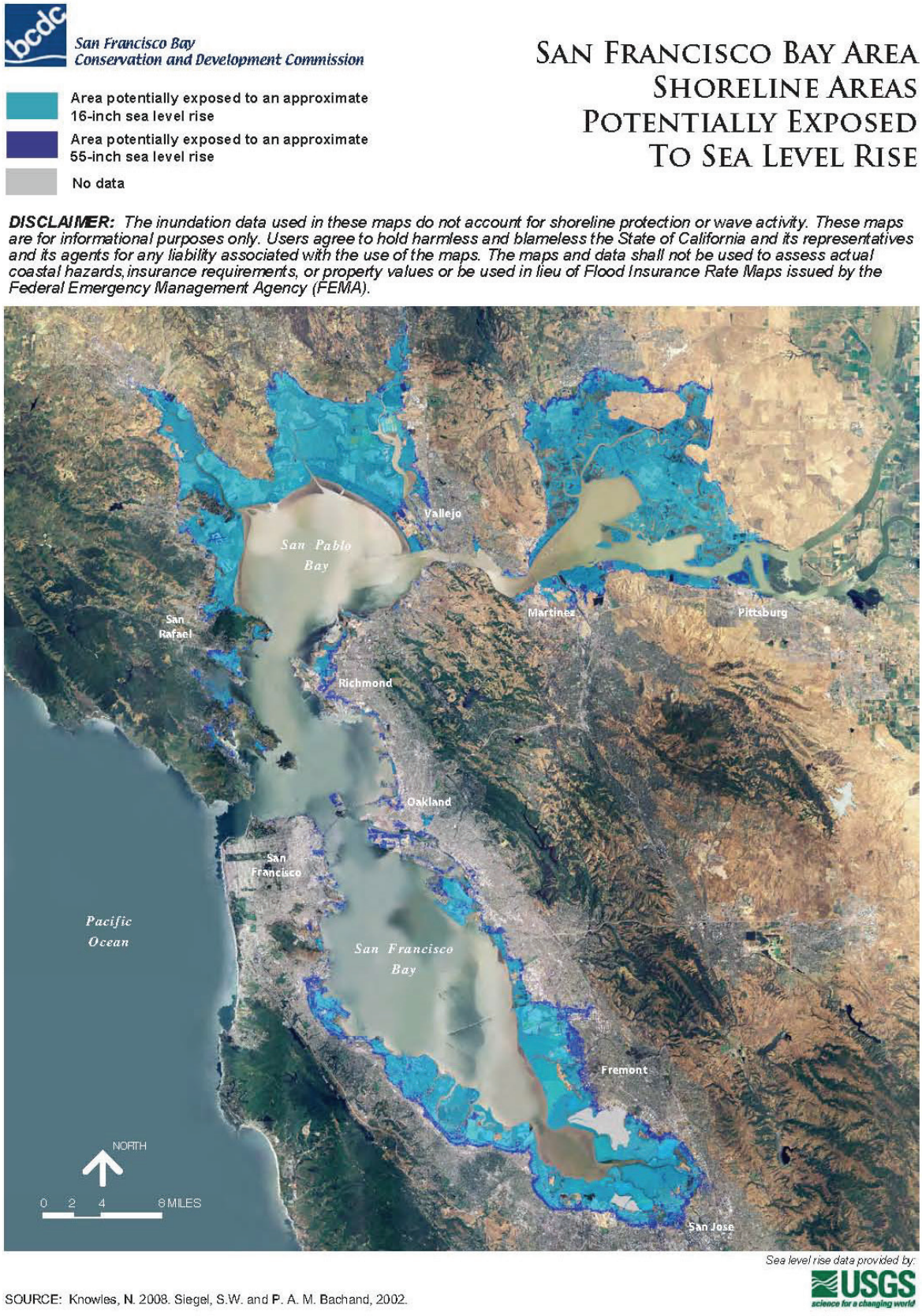



*Image source: San Francisco Bay Conservation and Development Commission http://www.bcdc.ca.gov/planning/climate_change/index_map.shtml*

# Parking and Transportation Demand Management (TDM)

## Overview

Traditionally, communities have tried to meet increasing demand for roadway or parking capacity by adding more supply—either through building lanes or adding more parking. However, that approach is changing as there is less room available to add highway/road lanes or construct new infrastructure in built up areas. Capacity expansion projects are increasingly expensive and research has shown that roadway capacity expansions and excessive parking supply can actually induce more driving over time.[13,14,15]

Moving forward, many cities have begun to look not only to supply side solutions, but also at how to better manage demand. This is especially important as consumer preferences and travel patterns change and the demand for more travel options increases, especially among both youth and senior populations.

Managing travel demand through TDM and/or parking management techniques offers cost effective and proven approaches to reducing VMT, by leveraging existing investments and complementing investments in transit systems and other alternatives to driving. TDM and parking management strategies represent an increasingly prevalent and important approach to transportation planning in Alameda County.

> **TDM and parking management strategies represent an increasingly prevalent and important approach to transportation planning in Alameda County.**

[13] Litman, T. (2011). Generated Traffic and Induced Travel: Implications for Transport Planning. *VTPI*.
[14] Cervero, R. (2002). Induced Travel Demand: Research Design, Empirical Evidence, and Policy Directions, *Journal of Planning Literature*.
[15] Weinberger, R. (2012). Death by a thousand curb cuts: Evidence on the effect of minimum parking requirements on the choice to drive. *Transport Policy*.

## Existing Conditions

### Role of Parking Management and TDM Strategies

Demand management strategies, in particular parking management, are already an indispensible part of Alameda County's transportation system. A number of cities in Alameda County have already begun to implement parking policy innovations and more robust TDM programs. For example, the City of Berkeley is using novel technologies to collect robust data to enable dynamic pricing. The goal of dynamic pricing in Berkeley is to respond to demand and decrease congestion while improving the economic vitality of the city's downtown. Older suburban communities in Central and South County, such as Hayward and Union City, are also implementing a new parking paradigm as they encourage TOD at their BART stations and in their urbanizing downtowns. Finally, the Alameda CTC itself also plays a key role, funding crucial TDM programs, such as the Guaranteed-Ride-Home (GRH) program.

### Local Control over Parking and TDM Strategies

TDM and parking management usually take place at the local level, with local jurisdictions approving TDM ordinances, establishing transportation conditions of approval and setting parking policies. Similarly, execution of TDM strategies also typically happens at the local and project level, as municipalities, employers, developers and public or private institutions assume responsibility for ensuring that TDM programs and parking management efforts are implemented.

### Varied Levels of Parking Management

Because parking is a local issue, the degree to which parking is managed differs by planning area and land use context. Cities in North County have initiated several efforts to more effectively manage their parking supply, while fewer policies are in place in the South and East Counties. As growth occurs and continues to be focused in key areas, especially around transit stations, comprehensive parking management plans for all County jurisdictions will likely need to be developed.

## Future Trends, Issues and Challenges

### Parking Management Efforts are Resource-Intensive

Parking management depends on a process that is well designed, highly transparent, supported by robust data and responsive to public input. However, many cities have not comprehensively reviewed their parking codes in years or even decades, while even fewer have conducted a recent inventory of their existing parking supply or gathered data on parking demand. Consequently, even cities that have a clear policy direction and the political will to address parking challenges lack the required data to make informed and transparent decisions.

### Limited Local Resources

Because local governments are increasingly constrained by limited budgets, many cities simply do not have the capital or staffing resources to expand their TDM efforts or engage in comprehensive parking planning and management. As a result, there is often limited funding available to initiate the parking studies that help to inform local policy decisions.

### Uncertain County Role

Currently, the Alameda CTC plays a direct, but limited, role in these areas. For example, the Alameda CTC currently administers the county's GRH program. However, parking management is typically under the control of local jurisdictions, while many TDM programs are implemented at the project level. Moving forward, it is crucial that the Alameda CTC find the appropriate balance between regional involvement and local implementation.

### Efforts to Address TDM

Potential TDM solutions have already been addressed in plans and studies for specific corridors and projects, many of which could inform future TDM efforts in Alameda County. For example, the Alameda CTC participated in an *I-580 Interregional Multimodal Corridor Study*, led by the San Joaquin Council of Governments (SJCOG) that focused on many TDM issues and improvement options on the I-580 corridor. The TDM solutions described in that report could have relevance for other parts of the county, such as employer-based demand management, parking pricing, goods movement and regional transit. The analysis and findings regarding cost effectiveness and potential benefits of these strategies could support and could inform future TDM efforts in Alameda County.[16]

[16] SJCOG I-580 Interregional Multi-Modal Corridor Study Final Report, August 2011: http://www.sjcog.org/docs/pdf/Regional%20Planning/i580study.pdf

# Communities of Concern

## Overview

"Communities of Concern" is a term adopted by MTC to refer to communities in the Bay Area that face particular transportation challenges, either because of affordability, disability, or age-related mobility limitations. To begin to address the needs of these communities, MTC created the Lifeline Transportation Program, as well as a number of other transportation programs that have been implemented in Alameda County to address the specific needs of low-income residents, people with disabilities, older adults and youth.

> **Many communities in the Bay Area face particular transportation challenges, either because of affordability, disability, or age-related mobility limitations.**

## Existing Conditions

### Low-Income Populations

Roughly 14% of households in Alameda County do not own cars, which is the second highest rate in the Bay Area. Overall, 11% of county residents take public transit to work, but the proportion among low-income residents is much higher. AC Transit ridership surveys indicate that 72% of bus riders are low-income. In addition to the challenges associated with auto ownership, Alameda County community-based transportation planning processes have ranked the following as the greatest concerns for low-income residents of the county:

- The high cost of using AC Transit and BART
- Safety from crime while waiting for or riding the bus
- Poor walking conditions, in particular with regard to lighting and sidewalk conditions
- Lack of transit service in the evenings and on weekends

### Alameda County Youth

Approximately 23% of Alameda County's population is under 18 years old and a higher proportion of youth fall below the poverty line than in the overall population (14% versus 11%). Currently, AC Transit, LAVTA and Union City Transit all provide a considerable amount of student-oriented service. For example, 60,000 daily trips on AC Transit are taken by school-age children, with dozens of routes specifically designed to meet the needs of students. In addition, LAVTA provides 15 school tripper routes, while approximately 21% of Union City Transit's riders are youth.

These agencies are currently facing financial challenges and cutbacks that disproportionately impact youth with limited alternatives available to affordable fixed-route transit. Youth whose families do not have access to a car and are dependent upon public transit are particularly sensitive to fare increases and service cutbacks.

The CWTP and TEP explicitly address this concern through a proposed access to schools transportation program, funded by TEP revenue, which could include youth bus passes, Safe Routes to Schools and other enhancements to school access throughout the county.

### People with Disabilities and Older Adults

In many parts of the U.S., the passage of the Americans with Disabilities Act (ADA) in 1990 resulted in a dramatic expansion of transportation options for people with disabilities, but also a steady scaling back of options for those who may have disabilities that do not meet the strict paratransit eligibility requirements of the ADA. As a result, in many parts of the United States, while the ADA has improved mobility for some, many frail seniors who relied on social service transportation are less mobile than before passage of the ADA. Alameda County has made additional investments in specialized accessible transportation services, funded through Alameda County's sales tax, Measure B.

Since 2002, over $60 million of Measure B funding has been invested in transportation programs that serve the needs of people with disabilities and seniors in Alameda County. The allocation of 10.45% of sales tax

revenue to accessible transportation programs, the largest share of any of the county transportation sales tax measures in the Bay Area, reflects the value placed on meeting the mobility needs of some of the most vulnerable populations by the voters of Alameda County.

Paratransit trips are provided by East Bay Paratransit (the ADA mandated service), which provides the greatest number of trips, and city-based programs. It is also important to note that a significant number of people with disabilities rely on standard fixed-route transit rather than paratransit services.

## Future Trends, Issues and Challenges

### Need for Continued Emphasis on Fixed-Route Transit Service

Since fixed-route service remains a significant mode of transport for those who are unable to drive or do not have access to a car, enhanced transit services will continue to be an important means of providing access to jobs, social services, education and medical services, as well as maintaining social connections for those who are isolated. The need for continued improvements to fixed-route service pertains to all population groups in communities of concern. The primary improvements that will be needed are:

- Transit service that is affordable, more frequent and available over a longer span of daily service hours
- Improvements to transit shelters and stops to make them more accessible and safer
- More speedy bus service for those who are able to walk longer distances to get to their stops (such as BRT and rapid bus) and localized service for those who may be disadvantaged by the increased distance between BRT/rapid bus stops
- Improved connectivity at BART stations and the ability to transfer between BART and local bus services

### Enhanced Paratransit Services are Needed

Paratransit will continue to be an important safety net for people with disabilities who are unable to ride fixed-route services. Some improvements to paratransit service that have been identified by users are: more affordable fares, more on-demand service, better on-time performance, access to more locations and better services for medical trips.

### Improvements to Pedestrian Environment are Essential

Safety of the pedestrian environment is very important for all communities of concern. Improvements include:

- Completion and improvement of sidewalk network, installation of curb cuts for wheelchair access, better lighting and enhanced crosswalks
- Improvements to bicycle amenities, including bike lanes, improved pavement conditions, enforcement of traffic speeds, lighting and ability to transfer to other modes

### Improved Information and Assistance

Information about transit service routes and schedules is critical to the expansion of fixed-route usage. However, given the disproportionate number of non-English speakers in this population and the limitations faced by those with visual and cognitive disabilities, there will always be room for improvement. Information needs can be summarized as follows:

- Better access to information through increased customer service staff, more translated materials, or user-friendly publications that can simplify the task of understanding trip-planning options
- While the publication of "Access Alameda" in a number of languages has proven to be an important community resource for senior and disabled transportation services, there remains a need to increase dissemination of this information more widely throughout the county

# 4. COORDINATION WITH LAND USE

## Overview

This update of the CWTP places increased emphasis on the connection between land use planning, transportation improvements and sustainability, consistent with regional policy and state law. California Assembly Bill 32 (AB 32) and Senate Bill 375 (SB 375) mandate reductions in greenhouse gas emissions and vehicle miles traveled through strengthening linkages between transportation investment decisions and land use patterns.

In response to these new mandates, the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG), in collaboration with the Alameda CTC and jurisdictions throughout the county, have been examining the diverse land use policies established by different communities in the Bay Area and the relationships between housing, job locations and transportation infrastructure. The outcome will be the region's first Sustainable Communities Strategy, a coordinated regional land use vision, as part of this update of the Regional Transportation Plan (RTP).

The timing of this update of the CWTP to be concurrent with the update of the RTP and the development of the region's first SSC is fortuitous; it has provided Alameda County jurisdictions the opportunity to take a leadership role in the implementation of this new planning paradigm, to coordinate with broader regional efforts and to more strongly consider land use in the CWTP.

Land use considerations have played a more direct role in the CWTP development process than in previous updates in two primary ways:

- The goals and performance measures explicitly address land use.
- The demographic forecasts used in the evaluation process were based on the Alameda County Draft Land Use Scenario Concept developed locally through an extensive 18 month process coordinated by the Alameda CTC and city planning directors. The local land use scenario was developed in coordination with ABAG and MTC's efforts and has helped inform the SCS process. Ultimately, the land use scenario used in the final CWTP will be the same as the land use alternative adopted by ABAG and MTC in the Final RTP/SCS.

This chapter describes the legislative mandates that have led to this increased emphasis on coordination with land use, policy precedents that have informed these efforts, the land use planning process and products that have been a part of this CWTP update and how they have influenced transportation investment priorities. The strengthened focus on coordination between land use and transportation planning is also described in detail in Chapter 3 of the Briefing Book, included as Appendix B, and in the "Integration of Land Use and Transportation" issue paper included in Appendix C of this document.[1]

[1] This and other documents related to the development of the CWTP can be found on the Alameda CTC website at http://www.alamedactc.org/app_pages/view/3070

# New Policy Environment

## Assembly Bill 32 (AB 32): The California Global Warming Solutions Act

AB 32, the California Global Warming Solutions Act, passed in 2006, mandates a reduction of greenhouse gas emissions to 1990 levels by the year 2020 through a series of emissions reduction measures. It outlines the key sectors responsible for greenhouse gas (GHG) emissions and establishes targets for each to attain. Land use has been identified as one of the sectors that must develop strategies to reduce vehicle miles traveled (VMT) and thereby reduce GHG emissions from passenger vehicles. The Bay Area's target for this sector is a 7% GHG reduction by 2020 and a 15% GHG reduction by 2035.

## Senate Bill 375 (SB 375): Redesigning Communities to Reduce Greenhouse Gases

Senate Bill 375, Redesigning Communities to Reduce Greenhouse Gases, passed in fall 2008, defines more concrete implementation requirements for the emissions reductions expected from the land use sector in AB 32. SB 375 aims to reduce greenhouse gas emissions from passenger vehicles through better coordination between transportation and land use decisions. Research shows that increasing a community's density and its accessibility to job centers are the two most significant factors for reducing VMT.[2] Significant efforts are necessary to reverse California's current trend of a 2% annual growth rate in VMT and instead begin to reduce VMT to meet the state's emission reduction goals.

The ultimate authority to establish land use policy and approve development projects lies with local jurisdictions. However, regional agencies play a major role in land use planning. They set the policy framework for a coordinated planning environment, which allows the region to meet multiple transportation and sustainability goals. SB 375 seeks to leverage the relationship between local and regional agencies through the California Environmental Quality Act (CEQA), housing elements and regional transportation plans. The fundamental goal is to encourage local governments, who have to coordinate with regional transportation agencies, to make land use and transportation planning choices that reduce VMT and GHG emissions.

The most immediate effect of SB 375 in the Bay Area is its mandate that the Regional Transportation Plan (RTP) must include a "Sustainable Communities Strategy" (SCS). The SCS is a regional land use strategy that houses all projected population within the region across all income levels and assumes that people can afford to live and work in the Bay Area, thus reducing commutes. This framework is in contrast to previous regional transportation plans, which implicitly assumed that people would be "priced out" of the Bay Area housing market and would need to commute long distances.

The development of the Bay Area's first SCS is underway, described in more detail later in this chapter. This combined long-range plan for sustainable land use, transportation and workforce housing will be called *Plan Bay Area*. As stated on the One Bay Area website, this integrated land use/transportation plan is a way to promote

*"…compact, mixed-use commercial and residential development that is walkable and bikeable and close to mass transit, jobs, schools, shopping, parks, recreation and other amenities. If successful, Plan Bay Area will give people more transportation choices, create more livable communities and reduce the pollution that causes climate change."*[3]

Once the SCS is in place, SB 375 will allow for land use changes such as streamlining CEQA requirements for certain projects that implement the region's Sustainable Communities Strategy.

The emphasis of these new legislative mandates on VMT reduction and leveraging land use changes with transportation investments is a distinct change of direction from the past when congestion relief was the key driver of the transportation planning environment

[2] "California Energy Commission & Land-Use Planning." California Energy Commission Home Page. Web. 29 Nov. 2010. http://www.energy.ca.gov/landuse/index.html

[3] One Bay Area website: http://www.onebayarea.org/

and many transportation investment decisions. Now these legislative mandates must be balanced with each other.

## Regional Policies and Planning Precedents

The Bay Area has long been a leader in sustainable planning and prior to the passage of SB 375 in 2008 was already planning for a more sustainable region. As stated on the One Bay Area website,

*"For decades, the Bay Area has been encouraging more focused and compact growth to help revitalize older communities, develop complete communities, reduce travel time and expense, make better use of the existing transportation system, control the costs of providing new infrastructure, protect resource land and environmental assets, promote affordability, and generally improve the quality of life for all Bay Area residents."*[4]

Therefore, in addition to the new statewide policies, some key regional policies and planning processes have influenced the development of this CWTP, as described below.

### FOCUS Program

The most recent iteration of planning for sustainability in the Bay Area is the FOCUS program, which started in 2006. FOCUS is a regional development and conservation strategy led by ABAG that promotes a more compact land use pattern for the Bay Area. It is a voluntary, incentive-based program that allows local governments to identify Priority Development Areas (PDAs) – infill sites where greater density could be accommodated near transit stops – as well as Priority Conservation Areas (PCAs) to maintain regionally significant open spaces and land conservation priorities. PDAs and PCAs are identified by local jurisdictions with final adoption by ABAG.

It has been estimated that identified PDAs could accommodate up to nearly half of the Bay Area's projected growth by 2035 on only three percent of the region's land area.[5] MTC provides financial incentives to communities to encourage them to focus development in these PDAs, including funding for capital infrastructure and planning and technical assistance to support advancement of PDAs. FOCUS funds also help local communities encourage compact infill development by addressing demands on non-transportation infrastructure, such as water systems. Alameda CTC has also made an ongoing commitment to encourage development of PDAs through financial incentives.

The Bay Area's PCAs seek to establish a framework for the protection of natural lands through coordinated planning, purchase of land, or conservation easements. MTC also provides financial incentives to support identification and protection of PCAs.

The FOCUS effort has resulted in the identification of over 200 PDAs throughout the Bay Area, 42 of which are located in Alameda County, and almost 100 PCAs, 17 of which are in Alameda County, shown in Figures 4-2 through 4-5. Alameda County's PDAs have played a key role in the land use planning efforts that have accompanied development of the CWTP.

### MTC Resolution 3434

MTC Resolution 3434, *the Transit-Oriented Development Policy for Regional Transit Extension Projects*, establishes transit corridor-level minimum thresholds for the number of housing units that must exist or be planned within one-half mile around transit stations in the corridor before the transit project can receive any regional discretionary funding. If a project does not meet the thresholds, a working group of agencies and stakeholders is established and local station area plans developed to determine if higher densities are possible. If so, implementation steps are developed to increase density along the corridor. These density thresholds only apply to the specific set of transit extension projects identified in Resolution 3434 when it was adopted in 2005; these include Dumbarton Rail and AC Transit's Telegraph Avenue/East 14th/ International Boulevard Bus Rapid Transit project, as well as other proposed projects in Alameda County.

### ABAG Projections

Every two years, ABAG produces long-term forecasts of population, housing, and employment and distributes them across the nine-county Bay Area,

[4] One Bay Area website, FAQs, referenced August 2011. http://onebayarea.org/plan_bay_area/faq.htm#2

[5] One Bay Area website, referenced August 2011. http://onebayarea.org/plan_bay_area/faq.htm#15

published as "Projections." ABAG Projections are usually the basis for the regional and county transportation planning efforts in the Bay Area.

ABAG's approach to projecting future population growth has evolved over time. Historically they developed "trend-based" projections, placing anticipated growth where growth had occurred in the past. For example, a portion of the people working in Alameda County was assumed to live outside the region following the recent trend of people being priced out of the Bay Area housing market.

In recent years, ABAG has moved from trend-based projections towards conducting more "policy-based" projections. This approach bases the location of future population not just on historical trends, but also takes into account where the region would *like* growth to occur. This is based on local and regional land use plans and growth policies, which have largely been informed by the FOCUS program. As described on the ABAG website: "In recent updates, the Projections forecasts have presented a realistic assessment of growth in the region, while recognizing trends in markets and demographics, while also recognizing local policies that promote more compact infill- and transit-oriented development."[6] The SCS will replace the current Projections series and will be updated every four years in conjunction with the development of the Regional Transportation Plan.

[6] ABAG website, referenced August 2011. http://www.abag.ca.gov/planning/currentfcst/

## CWTP Goals and Performance Measures Related to Land Use

Integration of land use was taken into consideration from the start of this CWTP update. The vision and goals, which form the foundation of all the work that has been done, explicitly address land use by stating that new transportation investments must be "supported by appropriate land uses" and that our transportation system will be "integrated with land use patterns and local decision making." Further, coordination of land use and transportation in Alameda County will also help achieve other aspects of the county's vision for sustainability, transit operations, public health, and economic opportunity.

Land use was also incorporated into the performance measures that were used to evaluate transportation investments. The use of measures such as the share of low-income households with access to activity centers, schools and transit stops as well as transit ridership and riders per hour reflects the importance of land use in the CWTP.

Based on the vision and goals, the issue paper "Integration of Land Use and Transportation," developed in early 2011, proposed more specific land use objectives to guide future transportation decision making; these are shown in Figure 4-1.

The efforts undertaken for this CWTP represent a step towards establishing more robust linkages between land use and transportation in the county. However, continuing to unify land use and transportation will require ongoing time and effort. Fortunately, the collaborative land use planning effort that has been undertaken for this CWTP (described next) provides a solid foundation for moving forward. The Alameda CTC has also identified a number of follow up steps that will be needed, described in Chapter 7, "Next Steps."

