Alameda Countywide Strategic Pedestrian Plan

Adopted by:

Alameda County Transportation Improvement Authority
September 28, 2006

Alameda County Congestion Management Agency
October 26, 2006

Prepared by:

EISEN | LETUNIC
Transportation, Environmental and Urban Planning • www.eisenletunic.com

In association with:
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This plan was developed by ACTIA, in collaboration with the ACCMA. It was produced by Eisen|Letunic, in association with Alta Planning + Design.

Please contact ACTIA's Pedestrian and Bicycle Coordinator at (510) 893-3347 with any questions about the plan. The entire plan is available online at www.actia2022.com/bikeped.html.

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Executive Summary

Walking in Alameda County

Walking is the sole form of transportation that everyone uses everyday. In Alameda County, over 500,000 trips are made on foot daily, representing 12 percent of all trips. After driving, walking is the second most popular way to get around in the County. Walking is a fundamental, age-old form of transportation, which today links people to all other forms of transportation, notably transit. In Alameda County, 90 percent of trips to AC Transit and 25 percent of those to BART are made on foot.

> Over 500,000 daily trips in the County are made on foot—12 percent of all trips—making walking the second most popular way to get around the County, after driving.

While these numbers indicate the prevalence of walking, the number of pedestrians has actually decreased over the past few decades. Physical inactivity is now widely understood to play a significant role in the most common chronic diseases, including heart disease, stroke and diabetes, each of which is a leading cause of death in Alameda County. Further, one-quarter of all transportation related deaths in Alameda County are pedestrians, double the percentage of people who are walking. These tragic numbers reveal a critical need for safe and vibrant pedestrian environments that will inspire walking and create healthy communities. This Plan is a first step in that direction.

Plan Purpose and Structure

The first-ever Alameda Countywide Strategic Pedestrian Plan was written to elevate the status and recognition of walking in Alameda County. As a companion to the Countywide Bicycle Plan, the Pedestrian Plan will be used to plan and allocate countywide pedestrian funds anticipated through 2030 by:

- Describing the existing pedestrian environment and plans for improving walkability throughout the County;
- Isolating the institutional obstacles to making these improvements and proposing solutions;
- Crafting a vision with specific goals to further pedestrian improvements throughout the County;
- Identifying and prioritizing projects, programs and plans of countywide significance;
- Estimating the cost of and revenue available to deliver these efforts; and
- Laying out a course of action to fund and implement these countywide priorities over the next five years, until the Plan's first anticipated update.

While local pedestrian master plans identify improvements to the pedestrian environment that are needed at specific locations, this countywide plan concentrates on identifying and prioritizing pedestrian projects, programs and planning efforts of countywide significance.

> This Countywide Pedestrian Plan concentrates on identifying and prioritizing pedestrian projects, programs and planning efforts of countywide significance.

In addition to the Plan, a companion *Toolkit for Improving Walkability in Alameda County* has also been developed. The *Toolkit*—available in printed and online formats—is designed to help Alameda County jurisdictions and others enhance walkability throughout the County through policy, planning, design standards, education, and programs to encourage walking.

Unlike other modes of transportation, which rely on networks that travel longer distances, most walking trips are short and take place within a relatively small area.

For these reasons, the pedestrian environment is largely conceived of, financed and planned at the local level. However, the countywide nature of multiple pedestrian funding sources, the importance of public transit to pedestrians' mobility, coupled with the prevalence of walking throughout Alameda County, together demand an assessment of the state of walking at a countywide level.

Plan Development Process

The *Countywide Pedestrian Plan* was developed by the Alameda County Transportation Improvement Authority (ACTIA), in collaboration with several advisory groups, including ACTIA's standing Bicycle and Pedestrian Advisory Committee (BPAC) and an ad hoc technical committee convened for this project, the Pedestrian Plan Working Group. The *Plan* was developed concurrently with the *Alameda Countywide Bicycle Plan* update, led by the Alameda County Congestion Management Agency (ACCMA). ACTIA and the ACCMA, the two countywide transportation agencies, adopted the *Pedestrian Plan*, and will use it as a guide for planning and funding pedestrian projects throughout the County.

Plan Vision and Goals

The Plan's vision describes what an ideal pedestrian environment in Alameda County would achieve, while the Plan's goals detail seven specific areas of improvement needed to realize the vision.

Vision

Alameda County will be a community that inspires people to walk for everyday trips, recreation and health, where development patterns, connections to transit, and interconnected pedestrian networks offer safe, attractive, and widely accessible walking routes and districts.

Goals

1. Number and Percentage of Walk Trips

Increase the number and percentage of walking trips with the intention of reducing motor vehicle use.

2. Safety

Improve actual and perceived pedestrian safety and security.

3. Infrastructure and Design

Improve Alameda County's pedestrian environment through additional infrastructure, better design and maintenance.

4. Connectivity

Ensure that essential pedestrian destinations throughout Alameda County—particularly public transit—have direct, safe and convenient pedestrian access.

5. Planning and Research

Support planning and research to improve understanding of the benefits of walking, how best to encourage walking, and the need for improved facilities.

6. Staffing and Training

Ensure that public agency staff and elected and appointed officials are well-informed and well-trained in the pedestrian realm.

7. Funding

Maximize the amount of funding for pedestrian projects, programs and plans in Alameda County, with an emphasis on implementation.

Countywide Priorities

One of the primary ways in which ACTIA and the ACCMA can implement the Pedestrian Plan's vision and goals is by directing the countywide pedestrian funding sources managed by these agencies to capital projects, programs, and planning efforts that help achieve the vision and goals. The Pedestrian Plan defines areas of countywide significance as places that serve pedestrians traveling to and from a variety of locations throughout Alameda County and beyond. Three priority categories of projects follow from this definition:

- Access to public transit;
- Activity centers (including downtowns and commercial districts); and
- Inter-jurisdictional trails.

Costs and Revenue

The cost to deliver pedestrian projects, programs and plans of countywide significance is estimated to be on the order of $903 million, while about $174 million is expected to flow to such projects over the next 25 years, leaving a funding gap of almost $730 million. This situation calls for a plan of action to simultaneously prioritize expenditures that will improve walkability while increasing the level of revenue available to pedestrian projects and other related efforts.

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Introduction

Why a Countywide Pedestrian Plan?

Walking is an essential element of everyday life. Everyone walks (or uses a mobility device) each day, whether to school, to visit a neighbor, for exercise, for errands, or to catch a bus. Walking is the only type of transportation common to all. In Alameda County, over 500,000 trips are made on foot daily. After driving, more people walk than use any other transportation mode.

Walking is an integral component of vibrant, livable places, and a key element of the transportation system. Walking connects people to their cars or bicycles, to the bus, train, or ferry, and to their final destination. Walking contributes to creating healthy communities by reducing the number of vehicles on the road—thereby improving air quality—and improving public health, by reducing the rate of obesity, which is linked to heart disease and diabetes.

> Walking is the only type of transportation common to all. In Alameda County, over 500,000 trips are made on foot daily. After driving, more people walk than use any other transportation mode.

Alameda County communities have many of the attributes that can create a "culture of walking," including a temperate climate, mainly flat geography, few gaps in each city's sidewalk network, and development patterns that were established, in many parts of the County, before the automobile. Indeed, with the exception of San Francisco, more people are walking in Alameda County for a greater share of their trips than anywhere else in the Bay Area. Despite these qualities, the pedestrian environment in most parts of Alameda County presents many challenges to those who are walking or would like to walk.

This first-ever *Alameda Countywide Strategic Pedestrian Plan* was written to assess the walking environment throughout the County in 2006, and to identify the capital improvements, planning efforts, and encouragement and education programs needed over the next 25 years to increase the use and safety of walking throughout Alameda County. Specifically, the Plan was written to:

- Describe the existing pedestrian environment and plans for improving walkability throughout the County;
- Isolate the institutional obstacles to making these improvements and to propose solutions;
- Identify and prioritize projects, programs and plans of countywide significance;
- Estimate the cost to deliver these efforts; and
- Lay out a course of action to fund and implement these countywide priorities over the next five years, until the Plan's first anticipated update.

Unlike other modes of transportation, which rely on networks that travel longer distances, most walking trips are short, and take place within a relatively small area. Therefore, the pedestrian environment is largely conceived of, financed and planned at the local level. However, it is useful to also look at walking from a countywide perspective. Funding is often dispersed at the countywide level, so understanding how and why people are walking throughout the County can aide in

making funding decisions. Coordination is needed to build and maintain facilities that cross jurisdictional borders. Finally, the "network" that enables pedestrians to travel longer distances is transit. Because the County's transit agencies serve communities countywide, walk access to transit can be examined and improved more systematically at the county level.

Local pedestrian master plans, where they exist, are essential documents for identifying improvements to the pedestrian environment that are needed at specific locations and for integrating the concept of walkability into other local planning documents. By contrast, this Countywide Plan concentrates on identifying and prioritizing pedestrian projects, programs and planning efforts of countywide significance.