**Figure 4-1 Land Use Objectives**

### LAND USE OBJECTIVES

- Encourage a land use pattern that provides a variety of destinations within walking and bicycling distance
- Encourage a built environment that provides an interesting and vibrant street environment, including interest and comfort for pedestrians and bicyclists as well as "eyes on the street" for improved safety
- Encourage a pattern of major employment centers and employment in general with convenient transit access and nearby mixed use and residential areas
- Support walkable residential neighborhoods in proximity to schools
- Support the creation and maintenance of housing, affordable to a range of households, with PDAs and other TOD opportunities
- Encourage preservation of valuable agricultural lands in the county to provide produce and other agricultural products within proximity of urban development
- Encourage the creation of a connected street network providing multiple and convenient routes for all modes within and between neighborhoods and centers, and for the regional transportation system

## Alameda County Preferred Land Use Scenario Concept

The Alameda CTC addressed land use in this update of the CWTP primarily through taking an active role in regional population and employment forecasts. For the first time, the Alameda CTC engaged local planning officials to develop tailored socioeconomic and demographic projections for Alameda County. The Alameda CTC used the outcomes of these local planning efforts to inform ABAG and MTC in their ongoing refinement of the regional land use scenarios for the SCS. Outcomes of these land use planning efforts were also used throughout the CWTP preparation process. Specifically, this Alameda County Draft Land Use Scenario Concept was used in the travel demand model evaluation that yielded the future travel conditions in Alameda County, described in Chapter 3, and the project and program evaluation, as described in Chapter 6.

This land use planning process was grounded in existing and planned land use policies in all Alameda County cities as well as existing, planned, or potential transit investments throughout the county. Issues such as distribution of jobs, transit/shuttle access to potential mixed use employment growth areas and the impacts of potential transit improvements informed this process and involved participation by planning directors, transportation planners and other staff from all jurisdictions in the county. Not all jurisdictions gave the same level of input, but every jurisdiction provided input, and the outcomes were consistent with the development of the SCS.

The Alameda CTC and staff from jurisdictions sought to be ambitious but realistic, grounding their efforts in an understanding of market forces, how they are likely to change over time and communities' willingness to accept growth. Specifically, the scenario was developed with the following goals in mind:

- To fit within ABAG's Alternative Land Use Scenarios released in August 2011
- To be consistent with local General Plans and other land use policies
- To meet the intent of SB 375
- To clearly identify areas for future employment growth with the potential to be better served by transit
- To develop realistic growth rates for jobs and households

The development of the Alameda County Draft Land Use Scenario Concept has been closely coordinated with MTC's development of the SCS, which is described below.

### Developing the Sustainable Communities Strategy and Alameda County's Preferred Land Use Scenario Concept

The County's land use planning efforts involved an iterative process to adjust the demographic and socioeconomic projections developed by the regional agencies to make them more reflective of conditions in Alameda County. In March of 2011, ABAG and MTC released their *Initial Vision Scenario* (IVS), the first step in development of the Sustainable Communities Strategy. The IVS built primarily off the work of local communities as part of the FOCUS planning effort, utilizing the previously identified PDAs and PCAs to establish a framework as to how growth will occur and be concentrated around key transit nodes. Acknowledging that PDAs can only accommodate about half of the region's projected growth, ABAG worked with local jurisdictions to identify a series of Growth Opportunity Areas (GOAs), as part of the *Initial Vision Scenario*. GOAs are locations in the region with potential capacity for growth that are either in the process of becoming PDAs or are otherwise pursuing sustainability focused on employment.[7]

This IVS began a series of conversations throughout the region with local governments and residents about where new development should occur, and how transportation investments should be prioritized in order to serve this growth. The Alameda CTC worked with city planning staff throughout the County to identify GOAs in the county and to adjust allocations and locations of housing and job growth to best reflect local conditions.

[7] ABAG and MTC*'s Plan Bay Area Initial Vision Scenario for Public Discussion*, p. 89. March 11, 2011.

The outcome of this land use planning process is the Alameda County Draft Land Use Scenario Concept, which estimates how many people will live in the county in the future, how many jobs are anticipated, the location of both housing and employment and how they relate to our transportation assets.

Figures 4-2 and 4-4 provide both lists and maps of the 42 PDAs and 9 GOAs in Alameda County. The PDA areas receive the majority of the growth under Alameda County's Draft Land Use Scenario Concept. Figure 4-6 shows where growth will be located by city under the Alameda CTC Preferred Land Use Scenario Concept. It should be noted that eight of the GOAs are being considered for conversion to PDA status.

The scenario presented here is the result of 18 months of work by planning directors from the cities in Alameda County. However the Land Use Scenario Concept is still in draft form; several cities have potential refinements that are needed.

## Next Steps

Based on Alameda CTC and other input from throughout the Bay Area, MTC and ABAG prepared five land use scenarios; two unconstrained and three constrained land use scenarios: Core Concentration, Focused Growth, and Outer Bay Area Scenarios. The three constrained scenarios are based on an assessment of economic growth, financial feasibility, and more reasonable planning strategies. They provide a range of housing and employment distribution patterns across places and cities that support equitable and sustainable development. MTC and ABAG completed public outreach in January 2012 to get feedback on these scenarios and released a draft preferred SCS called the Jobs-Housing Connection Scenario on March 9, 2012. Because of the timing of the release of the Final Draft CWTP and the release of the draft preferred SCS, the housing and jobs information is not yet included in the Final Draft CWTP.

> **"If successful, Plan Bay Area will give people more transportation choices, create more livable communities and reduce the pollution that causes climate change."[8]**

The final Alameda County land use scenario will continue to be adjusted through coordination with ABAG and MTC. Ultimately, the CWTP will be based on the preferred SCS land use alternative adopted by ABAG and MTC in the final Plan Bay Area (RTP/SCS). MTC and ABAG are planning to release the draft transportation investment scenario in April 2012 and anticipate adoption of the final preferred SCS and transportation network in May 2012.

The update of the CWTP has made a more concerted effort than ever before to integrate land use and transportation planning. This has been the County's first major step in a new policy environment that is likely to continue to evolve over time. The work that was completed here sets the stage for ongoing efforts by the Alameda CTC, regional agencies, jurisdictions and stakeholders to continue to address integrated land use and transportation planning in coming years and future updates of the CWTP.

[8] One Bay Area website: http://www.onebayarea.org/

**Figure 4-2 List of Alameda County Priority Development Areas and Growth Opportunity Areas (PDAs and GOAs)**

| Jurisdiction | Project Area | Potential/Planned PDA or GOA |
|---|---|---|
| Alameda County | Urban Unincorporated Area | Potential |
| | Castro Valley BART | Potential |
| | East 14th Street and Mission Boulevard Mixed Use Corridor | Potential |
| | Hesperian Boulevard | Potential |
| | Meekland Avenue Corridor | Potential |
| City of Alameda | Alameda Naval Air Station | Planned/Potential |
| | Northern Waterfront | Potential |
| City of Albany | San Pablo Avenue/Solano Avenue Mixed Use Neighborhood | Potential |
| City of Berkeley | Downtown | Planned |
| | San Pablo Avenue | Planned |
| | South Shattuck | Planned |
| | University Avenue | Planned |
| | Adeline Street | Potential |
| | Telegraph Avenue | Potential |
| City of Dublin | Downtown Specific Plan Area | Planned |
| | Town Center | Planned |
| | Transit Center/Dublin Crossing | Planned |
| City of Emeryville | Mixed Use Core | Planned |
| City of Fremont | Centerville | Planned |
| | City Center | Planned |
| | Irvington | Planned |
| | Ardenwood Business Park | GOA |
| | Fremont Boulevard & Warm Springs Boulevard Corridor | GOA |
| | Fremont Boulevard Decoto Road Crossing | GOA |
| | Warm Springs | GOA |
| City of Hayward | The Cannery | Planned |
| | Downtown | Planned |
| | South Hayward BART Station | Planned |
| | Carlos Bee Quarry | GOA |
| | Mission Boulevard Corridor | Potential |
| City of Livermore | Downtown | Planned |
| | East Side PDA | Potential |
| | Isabel Avenue/BART Station Planning Area | Potential |
| City of Newark | Dumbarton Transit Area | Potential |
| | Old Town | Potential |
| | Cedar Boulevard Transit | GOA |
| | Civic Center Re-Use Transit | GOA |

| Jurisdiction | Project Area | Potential/Planned PDA or GOA |
|---|---|---|
| City of Oakland | Coliseum BART Station Area | Planned |
| | Downtown and Jack London Square | Planned |
| | Eastmont Town Center | Planned |
| | Fruitvale/Dimond Areas | Planned |
| | MacArthur Transit Village | Planned |
| | West Oakland | Planned |
| | TOD Corridors | Potential |
| City of Pleasanton | Hacienda | Potential |
| City of San Leandro | Downtown | Planned |
| | East 14th Street | Planned |
| | Bay Fair BART Transit Village | Potential |
| City of Union City | Intermodal Station District | Planned |
| | Mission Boulevard | GOA |
| | Old Alvarado | GOA |

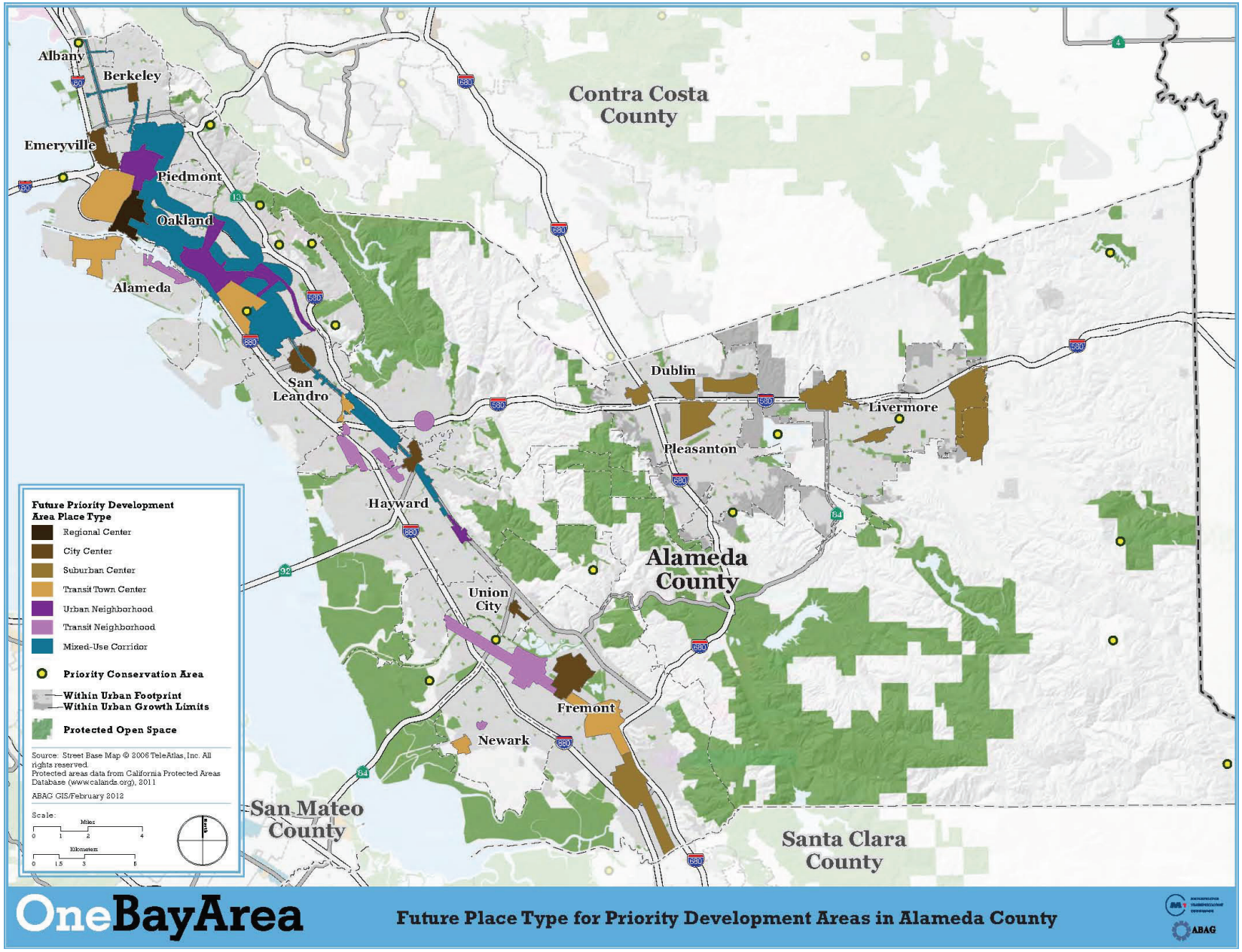
*Source: Alameda CTC*

**Figure 4-3 List of Alameda County Priority Conservation Areas (PCAs)**

| PCA Sponsor | Name of PCA | City |
|---|---|---|
| Butters Land Trust | Butters Canyon/Headwaters of Peralta Creek | East Oakland |
| City of Albany | Albany Hill | Albany |
| City of Fremont | Site 1 – Coyote Hills | Fremont |
| City of Livermore | North Livermore, South Livermore Valley | Livermore |
| City of Oakland | East Bay Greenway | Oakland, San Leandro, unincorporated County, Hayward |
| | Leona Canyon Creek Tributaries | Oakland |
| | Ridgemont West | Oakland |
| | South Hills, San Leandro Creek | San Leandro |
| | Temescal Creek/North Oakland | Oakland |
| City of Union City | Union City Hillside Area | Union City |
| East Bay Regional Park District | Bethany Reservoir Area | Alameda County |
| | Cedar Mountain Area | Alameda County |
| | Chain of Lakes Area | Pleasanton and Livermore |
| | Duarte Canyon Area | Alameda County |
| | Potential Oakland Gateway Area | Oakland |
| | Potential Tesla Area | Alameda County |
| | Regional Trails System Gaps | Oakland to Union City and Oakland and Berkeley Hills |

*Source: MTC*

**Figure 4-4 Alameda County Priority Development Areas (PDAs)**




*Source: ABAG and MTC, Plan Bay Area, March 2012*

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**Figure 4-5 Map of Alameda County Priority Conservation Areas**
*(Does not show Regional Trails System Gaps)*

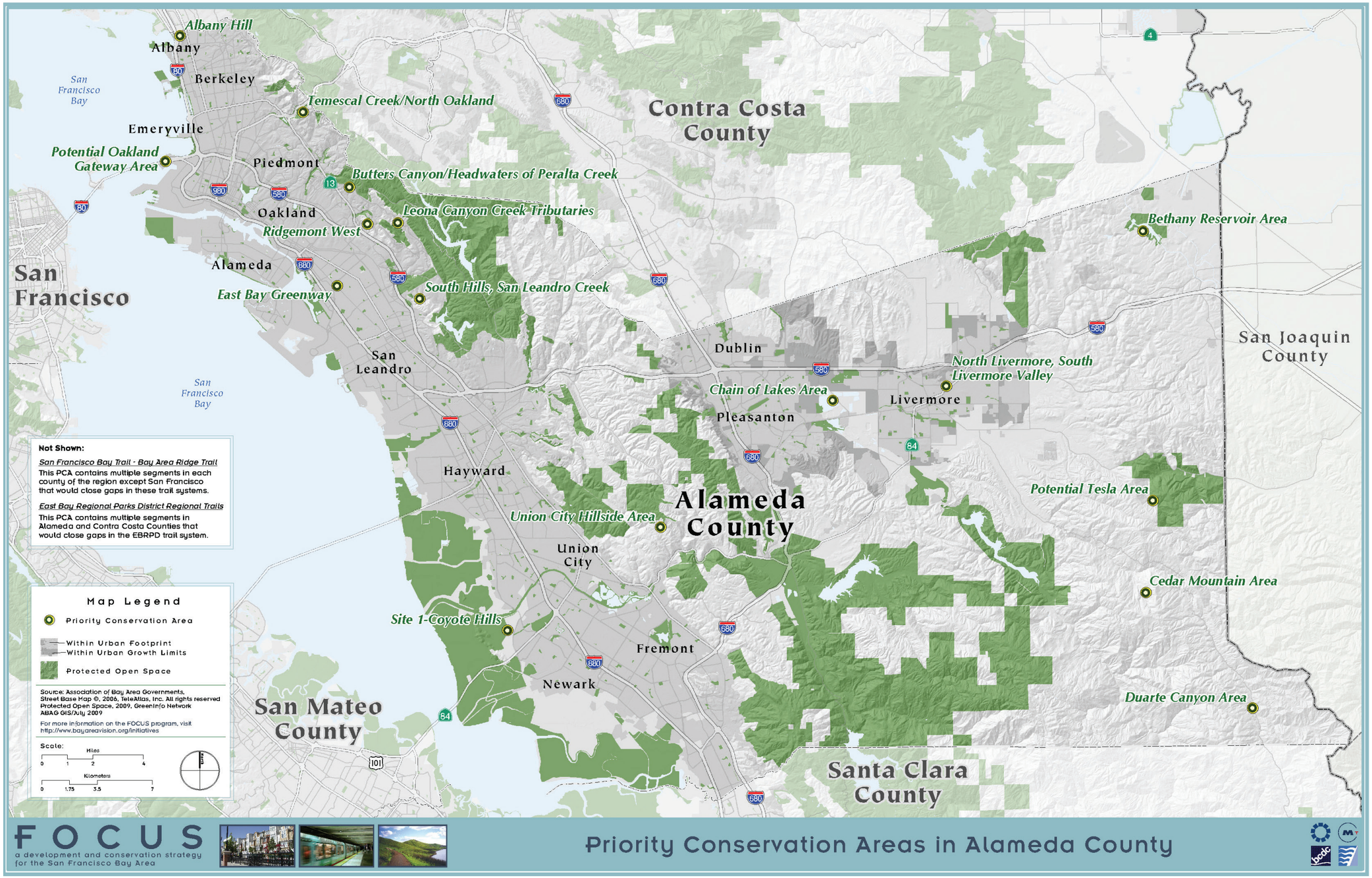

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**Figure 4-6 Comparison of Alameda County Preferred Land Use Scenario Concept to ABAG Previous Scenarios**
**Future Household and Jobs Distribution to Jurisdictions (2010-2035)**

| | HOUSEHOLDS | | | | | | | JOBS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Previous ABAG Scenarios Increase from 2010 to 2035 | | | | | | Draft Alameda CTC SCS Land Use Scenario | Previous ABAG Scenarios Increase from 2010 to 2035 | | | | | | Draft Alameda CTC SCS Land Use Scenario |
| Jurisdiction | Modified Proj 2009 | ABAG/ MTC IVS | ABAG/ MTC Core Conc.* | ABAG/ MTC Focused Growth* | ABAG/ MTC Outer Bay Area* | ABAG/ MTC Jobs-Hsg* | 2010-2035 HH Increase | Modified Proj 2009 | ABAG/ MTC IVS | ABAG/ MTC Core Conc.* | ABAG/ MTC Focused Growth* | ABAG/ MTC Outer Bay Area* | ABAG/ MTC Jobs-Hsg* | 2010-2035 Jobs Increase |
| Alameda | 4,478 | 8,100 | 6,097 | 5,153 | 4,950 | 5,320 | 4,931 | 17,869 | 12,069 | 6,309 | 6,776 | 6,558 | 7,610 | 7,389 |
| Albany | 928 | 2,166 | 861 | 851 | 831 | 860 | 1,149 | 4,100 | 498 | 1,175 | 1,113 | 833 | 1,210 | 2,520 |
| Berkeley | 5,920 | 15,728 | 7,505 | 7,424 | 7,243 | 8,000 | 9,403 | 24,406 | 8,794 | 18,585 | 18,218 | 17,858 | 18,400 | 13,118 |
| Dublin | 12,201 | 16,644 | 9,774 | 12,249 | 13,655 | 14,920 | 13,888 | 25,541 | 15,342 | 4,125 | 4,550 | 8,241 | 9,420 | 12,698 |
| Emeryville | 4,390 | 7,490 | 5,075 | 4,639 | 4,534 | 5,200 | 4,682 | 11,398 | 7,281 | 5,009 | 4,666 | 4,408 | 6,320 | 8,145 |
| Fremont | 24,100 | 27,560 | 17,118 | 15,415 | 13,412 | 15,350 | 25,407 | 40,300 | 41,645 | 21,968 | 21,697 | 23,141 | 25,290 | 23,801 |
| Hayward | 11,950 | 14,982 | 13,881 | 13,730 | 13,395 | 11,850 | 11,984 | 27,385 | 18,595 | 13,376 | 13,726 | 14,533 | 17,570 | 15,385 |
| Livermore | 10,458 | 12,139 | 8,178 | 9,943 | 10,860 | 9,180 | 11,121 | 16,380 | 18,445 | 11,284 | 12,440 | 16,774 | 11,830 | 12,113 |
| Newark | 5,343 | 5,801 | 5,201 | 5,144 | 5,019 | 3,980 | 6,767 | 10,000 | 2,750 | 3,475 | 3,660 | 3,683 | 4,740 | 6,093 |
| Oakland | 32,954 | 65,454 | 52,653 | 51,194 | 39,987 | 38,770 | 41,833 | 98,764 | 67,518 | 53,662 | 48,579 | 47,632 | 67,180 | 46,185 |
| Piedmont | 10 | 10 | 565 | 559 | 545 | 20 | 10 | 49 | 80 | 508 | 569 | 275 | 400 | 40 |
| Pleasanton | 5,175 | 9,785 | 5,649 | 6,546 | 7,217 | 4,330 | 6,108 | 28,719 | 17,382 | 12,151 | 13,313 | 17,924 | 14,680 | 10,813 |
| San Leandro | 5,634 | 8,800 | 6,384 | 6,315 | 6,161 | 6,530 | 7,384 | 18,829 | 13,074 | 8,959 | 8,903 | 9,416 | 10,830 | 12,380 |
| Union City | 3,004 | 5,480 | 4,080 | 4,036 | 3,600 | 2,110 | 3,272 | 14,060 | 15,642 | 3,875 | 3,949 | 3,850 | 4,040 | 8,212 |
| Alameda Co. Uninc. | 18,204 | 12,606 | 7,416 | 10,235 | 10,765 | 5,140 | 3,760 | 12,465 | 10,744 | 5,350 | 5,738 | 5,141 | 10,890 | 5,130 |
| **Countywide Totals** | **144,749** | **212,745** | **150,437** | **153,432** | **142,172** | **131,560** | **151,696** | **350,265** | **249,859** | **169,812** | **167,897** | **180,268** | **210,410** | **184,021** |

** 2035 Estimates derived for Jurisdictions from 2040 ABAG Scenarios released on August 31, 2011 and March 9, 2012*

# 5. FUNDING AND FINANCE

## Introduction

The CWTP offers a long-term vision for the future of Alameda County's transportation system. It identifies transportation needs in the county as well as projects and programs to be implemented and developed in order to meet those needs. The harsh reality, however, is that there is simply not enough money available to fund all of the projects and programs outlined in this CWTP. Unless there is an unanticipated and dramatic shift in how transportation is financed, Alameda County will not be able to implement its full transportation vision.

Moving forward, funding is undoubtedly the great unknown as Alameda County plans its transportation network through 2040. This chapter establishes the framework for a larger discussion about the tough funding decisions that Alameda County will have to make in the future.

> **Funding is undoubtedly the great unknown as Alameda County plans its transportation network through 2040.**

## Overview of Transportation Funding

The financing of Alameda County's transportation system is as complex and multi-layered as the county's transportation needs. In Alameda County, money is needed to maintain the existing system, actively manage and operate the transportation network, and develop and operate new transportation facilities. All of these projects and programs require numerous planning processes, studies, and, ultimately, a wide variety of funding sources to ensure their successful implementation. This section of the CWTP offers an overview of the basic funding framework for transportation.

### Our Funding Framework

In short, transportation dollars come from federal, state, regional, and local sources. Almost every transportation project or program, from a highway interchange to a bicycle lane, requires multiple sources for planning, design, construction, operation, and ongoing management.

#### Federal

For the better part of the 20th century, the federal government played the dominant role in financing the transportation system through a combination of user taxes and fees. The passage of the Highway Revenue Act of 1956 linked the gas tax directly to the creation of the national interstate system by creating a dedicated

transportation account, the Highway Trust Fund. In the early 1980s, the gas tax began to also be used to fund transit projects and programs with the creation of the Mass Transit Account within the Highway Trust Fund. In order to fund growing demand for transportation infrastructure, the gas tax was raised numerous times; however, it has not been increased since 1993 and thus its buying power has decreased over time.