Defining Walking

Walking is defined broadly in this Plan, to encompass pedestrian mobility in all its aspects. Walking includes travel on foot and with the assistance of wheelchairs, canes, and other mobility devices. Walking includes local trips, integration with transit, and physical activity.

Plan Development and Adoption

Two Alameda countywide transportation agencies play a significant role in planning and financing improvements to the pedestrian environment: the Alameda County Transportation Improvement Authority (ACTIA) and the Alameda County Congestion Management Agency (ACCMA). The Countywide Pedestrian Plan was developed by the Alameda County Transportation Improvement Authority (ACTIA) between June 2005 and September 2006. This work was primarily advised by ACTIA's standing Bicycle and Pedestrian Advisory Committee (BPAC) and an ad hoc technical committee convened for this project, the Pedestrian Plan Working Group. In addition, ACTIA's Paratransit Advisory and Planning Committee (PAPCO), and the Alameda County Congestion Management Agency's Technical Advisory Committee (ACTAC) also reviewed and commented on drafts of the Plan.

This Pedestrian Plan was adopted by both ACTIA and the ACCMA and will serve as a guide for planning and funding pedestrian projects in Alameda County.

Alameda County Transportation Improvement Authority

The Alameda County Transportation Improvement Authority (ACTIA) is the public agency that administers Alameda County's half-cent sales tax for transportation projects and programs. This tax was authorized by Measure B, originally approved by the voters in 1986 and reauthorized in 2000. Five percent of Measure B revenue is allocated to bicycle and pedestrian projects and programs.

Alameda County Congestion Management Agency

The Alameda County Congestion Management Agency is tasked with planning and implementing congestion management projects and programs, including those aimed at bicyclists and pedestrians. The ACCMA administers many bicycle and pedestrian funding sources, including Alameda County's portion of the Regional Bicycle and Pedestrian Program (see *Funding* chapter for more information).

Relationship to the Countywide Bicycle Plan

The Countywide Pedestrian Plan fills a void in countywide pedestrian planning, and serves as the companion to the Alameda Countywide Bicycle Plan. In 2001, the ACCMA Board adopted the first Countywide Bicycle Plan, which was updated in 2005-06. The Bicycle Plan documents existing conditions for bicyclists throughout the County, proposes projects and programs to improve the bicycling environment, and provides guidelines and best practices for constructing bicycle facilities.

The Countywide Bicycle Plan was updated during the same period that the Countywide Pedestrian Plan was developed. Wherever possible, efforts were made to coordinate these two non-motorized transportation plans. Areas where the two plans were coordinated include cost estimating (primarily for multi-use trails), revenue projections, mapping and, in order to leverage future funding, efforts to show how pedestrian capital projects of countywide significance coincide with projects on the updated Countywide Bicycle Network. Furthermore, both plans cite the need to design facilities that take both

bicycles and pedestrians into consideration and that also avoid potential conflicts between the two modes. (See Appendix I for further information on the relationship between the two plans.)

PLANNING FOR PEDESTRIANS IN THE 21ST CENTURY

Smart Growth

Walking is the oldest form of transportation and is gaining stature as a critical component of the transportation system. This trend is especially apparent through a movement called **smart growth,** which is influencing how cities across the nation are growing and being redeveloped. The basis of smart growth is to revitalize existing neighborhoods while promoting transit, bicycling, and walking in order to create vibrant, interesting, and healthy communities. Beyond the aesthetic appeal of walkable communities, cities are pursuing smart growth strategies in an effort to reduce traffic congestion and to offer residents, employees, and visitors the opportunity for physical activity on their way to work, school and errands, thereby counteracting the national trend toward obesity and other health effects related to physical inactivity.

An important component of smart growth is **transit-oriented development** (TOD), which calls for densely developed, mixed-use, walkable communities built adjacent to and oriented toward rail stations, ferry terminals, and along transit streets (see *Existing Conditions* chapter for more information). Such development encourages walking by providing a safe, convenient and pleasant pedestrian environment and by building shops, restaurants, parks, civic buildings, and other services in close enough proximity that walking becomes the quickest and easiest transportation mode for many trips, and the use of public transit is increased.

A traffic engineering technique called **traffic calming** is related to smart growth and TOD in that it prioritizes people over motor vehicles in the design of neighborhood streets. Traffic calming measures are intended to enhance pedestrian safety and encourage safe driving by slowing vehicles and reducing cut-through traffic on local neighborhood routes. Measures include raised crosswalks, roundabouts, speed humps and chokers (see companion *Toolkit* for more information).

Why Walking Matters

The ability to walk safely and conveniently, for recreation and travel, is a crucial component of livable communities. Civic leaders who care about traffic, public health and safety, economic development, or building a sense of community have a stake in ensuring that the local pedestrian environment is safe and inviting.

> Walking is the one transportation mode that everyone uses at some point for each and every trip, so everyone benefits when walking is safer and more convenient and attractive.

But who benefits from a walkable community? Walking is the one transportation mode that everyone uses at some point for each and every trip, so everyone benefits when walking is safer, more convenient, and attractive. School children get exercise, can be independent, and learn that most outings offer more than one transportation choice. Commuters can experience a day without parking, and longer intervals between fill-ups at the pump. Our aging population remains independent longer by staying active and not relying on their ability to drive. Local shops thrive when drive-by traffic becomes walk-in business. By improving access, ridership increases on public transit systems. Neighborhoods

become safer with more eyes on the street and fewer cars on the road.

In Alameda County, 90 percent of AC Transit bus passengers and almost one-quarter of BART passengers reach transit on foot. There are more than a half-million daily walk trips in the County, not including walk-to-transit trips; this represents 12 percent of all trips, and is higher than either the regional or national averages. With the improvements envisioned in this Plan, a culture of walking is within reach.

How to Use this Plan

The Alameda Countywide Strategic Pedestrian Plan was written for practitioners, policy-makers, community members, community-based organizations, potential funders and others who have a stake in improving walkability in Alameda County. Following this introduction are six chapters and ten appendices. Each chapter begins with a synopsis of the chapter's content, its intended audience, and how the information contained in the chapter can be used. The appendices provide the detailed information that forms the basis of the Plan's data and analysis.

In addition, a *Toolkit for Improving Walkability in Alameda County* is being published simultaneously, both online and in print, as a companion to this Plan. The *Toolkit* is a resource guide to assist local jurisdictions and other agencies in improving the pedestrian environment by providing an overview of, and web-based links to, innovative pedestrian planning practices, pedestrian facility design, funding, and numerous other ideas for improving the pedestrian environment.

Below are brief descriptions of the Plan's six chapters:

❶ **Existing Conditions** describes the walking environment in Alameda County and plans to improve walkability throughout the County. This chapter provides a wealth of detailed information which can serve as a reference for public agency staff, advocates and others who are unfamiliar with pedestrian facilities in portions of or throughout Alameda County.

❷ **Institutional Obstacles** documents nonphysical barriers that can stand in the way of needed improvements to the pedestrian environment. This chapter can be used by locally-elected officials, transportation planners and commissioners, land use planners and planning commissioners, traffic/transportation engineers, and developers to help identify obstacles to walking and learn about innovative solutions to such barriers.

❸ **Vision and Goals** describes what the pedestrian environment in Alameda County could look like in 2030, and the goals and strategies necessary to enable this vision to be realized. This chapter will be of interest to locally-elected officials, transportation planners and commissioners, land use planners, and planning commissioners. It can be used to link the findings of the *Existing Conditions* and *Obstacles* chapters to opportunities that ACTIA and ACCMA have to influence the pedestrian environment in Alameda County.

❹ **Countywide Priorities** defines and describes Alameda County pedestrian-related capital, programmatic and planning efforts of countywide significance. This chapter will be of interest to local governments, non-profit agencies and locally-elected officials in understanding the countywide pedestrian funding priorities.

❺ **Costs and Revenue** provides an analysis of the estimated cost to deliver the pedestrian projects, programs and plans of countywide significance described in Chapter 4 and the revenue expected to be available in Alameda County for these efforts through the Pedestrian Plan's 25-year horizon. This chapter can be used by ACTIA and the ACCMA to develop prioritization criteria for the funding sources they administer.

❻ **Next Steps** documents the priority steps needed to begin implementing the Alameda Countywide Strategic Pedestrian Plan in the five-year period before the first Plan update, expected in 2011. This information is useful to ACTIA, the ACCMA and Alameda County's 15 local governments, and local and countywide community-based organizations whose missions relate to improving the pedestrian environment throughout the County.

1. Existing Conditions

Chapter Guide

Topic: Description of the walking environment, programs, and planning in Alameda County in early 2006 and plans to improve walkability throughout the County.

Audience: Public agency staff, advocates and others who would like to learn about pedestrian facilities, programs, and statistics in Alameda County.

Uses: To develop a baseline of pedestrian conditions in Alameda County; to assist in the development of the Plan's vision and goals; to help focus countywide pedestrian funds on the best and most effective uses; and to inform future pedestrian planning efforts in Alameda County.