Today, federal transportation policy and spending priorities are set by the federal Surface Transportation Act, a multi-year authorization program that includes highway, safety, transit, rail, and non-motorized transportation programs. The latest iteration of the act, the Safe, Accountable, Flexible, Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU), was passed in 2005. SAFETEA-LU expired in 2009, but has had numerous short-term extensions as Congress continues to debate the next iteration of the federal bill.

In recent months, a limited amount of progress has been made towards approval of a new, long-term federal transportation bill. The Senate version of the bill (known as MAP-21) was approved on the Senate floor, but is still being amended. MAP-21 is a two-year reauthorization bill, which proposes the consolidation of numerous existing programs into five core programs. MAP-21 offers additional flexibility to states and regions and slightly increases transit funding. However, dedicated funding to some non-motorized programs would be eliminated by MAP-21. Transportation reauthorization on the House side is even more unclear. A recent House proposal that would have eliminated dedicated funding to public transit, cut overall transportation funding levels drastically, and eliminated many non-motorized programs was pulled from the floor after strong opposition. The long-term financing mechanisms for both bills are largely undefined.

Given the stark differences between the House and Senate bills, it remains unclear what the final transportation bill will look like. No matter the final outcome, it appears that federal role in transportation will be substantially different moving forward.

## State

Much like federal funding, the majority of California's state transportation dollars come from taxes and fees. Traditionally, these included a sales tax on gasoline and diesel fuels, an excise tax on gasoline and diesel fuels, and truck weight fees. In March of 2010, Governor Schwarzenegger signed AB 6 and AB 9, better known as the "gas tax swap," which changed these funding mechanisms in California. The swap had four primary effects. First, it eliminated the statewide sales tax on gasoline. Second, to offset the elimination of the statewide sales tax on gasoline, it raised the excise tax on gasoline. Third, it retained the existing sales tax on diesel fuel and raised it by 1.75%, revenue which is allocated to public transit. Finally, it offset the increase in the diesel sales tax rate by lowering the diesel excise tax.

The state has also invested in transportation finance through the passage of statewide bonds, most recently with 2006's Proposition 1B ($19.925 billion for a variety of transportation programs and projects) and 2008's Proposition 1A ($9.95 billion for high speed rail).

## Regional and Local

Within the Bay Area, the region itself and many counties and cities have made significant investments in transportation funding. Regional and local dollars now comprise a substantial portion of the region's financial resources. These regional and local sources include a variety of fees, taxes, and tolls, as well as fares collected by local transit agencies. For example, the region's voters have passed several bridge tolls in recent years to fund not only seismic upgrades to these structures, but also road and congestion projects. In addition, Alameda County recently passed Measure F, which increased annual vehicle registration fees by $10 to fund road, transit, non-motorized, and transportation technology projects and programs.

Finally, Alameda County voters have passed two local transportation sales tax measures that have increasingly served as a major funding element, as further described below.

## A Fundamental Shift to Regional and Local Funding

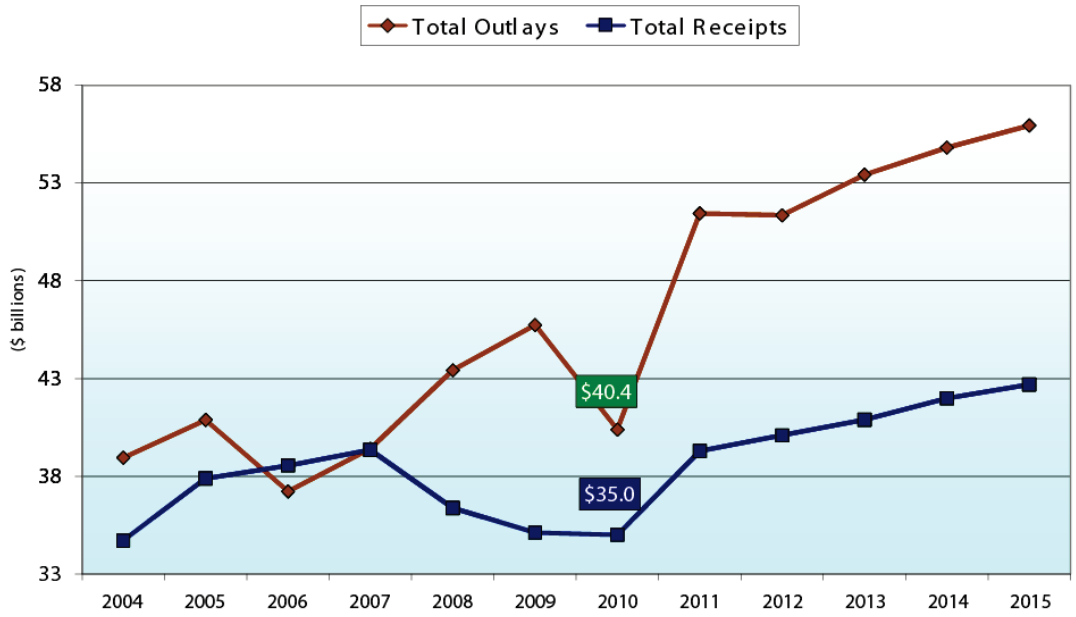
Traditionally, transportation projects have been predominantly funded by federal and state revenue sources. In recent years, however, there has been a dramatic shift towards a funding system that is much more reliant on sources of local funding. This shift is primarily the result of declining investment at the federal and state levels. For example, the federal gas tax has lost much of its purchasing power and has failed to keep pace with spending authorizations. The Highway Trust Fund is nearly "broke" because the gas tax has not been increased since 1993, and because individuals are buying more fuel-efficient vehicles and driving less (see Figure 5-1).

In California, the state legislature, in an effort to balance its budget, eliminated certain sources of operations funding for transit agencies, thereby placing an enormous additional burden on local jurisdictions to continue to fund their existing service levels. It is not surprising then, that most transit agencies in the state, including AC Transit, have experienced service reductions and fare increases at a time when the recession has stretched individual budgets to the limit.

**There has been a dramatic shift away from federal and state support for transportation operations and infrastructure and towards increased reliance on local funding.**

One of the most crucial local funding sources is the local transportation sales tax. These tax mechanisms have been around for decades, but their importance has been magnified in recent years. In short, this funding mechanism allows counties to raise their sales tax and dedicate the additional revenue specifically to transportation purposes. In Alameda County, Measure B was first approved by voters in 1986 and then reauthorized in 2000 for another 20 years. The current Measure B has programmed billions of dollars to a variety of projects (highway and transit expansion) and programs (transit operations, local streets and roads, paratransit, and bicycle/pedestrian). Because these mechanisms are taxes, such local measures require the development of a detailed expenditure plan and two-thirds voter approval threshold. An augmentation and extension of the current Measure B is a vital strategy in implementing the transportation vision laid out in this plan.

**Figure 5-1 Highway Trust Fund Outlays and Receipts Discrepancy**



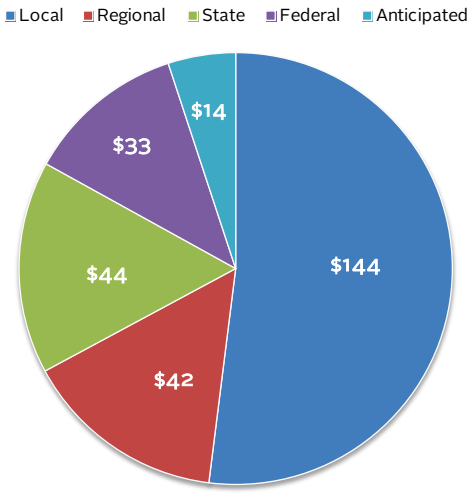

Note: Excludes $8.017 billion transfer from General Fund to Highway Account of HTF in September 2008; $7 billion transfer from General Fund to Highway Account of HTF in August 2009; $19.5 billion transfer from General Fund to Highway and Mass Transit Accounts of HTF in March 2010.

*Source: AASHTO, The Forum on Funding and Financing Solutions for Surface Transportation in the Coming Decade. January 2011*

**Moving forward, Alameda County will have to continue to rely on local and regional funding mechanisms as a means to finance its current and future transportation system.**

At this point "outside" sources (state and federal) account for slightly less than 28% of the Bay Area's projected transportation revenues. As shown in Figure 5-2, approximately $186 billion of revenues over the next 28 years will come from local and regional sources, as opposed to approximately $33 billion from the federal pipeline.

**Figure 5-2 Projected 28-Year Regional Revenues (Billions of dollars)**




*Source: MTC*

It appears that the shift to local and regional funding is a permanent one. The systemic budget challenges at the state level and the ongoing federal debate over spending and revenue will likely not be resolved any time soon. Moving forward, Alameda County will have to continue to rely on local and regional funding mechanisms as a means to finance its current and future transportation system.

# Funding Issues and Challenges

The funding framework for transportation faces substantial issues and challenges in both the near- and long-term. In future years, competition for increasingly scarce revenue will only become more intense. By identifying the following challenges, Alameda County can position itself to be more strategic in its efforts to secure transportation dollars.

## Revenue is declining, while costs and demand only increase

In addition to a fundamental shift to local support for transportation projects and programs, current economic conditions have had a catastrophic impact on the purchasing power of the most common local funding sources, which generally depend on sales taxes for transportation funding. Sales tax receipts in Alameda County have declined during the recession, and the greatest impact has been felt by programs that depend on sales tax revenue for operations, particularly streets and roads maintenance and transit operations.

Local transit service has undergone cutbacks due to revenue shortfalls at all levels. In response to the recession and the cutbacks, transit service has lost riders and fare revenue, resulting in even more service cuts and fare increases. At the same time, costs for transportation programs and transit services continue to increase at a rate greater than revenue growth. Demands for all forms of transit service are also rising, creating an ever-increasing gap in the demand and cost for service.

**Demands for all forms of transit service are also rising, creating an ever-increasing gap in the demand and cost for service.**

## Core funding programs are not reliable or sustainable

Many sources of funding that were regularly renewed can no longer necessarily be counted upon, for political reasons, the economy, or both. The recent and ongoing debate in the U.S. Congress over reauthorization of the SAFETEA-LU funding act has provided a vivid illustration of such threats to existing sources of funding. As mentioned above, the Senate version of a new federal bill (MAP-21) has made some progress towards approval, but the House version has been met with strong opposition. Both bills do little to address long-term funding concerns, and it is unclear how many key issues will be resolved. No matter what

the final outcome is, it appears that the federal role in transportation will change in many respects.

In addition, traditional funding sources for transit operations, namely State Transit Assistance (STA) funding, has fluctuated dramatically over the past decade as legislators have repeatedly diverted STA funds to backfill the general fund.[1]

In response, there has been a heavy reliance on one-time infusions of transportation revenue in recent years. Over the past decade, programs— including California's 2000 Traffic Congestion Relief Program, the Corridor Mobility Improvement Account, created as a result of 2006's statewide Proposition 1B, and the more recent federal American Recovery and Reinvestment Act (ARRA) stimulus funds— have been used to supplement existing sources of funding. However, such temporary sources are, by their nature, not sustainable.

In addition, many funding mechanisms are highly volatile, shown in Figure 5-4, which impacts project and program delivery. Revenues from Measure B, a sales tax, are dependent on strong consumer spending and fluctuate along with economic cycles. Thus, ongoing economic challenges have severely impacted Measure B. From 2002 to 2022, this sales tax was expected to bring in approximately $2.9 billion to serve major regional transportation needs and address congestion throughout the county. As shown in Figure 5-3, there is a current revenue shortfall of $171 million and an anticipated measure shortfall of $766 million. These shortfalls disproportionately impact programs, since additional funding sources such as the economic stimulus funds were able to backfill capital projects.

**Revenues from Measure B, a sales tax, are dependent on strong consumer spending and fluctuate along with economic cycles. Thus, ongoing economic challenges have severely impacted Measure B.**

Similarly, property taxes, which some Bay Area transit agencies rely on to fund their systems, are tied to assessed home values (under California's Proposition 13, property assessments cannot be increased to reflect rising home values). Not surprisingly, the housing crisis and decline in property values has significantly reduced the revenue available to transit agencies.

Finally, it is important to note that many local and regional funding sources require two-thirds voter approval. While Bay Area voters have historically been willing to support such measures (sales taxes, bridge tolls, and vehicle fees), there is no guarantee that future ballot measures will be approved. Measure B, for example, is set to expire in 2022, but a new measure will be placed on the ballot in November 2012. The outcome of this vote will have significant impacts on the county's ability to fund its transportation system.

**Figure 5-3 Current Measure B Funding Shortfall**

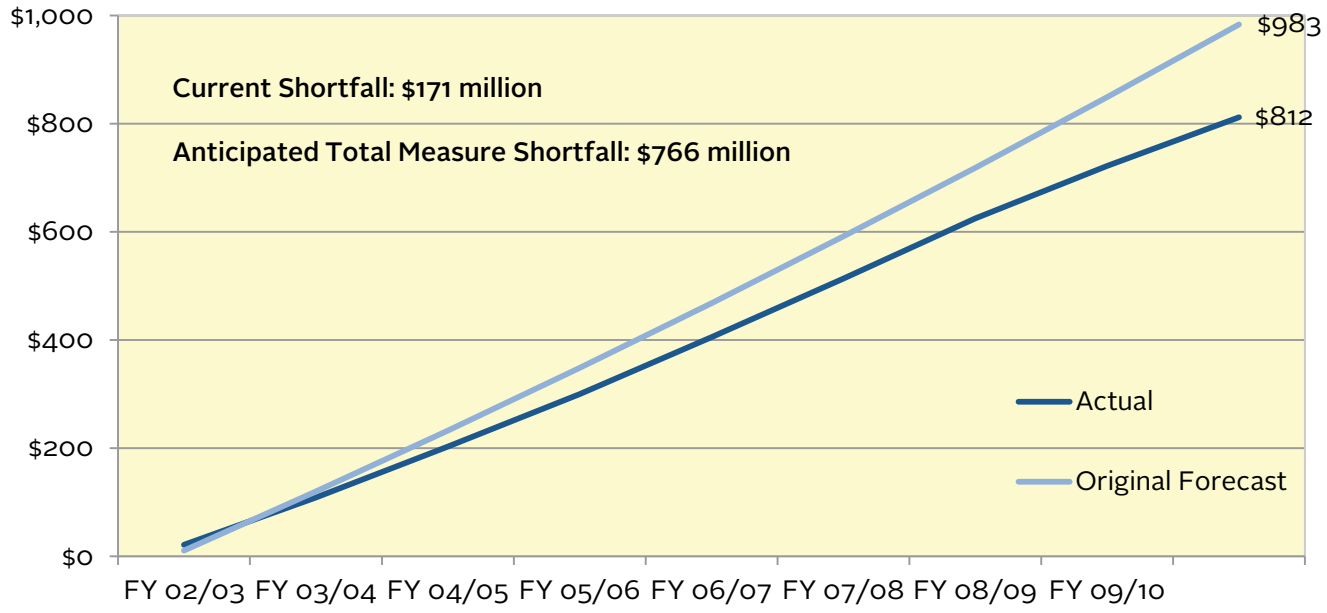
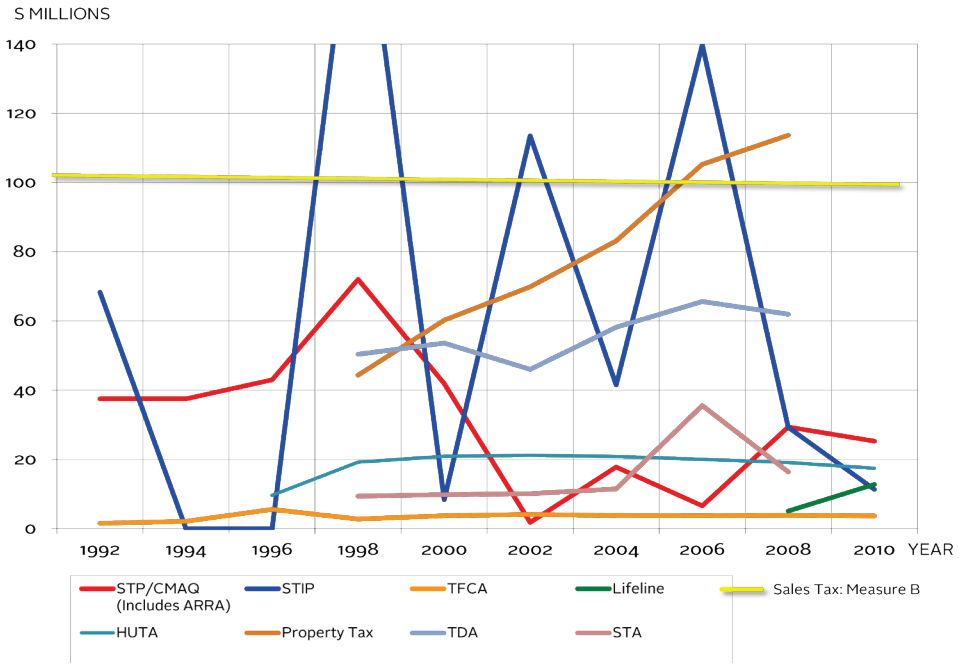


Figure 5-4 Alameda County Funding Volatility




## Many primary sources of funding are not flexible

Unfortunately, developing a transportation plan requires more than identifying the most important or most popular projects to fund. There are significant limitations in the way each funding source can be spent. Funding agencies, including the Alameda CTC, generally have limited discretion to allocate transportation funds according to need. Many major funding sources carry strict restrictions on use; for example, federal transit funding is generally available only for capital expansions, not operations, while state funding is generally limited to capital needs including maintenance. Relatively few sources of funding are available for transit operations; as a result, transit agencies tend to rely heavily on local sales and property taxes to fund operations.

This is an important issue since one of the county's main goals is to maintain and operate the existing transportation system. However, MTC estimates that there is a $49.4 billion shortfall for maintaining the region's transportation system over the next 28 years.

> **MTC estimates that there is a $49.4 billion shortfall for maintaining the region's transportation system over the next 28 years.**

## Funding sources are generally not linked to use

There are three major forms of transportation user fees in Alameda County: gas taxes, tolls for roads and bridges, and fares for transit users. However, these account for a relatively modest share of all funding: the average farebox recovery ratio (or share of transit operating costs covered by fares) for the Bay Area's seven largest transit operators is less than 40%; the federal gas tax has not been increased since 1993; California's recent gas tax swap is overall revenue neutral, but public transit loses about $1 billion in annual revenue with the elimination of the sales tax on gasoline[2]; and only $1 of each $4 to $6 toll collected on state-owned bridges is available to transportation projects through Regional Measure 2.

There have been some moves recently toward a more direct transportation funding model, as exemplified by the new High Occupancy Toll (HOT) lane on Interstate 680 within Alameda County, the first among several such lanes planned by Alameda CTC and MTC. One of the primary benefits of these tolls is that they are more equitable than fees levied on non-users of the transportation system.

[2] http://www.mtc.ca.gov/legislation/state_budget_3-10.htm

## Funding sources are not always aligned with policy goals

User fees can be an attractive source of transportation funding partly for reasons of equity, and partly because revenue generation can in some cases be linked directly to policy goals. However, in the current system, even where user fees exist they are sometimes not well aligned with such goals. Transit fares, while a major source of funding for operations, actually run counter to goals of reductions in vehicle miles traveled (VMT) and carbon emissions by depressing transit usage. Gas taxes, as discussed previously, are subject to diminishing returns as fuel efficiency is improved, and tolls that are "flat," rather than demand-based, cannot be used to manage congestion. Finally, fees are not always equitable, with low-income residents spending disproportionately higher shares of their incomes on transportation.

> **Uncertainty and volatility at the federal and state levels will continue to shift the financing focus to local sources of revenue, such as additional sales tax measures, vehicle registration fees, regional gas taxes, and various forms of congestion pricing.**

# Alameda County Funding Sources and Revenue

This section provides a summary of Alameda County's anticipated revenue for the term of this Countywide Transportation Plan. Included below is a brief summary of the key funding mechanisms at each level of government and a detailed revenue projection by source.

## Overview of Major Funding Sources

It is beyond the scope of this document to describe in detail the funding provisions and requirements for all of the myriad of federal, state, and regional/local sources. However, a list of the most common mechanisms has been included below.

### Federal

- SAFETEA-LU, which funds over 100 programs, such as the Surface Transportation Program (STP), Congestion Mitigation and Air Quality Improvement Program (CMAQ), the New Starts/Small Starts program, and the Transportation Enhancements (TE) program. The new federal transportation bill, when approved, will likely reorganize many of these programs. For example, the Senate version of a new federal bill (MAP-21) proposes a substantial reorganization and consolidation of the core formula programs into five new core programs.
- Grant programs, such as Transportation Investment Generating Economic Recovery (TIGER) Discretionary Grant Program and Urban Partnership Program.

### State

- State Highway Account (SHA)
- State Transit Assistance (STA)
- State Transportation Improvement Program (STIP)/Regional Transportation Improvement Program (RTIP)
- State Transportation Development Act (TDA)
- TDA, Article 3 (Bike/Pedestrian projects)
- State Proposition 1B
- Caltrans Local Assistance Programs, including Safe Routes to School (SR2S), the Bicycle Transportation Account (BTA), and Environmental Enhancement and Mitigation Program (EEM)
- Caltrans Planning Grants Program
- Highway Users Tax Account (HUTA) (gas tax subvention)

### Regional and Local

- Gas tax subventions
- Seismic bridge tolls
- Regional Measure 2 bridge tolls
- Measure B—local sales tax measure
- Transportation Fund for Clean Air (TFCA) — vehicle registration fees
- Measure F—Vehicle Registration Fee

- AB 1107 half-cent sales tax for transit (BART and AC Transit)
- Bicycle Facility Program (BFP) — funded through TCFA monies
- Regional Bicycle and Pedestrian Program (RBPP)
- HOT lanes
- Property taxes
- Various impact and development fees

## Funding Projections

### Alameda County Draft Discretionary Budget

Figure 5-5 below shows the draft discretionary budget for Alameda County over the next three decades. It includes estimates for the major state and federal funding sources as well as estimates for a new transportation sales tax measure. The projected revenues below assume passage of this new sales tax measure, which will augment the existing half-cent sales tax by another half-cent from FY 2012/13 until FY 2021/22, and then extend a full one cent tax. In total, it is estimated that Alameda County will have approximately $9.5 billion in discretionary funds through FY 2039/40.

**Figure 5-5 Projected County Discretionary Budget (FY 2012/13 – FY 2039/40)**

| Source | | Amount (billions) |
|---|---|---|
| **Federal** | | |
| | STP / CMAQ | $0.6 |
| **State** | | |
| | Regional Improvement Program (including RTIP/STIP/TE) | $1.5 |
| **Local** | | |
| | Proposed Measure B (FY12/13 – FY39/40) | $7.0 |
| | Vehicle Registration Fee | $0.4 |
| **TOTAL** | | $9.5 |

## New and Innovative Funding Opportunities

As the country, the Bay Area, and Alameda County all struggle to do more with less, there is a growing push to identify and secure new sources of transportation funding. This section offers a summary of new and innovative revenue sources that could potentially be used to augment the county's transportation budget. To be clear, however, none of these funding sources is a "magic bullet." All of these mechanisms present their own challenges and no single source will likely be able to fill in the current and future funding gap in Alameda County.

## Establish policies and priorities to guide funding choices

Before potential new sources of revenue are identified and secured, Alameda County should proactively establish principles and priorities for the selection of any revenue source. Selecting potential new sources of revenue to pursue should not be a simple matter of figuring out how much funding might be available and how difficult it might be to procure it. Rather, a strategy for new funding should reflect consensus values.

Following is a list of possible priorities or principles to use in determining which, if any, revenue sources should be pursued. In some cases, potential new sources of revenue might reflect some, but not all priorities. However, sources to be pursued should strive to reflect most of the values shared by stakeholders.

### Sources Should be Equitable

Sources should be equitable in two ways. First, they should not disproportionately impact low-income groups. Second, funding sources should be equitable in terms of directly linking the revenue stream to the mitigation of specific impacts (i.e. congestion) or the provision of specific benefits (i.e. provision of new transit service).

### Sources Should be Linked to Regional and County Policy Goals

Ideally, any new revenue source would also serve to further goals such as reductions in vehicle miles traveled (VMT) and emissions, congestion relief, system maintenance, sustainable development, cost-effectiveness, multimodality, enhanced connectivity and integration, and social justice for disadvantaged communities.

### Sources Should be Sustainable

Sources should be permanent, reliable, and stable. Sources that fluctuate from year-to-year can make long-term planning difficult and can add to costs if projects must be delayed.