Introduction

Alameda County residents walk on average more than most residents of the Bay Area, the State and even the nation. What is it about Alameda County that creates these higher walking rates? Is it topography, weather, development patterns or transit service? Or is it unique characteristics of the residents themselves? In areas where people are walking less, why is this? Are there opportunities to increase walking throughout the County?

This chapter attempts to answer these questions by describing the walking environment in Alameda County in 2006. In addition, it describes what is envisioned for pedestrian conditions over the next 10–20 years as expressed in adopted plans throughout the County. This existing conditions information serves a number of purposes:

- Develops a baseline of pedestrian conditions in Alameda County;
- Assists in the development of this Plan's vision and goals;
- Helps focus countywide pedestrian funds, such as Measure B, on the best and most effective uses; and
- Informs future pedestrian planning efforts in Alameda County.

The focus of this Plan is to compare pedestrian environments and find common as well as differing patterns, trends, and needs at the countywide level that could be addressed by a countywide transportation agency, such as ACTIA or the Alameda County Congestion Management Agency (ACCMA).

The research for this chapter began with a review of local plans that influence the pedestrian environment, pedestrian design standards, and other documents that influence walkability in Alameda County's 14 cities and the unincorporated areas. This literature review also included the planning work of inter-jurisdictional, countywide, and regional public agencies such as the Association of Bay Area Governments (ABAG), the Metropolitan Transportation Commission (MTC), the Bay Area Rapid Transit (BART) District, AC Transit, the East Bay Regional Park District (EBRPD), and the ACCMA.

Questionnaires (see Appendix A) were sent to planners and engineers at Alameda County and each of the 14 cities, which were followed up by in-person interviews. Selected regional planners, transit agency staff, pedestrian advocates, and public health professionals

were also interviewed. (See Appendix B for a list of interviewees.)

The information contained in this chapter has never been collected before in one place. Apart from these interviews, questionnaires and literature search, no additional inventories or studies were conducted. Unlike a local pedestrian master plan, this Plan does not contain a block-by-block or neighborhood-by-neighborhood assessment of walking conditions. The chapter is structured as described in the box below.

Existing Conditions Chapter

- **The Setting** describes the varied topography and climate found in Alameda County and its development history.
- **The Pedestrian Environment** qualitatively assesses existing on-street pedestrian conditions throughout the County.
- **Walking to Public Transit** catalogues transit service in Alameda County and the pedestrian environment in the vicinity of transit stops and stations.
- **Trails** describes the County's off-road paved multi-use paths as well as plans for improving trails.
- **Walking Data** provides socio-economic data and walking rates of Alameda County residents.
- **Walking and Public Health** explores the relationship between walking and disease and public safety.
- **Future Pedestrian Improvements** discusses planning efforts and how these might influence the County's pedestrian environment.
- **Programs & Advocacy** summarizes programs and advocacy efforts that encourage walking in Alameda County.
- **Conclusions** summarizes existing pedestrian conditions in Alameda County in the context of opportunities for ACTIA and the ACCMA.

Setting

Purpose

To provide an overview of the geography and development history of Alameda County communities and to detail the characteristics of each area that shape the quality of its walking environment.

Key Findings

1. Alameda County contains a number of diverse sub-areas, in terms of geography, climate, development history and walking environments.
2. Alameda County is the second most populated county in the Bay Area, after Santa Clara, and the second densest, after San Francisco.
3. Jurisdictions in Alameda County incorporated between 1852 and 1982; the northern cities developed before WWII; and, while some eastern cities incorporated in the nineteenth century, all southern and eastern cities developed primarily in the post-war era.
4. Generally, residential density and the percentage of car-free households decreases, and income increases, as one moves south and then east in Alameda County.

Alameda County is the geographic center of the San Francisco Bay Area, located across the Bay from the San Francisco peninsula, which stretches from the Golden Gate Bridge south to Silicon Valley. Most of Alameda County is bounded by the San Francisco Bay to the west and the East Bay Hills to the east. In this area, many Alameda County cities are built on coastal flatlands that rise—gently in some places, steeply in others—to rolling hillsides. Eastern Alameda County, across the hills from southern Alameda County, is part of an inland region known as the Tri-Valley. It is bordered by rolling hillsides and has much hotter summertime temperatures than the Bay-influenced portions of the County.

Alameda County has a total land area of 738 square miles. The County's population was 1.4 million in 2000, making it the second most populated county in the Bay Area, after Santa Clara County and the second densest, after San Francisco. Although Alameda County has a higher household median income than the State and nation, it has a lower median income than the regional average.[1]

[1] Throughout this section, demographic information is from the 2000 U.S. Census, historic information is from each city's website, and geographic descriptions are from the East Bay Economic Development Alliance for Business (www.edab.org). Table 2 contains a summary of population, density and demographic information, by planning area.