### Sources Should Address Those Areas with the Most Serious Needs

Ideally, any new source of funding would be fully flexible in its application and able to be used for any purpose Alameda County sees fit. However, if sources are to be linked to specific categories of spending, then those areas with the greatest need should be prioritized.

### Sources Should be Able to Win Broad Support from Stakeholders and Partners

Finally, only those sources that seem likely to be able to achieve "buy-in" and support from those affected and/or potential allies should be pursued. This will be particularly important if the county decides to pursue new sources that would have to be implemented regionally or by the state.

Once these priorities and principles have been clarified, Alameda County can develop a strategy for pursuing new sources, including a strategy for collaboration with partner agencies such as MTC and ABAG.

## Potential new and innovative sources

Outlined below is a list of potential new and innovative revenue sources for consideration by Alameda County. A brief description is provided, as well as some of the key issues associated with each mechanism.

### Increased Taxes and Tolls

#### Regional and/or Countywide Gas Tax

One option is to augment gas tax revenues through the introduction of an additional regional and/or countywide excise tax on gasoline. Per 1997 state legislation,[3] MTC has the authority to impose a tax of up to 10 cents per gallon on gasoline sold in the Bay Area. The legislation requires that 95% of revenue must be "returned to source," meaning that Alameda County will receive a significant portion of the money generated due to its population. Individual counties may also impose a gas tax, in one-cent-per-gallon increments, in perpetuity.

Key issues include:

- Political viability is highly uncertain
- High level of cooperation required between local, regional, and state government
- Voter approval required (two-thirds threshold)
- Detailed expenditure plan required
- Revenue tied to purchase of fuel, which will likely decline with increases in fuel-efficiency and alternative fuel vehicles

#### Additional Surcharge on Bridge Tolls

Tolls on Bay Area bridges could be increased to provide additional funding. In recent years, voters have approved Regional Measures 1 and 2 to fund various projects and programs. Tolls were also recently raised on the Bay Bridge as a means to address peak congestion.

Key issues include:

- Legislative and/or voter approval required
- Political viability of additional bridge tolls is uncertain
- Revenue is potentially volatile depending on bridge traffic
- Amount of revenue to specific projects and programs in Alameda County is uncertain

[3] AB 595 (Brown)

## User Fees

### Vehicle Miles Traveled (VMT) Fee

Replacement of gas taxes with a VMT fee is an idea that has been long discussed in transportation circles in California. VMT fees are more directly correlated to the actual impact a driver has on the transportation network. VMT fees are attractive because they offer potential for a more long-term and stable source of revenue. Finally, VMT fees offer the potential to impact travel behavior and achieve larger regional goals through pricing.

Key issues include:

- Would require enabling legislation and take strong leadership from local, regional, and state officials to overcome likely political opposition and resistance to change
- Start-up technology costs, especially those related to collection of the fee
- Would need to overcome perceived and real concerns about privacy
- Would likely require a "phase in" of new GPS technology, and would not be a "quick" solution to the region's funding challenges
- Would require new system for collection of VMT fees

### High Occupancy Toll (HOT) Lanes

HOT lanes are essentially carpool lanes that allow non-carpool vehicles to pay to drive in the lane when there is available capacity. The cost of entering the HOT lane varies according to demand—known as dynamic pricing. MTC's long-range transportation plan calls for the development of an 800-mile HOT lane network throughout the Bay Area, including portions of freeways throughout Alameda County. The first HOT lanes in the Bay Area were opened in the fall of 2010 on I-680 South over the Sunol Grade. One of the next segments will be on eastbound I-580 from Pleasanton to Livermore.

HOT lanes are being explored for extensive use because they not only offer a new revenue source, but also enable the pricing of travel behavior to achieve reduced congestion and fund various other transportation improvements.

Key issues include:

- Overcoming public resistance to additional fees
- Concerns related to equity and impacts on certain populations
- Revenue is potentially volatile depending on levels of traffic
- The role that HOT lanes play in improving transit efficiency and operations

### Congestion Pricing

Congestion pricing is a funding mechanism that seeks to manage demand on roadways, improve congestion, and support other travel modes through pricing and user fees. In short, congestion pricing involves charging a motorist a fee to drive in congested areas or corridors. Revenues are typically used to fund transportation improvements, especially those that improve public transit and non-motorized travel, with the ultimate goal of reducing vehicle trips.

Congestion pricing has been successfully implemented in many European cities and is being explored in San Francisco. Congestion pricing is a strong candidate for a new funding mechanism because it is directly linked to travel behavior and can be used to support larger goals around mobility, accessibility, and sustainability.

Key issues include:

- Political viability is highly uncertain
- Likely public resistance to a new user fee and unfamiliarity with such fees would need to be overcome
- Congestion pricing works best in dense, urban areas with a strong base of public transit and other travel options. Consequently, it may not be appropriate for many areas of Alameda County
- Would require substantial study and planning, and start-up costs are potentially high

### Strategic Parking Management

Numerous jurisdictions have used parking management as a means to make it easier to find parking and avoid tickets, in part by increasing availability of legal spaces, but also by providing real-time information on availability, relaxing time limits, and providing more payment options, including credit and debit cards as well as prepaid parking cards. This

is expected to reduce revenues from meter, loading zone, double-parking and other violations.

For this reason, market-based pricing of parking may not necessarily result in additional revenues. However, market-based pricing programs in other cities, such as Pasadena, have been used to generate additional revenues, which were then reinvested in the surrounding area. Such a "parking benefit district," or PBD, is typically used to fund streetscape and transportation improvements that would otherwise not be made. Market-based parking pricing programs also provide an excellent example of a revenue source that is both equitable and aligned with policy goals.

Key issues include:

- Overcoming public resistance to changes to "traditional" parking management strategies
- Parking policy is usually an issue of local control; achieving any form of regional consensus will likely be difficult
- Costs associated with parking studies and management implementation/operation

## Public-Private Partnerships

Public-private partnerships have become more common in recent years, partly out of necessity, but also as a means of building support for investments by engaging stakeholders in a collaborative process. Public-private partnerships usually consist of direct funding contributions to capital and operating expenses, or they may be sponsorships. Due to the benefits that transportation investments can deliver, "win-win" scenarios often exist where both the public good and private interests can be served simultaneously. The operation of toll roads is one of the most common examples of public-private partnerships, in which the private sector builds the road and operates it with revenues received from the tolls.

Key issues include:

- Parties may be reluctant to enter into such arrangements
- Some members of the public may be opposed to any mechanism whereby private profits are generated using public funds, even if a clear public benefit is involved
- Long-term viability of private entities can be uncertain

## Impact Fees

Another mechanism for ensuring that private parties who benefit from public investments in transportation infrastructure contribute to those investments is developer impact fees. So-called "nexus" fees linked to demands placed upon transportation systems by development have become relatively common in California. There are existing fee programs in Alameda County, including the Alameda County Cumulative Traffic Impact Mitigation Fee[4] and Tri-Valley Transportation Development Fee. The former is a fee on new development used to mitigate traffic impacts and fund the design and construction of roadway and intersection improvements. Enacted in 1998, the latter applies to all new development in the "sub-region," which includes five cities and unincorporated parts of both Alameda and Contra Costa Counties, and currently ranges as high as $2,170 for a single family home and $3.89 per square foot for office space

Various forms of other impact fees are being implemented throughout the Bay Area. For example, San Francisco has utilized a Transportation Impact Development Fee (TIDF), a per square foot fee on development, since 1981 to fund additional transit service. The TIDF has generated more that $120 million in revenue since its inception. Other fees being explored include a vehicle mitigation impact fee, a transportation utility fee on individual households, and parcel taxes dedicated to transit purposes.

Key issues include:

- Overcoming public resistance to new fees
- Passage of Proposition 26 in 2010, which requires a two-thirds voter threshold on all fees, makes it more difficult to pass such measures
- Nexus between fee and projects must be established, usually requiring additional studies

[4] See Chapter 15.44 of the Alameda County General Ordinance Code for more information. http://search.municode.com/html/16425/level2/TIT15BUCO_CH15.44CUTRIMMIFE.html

- Fees often apply only to new development, thereby potentially limiting revenue in more "built out" jurisdictions
- Revenue can be volatile depending on economic health of the development market
- Fees are usually intended for capital projects, and application to operating expenditures is limited
- Fees established by local jurisdictions; regional consensus will be hard to achieve.

## Summary of New Funding Opportunities

While a number of possible new revenue sources are available for further evaluation, it is clear that there are several common barriers to their implementation that also exist and must be overcome.

### Action Would be Required at the Local, District, Regional, State, or Federal Level

Alameda County itself would be unable to implement many new funding measures on its own. Some measures, such as market-based pricing of parking, might have to be implemented at the local level, and some, such as sponsorships for transit infrastructure or services, might have to be implemented at the district level. Measures such as a mileage fee would require legislation at the state level and would likely have to be implemented statewide (although under current law, the region may implement its own gas tax).

However, the transportation funding challenges faced by Alameda County are not unique; other large counties in California face similar issues, and might act as partners in a coordinated effort to develop new funding sources statewide. The Alameda CTC could similarly work with and through MTC. Finally, the Alameda CTC could work with localities within the county to develop new revenue sources for transportation projects at the local level.

### There Might be Resistance from Private Parties

Private entities would likely be unwilling to contribute funding in the absence of a clear benefit or mandate. Experience from other areas does suggest, however, that they will do so if value can be demonstrated—that is, if businesses or property owners can be convinced that they will see returns on their investments.

### There Might be Resistance from Voters and Elected Officials

Some proposed revenue sources may prove highly controversial, including those with broad impacts (such as taxes on the general public or user fees for motorists), those that would price a resource that has previously been heavily subsidized (such as new tolls), and those that would affect interest groups able to exert influence on elected officials. Even measures that require direct voter approval or that would be voluntary in nature, such as sponsorships, could prove controversial. Polling should be used to determine risks before committing resources to pursue new revenue sources; however, potential sources of opposition cannot always be anticipated.

# 6. PROJECTS AND PROGRAMS

## Introduction

The Countywide Transportation Plan (CWTP) identifies transportation projects and programs needed to maintain and enhance the county's transportation system and make progress towards the policy goals articulated in Chapter 2. However, the selection of projects and programs for inclusion in the CWTP entails more than simply identifying the most popular projects to fund. This chapter describes the investments included in the Countywide Plan, the process used to identify and prioritize these investments and the benefits that are expected to be derived from implementation of the Countywide Transportation Plan.

As described in Chapter 5, even with a significant new source of local funds, it is simply not possible to fund all of the transportation projects and programs that are needed in Alameda County. Funding is limited and sources are often restrictive in how they can be used. Because there is never enough money available to fund all of the projects and programs that are submitted, Alameda County seeks to leverage the greatest number of transportation improvements with the limited financial resources available and find innovative ways to increase transportation funding, while striving to balance funding across modes, populations and geography.

In addition, this update of the Countywide Transportation Plan (CWTP) has occurred under new planning requirements described in prior chapters. In particular, SB 375, and its mandate for a regional Sustainable Communities Strategy (SCS), has expanded the traditional focus of the Countywide Transportation Plan beyond the movement of people and goods to also consider reducing the use of automobiles and light trucks to meet regional greenhouse gas (GHG) emission reduction targets. A project's ability to reduce GHG emissions is now an important factor in prioritizing and funding transportation improvements and this plan reflects Alameda County's efforts to contribute to that regional goal.

The broad list of improvements in this Countywide Transportation Plan reflects a changed emphasis for funding. New and newly bolstered programs to be funded include transportation demand management (including parking management), sustainable land use (growth in Priority Development Areas and increased focus on transit oriented development), and goods movement. Simultaneously, funding agencies are also responding by altering their policies to address and accommodate this shift.

## Overview of Funding Allocations to Projects and Programs

The principal purpose of this plan is to allocate funding to Alameda County's project and program investments. Two types of investments are funded in this plan:

- **Project investments**: These are discrete capital projects with a project sponsor and a clearly defined project description and cost estimate. Project sponsors were able to request discretionary funding to support the portions of a project that are ready for implementation in this update of the CWTP and/or long-term "vision" funding for later phases of a project that may not be fully developed. Discretionary funds can be requested for project development and initial phases of a project while flagging the need for future funding for later stages of project development that may be eligible for funding in future updates.
- **Programmatic investments**: These are categories of investment, such as local road maintenance, transit operations, goods movement or bicycle and pedestrian safety. Programs either fund ongoing maintenance and operations or are allocated over time to groups of projects that contribute to a single goal, such as completion of the regional bicycle network or a group of seismic upgrades. Program funding is distributed either as on-going "pass-through" funding to public agencies in Alameda County on a monthly or periodic basis based on set formulas or through a competitive grants process. A significant amount of the investment in the transportation network occurs through funding programs.

Alameda County has discretion over approximately $9.5 billion dollars in federal, regional and local funds to allocate to projects and programs. This is considered our "county discretionary budget," described in Chapter 5. There are 12 programs funded in this CWTP with these county discretionary funds, shown in Figure 6-5. Additional programmatic investments will be made by the region, particularly for transit, but these are not shown in this CWTP.

Most projects shown in this plan are funded through the county's discretionary funds; however some projects located in Alameda County are also funded with regional funds. These are projects that are regionally significant due to crossing county borders, filling a key missing link in the region's transit network, and contributing to the region's HOV/HOT (high-occupancy vehicle/high-occupancy toll) lane network. Due to the regional funding allocations for these projects, the total funding amounts shown in Figures 6-2 through 6-5 equal more than the projected county discretionary budget shown in Figure 5-5.

Not all capital projects in this plan are fully funded. In some cases, an initial project phase is funded, but a shortfall remains for funding full project delivery. In other cases, partial funds have been identified for project development, but additional funding must be sought to deliver the project.

Whether a project is fully or partially funded is not a reflection of the importance of the project, but rather reflects the need to develop a financially constrained list of projects and programs due to current fiscal realities, project readiness, and to have a balance between projects in development and projects being constructed. Projects are presented in four tiers in this CWTP. The four project tiers are as follows:

- **Committed Projects**: These are fully funded projects that are considered part of the baseline future transportation network. These projects are either under construction or moving toward construction. They have all been included in the Regional Transportation Plan as committed projects based on MTC's adopted Committed Project and Funding Policy (MTC Resolution 4006[1]). These projects, listed in Figure 6-1 below, do not count against Alameda County's county discretionary budget.
- **Tier 1**: These projects are fully funded in this CWTP. They are the farthest along in project development and ready for shorter term implementation. Several of the projects in this tier are regionally funded projects, which can be

[1] MTC Resolution 4006: Approval of Committed Funds and Projects Policy: http://apps.mtc.ca.gov/meeting_packet_documents/agenda_1645/tmp-4006.pdf

considered fully funded, but do not require significant county discretionary funds.

- **Tier 2**: These are projects that are partially funded in the CWTP. The CWTP is committing partial funding to these projects to further project development and/or to fund some phases that are ready for construction. Generally, these projects' sponsors requested both funding from current discretionary sources and from future "vision" funds, an indication that only part of the project is ready to move forward in the short term. These projects will be eligible for additional funding in future updates of the CWTP as project development continues and as additional fund sources are identified.
- **Vision**: These are the projects that have not received discretionary funds in this update of the CWTP. Generally, these projects are not yet ready for implementation. These projects remain important to the County and may be eligible to be funded if new fund sources are identified and/or in future updates of the Countywide Plan. Vision projects are eligible for project development funds as they become available.

> **Project "tiers" do not reflect priority – all Countywide Plan projects and programs are important to Alameda County. Committed projects and Tier 1 projects are fully funded and ready for shorter term implementation.**

Prior to actual construction, all projects are required to complete numerous development steps including project planning, preliminary design, environmental analysis and equity analysis. Project needs and costs often evolve as the project goes through its development steps. Having projects in the Countywide Plan at all stages of development is necessary to continue to move infrastructure improvements through the funding pipelines, as the plan provides a steady stream of developing projects throughout the County.

The rest of this chapter discusses how project and program ideas were identified, compiled, and evaluated; summarizes the funding of projects and programs; and demonstrates how the funded list of projects and programs support the goals of the CWTP.

# Transportation Project and Program Identification and Evaluation Process

Identification and evaluation of projects and programs for the CWTP involved the following major steps:

1. **Collect ideas** for transportation projects and programs through a call for projects, public outreach, and other sources including plans that have already been completed, such as the five completed Community Based Transportation Plans completed in Alameda County.
2. **Identify Committed Projects** and separate out these projects prior to the evaluation process.
3. **Evaluate** the remaining project and program ideas through a performance evaluation process using the Alameda County travel model and other analytical tools.
4. **Develop a List of Funded Projects and Programs** based on the evaluation results along with other considerations.

Each of these steps is described in more detail below.

## Collection of Project and Program Ideas

Project and program ideas for the Countywide Transportation Plan were collected from three sources:

- **Regional call for projects and programs.** In the spring of 2011, the Alameda CTC issued a call for projects and programs for the CWTP jointly with the Metropolitan Transportation Commission's (MTC) Regional Transportation Plan call for projects. Any public agency in Alameda County could complete a project application.
- **Public outreach.** Project and program ideas generated during public outreach and research associated with development of the CWTP were also considered. While projects ultimately had to be submitted by an agency capable of implementing them, many ideas generated through public outreach were "matched" with a public agency that could actually apply for funding.
- **Prior CWTP.** All projects and programs from the last CWTP that have not yet been implemented and

have not been cancelled were also included for consideration.

## Committed Projects

The second step was to identify which projects are considered "committed." In general, committed projects are quite far along in project development and are fully funded. They are considered as part of the baseline future transportation network. MTC defines committed projects or programs as those that meet at least one of the following four criteria:[2]

1. Project is under construction, as indicated by utility relocation, subsequent construction activities, or vehicle award by May 1, 2011. In addition, project has a full funding plan.
2. Proposition lB Corridor Mobility Improvement Account (CMIA) and Trade Corridor Improvement Fund (TCLF) projects with full funding and approved baseline agreements as of February 2011.
3. Resolution 3434 Program – Project has a certified Environmental Impact Report (EIR) and/or Record of Decision for Environmental Impact Statement (EIS) by May 1, 2011. In addition, project has a full funding plan.
4. Regional Programs – Regional programs with executed contracts through contract period only and 1st and 2nd Cycle Regional Programs with New Act Funding through 2015.

Figure 6-1 presents the current list of committed projects for Alameda County and their associated costs as defined by MTC. The list includes a number of projects aimed at reducing congestion at key bottlenecks as well as the completion of several major transit investments that are currently under construction.

Since committed projects are included in the future baseline transportation network, they were not further evaluated in the CWTP.

[2] Source: MTC Resolution 4006. *http://apps.mtc.ca.gov/meeting_packet_documents/agenda_1645/tmp-4006.pdf*

## Evaluation of Projects and Programs

All projects and programs were analyzed to determine the degree to which they would help the county achieve its long-term goals for the transportation system (Chapter 2 lists these goals). A multi-part evaluation process using the Alameda County travel demand model and other analytical tools was conducted to inform decision-makers as to potential project benefits. This performance evaluation was one consideration in deciding the funding priorities for the CWTP.

Projects and programs were both evaluated against the CWTP goals and performance measures; however they were evaluated separately due to the functionality of the analytical tools available to the Alameda CTC. Further, not all projects that were submitted could be readily evaluated as standalone capital projects; these were extracted from the project lists and considered separately as part of the program evaluation.

## Developing a Financially Constrained List of CWTP Projects and Programs

The final step in the CWTP process was developing the financially constrained tiered lists to determine project and programmatic funding levels.

The tiered project lists were determined based on the performance evaluation results, project readiness, cost, inclusion in other planning processes, geographic equity, availability of funds and balance between program and project funding.

Factors that were considered to determine funding levels for programs included: the total estimated funding "need" for these program categories identified through the call for projects or other local and regional studies; the County's prior commitment to each program in the current Measure B sales tax, the Measure F vehicle registration fee and other plans such as Community Based Transportation Plans; and the importance of new investment strategies to meet the mandates of SB 375. It should be noted that for programmatic categories it is not always possible to

determine "need", as no comprehensive estimates of need have been completed. Additional studies, including those identified in Chapter 7 will be required to better estimate need in each of these programmatic categories; however, the plan as described here includes major increases in investments in transit, paratransit, goods movement, land use related projects and non motorized transportation programs.

There are 12 overall program categories. As described at the start of this chapter, this program funding will be distributed to projects either through formula-based allocations to jurisdictions or through competitive grant processes in the future. The number of program categories is reduced from previous drafts as two transit categories were combined into one category and two roadway maintenance categories were also combined into one category. Finally, the Community Based Transportation Plans category was eliminated as an independent category; however it is important to note that all of the investments identified in those plans remain eligible for funding under other categories. Key investment strategies coming from the Community Based Transportation Plans include:

- Increasing the affordability of transit fares
- Increasing safety and security for walking, biking and using transit
- Increasing opportunities for walking and biking.

The specific investments identified by these plans can be found on the Alameda CTC website.

Figures 6-2 through 6-5 show the financially constrained lists of project and program funding: Committed Projects, Tier 1, Tier 2, Vision and Programs. More details about the investments included in the program categories can also be found in the Transportation Expenditure Plan and in the Appendix to this document. All of the projects and programs in this CWTP are eligible for additional funds if and when they become available and in future updates of the CWTP. Identification of additional funding sources could accelerate the implementation of partially funded projects and/or allow for more programmatic funding.