Alameda County has a rich history, from Native American settlements to Spanish land grants at the turn of the eighteenth century to farms, ranches and orchards by the time the County incorporated in 1853. The Transcontinental Railway, electric streetcars and waterfront development helped North and Central Alameda County towns become cities by the turn of the twentieth century. After WWII, the automobile spurred the suburbanization of South and East County cities. This rich and varied history has shaped development patterns throughout Alameda County, including streets, roads, freeways, and transit, all of which affect pedestrian conditions and travel.

This section details characteristics of communities throughout Alameda County that contribute to the walking environment of each.

> Alameda County's rich and varied history has shaped its development patterns, including streets, roads, freeways and transit, all of which affect pedestrian conditions and travel.

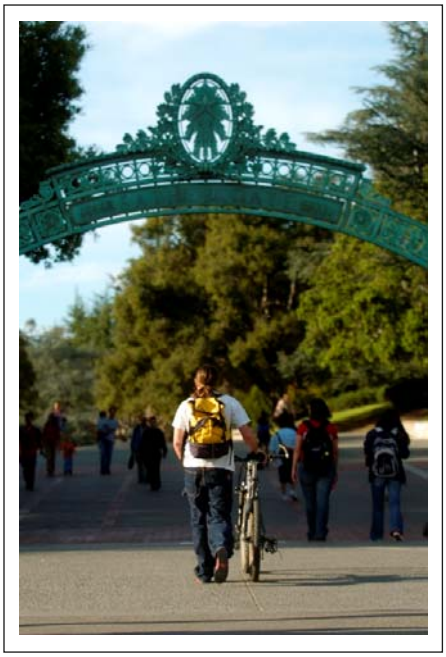
The Four Planning Areas

Many factors contribute to Alameda County's travel patterns. This section provides a closer view of the topography, climate, and development history that have shaped communities and influenced walkability throughout Alameda County. As we take a closer look, differences emerge between communities in various parts of the County. In terms of development, roadway characteristics, pedestrian facilities, transit service and patronage, demographics, and walking patterns, the County's northern communities bear more resemblance to the residential areas of San Francisco than to the rest of Alameda County. Southern Alameda County—with its juxtaposition of old historic districts and newer suburban style development—is similar to neighboring Santa Clara County. Communities in central Alameda County represent a transition between the more urban north and more suburban south. And in many ways, eastern Alameda County is more similar to its neighbors in fast-growing San Joaquin County or along the I-680 corridor in Contra Costa County, than to the other cities in Alameda County. This chapter tells the story of walking in Alameda County, recognizing that pedestrian habits, facilities, planning, programs and advocacy are, in many respects, more similar within each of these four parts of the County than they are between them.

Because of the similarities found within each area, ACTIA and the ACCMA have divided Alameda County into four "planning areas," which are used for transportation funding and planning (see Figure 1). This Plan uses the same planning areas for analysis. Data that is only available at the County level is presented as such and local information is used to illustrate particular points.

North Planning Area

The North planning area contains the most cities (six) and the highest population (over 600,000) of the four planning areas, including the county's largest city, Oakland, the smallest, Piedmont, as well as Albany, Berkeley, Alameda, and Emeryville. Interestingly, the North planning area is the smallest, geographically, of the four planning areas, at 82 square miles.



Berkeley and Oakland, the two largest North County cities have flatland neighborhoods built on a Bay-side plain and steeper districts forming the eastern edge of both cities. Albany (with the exception of Albany Hill), Emeryville and Alameda hug the Bay shoreline and are predominantly flat. Piedmont, a hillside enclave surrounded on all sides by the City of Oakland, is quite hilly, with the exception of a few blocks around Grand and Oakland avenues. A number of creeks flow from the eastern hills of the North planning area to the Bay, some

with trails alongside them. Due to the North planning area's location directly across the Bay from the Golden Gate Bridge, summertime fog keeps temperatures lower here than in the rest of the County.

Two predominant development forces in the North planning area were the University of California, which established its campus in the Berkeley foothills in the late 1800s, and the Trans-Continental railroad that terminated in Oakland in 1869. The University to this day continues to strongly influence development of a dense campus community and downtown that cater to thousands of students, faculty, staff and other visitors who daily walk in its vicinity. The railroad—and subsequently the Port of Oakland—helped Oakland to become a regional economic center and the third largest city in the Bay Area (after San Jose and San Francisco), with a large, dense downtown that continues to be the city's most walkable area.