**Figure 6-1 Committed Alameda County projects contained in the 2035 Future Baseline**

| RTPID | Project Name | Planning Area | 2013 Cost Estimate ($millions) |
|---|---|---|---|
| | Countywide Local Projects | | |
| 22670 | I-880 Widening for SB HOV lane in Oakland and San Leandro | North/Central | $117 |
| 230052 | I-880 NB and SB auxiliary lanes | Central | $23 |
| 230054 | I-880 auxiliary Lanes in Hayward | Central | $10 |
| 21093 | Rte 92/Clawiter Road/Whitesell interchange improvement, Phase 1 (Hayward) | Central | $28 |
| 22063 | Route 238 corridor improvements in Hayward | Central | $122 |
| 240562 | SR 92/Clawiter Road/Whitesell interchange improvements in Hayward | Central | $55 |
| 240025 | I-880 Industrial Southwest Parkway interchange in Hayward | Central | $65 |
| 240065 | SR 92 Industrial interchange in Hayward | Central | $6 |
| 21451 | East 14th Street/Hesperian Boulevard/150th Street channelization improvements in San Leandro | Central | $9 |
| 22100 | I-880 Davis Street interchange in San Leandro | Central | $11 |
| 230066 | I-880 Marina Boulevard interchange in San Leandro | Central | $34 |
| 22990 | SR 262 widening and interchange improvements in Fremont | South | $62 |
| 94012 | Union City Intermodal, Phase 1 | South | $86 |
| 21116 | I-580 widening for HOV and auxiliary lanes in Pleasanton and Livermore | East | $226 |
| 240050 | I-580 EB Express (HOT) lane in Pleasanton and Livermore | East | $20 |
| 240076 | I-580 EB auxiliary lane project (Isabel to Livermore Ave; Livermore Ave to First) | East | $41 |
| 240683 | Alamo Canal Trail under I-580 in Dublin | East | $3 |
| 21473 | Construct a 4-lane major arterial in Livermore connecting Dublin Blvd. and North Canyons Parkway | East | $12 |
| 230157 | Las Positas Road connection in Livermore, Phase 2 | East | $4 |
| 21472 | I-680 Bernal interchange improvements in Pleasanton | East | $4 |
| 240200 | Stoneridge Drive extension in Pleasanton | East | $17 |
| 230091 | I-880 Integrated Corridor Mobility (580/80/880 to SR-237) | Regional | $47 |
| 230221 | I-80 Integrated Corridor Mobility | Regional | $69 |
| 230171 | Route 24 /Caldecott Tunnel enhancements: settlement agreement projects | North | $16 |
| 240094 | Crow Canyon Road safety improvements project | Central | $24 |
| | *Subtotal* | | *$1,109* |

| RTPID | Project Name | Planning Area | 2013 Cost Estimate ($millions) |
|---|---|---|---|
| | **Regional and Multijurisdictional Projects** | | |
| 21131 | BART Oakland International Airport Connector | North | $516 |
| 230222 | San Pablo Avenue SMART Corridors Operations & Management | North | $11 |
| 230091 | Central Alameda County Integrated Corridor Mobility Program and Adaptive Ramp Metering | Central | $47 |
| 21132 | BART Warm Springs extension | South | $978 |
| 240015 | Non-Capacity Increasing Freeway/Expressway Interchange Modifications | Regional | $78 |
| 230083 | I-580 Corridor right-of-way preservation | East | $182 |
| 22013 | I-580 EB truck climbing lane | East | $66 |
| | ***Subtotal*** | | ***$1,878*** |
| | **Committed Projects Total** | | ***$2,987*** |

**Figure 6-2 Tier 1 Fully Funded Projects**

| RTPID | Project Name | Project Sponsor | Planning Area | Other Planning Process | Total Cost Estimate | Funds Already Identified | Dis-cretionary Funding Allocation | Vision Funding | Proposed Regional Funding |
|---|---|---|---|---|---|---|---|---|---|
| Alameda County Projects | | | | | (YOE$) | (YOE$) | (YOE$) | (YOE$) | (YOE$) |
| 240372 | College/ Broadway corridor (Route 51) improvements - Transit Priority Measures | AC Transit | North | | $35 | $- | $35 | $- | $- |
| 240304 | Platform Extension at Alameda and San Joaquin County ACE Stations | ACE | South | | $8 | $- | $8 | $- | $- |
| 22664 | I-580 WB Express Lane from Greenville Road to Foothill Blvd | ACTC | East | | $17 | $5 | $12 | $- | $- |
| 22769 | I-880 at 23rd/29th Avenue interchange safety and access improvements | ACTC | North | Measure B | $109 | $105 | $4 | $- | $- |
| 22776 | SR 84 Expressway widening (Pigeon Pass to Jack London) | ACTC | East | | $146 | $135 | $11 | $- | $- |
| 94506 | East-West Connector Project in North Fremont and Union City | ACTC | South | Measure B (1986), LATIP | $196 | $110 | $86 | $- | $- |
| 240047 | I-880 West A Street Interchange Improvements | ACTC | Central | LATIP | $64 | $- | $64 | $- | $- |
| 240062 | SR 84 / I-680 interchange and SR 84 Widening | ACTC | East | | $277 | $- | $277 | $- | $- |
| 21144 | I-80 Gilman Street Interchange improvements | ACTC / City of Berkeley | North | | $26 | $1 | $25 | $- | $- |
| 230110 | Route 262 Mission Blvd Cross Connector Improvements between I-680 and Warm Springs Blvd/SR 262 Mission Blvd Improvements | ACTC / City of Fremont | South | Measure B, LATIP | $20 | $- | $20 | $- | $- |
| 240018 | Dumbarton Rail Corridor Phase I | ACTC / SamTrans | South | Measure B, Res. 3434 | $169 | $47 | $122 | $- | $- |
| 240100 | Park Street bridge replacement project | Alameda County | North | | $70 | $- | $70 | $- | $- |
| 240324 | Fruitvale Avenue (Miller Sweeney) Lifeline Bridge Project (bike/pedestrian elements) | Alameda County / City of Alameda | North | | $61 | $- | $61 | $- | $- |

| RTPID | Project Name | Project Sponsor | Planning Area | Other Planning Process | Total Cost Estimate | Funds Already Identified | Dis-cretionary Funding Allocation | Vision Funding | Proposed Regional Funding |
|---|---|---|---|---|---|---|---|---|---|
| Alameda County Projects | | | | | (YOE$) | (YOE$) | (YOE$) | (YOE$) | (YOE$) |
| 21126 | SR 84 WB HOV on ramp from Newark Blvd | Caltrans | South | LATIP | $19 | $- | $19 | $- | $- |
| 240077 | Rapid Bus Service - City of Alameda and Alameda Point PDA (Alameda Naval Station) to Fruitvale BART | City of Alameda | North | | $9 | $- | $9 | $- | $- |
| 240101 | Fruitvale Avenue Lifeline Bridge Project (rail) | City of Alameda / Alameda County | North | | $142 | $- | $142 | $- | $- |
| 98207 | I-880 Broadway/Jackson multimodal transportation and circulation improvements for Alameda Point, Oakland Chinatown, Downtown Oakland and Jack London Square | City of Alameda / City of Oakland | North | Measure B | $83 | $8 | $75 | $- | $- |
| 240350 | Local road safety - Marin Avenue | City of Albany | North | | $4 | $- | $4 | $- | $- |
| 240717 | Solano Avenue pavement resurfacing and beautification | City of Albany | North | | $3 | $- | $3 | $- | $- |
| 240718 | San Pablo Avenue medians, rain gardens, and streetscape improvements | City of Albany | North | | $3 | $- | $3 | $- | $- |
| 240179 | Downtown Berkeley Transit Center | City of Berkeley | North | | $28 | $- | $28 | $- | $- |
| 240202 | SR 13/Ashby Avenue corridor improvements | City of Berkeley | North | | $8 | $2 | $6 | $- | $- |
| 240207 | Bay Trail Extension - Berkeley Marina | City of Berkeley | North | | $32 | $- | $32 | $- | $- |
| 240226 | Berkeley Ferry Terminal access improvements | City of Berkeley | North | | $109 | $- | $109 | $- | $- |
| 240038 | Dougherty Road Widening from Sierra Lane to northern city limit | City of Dublin | East | | $19 | $8 | $11 | $- | $- |
| 240250 | Dublin Blvd widening from Sierra Court to Dublin Court | City of Dublin | East | | $4 | $1 | $4 | $- | $- |

| RTPID | Project Name | Project Sponsor | Planning Area | Other Planning Process | Total Cost Estimate | Funds Already Identified | Dis-cretionary Funding Allocation | Vision Funding | Proposed Regional Funding |
|---|---|---|---|---|---|---|---|---|---|
| Alameda County Projects | | | | | (YOE$) | (YOE$) | (YOE$) | (YOE$) | (YOE$) |
| 240261 | Scarlett Drive extension from Dougherty Road to Dublin Blvd | City of Dublin | East | Measure B | $13 | $- | $13 | $- | $- |
| 240003 | I-80 Bike / Ped Bridge (65th Street) | City of Emeryville | North | | $23 | $1 | $22 | $- | $- |
| 240318 | I-80 Ashby Interchange improvements | City of Emeryville | North | | $54 | $1 | $53 | $- | $- |
| 21484 | Kato Road widening from Warren Ave. to Milmont Dr. | City of Fremont | South | | $13 | $0 | $12 | $- | $- |
| 22779 | Route 262/I-880 interchange improvements, Phase 2: Construct grade separation at Warren Avenue/Union Pacific RR | City of Fremont | South | Measure B (Partial), LATIP | $80 | $- | $80 | $- | $- |
| 230114 | Auto Mall Parkway Cross Connector widening between I-680 and I-880 | City of Fremont | South | Measure B | $25 | $- | $25 | $- | $- |
| 240208 | Safety improvements at UPRR - Fremont Blvd, Maple, Dusterberry, Nursery | City of Fremont | South | | $3 | $- | $3 | $- | $- |
| 240263 | Upgrade relinquished Route 84 in Fremont | City of Fremont | South | | $45 | $- | $45 | $- | $- |
| 240264 | Widen Fremont Blvd from I-880 to Grimmer Blvd | City of Fremont | South | | $5 | $- | $5 | $- | $- |
| 240037 | I-880 Winton Avenue interchange improvements | City of Hayward | Central | LATIP | $26 | $- | $26 | $- | $- |
| 240055 | Tennyson Road grade separation | City of Hayward | Central | | $14 | $- | $14 | $- | $- |
| 240716 | Tennyson Road pedestrian/bike bridge (from Nuestro Parquecito to South Hayward BART station) | City of Hayward | Central | | $2 | $- | $2 | $- | $- |
| 21100 | I-580 Vasco Interchange improvements | City of Livermore | East | | $64 | $55 | $9 | $- | $- |
| 21475 | I-580 First St. Interchange improvements | City of Livermore | East | | $44 | $38 | $5 | $- | $- |

| RTPID | Project Name | Project Sponsor | Planning Area | Other Planning Process | Total Cost Estimate | Funds Already Identified | Dis-cretionary Funding Allocation | Vision Funding | Proposed Regional Funding |
|---|---|---|---|---|---|---|---|---|---|
| Alameda County Projects | | | | | (YOE$) | (YOE$) | (YOE$) | (YOE$) | (YOE$) |
| 21477 | I-580 Greenville Interchange improvements | City of Livermore | East | | $54 | $43 | $11 | $- | $- |
| 230132 | I-580/Isabel Avenue Interchange, Phase 2 improvements | City of Livermore | East | Measure B | $31 | $26 | $5 | $- | $- |
| 240254 | Greenville Road widening (I-580 to Patterson Pass) | City of Livermore | East | | $10 | $5 | $5 | $- | $- |
| 21103 | Central Avenue Railroad Overpass | City of Newark | South | | $19 | $1 | $18 | $- | $- |
| 240272 | Thornton Avenue widening | City of Newark | South | | $14 | $1 | $13 | $- | $- |
| 230170 | I-880: 42nd/High Street access improvements | City of Oakland | North | I-880 Study | $18 | $6 | $12 | $- | $- |
| 240024 | Oakland Army Base transportation infrastructure improvements | City of Oakland | North | | $215 | $97 | $118 | $- | $- |
| 240227 | Bike/ped bridge over Lake Merritt Channel | City of Oakland | North | | $116 | $68 | $48 | $- | $- |
| 21489 | I-580 / Foothill / San Ramon Interchange improvements | City of Pleasanton | East | | $4 | $3 | $1 | $- | $- |
| 240139 | I-680 Stoneridge Drive overcrossing widening improvements | City of Pleasanton | East | | $5 | $1 | $4 | $- | $- |
| 240175 | Bernal Bridge (west) second bridge construction (Non-Capacity Increasing Local Bridge Rehabilitation/Replacement/ Retrofit) | City of Pleasanton | East | | $5 | $1 | $4 | $- | $- |
| 21123 | Union City Intermodal Station infrastructure improvements (Phase 2) | City of Union City | South | Measure B | $27 | $20 | $7 | $- | $- |
| 230103 | Grade separation in the Decoto neighborhood | City of Union City | South | | $192 | $- | $192 | $- | $- |

| RTPID | Project Name | Project Sponsor | Planning Area | Other Planning Process | Total Cost Estimate | Funds Already Identified | Dis-cretionary Funding Allocation | Vision Funding | Proposed Regional Funding |
|---|---|---|---|---|---|---|---|---|---|
| **Alameda County Projects** | | | | | **(YOE$)** | **(YOE$)** | **(YOE$)** | **(YOE$)** | **(YOE$)** |
| 240051 | Union City Blvd (widen to 3 lanes from Whipple Road in Union City to Industrial Parkway Southwest in Hayward) | City of Union City | South | | $10 | $- | $10 | $- | $- |
| 240052 | I-880 / Whipple Road interchange improvements | City of Union City | South | LATIP | $62 | $- | $62 | $- | $- |
| 240347 | Gap closure and development of three major trails in Alameda County (Iron Horse, Bay Trail, East Bay Greenway Project / UPRR Corridor Improvements Project) | City of San Leandro | Central | | $122 | $3 | $119 | $- | $- |
| 240347 | Gap closure and development of three major trails in Alameda County (Iron Horse, Bay Trail, East Bay Greenway Project / UPRR Corridor Improvements Project) | City of Oakland | North | | $121 | $- | $121 | $- | $- |
| 22760 | Outer Harbor Intermodal Terminal (OHIT) | Port of Oakland | North | | $326 | $257 | $70 | $- | $- |
| 22082 | 7th Street grade separation & roadway improvements | Port of Oakland / City of Oakland | North | | $332 | $166 | $166 | $- | $- |
| 240014 | Construct new ferry O&M facility in Alameda | WETA | North | | $38 | $25 | $13 | $- | $- |
| **Alameda County Projects Tier 1 Total** | | | | | **$3,793** | **$1,238** | **$2,554** | **$-** | **$-** |

| RTPID | Project Name | Project Sponsor | Planning Area | Other Planning Process | Total Cost Estimate | Funds Already Identified | Dis-cretionary Funding Allocation | Vision Funding | Proposed Regional Funding |
|---|---|---|---|---|---|---|---|---|---|
| **Regional Projects** | | | | | (YOE$) | (YOE$) | (YOE$) | (YOE$) | (YOE$) |
| 22455 | AC Transit East Bay BRT | AC Transit | North | Measure B, Res. 3434 | $218 | $179 | $39 | $- | $- |
| 22780 | AC Transit Grand-MacArthur BRT | AC Transit | North | Res. 3434 | $41 | $- | $6 | $- | $35 |
| 22042 | NB I-680 HOV/HOT lane from SR 237 to SR 84 (includes ramp metering and auxiliary lanes) | ACTC | South | Measure B | $210 | $22 | $60 | $- | $128 |
| 230088 | I-880 NB HOV/HOT Extension from North of Hacienda to Hegenberger Phase 1 and 2: I-880 extend NB HOV/HOT lanes | ACTC | Central | LATIP | $221 | $- | $20 | $- | $201 |
| 230668 | I-880 HOV: Convert existing and future HOV lanes to HOT lanes | ACTC | North, South, Central | | $58 | $- | $- | $- | $58 |
| 240059 | I-680 widening for NB HOV/HOT lane from Route 84 to Alcosta Blvd | ACTC | East | | $161 | $- | $- | $- | $161 |
| 240061 | I-680 widening for SB HOV/HOT from Alcosta Blvd to Route 84 | ACTC | East | | $161 | $- | $- | $- | $161 |
| 230666 | Widen I-580 for EB/WB HOV/HOT lanes from Greenville Rd. to San Joaquin County | ACTC / MTC | East | | $391 | $- | $- | $- | $391 |
| 230672 | Convert Route 92 WB HOV lane to HOT lane from Hesperian Blvd. to San Mateo-Hayward bridge toll plaza | ACTC / MTC | Central | | $4 | $- | $- | $- | $4 |
| 230673 | Convert Route 84 WB HOV lane to HOT lane from I-880 to Dumbarton Bridge toll plaza | ACTC / MTC | South | | $4 | $- | $- | $- | $4 |
| 230684 | Widen I-580/I-680 interchange in each direction or HOV/HOT lanes | ACTC / MTC | East | | $310 | $- | $- | $- | $310 |
| 240180 | BART Metro/Bay Fair Connection | BART | Multiple | | $150 | $- | $100 | $- | $50 |

| RTPID | Project Name | Project Sponsor | Planning Area | Other Planning Process | Total Cost Estimate | Funds Already Identified | Dis-cretionary Funding Allocation | Vision Funding | Proposed Regional Funding |
|---|---|---|---|---|---|---|---|---|---|
| **Regional Projects** | | | | | (YOE$) | (YOE$) | (YOE$) | (YOE$) | (YOE$) |
| 22002 | I-880 NB HOV lane extension from HOV terminus at Bay Bridge approach to Maritime | Caltrans | North | | $29 | $- | $- | $- | $29 |
| 22062 | Irvington BART Station | City of Fremont / BART | South | Res. 3434-related | $127 | $- | $120 | $- | $7 |
| 230101 | Union City Passenger Rail Station & Dumbarton Rail Segment G Improvement; Union City BART Phase 2 / Passenger Rail Station | City of Union City | South | Res. 3434 (partial) | $231 | $50 | $181 | $- | $- |
| **Regional Tier 1 Total** | | | | | **$2,315** | **$251** | **$526** | **$-** | **$1,539** |
| | | | | | | | | | |
| **Combined Tier 1 Total** | | | | | **$6,109** | **$1,490** | **$3,080** | **$-** | **$1,539** |

**Figure 6-3 Tier 2 Partially Funded Projects**

| | | Project Sponsor | Planning Area | Other Planning Process | Total Cost Estimate | Funds Already Identified | Dis-cretionary Funding Allocation | Vision Funding Request | Proposed Regional Funding |
|---|---|---|---|---|---|---|---|---|---|
| Alameda County Projects | | | | | (YOE$) | (YOE$) | (YOE$) | (YOE$) | (YOE$) |
| 22021 | AC Transit transfer station/park-and-ride facility in Alameda County (1. Central, 2. Northern) | AC Transit | Central | | $41 | $- | $3 | $38 | $- |
| 230604 | Contra flow lanes on Westbound lanes of San Francisco-Oakland Bay Bridge | AC Transit | North | | $630 | $- | $5 | $625 | $- |
| 240373 | Bike and ped expansion – Livable Communities and Complete Streets | AC Transit | North, Central, South | | $15 | $- | $2 | $13 | $- |
| 22765 | I-580/I-680 HOV Direct Connector - project development | ACTC | East | | $1,758 | $- | $20 | $1,738 | $- |
| 240099 | High Street Bridge replacement project | Alameda County | North | | $61 | $- | $5 | $56 | $- |
| 240106 | SR-84/Sunol improvements | Alameda County | East | | $13 | $- | $1 | $12 | $- |
| 240657 | I-580 spot intersection improvements | Alameda County | Central | | $90 | $- | $4 | $86 | $- |
| 240196 | BART to Livermore Extension (project development funds for study and construction reserve, subject to the project environmental review process) | BART | East | Measure B | $1,883 | $217 | $400 | $1,266 | $- |
| 22009 | Capitol Corridor intercity rail service expansion (Oakland to San Jose) | Capital Corridor | South | Res. 3434 | $579 | $18 | $40 | $521 | $- |
| 230116 | Railroad crossing improvements at Gilman St | City of Berkeley | North | | $112 | $- | $3 | $109 | $- |
| 230086 | I-580 Interchange improvements at Hacienda Drive and Fallon Road – Phase 2 | City of Dublin | East | | $39 | $22 | $1 | $15 | $- |
| 240260 | Greenbelt Gateway on Grimmer Blvd | City of Fremont | South | | $9 | $0 | $1 | $8 | $- |
| 240262 | Sullivan Road overcrossing, ped/bike safety and trail improvements | City of Fremont | South | | $2 | $- | $1 | $1 | $- |

| | | Project Sponsor | Planning Area | Other Planning Process | Total Cost Estimate | Funds Already Identified | Dis-cretionary Funding Allocation | Vision Funding Request | Proposed Regional Funding |
|---|---|---|---|---|---|---|---|---|---|
| Alameda County Projects | | | | | (YOE$) | (YOE$) | (YOE$) | (YOE$) | (YOE$) |
| 240265 | Vargas Road Safety Improvement Project | City of Fremont | South | | $5 | $- | $1 | $4 | $- |
| 240268 | Construct Altamont Commuter Express/Capitol Corridor Station at Auto Mall Parkway | City of Fremont | South | | $11 | $- | $1 | $10 | $- |
| 240287 | Construct Bicycle/Pedestrian grade separation on Blacow Road at Union Pacific railroad tracks and future BART line in Irvington Area PDA | City of Fremont | South | | $6 | $- | $1 | $5 | $- |
| 240291 | Rails to Trails: Fremont UPRR/BART Corridor Trail | City of Fremont | South | | $44 | $- | $1 | $43 | $- |
| 240273 | Newark Area 4 Railroad Overpass | City of Newark | South | | $14 | $- | $3 | $11 | $- |
| 240278 | Harrison St-Oakland Avenue major street improvements | City of Oakland | North | | $13 | $1 | $1 | $11 | $- |
| 240280 | Woodland - 81st Avenue Industrial Zone street reconstruction | City of Oakland | North | | $12 | $- | $1 | $11 | $- |
| 240282 | Tidewater District Street reconstruction | City of Oakland | North | | $5 | $0 | $1 | $4 | $- |
| N/A | Oakland Broadway Corridor Transit Study | City of Oakland | North | | $- | $- | $10 | $- | $- |
| 240270 | San Leandro East 14th Streetscape improvements | City of San Leandro | Central | | $9 | $- | $1 | $8 | $- |
| 240302 | San Leandro Local Streets and Roads Rehabilitation | City of San Leandro | Central | | $85 | $- | $32 | $53 | $- |
| 240306 | Lake Chabot Road Stabilization | City of San Leandro | Central | | $5 | $- | $1 | $4 | $- |
| 230100 | Bicycle/Pedestrian Connector Over UPRR Tracks to jobs center at Union City Intermodal Station | City of Union City | South | | $30 | $- | $1 | $29 | $- |
| 240053 | Whipple Road from I-880 to Mission Blvd widening and enhancement | City of Union City | South | | $103 | $- | $5 | $98 | $- |

| | | Project Sponsor | Planning Area | Other Planning Process | Total Cost Estimate | Funds Already Identified | Dis-cretionary Funding Allocation | Vision Funding Request | Proposed Regional Funding |
|---|---|---|---|---|---|---|---|---|---|
| **Alameda County Projects** | | | | | **(YOE$)** | **(YOE$)** | **(YOE$)** | **(YOE$)** | **(YOE$)** |
| 98139 | Right-of Way preservation and track improvements in Alameda County | Countywide | Central | | $301 | $5 | $45 | $251 | $- |
| 98139 | Right-of Way preservation and track improvements in Alameda County | Countywide | North | | $301 | $5 | $45 | $251 | $- |
| 98139 | Right-of Way preservation and track improvements in Alameda County | Countywide / ACE submission | South | | $301 | $5 | $45 | $251 | $- |
| 240347 | Gap closure and development of three major trails in Alameda County (Iron Horse, Bay Trail, East Bay Greenway Project / UPRR Corridor Improvements Project) | Multiple | South | | $227 | $- | $18 | $209 | $- |
| 240347 | Gap closure and development of three major trails in Alameda County (Iron Horse, Bay Trail, East Bay Greenway Project / UPRR Corridor Improvements Project) | Multiple | East | | $56 | $- | $6 | $50 | $- |
| **Tier 2 Total** | | | | | **$6,759** | **$274** | **$705** | **$5,790** | **$-** |

**Figure 6-4 Vision Projects**

| RTPID | | Project Sponsor | Planning Area | Other Planning Process | Total Cost Estimate | Funds Already Identified | Proposed Dis-cretionary Funding | Vision Funding Request | Proposed Regional Funding | CWTP Tier |
|---|---|---|---|---|---|---|---|---|---|---|
| Alameda County Projects | | | | | (YOE$) | (YOE$) | (YOE$) | (YOE$) | (YOE$) | |
| 230099 | I-580/I-680 Improvements Phase 1 | ACTC | East | | $528 | $- | $- | $528 | $- | V |
| 240216 | Dumbarton Rail Corridor Phase 2 | ACTC / SamTrans | South | Measure B, Res. 3434 | $795 | $267 | $- | $528 | $- | V |
| 240092 | Lewelling Blvd / Hesperian Blvd intersection improvements project (I-880 Hesperian/Lewelling Interchange) | Alameda County | Central | Measure B | $5 | $- | $- | $5 | $- | V |
| 22667 | BART to Livermore Extension Phase 2 | BART | East | Measure B | $2,927 | $145 | $- | $2,782 | $- | V |
| 240113 | BART Hayward maintenance complex | BART | Central | | $585 | $ 5 | $- | $580 | $- | V |
| 230243 | Access improvements to west end Transit Hub on Mariner Square Drive (MSD) | City of Alameda | North | | $4 | $- | $- | $4 | $- | V |
| 98207 | I-880 Broadway/Jackson Interchange: multimodal transportation and circulation improvements for Alameda Point, Downtown Oakland, Oakland Chinatown and Jack London Square - Phase 2 | City of Alameda / City of Oakland | North | Measure B | $106 | $- | $- | $106 | $- | V |
| 240116 | Powell Street bridge widening at Christie Avenue | City of Emeryville | North | | $5 | $- | $- | $5 | $- | V |
| 21482 | Extend Fremont Blvd to connect to I-880/Dixon Landing Road | City of Fremont | South | | $48 | $- | $- | $48 | $- | V |
| 240279 | Mandela Parkway & 3rd St. Corridor area street reconstruction | City of Oakland | North | | $157 | $- | $- | $157 | $- | V |

| RTPID | | Project Sponsor | Planning Area | Other Planning Process | Total Cost Estimate | Funds Already Identified | Proposed Dis-cretionary Funding | Vision Funding Request | Proposed Regional Funding | CWTP Tier |
|---|---|---|---|---|---|---|---|---|---|---|
| **Alameda County Projects** | | | | | (YOE$) | (YOE$) | (YOE$) | (YOE$) | (YOE$) | |
| 240132 | El Charro road construction | City of Pleasanton | East | | $49 | $- | $- | $49 | $- | V |
| 240141 | I-680 Sunol Blvd interchange (Non-Capacity increasing Freeway/Expressway interchange modifications) | City of Pleasanton | East | | $1 | $- | $- | $1 | $- | V |
| 240144 | I-580 Santa Rita interchange improvements | City of Pleasanton | East | | $3 | $ 1 | $- | $2 | $- | V |
| 240249 | San Leandro Street circulation and capacity improvements | City of San Leandro | Central | | $11 | $- | $- | $11 | $- | V |
| 22089 | Martinez Subdivision | Port of Oakland / MTC | North | | $100 | $- | $- | $100 | $- | V |
| **Vision Total** | | | | | **$5,324** | **$418** | **$-** | **$4,906** | **$-** | |

**Figure 6-5 Summary of Program Funding by Category**

| | Category | Description | Funding Allocation | |
|---|---|---|---|---|
| | | | $Amount | % of Total Program Funding |
| 1 | Bicycle & Pedestrian | Infrastructure, support facilities (including operations), and maintenance | $390 | 7% |
| 2 | Transit Enhancements - Expansion & Safety | Capital rehabilitation, capacity expansion, safety, stations, communications, environmental | $3,035 | 53% |
| | Transit & Paratransit - Operations & Maintenance | Operations restoration, service expansion, maintenance, transit priority measures (TPM), fare incentives | | |
| 3 | Local Road Improvements | Major Arterial Performance Initiative Program, safety, grade separations, signals, complete streets, signage, coordination with freeways | $1,550 | 27% |
| | Local Streets & Roads - Operations & Maintenance | Pavement and other maintenance, signal operations, ITS | | |
| 4 | Highway/Freeway - Safety & Non-Capacity Improvements | Interchange improvements, freeway operations and maintenance, ramp metering, sound walls | $20 | 0.3% |
| 5 | Bridge Improvements | Operations, replacement, repair, maintenance and expansion | $30 | 0.5% |
| 6 | Transportation & Land Use (TOD/PDA Program) | Supports Transit Oriented Development (TOD) and Priority Development Areas (PDA) through multimodal improvements and CEQA mitigation | $270 | 5% |
| 7 | Planning/Studies | Planning studies and implementation | $30 | 0.5% |
| 8 | TDM, Outreach, Parking Management | Programs include: Guaranteed Ride Home, Safe Routes to School (SR2S), Safe Routes to Transit (SR2T), travel training, variable parking pricing, parking management | $270 | 5% |
| 9 | Goods Movement | Improvements for goods movement by truck; enhanced coordination with rail (and air), such as truck parking and truck/port/freight operations | $80 | 1.4% |
| 10 | PDA Support (Non-Transportation) | Non-transportation infrastructure to support PDAs, such as sewer, utilities, etc. | $5 | 0.1% |
| 11 | Environmental Mitigation | Environmental mitigation for major construction projects | $10 | 0.2% |
| 12 | Transportation Technology and Revenue Enhancement | Advancing technologies for transportation and revenue efficiency such as charging stations, communications, HOT/Express lanes toll collection, etc | $80 | 1.4% |
| **Program Funding Total** | | | **$5,770** | **100%** |

Note: A more complete description of the programs and program recipients can be found in the Transportation Expenditure Plan which documents how funding from that major funding source will be distributed.

# Summary of Funded Projects and Programs

This section provides a high level overview of the distribution of county discretionary funding to projects and programs in the CWTP. It offers a breakdown of capital projects by planning area and by mode. Because program dollars have yet to be allocated to specific jurisdictions, a discussion of program allocations is more general in nature. The charts included below do not include regional funding contributions to projects and programs nor do they include committed funding.

Figure 6-6 shows a general breakdown of how the county's discretionary funding, estimated to be $9.56 billion, has been allocated in the CWTP. Overall, 40% of dollars have been allocated to projects and 60% of dollars have been allocated to programs.

**Figure 6-6 CWTP Discretionary Funding, Projects and Programs**

| Category | Discretionary Funding Allocations | % of Discretionary Funding |
|---|---|---|
| Tier 1 Projects | $2,554 | 27% |
| Tier 1R Projects | $526 | 6% |
| Tier 2 Projects | $705 | 7% |
| Vision Projects | $- | 0% |
| Programs | $5,770 | 60% |
| TOTAL | $9,556 | 100% |

## Projects by Planning Area and Mode

A total of $3.79 billion is allocated to capital projects in the CWTP. The vast majority is allocated to fully fund projects in Tier 1, approximately $3.08 billion. In addition, approximately $705 million is allocated to partially funded projects in Tier 2. Figure 6-7 shows the breakdown of project allocations by planning areas, as well as a couple of projects that were classified as "multiple" planning areas. Projects located in the North (36%) and South (32%) received the majority of the project dollars. East County and Central County received 21% and 9% of project dollars, respectively. Although only 3% of funded projects have been categorized as "multiple" planning area projects, many of the projects funded in this plan benefit more than one area since most residents travel throughout the county and will enjoy the improvements made by these investments. Figure 6-7 also shows this funding breakdown in relation to each planning area's share of the county's total population.

**Figure 6-7 Share of Project Allocations vs. Share of County Population, by Planning Area**

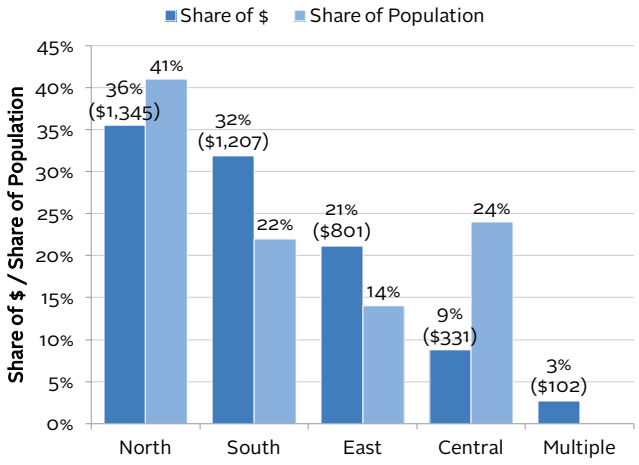
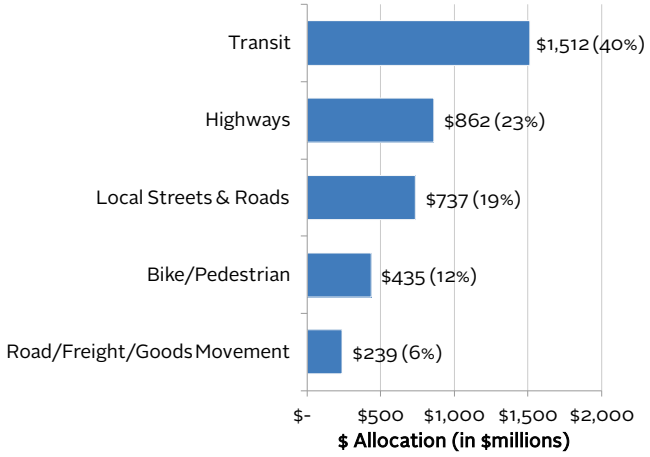



Figure 6-7 above does not include committed project funding, regional funding contributions to projects or program funding allocations which could benefit some of the areas where funding share is disproportionate with population share. Moving forward, the Alameda CTC will seek to ensure that geographic equity is achieved, particularly in the distribution of program funding and through the Alameda CTC Capital Improvement Program (CIP), which will be updated every two years. The CIP is designed to provide for geographic equity in overall funding allocations, and all allocations will be made through a public process.

Figure 6-8 shows the distribution of capital projects funded in the plan by mode. Transit, including both rail and bus projects, would receive the highest share of total project funding at roughly 40%. Highway projects would be second with approximately 23%, while local streets and roads projects would receive 19% of project dollars. Bicycle and pedestrian projects would receive roughly 12% of project funding. Finally, 6% of project funding would go to roadway projects that improve freight and goods movement.

**Figure 6-8 Project Allocations by Mode**




## Programs by Funding Category

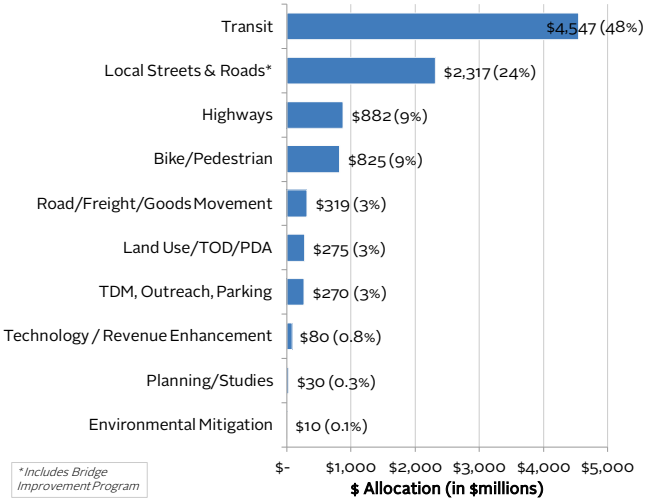
Figure 6-5 shows a breakdown of the programmatic spending in the CWTP, which accounts for 60% of the total discretionary budget. Figure 6-5 includes a total of 12 categories of programmatic spending; for each category it includes a brief description of what is funded in that category, the funding allocation for that category and the share of total program dollars that this allocation represents. The Transit category, including enhancements, operations, maintenance, and paratransit, would receive the largest share of program funding, at approximately 53%. The Local Road Improvements and Local Roads Operations & Maintenance category would receive 27% of program funding. The Bicycle and Pedestrian category would receive the next highest share at 7%.

## Projects and Programs by Funding Category

Figure 6-9 presents the breakdown of both project and program funding allocations by category. Of the project $9.56 billion available, 48% of project and program funds go to transit. This amounts to an estimated $4.55 billion from 2013 to 2040. The local streets and roads category, which includes the Bridge Improvement Program, would receive the second highest share at 24% of total discretionary funds, or $2.32 billion. Highway projects would receive 9%, or about $882 million. Likewise, bicycle and pedestrian projects and programs would receive roughly 9%, or $822 million. The remaining allocations can be seen in Figure 6-9.

It is important to note that, although the Land Use/ TOD/PDA) category only receives 3% of funds directly, many of the projects funded in other categories such as transit improvements, bicycle and pedestrian infrastructure, and parking and TDM improvements support TOD/PDA development.

**Figure 6-9 Projects and Program Allocations, by Funding Category**




Figures 6-14 through 6-22 at the end of this chapter includes maps showing the approximate location of the CWTP projects.

# Benefits and Performance of the Countywide Plan

A key issue to consider when developing the CWTP is how the identified projects and programs "perform." In other words, how they help the county progress towards its transportation goals and objectives. To answer this question and facilitate an evaluation of the projects and programs in the CWTP, the Steering Committee adopted performance measures based on the CWTP Vision and Goals, as described in Chapter 2.

An initial performance evaluation using these adopted performance measures was conducted in July 2011. This provided a preliminary "snapshot" of project and program performance and allowed for an exploratory analysis of plan performance. The July results were also one of many factors used to create the financially constrained lists as described above.

In November 2011, a second round of evaluation was conducted. This evaluation included analysis of three comparative scenarios that differ by investment level for year 2035:

- **Future Baseline** scenario, which includes committed projects and limited programmatic spending;
- **Tier 1** scenario, which was financially constrained and included the Future Baseline commitments, fully funded projects (Tier 1), and proposed additional program spending; and
- **Tier 2/Vision** scenario, which was unconstrained and included all projects (Tier 1, 2 and Vision) and assumed full program funding.

All three scenarios used the Alameda County Preferred Land Use Scenario Concept, described in Chapter 4.

The results of the second evaluation are the focus of this section. It is important to emphasize two key points about these evaluation results. First, this is the first time the county has utilized a "performance based" methodology to evaluate its projects and programs to better account for GHG emissions, public health and safety, transit performance and usage, environmental justice, and modal shifts. This methodology has been developed within the context of great uncertainty and with many moving targets, with regards to transportation financing as well as from a practical standpoint as the Bay Area region figures out how to meet the mandates of AB 32 and SB 375. For example, the land use scenarios that inform the county travel demand model are still evolving and will be updated once the Bay Area's Sustainable Community Strategy is finalized. This performance based methodology and evaluation process will continue to be refined and improved over time in future updates of the CWTP.

Second, the funding projections that served as the benchmarks for the financially constrained scenarios have been adjusted since the initial stages of the CWTP's development. For example, county discretionary budget projections have been recently revised based on Commission adoption of the TEP in January 2012, increasing the amount of funding available for projects and programs assumed in this plan. While the performance results are still valid, the benefits that will result from implementation of the funded projects and programs included in this CWTP will likely fall somewhere between Tier 1 and Tier 2/Vision described in this section. A final performance evaluation will be conducted when the SCS and RTP are completed to more precisely document plan performance.

It is also important to emphasize that the system level performance analysis conducted for the purposes of developing the constrained CWTP is not a substitute for the detailed project level analyses which will be required as each project goes through its development phases. Projects will be required to conduct appropriate environmental and equity analyses prior to implementation. The level and type of analysis required will be determined by the size of the project and the type of funding it receives. The performance analyses completed for the Countywide Plan scenarios summarized in this section and described in more detail in Appendix D are designed to be sensitive not only to the Alameda CTC's stated goals but also to broader goals of social equity and environmental justice. However, these analyses are not a substitute for project level analysis.

In addition to project level analysis, MTC is committed to completing additional environmental and social equity analysis on the regional level, evaluating the impacts of the projects funded through the Regional Transportation Plan. This will include an analysis of impacts as required under Title VI of the Civil Rights Act. While the CWTP does not require an independent Title VI analysis of the projects and programs included in the plan at this stage in their project and program development, all outreach efforts associated with the plan were designed to meet the spirit and requirements of the Act, and performance measures adopted for the plan were designed to address issues of social equity by evaluating the benefits and impacts of the plan to residents with varying income levels throughout the county.

## Performance Results

Outlined below are some the key comparative findings from the November 2011 performance evaluation between the three systemwide Countywide Plan scenarios: Future Baseline, Tier 1, and Tier 2/Vision. This section is intended to highlight only the

most pertinent findings and does not provide a comprehensive breakdown of the performance evaluation. A detailed discussion of performance evaluation results can be found in Appendix D.

In general, the greatest projected benefits provided by the CWTP projects and programs to Alameda County are:

- Support of modal shifts and increases in non-motorized travel
- Improved access to activity centers[3] and frequent travel service[4], especially to low-income households
- Reduced congestion in key corridors
- Reduced GHG emissions compared to 2005 conditions, with an understanding that regional coordination and other policies are needed to support additional reductions

## Modal Shifts and Non-motorized Travel

- Walking and bicycling as modes of travel is expected to increase. In the Tier 1 scenario the amount of time spent biking and walking will increase by 2% and in the Tier 2/Vision scenario by 4%.
- Walking trips in the Tier 2/Vision scenarios increased by 16%, with the greatest improvements in North and Central planning areas.
- Daily transit boardings in the Tier 1 and Tier 2/Vision scenarios increased by 6% and 12%, respectively, over the Baseline scenario.
- Drive alone trips are projected to decline by 2% in the Tier 2/Vision scenario, despite a 3% increase in total trips by all modes.

## Access to Activity Centers and Frequent Travel Service

- The accessibility performance measures show strong and consistent improvements throughout the County, especially for access to public transit. The strongest access improvements occur for the lowest income quartile.

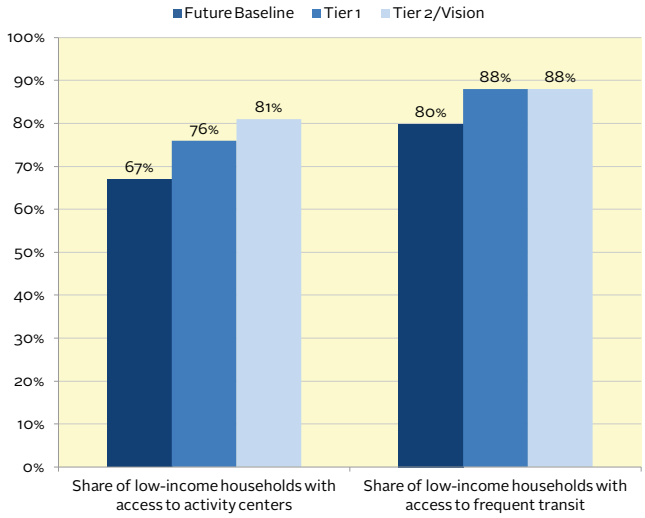
[3] Within 20 minute drive or 30 minute transit ride of activity center or ½ mile from grade school

[4] Within ¼ mile of a bus route and ½ mile of rail transit stop

- As a result of plan investments in the Tier 1 scenario, 76% of the lowest income households will have convenient access to employment/activity centers, compared to 67% in the Baseline, increasing to 81% in the Tier 2/Vision scenario, and 88% will have access to frequent transit compared with 80% percent in the Baseline (Figure 6-10). While this analysis is not a substitute for a robust project level equity analysis, it does show that the CWTP will provide significant benefit to low income communities in Alameda County

  Accessibility to activity centers improved most in the North and South County planning areas, whereas access to frequent transit improved most in the South and East County planning areas. In South County, public transit access improves by over 40 percentage points for Tier 1 and Tier 2/Vision scenarios, while activity center access improves by 10 to 20 percentage points.

**Figure 6-10 Improved Access to Activity Centers and Frequent Transit Service**



## Reduced GHG Emissions

- Greenhouse gas and particulate matter emissions from cars and light trucks declined by small margins – 0.3% between Baseline and Tier 1, and 1.7% between Baseline and Tier 2/Vision. However, these estimates reflect emission reductions from only major transportation projects and programs, and should be considered conservative since other key strategies such as revised land use policies, implementation of low carbon fuel, and improvements to vehicle technology are already reflected in the Baseline scenario. In addition, these estimates do not reflect land use and transportation strategies that are being considered in adjacent counties or at a regional level, which could lead to a reduction in pass through trips (one quarter of all VMT on Alameda County roadways) and associated emissions.
- Another way to look at GHG emissions is on a "per capita" basis, as MTC is doing for the RTP and SCS. Through this lens, daily GHG emissions decrease from 18.4 pounds per capita to 14.2 pounds per capita for the Tier 1 Scenario, a 24 percent reduction. This can be attributed to a combination of strategies that encompass land use and investment strategies in the draft CWTP, economic growth projections and vehicle technology and fuel standards. Figure 6-11 shows the breakdown of these emission reductions compared to 2005 levels and 2035 trend conditions.

## Reduced Congestion in Key Corridors

- In Tier 1, the percentage of countywide lanes miles that are moderately or severely congested decreases from 29% to 27% in the AM peak period.
- While congestion reduction between the scenarios is seen throughout the county, the largest reductions occur in the East County. In the Tier 1 scenario, "severely congested" lane miles in the PM peak period decrease from 11% in Baseline to 9% and "moderately congested" lane miles decrease from 21% in Baseline to 18% during the AM peak period. Roadway congestion changes for Tier 1 and Tier 2 are shown in Figures 6-12 and 6-13.