North planning area cities incorporated between the mid-1850s and the turn of the twentieth century. (See Table 1.) The residential areas of Alameda, Oakland, Berkeley, and Albany developed along the routes of the Key streetcar system, which, until its post WWII decline, linked plentiful and relatively inexpensive housing with ferries to San Francisco jobs. The result is dozens of neighborhoods that were well-served by public transit and which had and still have a grid street system, short blocks, local shopping districts, and a pedestrian orientation originally intended to serve these commuters and their families. The development pattern in Emeryville—the former site of multiple Native American settlements—is anomalous for the North planning area: the city has historically been primarily home to industrial land uses, apart from a handful of small, older neighborhoods. However, due to considerable recent housing construction, Emeryville's residential stock is on average much newer and denser than other cities in the planning area and the County.

Gross densities in the North planning area average 4.8 dwelling units per acre, ranging from 3.5 in Piedmont to 7.0 in Berkeley. (Note: gross densities reported in this chapter include some non-urbanized land, and are therefore lower than if typical, net density figures had been used. Please see Table 2 for more information.) However, densities tend to be higher in the flatlands, where there are more transit options, and lower in the hills. Additionally, as discussed more fully in the *Walking Data* section, transit use is high in the North planning area, in part perhaps because median household income is low ($45,000 per year) and the percentage of households without a car is high (17 percent), relative to the rest of Alameda County and the region. (See Table 2.)

Table 1: Dates of Incorporation

Jurisdiction	Date
Oakland	1852
Alameda	1853
Alameda County	1853
San Leandro	1872
Hayward	1876
Livermore	1876
Berkeley	1878
Pleasanton	1894
Emeryville	1896
Piedmont	1907
Albany	1909
Newark	1955
Fremont	1956
Union City	1959
Dublin	1982

Source: California Planners' Information Network, Governor's Office of Planning & Research, State Clearinghouse & Planning Unit

Although cities in the North planning area have fewer trails than the East planning area, the existence of walkable shopping areas and a dense urban fabric—by East Bay standards—results in generally walkable conditions, at least at the neighborhood level.

Central Planning Area

The Central planning area adjoins the other three planning areas, and includes the cities of San Leandro and Hayward and the unincorporated communities of Ashland, Cherryland, San Lorenzo, Fairview, and Castro Valley. This planning area has the second-highest population (350,000) and the largest land area (113 square miles) of the four planning areas. The unincorporated communities constitute almost sixty percent of the area's population.

San Leandro and Hayward follow Berkeley and Oakland's topographic profile and include flat districts close to the Bay with hilly neighborhoods in the east. Ashland, Cherryland, Fairview and San Lorenzo are