**Figure 6-11 Carbon Dioxide ($CO_2$) Emissions from Cars and Light Trucks in Alameda County**

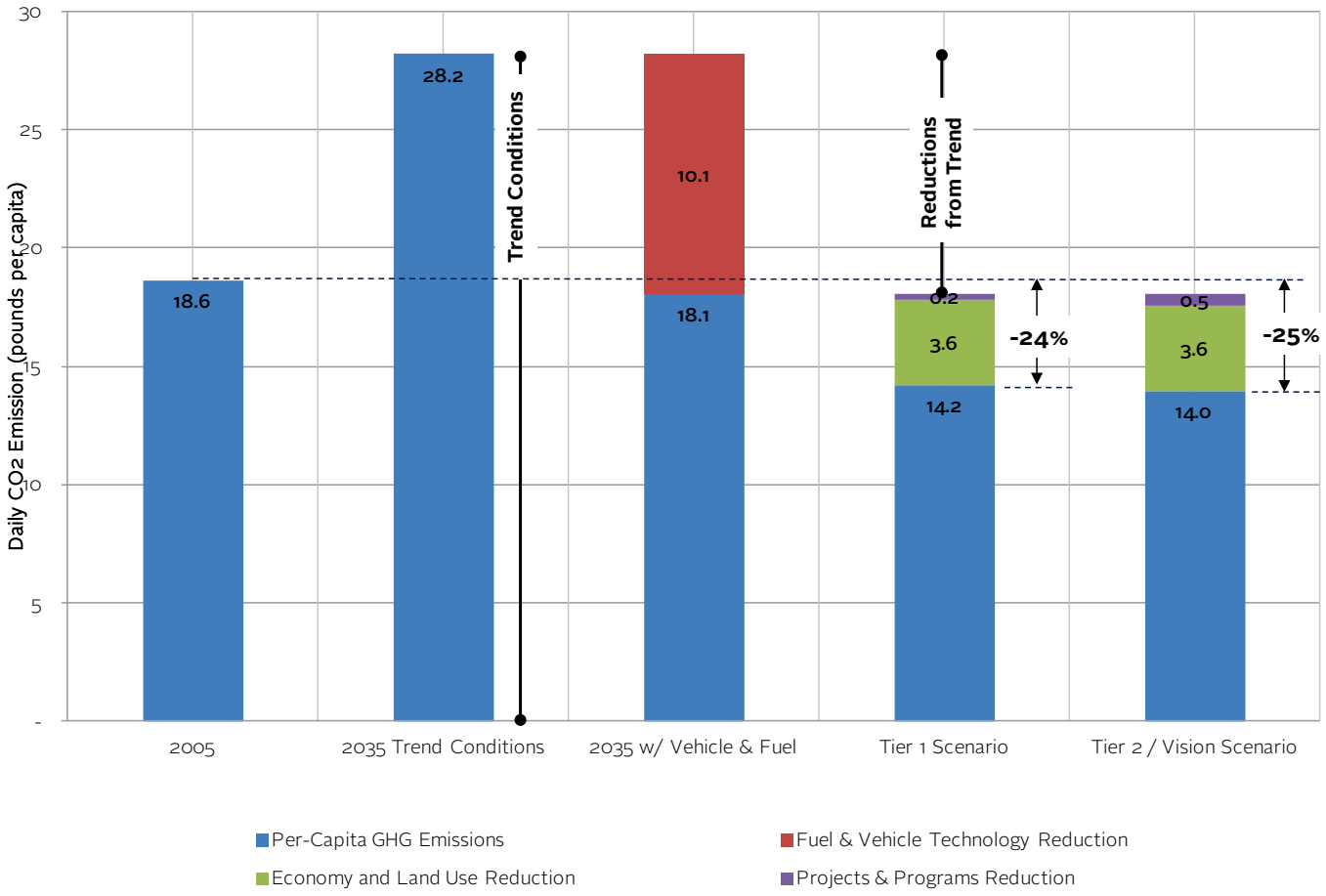


Figure 6-12 Roadway Congestion Changes for Tier 1 Scenario

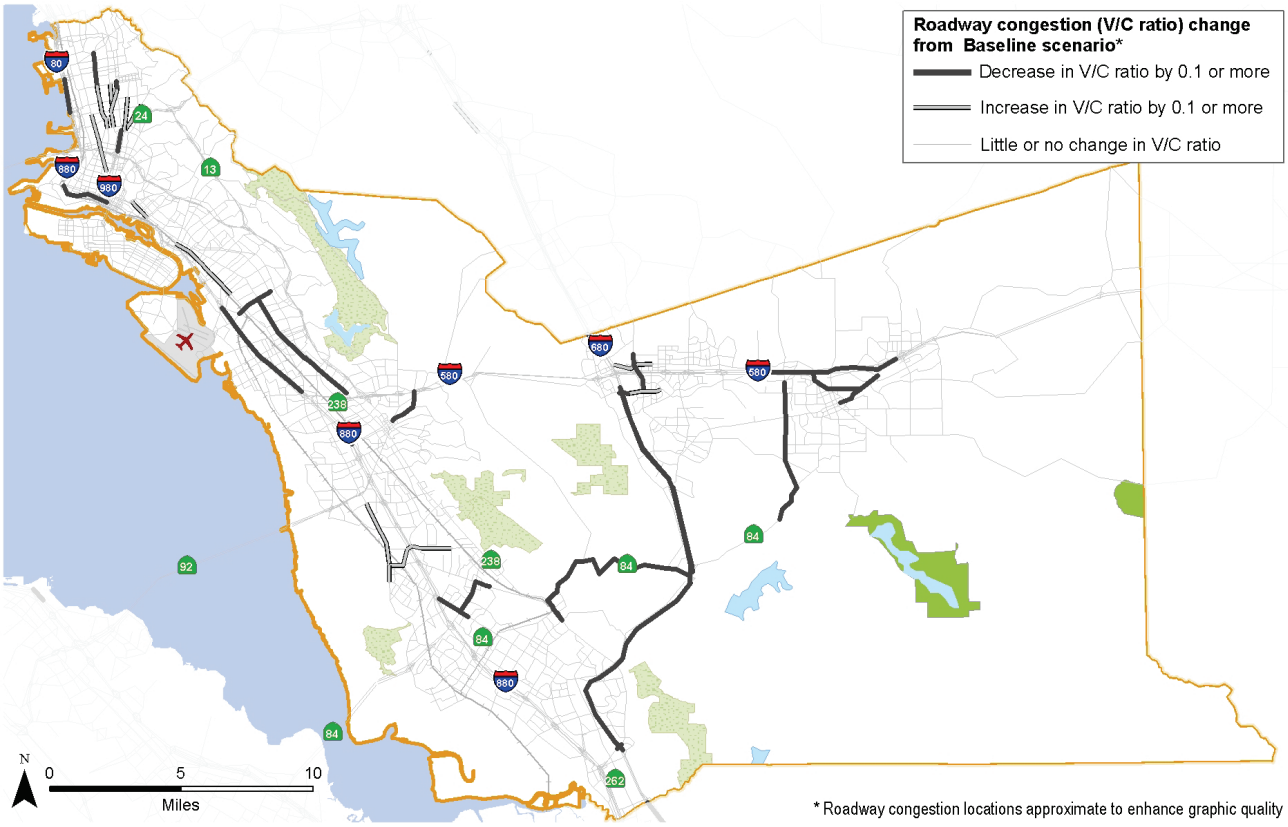
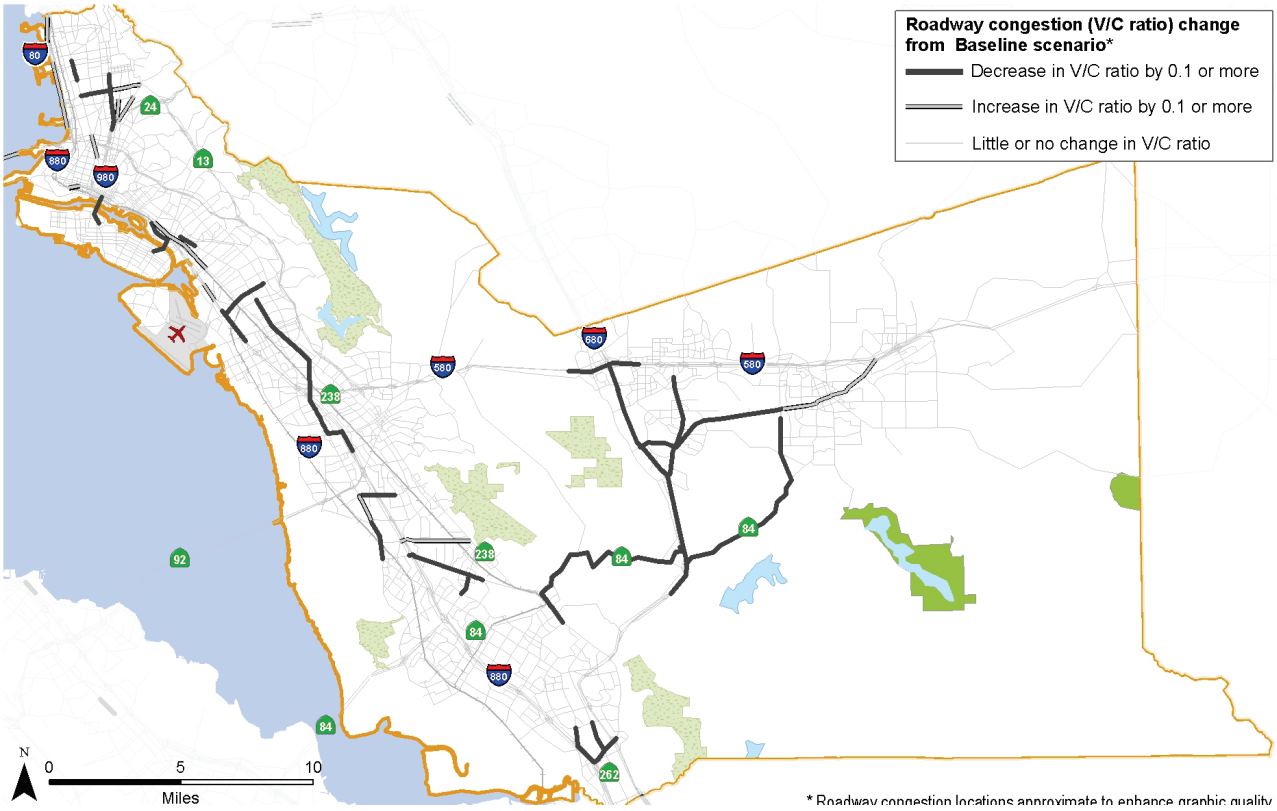



Figure 6-13 Roadway Congestion Changes for Tier 2/Vision Scenario



## CWTP Project Maps

Included below are a series of maps of the projects to be funded in the CWTP. These maps are intended to conceptually show the approximate location of the CWTP projects based on available project descriptions. The actual location of the projects may be revised as the projects progress through their development and design. It is important to note that programmatically funded projects are not shown on these maps, but are listed in Appendix H. In addition, some of the more "general" projects[5] were not able to be mapped because the specific project elements and locations have yet to be determined. These projects are simply listed instead.

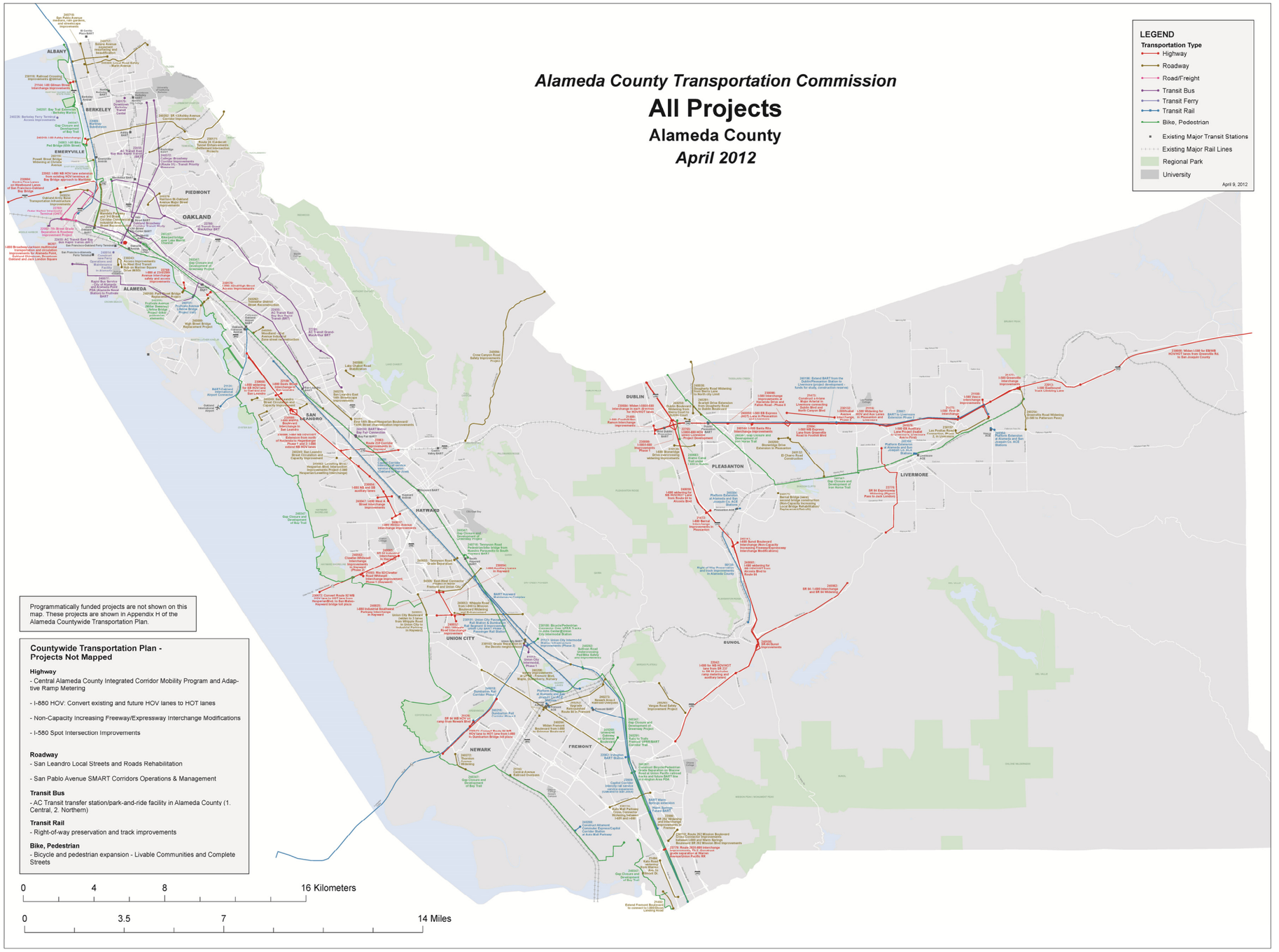
The maps below show the projects by both project tier and by transportation mode, as outlined below:

- All Projects
- Project Tier
  - Committed
  - Fully Funded
  - Partially Funded
  - Vision
- Transportation Mode
  - Highway
  - Roadway & Road Freight Projects
  - Transit
  - Bicycle & Pedestrian

An interactive zoomable map of the CWTP projects that offers improved readability is available online at www.alamedactc.org

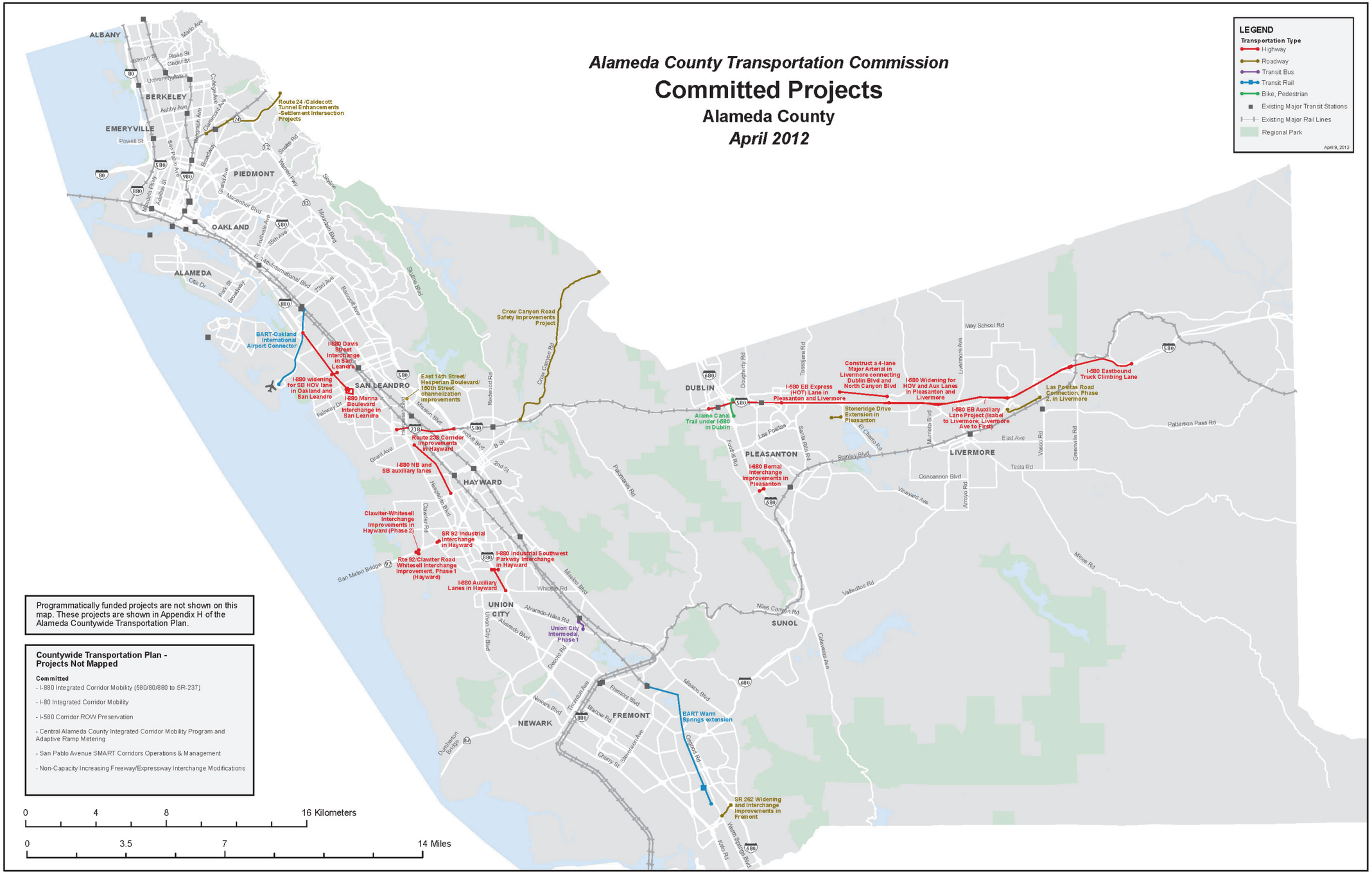
[5] Such as: "San Leandro Local Streets and Roads Rehabilitation"

**Figure 6-14 Alameda County CWTP – All Projects**




An interactive zoomable map of the CWTP projects that offers improved readability is available online at www.alamedactc.org/CWTPmap

**Figure 6-15 Alameda County CWTP – Committed Projects**




An interactive zoomable map of the CWTP projects that offers improved readability is available online at www.alamedactc.org/CWTPmap

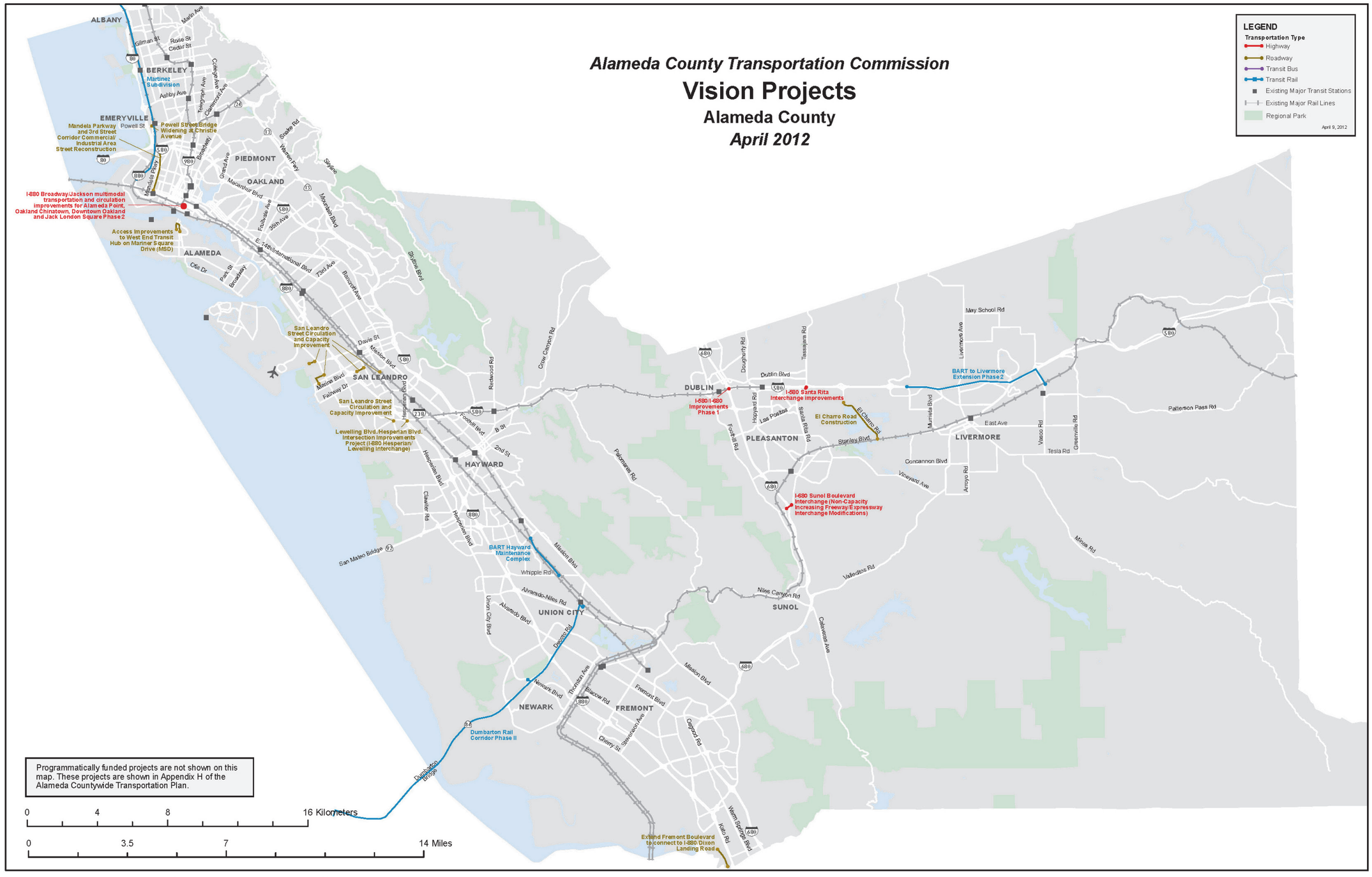
**Figure 6-16 Alameda County CWTP – Fully Funded Projects**


An interactive zoomable map of the CWTP projects that offers improved readability is available online at www.alamedactc.org/CWTPmap

**Figure 6-17 Alameda County CWTP – Partially Funded Projects**

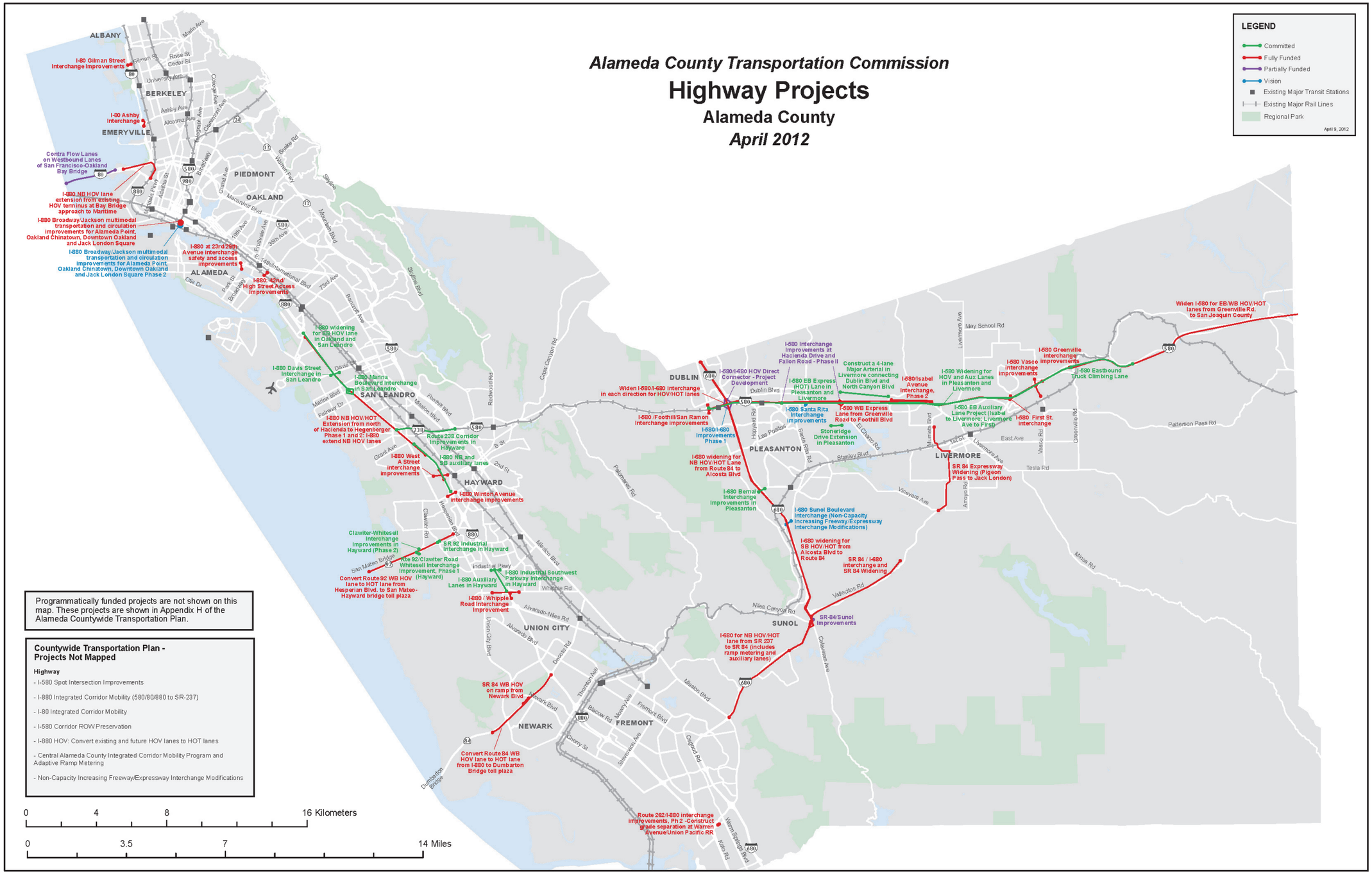

An interactive zoomable map of the CWTP projects that offers improved readability is available online at www.alamedactc.org/CWTPmap

**Figure 6-18 Alameda County CWTP – Vision Projects**



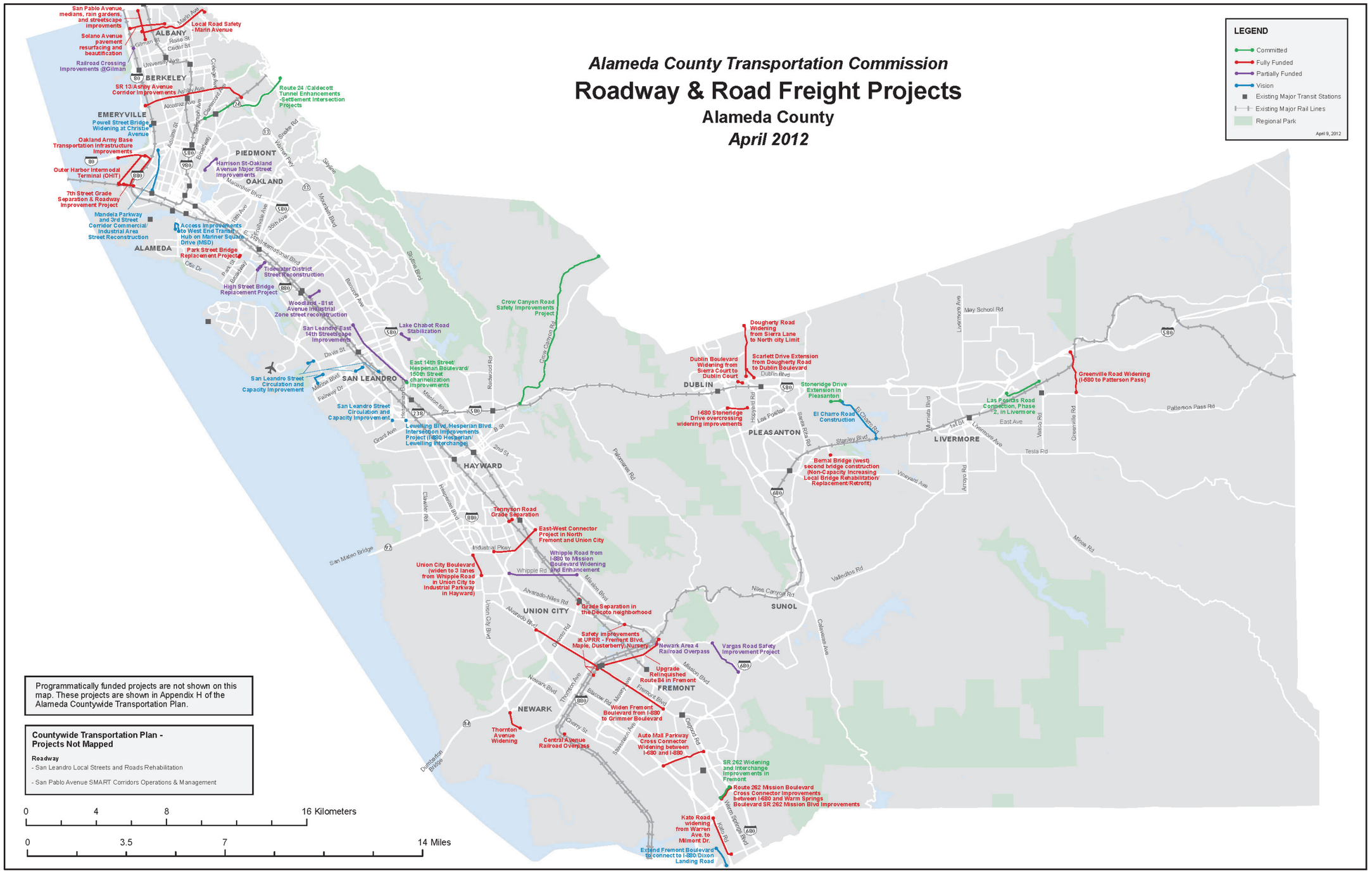

An interactive zoomable map of the CWTP projects that offers improved readability is available online at www.alamedactc.org/CWTPmap

**Figure 6-19 Alameda County CWTP – Highway Projects**



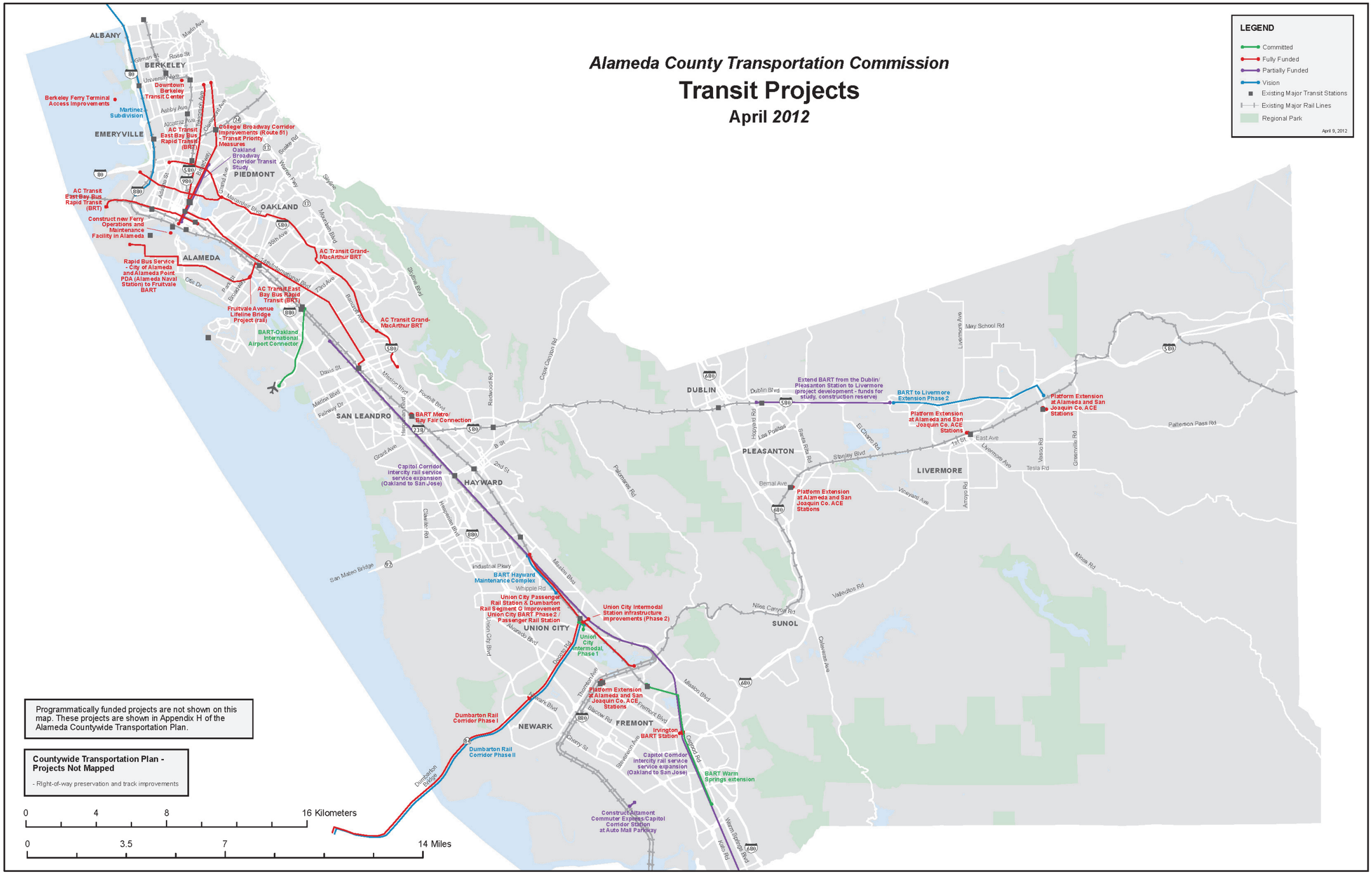

An interactive zoomable map of the CWTP projects that offers improved readability is available online at www.alamedactc.org/CWTPmap

**Figure 6-20 Alameda County CWTP – Roadway & Road Freight Projects**



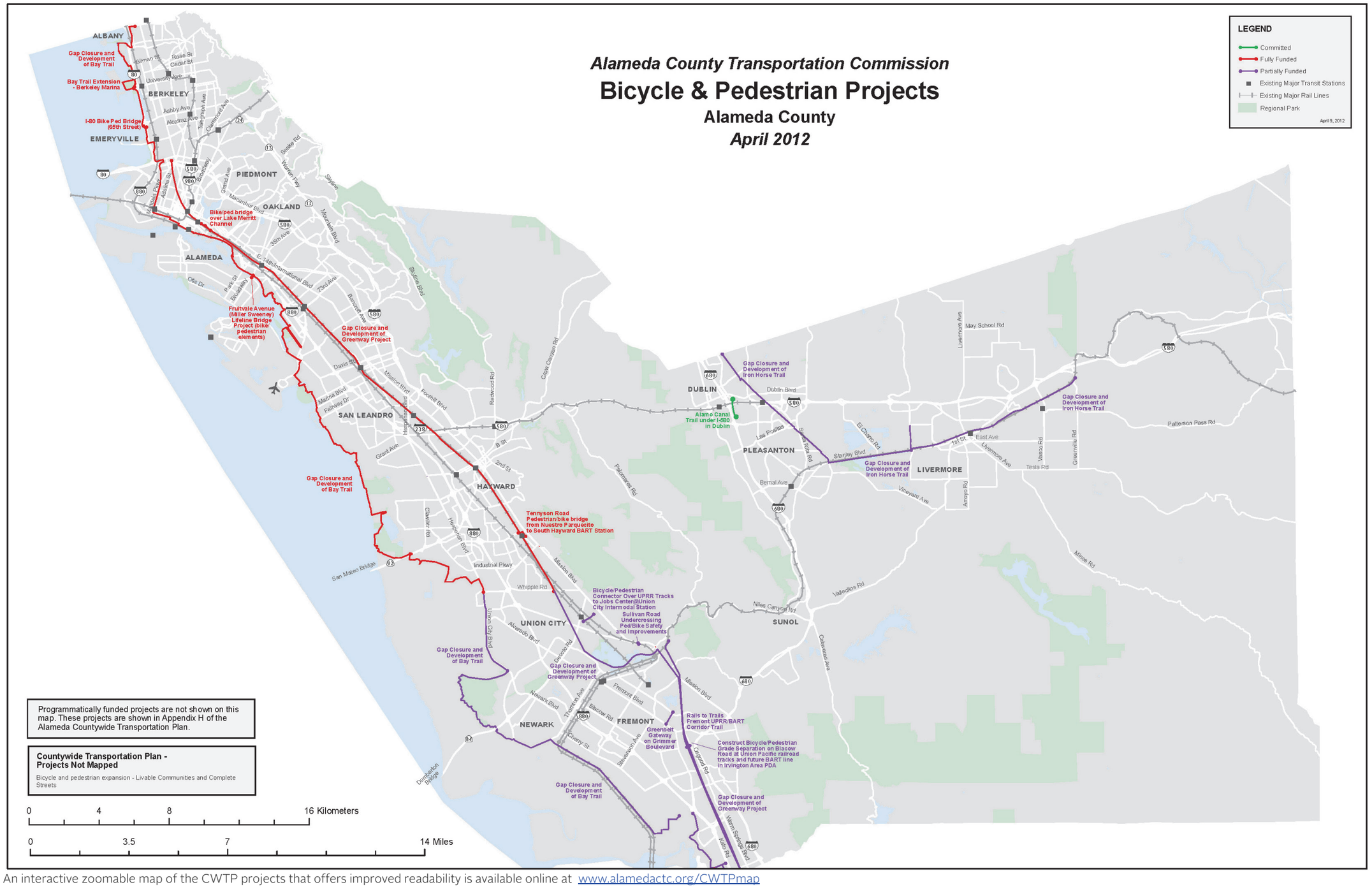

An interactive zoomable map of the CWTP projects that offers improved readability is available online at www.alamedactc.org/CWTPmap

**Figure 6-21 Alameda County CWTP – Transit Projects**




An interactive zoomable map of the CWTP projects that offers improved readability is available online at www.alamedactc.org/CWTPmap

**Figure 6-22 Alameda County CWTP – Bicycle & Pedestrian Projects**




An interactive zoomable map of the CWTP projects that offers improved readability is available online at www.alamedactc.org/CWTPmap

# 7. NEXT STEPS

## Next Steps

The Alameda County Transportation Plan sets a direction for Alameda County's transportation system. Changing the emphasis from a transportation network that is designed to manage traffic congestion to one that is designed to maximize sustainability of the transportation system will take time, alternative investment strategies and policy changes. Implementation steps will include identification of transportation funding, coordination with land use policy changes and ongoing transportation system performance monitoring. In some cases, additional studies or legislative advocacy will be necessary to realize the vision described in this plan. These steps are discussed in this chapter along with areas for future study.

## Implementation of Projects and Programs

Projects and programs included in this plan are eligible to receive local, regional and federal funding through 2040. In many cases, additional steps are required before construction can occur, including securing full funding, conducting environmental review and Title VI or other equity analysis where required, acquiring right-way and getting final project approvals. The schedule for beginning construction on specific capital projects depends on funding availability, project readiness and many other factors. As discussed in Chapter 5, the amount of funding required to implement all projects in the plan exceeds known available revenues, so advocating for and securing additional funding is a critical implementation step.

Some of the projects listed in the plan are funded through Alameda County's half-cent sales tax revenues. Projects funded through sales tax revenues are listed in the Transportation Expenditure Plan (TEP). The existing half-cent sales tax will continue to be collected until 2022. As discussed in Chapter 5, a new measure to augment and extend the existing sales tax is proposed to be placed on the November 2012 ballot pending approval by the Alameda County City Councils and Board of Supervisors; it will require a two-thirds voter majority to pass.

Key steps required for implementation of the priority projects and programs outlined in this plan include:

**Short Term:**

- Continue to secure approval for the new TEP and work towards its passage in November 2012.
- Continue to develop policies to encourage revenue generation from High Occupancy Toll (HOT) lane projects and policies regarding allocation of HOT lane funds.[1]
- Work with MTC and project sponsors to shape projects to increase their ability to attract regional and federal funds.
- Work with project sponsors to ensure that they complete all appropriate environmental and equity analysis, including analysis of project benefits and

[1] HOT lanes are essentially carpool lanes that allow non-carpool vehicles to pay to drive in the lane when there is available capacity.

impacts on minority and low income communities, as required.

- Continue to advocate for a federal transportation plan and funding program that emphasizes the values expressed in this plan, including increased funding for transit, pedestrian and bicycle infrastructure, operations and maintenance, as well as stability of funding.
- Develop specific policies addressing each of the programs based on the guidelines established by the TEP and other funding sources.

  For example, the TEP includes a commitment to a complete streets policy:

  *"It is the policy of the Alameda CTC that all transportation investments shall consider the needs of all modes and all users. All investments will conform to Complete Streets requirements and Alameda County guidelines to ensure that all modes and all users are considered in the expenditure of funds so that there are appropriate investments that fit the function and context of facilities that will be constructed."*

  The TEP further requires that "…a minimum of 15% of all local streets and roads funds be spent on project elements directly benefitting bicyclists and pedestrians."

  These policy directives will have a substantial impact on the planning, design, development and construction of local streets and roads projects. Therefore, it is imperative that Alameda CTC develop and adopt a formal "complete streets" policy and set of guidelines in the near-term to provide guidance to local jurisdictions as they move forward with the development of projects.

  The Alameda CTC could also create policies for other programs such as the "Major Commute Corridors" program in the proposed TEP through corridor plans for the freeway and major arterial corridors.
- Establish evaluation criteria for grant funded programs, including any pilot programs included in the plan. In the TEP, for example, several grant programs have been established, which will require a set of guidelines to facilitate program selection, implementation and evaluation. These include:
  - Access to School Program: This is a $15 million pilot program to fund one or more models for a student transit pass program. If successful, this program would be eligible for additional grant funding (described below) to make the program permanent.
  - Innovative Transit Grant Program: Comprising 2.24% of TEP revenue, these grant funds would be used to finance innovative and emerging transit projects to increase transit ridership, especially among youth; enhance service quality; reduce costs; improve operating efficiency; enhance safety, rider information and affordability; and implement community transit plans.
  - Bicycle and Pedestrian Grant Program: This grant program will receive 2% of TEP revenue and fund the implementation and maintenance of regional projects and programs.
  - Freight and Economic Development: This grant program will receive 1% of TEP revenue to develop innovative approaches to goods movement, including projects and programs that improve safety, reduce GHG emissions, mitigate impacts on neighborhoods and enhance coordination between freight distribution centers.
  - New Technology, Innovation and Development: This grant program will receive 1% of TEP revenue to develop innovative approaches to meeting the County's transportation vision. Grant funds would finance projects and programs to improve efficiency, enhance travel information, increase use of non-motorized modes, reduce GHG emissions, environmental mitigation, promote demand management and better manage existing parking resources.
- Prepare for a "call for projects" or other distribution mechanism for programs eligible for grant funding.
- Ensure proper coordination between the CWTP, the TEP and the Alameda CTC Capital Improvement Program (CIP). The CIP is a 6-year plan to maintain and improve the county's transportation system; it is updated every two years. The CIP is particularly important as it is the primary mechanism by which numerous capital projects in the TEP, such as the Commute Corridors and PDA/TOD programs, will be funded:

  - Eligible projects within the Commute Corridors category will be developed by local jurisdictions and funded based on project readiness, constructability, geographic equity and cost effectiveness.
  - The TEP outlines eligible station areas and PDAs for each of the four planning areas, with funding to be spent on project development, design, environmental clearance, construction and operations and maintenance.

**Longer Term:**

- Work with local jurisdictions on potential new revenue sources to meet the maintenance backlog of non-MTS streets and roads, non-pavement maintenance, bicycle and pedestrian facilities and seismic retrofit of local bridges.
- Work with transit operators to identify stable revenue sources to address transit capital and operating shortfall needs beyond those currently identified in this plan.
- Work with local and regional agencies to secure new funds to make up the shortfalls in transportation improvements identified in the plan.
- Evaluate the effectiveness of all expenditures, particularly looking at pilot programs for their efficacy and for continued funding.
- Work with project and program sponsors to move projects and programs from development phases to operational or construction phases and evaluate their performance.

## Coordination with Land Use

Unlike prior countywide transportation plans, this CWTP considers how the county and its constituent jurisdictions can shape future land use development to support the regional Sustainable Communities Strategy (SCS) required by Senate Bill 375, as described in Chapter 4. The vision for future land use development is still being finalized through a coordinated effort involving cities, the Alameda CTC and regional planning agencies, as part of preparation of the 2040 Regional Transportation Plan: *Plan Bay Area.* This effort will continue after the CWTP is complete, as will the Alameda CTC's efforts to work with local jurisdictions to begin implementing the SCS. Figuring out exactly how the Alameda CTC and local jurisdictions can fully develop its Priority Development Areas (PDAs) and Growth Opportunity Areas (GOAs) and continue to improve linkages between land use and transportation will be a major effort in coming years.

The proposed TEP seeks to strengthen transportation and land use linkages by focusing on development that brings together mobility choices, housing and jobs. As mentioned above, it proposes dedicated funding for infrastructure development that supports existing or proposed land use in and around transit hubs. The TEP can provide initial financing to support specific TOD and PDA developments throughout Alameda County, as well as activities that better link transit, housing and employment.

The following actions are intended to support local jurisdictions and regional governments in implementing land use plans that can be efficiently and effectively served by all modes:

**Short Term:**

- Maintain an accurate database of land uses (i.e., a database of general plan and zoning designations for all the jurisdictions in the county), as this is a fundamental building block for integrated transportation and land use planning.
- Provide funding, technical and policy support to local jurisdictions to ensure adequate infrastructure in designated PDAs and TODs, and encourage regional governments (MTC and ABAG) to do the same.
- Develop a PDA development plan consistent with regional funding requirements.
- Provide support for station area planning to ensure that local priorities meet MTC guidelines for future transit infrastructure and that local plans and projects incorporate pedestrian and bicycle infrastructure from the outset.

**Longer Term:**

- Develop additional countywide focused studies to address policy and guidelines for transportation, land use and financing in Alameda County.
- Continue to develop new modeling and evaluation tools that adequately assess the interactions between land use and transportation investments.

- Monitor the effectiveness of this plan using the adopted performance measures and the assumptions regarding land use as the plan develops. Some performance measures may require further refinement over time as tools are developed (discussed in more detail below).

## Future Countywide Plans and Related Studies

The strategies necessary to achieve the vision for the future articulated in the CWTP will evolve over time. Regular updates of the CWTP will be necessary to respond to changing demographics and transportation needs, fluctuations in funding availability and new information. Chapters 3 and 5 describe the trends and uncertainties that could affect the county's transportation needs and the amount of available funding to address them. Major uncertainties include California's long-term economic outlook and the success of local, regional and federal efforts to generate and secure additional transportation funds.

Future studies would be undertaken to explore these uncertainties and to further investigate issues not fully addressed in this version of the plan. Many topics deserving further investigation were raised in transportation issue papers prepared for this plan (see Appendix C), including:

- **Transit Sustainability and Integration**. Information from the MTC Transit Sustainability Project (TSP) will help inform future efforts to improve the cost-effectiveness of providing transit service and can be integrated into the next countywide plan. MTC is also undertaking a Comprehensive Operations Analysis (COA) for the inner East Bay transit systems that will produce specific recommendations applicable to Alameda County transit agencies. A countywide transit plan will help define the County's role in implementing recommendations of the COA.

  Development of a coordinated and integrated transit plan for Alameda County is particularly important given the substantial commitment the proposed TEP makes to transit. In all, transit will receive 48% of new TEP revenue, or an estimated $3.73 billion dollars over the next 30 years. Ensuring that this multi-year investment in transit is implemented in the most efficient and cost-effective manner is crucial to achieving this plan's goals and meeting voter and rider expectations.

- **TDM and Parking Management**. TDM and parking management are key tactics to meet the requirements of SB 375, as they are an ideal complement to land use strategies that reduce greenhouse gases and vehicle miles traveled. The Alameda CTC could expand TDM program implementation through creation of a transportation demand management plan and/or a parking management plan for the county. The new Technology, Innovation and Development grant program within the proposed TEP offers an excellent opportunity to provide initial funding to finance further evaluation of such efforts.

- **Sustainability**. While the Alameda CTC is already engaged in a number of actions directed at increasing transportation sustainability, further research into innovative sustainability solutions and emerging challenges could inform future CWTP efforts. For example, the CTC could study implementation of electric vehicle infrastructure or modification of investment priorities to address the likely impact of climate change related sea-level rise on low-lying transportation infrastructure. The new grant programs within the proposed TEP offer an excellent opportunity to provide initial funding to finance further evaluation of such efforts.

- **Land Use and Transportation**. Integration of land use and transportation will require ongoing efforts in the years to come. In particular, figuring out how land use and transportation investments can work together to fully develop the PDAs throughout Alameda County will require ongoing work and study. A land use implementation plan for Alameda County will address these issues and ensure implementation of planned SB 375-supportive land use changes. Challenges such as funding gaps for pedestrian and bicycle infrastructure, CEQA barriers, changes to redevelopment and existing dispersed land use patterns will also need to be addressed. The new PDA and TOD grant program within the proposed TEP offers an excellent opportunity to provide initial funding to finance further evaluation of such efforts.

- **Goods movement**. The goals of a countywide freight plan would be to identify the most efficient and effective routes and modes to serve the Port of Oakland, bring goods to market and reduce the

impacts of freight movement on residential communities. Challenges deserving additional study include identification of new technologies for enhancing freight's competitiveness, identification of a refined truck route system to help address community and environmental impacts, additional work to ensure reduction in illegal truck parking and truck safety. The Freight and Economic Development grant program included in the TEP provides the opportunity to fund further evaluation of these critical issues.

- **Innovative funding opportunities**. The upcoming sales tax reauthorization ballot measure creates an opportunity to preserve or expand the county's transportation funding but will not fully address all transportation needs. Future study is necessary to evaluate innovative funding opportunities such as public/private partnerships, value capture strategies, impact and user fees and loan-backed tax revenue.

In addition to these general topic areas, local transportation issues may also be studied for specific transportation corridors within the county. For example, the Alameda County Draft Land Use Scenario Concept has identified the importance of improving transit access to the employment growth opportunity areas along the I-880 corridor, as well as the importance of making these places more pedestrian and bicycle friendly so they can be supportive of carpooling and other TDM measures.

Ongoing study of these issues could help better position the County for future iterations of the CWTP and ensure that appropriate projects to address these issues are adequately defined so as to be ready for submission in the plan development process.

## Ongoing Monitoring and Performance-Based Planning

The 2012 CWTP incorporates a new emphasis on performance-based planning by prioritizing projects against an adopted set of performance measures corresponding to CWTP goals such as improved connectivity, greenhouse gas reduction, safety improvement, etc. (These goals are described in Chapter 2). This approach maximizes benefits to county residents and employees for each transportation dollar invested.

Performance-based planning does not stop with publication of the CWTP document. The Alameda CTC will continue to monitor the county's transportation performance in coming years and in preparation for the next CWTP. Ongoing performance monitoring helps the Alameda CTC measure the impact of plan investments on transportation performance over time, ensures progress is being made towards CWTP goals and reveals emerging trends and future needs.

The Alameda CTC already publishes an annual performance report containing a variety of multi-modal transportation performance measures consistent with CWTP goals. The Alameda CTC may also consider refining these measures in light of new plans, programs and policy developments. Specific actions include:

**Short Term:**

- Align plan performance measures with annual reporting**.** The measures used to evaluate projects and programs for the CWTP were similar, but not identical to, the set of metrics evaluated annually in the Alameda CTC performance report. Over time, the Alameda CTC may seek to bring performance measures used in the CWTP into close alignment with measures tracked annually by the agency.
- Incorporate performance measures from the Bicycle and Pedestrian plans into annual reporting. The Alameda CTC may consider continuing and expanding incorporation of measures from the updated Countywide Bicycle and Pedestrian Plans into its annual performance monitoring program. These plans contain specific goals such as increasing the share of walking and bicycling trips in the county, reducing bicycle and pedestrian collisions (both of which are reported through annual counts and collision reports) and improving walk and bike access to transit.
- Incorporate appropriate performance indicators from the TSP into its annual performance monitoring program. These indicators are under development but may include cost efficiency metrics such as the average cost of providing one hour of transit service.

- Incorporate performance measures from additional countywide studies, as described above.
- Improve performance measures and reporting on SB 375 implementation. The Alameda CTC could incorporate new measures for tracking progress towards revised land use patterns planned for as part of SB 375 implementation. For example, the Alameda CTC could track the percentage of county residents living or working in PDAs, the status of transportation project implementation in PDAs, or General Plan and zoning revisions that support the desired intensities and types of land use with PDAs.

**Longer Term:**

- Continue to update the existing travel demand model and continue to develop new tools that provide additional clarity about attainment of performance goals.
- Continue to work with MTC, ABAG and local planning departments to refine land use assumptions in the travel demand model and continue to refine the SCS land use.

In all project and program implementation and evaluation efforts, continued coordination with local, regional, state and federal partners will be essential. In addition, ongoing legislative advocacy for additional funding, as well as the implementation of state laws requiring better coordination between transportation and land use, is of paramount importance.