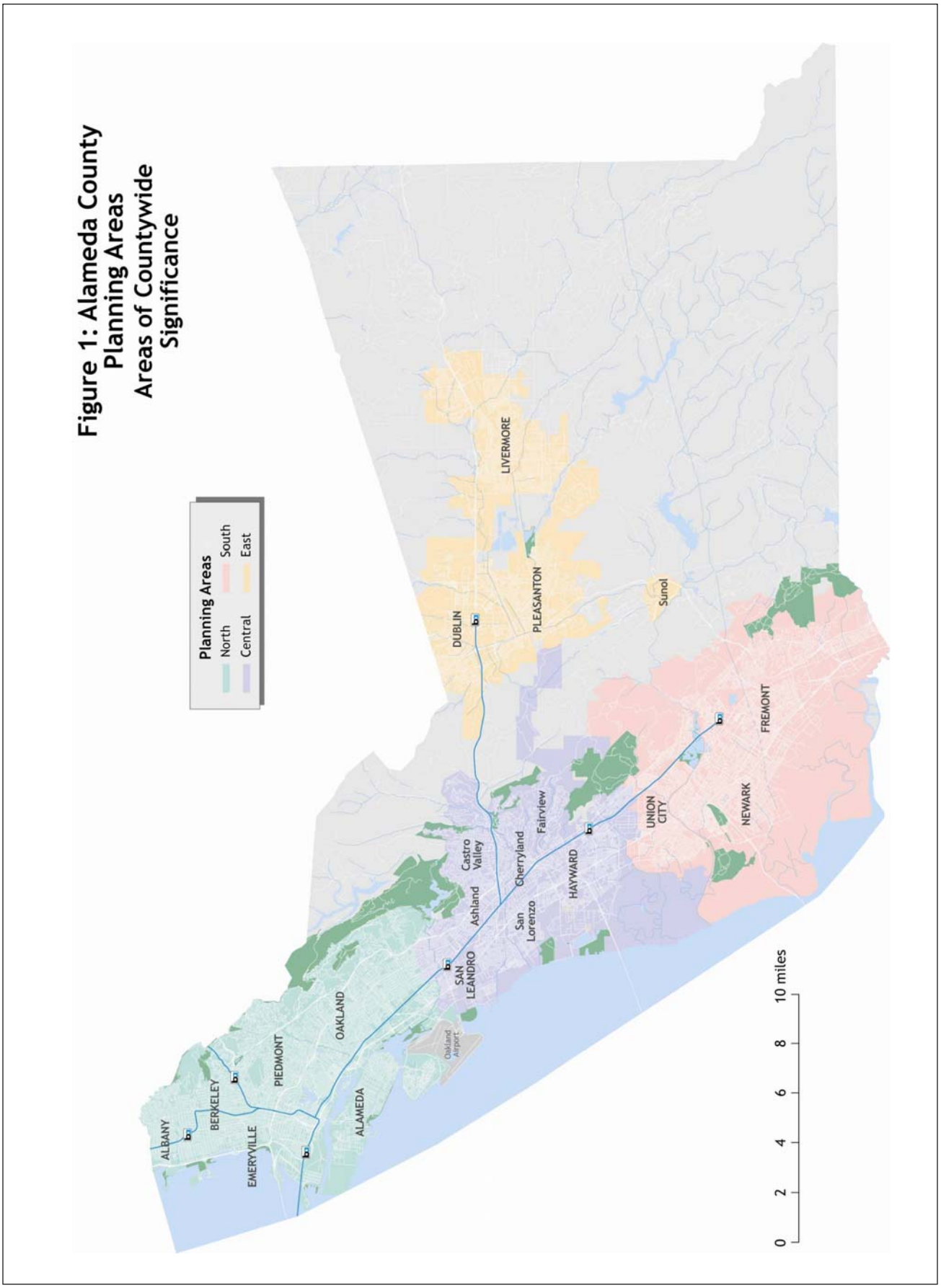


Figure 1: Alameda County
Planning Areas
Areas of Countywide
Significance
Planning Areas
North
South
Central
East
LIVERMORE
DUBLIN
PLEASANTON
Sunol
FREMONT
NEWARK
UNION CITY
HAYWARD
Fairview
Cherryland
San Lorenzo
Castro Valley
Ashland
SAN LEANDRO
Oakland Airport
OAKLAND
ALAMEDA
PIEDMONT
BERKELEY
ALBANY
EMERYVILLE
0 2 4 6 8 10 miles

primarily flat, while Castro Valley is built closer to the eastern hills. San Leandro and San Lorenzo creeks are two of the few Central planning area creeks that have not been contained in underground culverts.

The communities of the Central planning area developed much later than those in the north. Although both of the planning area's cities—San Leandro and Hayward—incorporated in the 1870s, this area was primarily wetlands, farms and grazing land until the post-WWII building boom, mostly resulting in development patterns typical of the time: segregated land uses and a discontinuous local street network. In Hayward and San Leandro, the outcome is pedestrian-scale downtown districts surrounded by predominantly automobile-oriented neighborhoods. Some San Leandro neighborhoods, however, resemble North planning area cities, with a grid street network. Ashland, Cherryland, Fairview, San Lorenzo and Castro Valley are mostly residential communities with no downtown districts, but some small commercial centers.

Although the Central planning area has the second highest average residential gross densities in Alameda County, there are fewer than half as many dwelling units per acre than in the North planning area. Median household income at almost $54,500 is higher than the North planning area's, but still lower than the county average of $56,000. (See Table 2.)

TABLE 2: POPULATION, DENSITY AND DEMOGRAPHICS (Year 2000)

AREA	POPULATION	DWELLING UNITS (DU)	POPULATED AREA (ACRES)	POPULATED AREA* (MI^2)	GROSS DENSITY** (DU/AC)	MEDIAN INCOME	CAR-FREE HOUSEHOLDS
North Planning Area	608,757	251,408	52,480	82	4.8	$44,889	17.1%
Central Planning Area	353,858	122,917	72,448	113	1.7	$54,433	6.9%
South Planning Area	312,745	101,479	70,336	109	1.4	$74,777	4.7%
East Planning Area	168,381	60,953	71,040	111	0.9	$81,857	4.4%
Populated Alameda County	1,443,741	536,757	266,304	416	2.0	$55,946	10.9%
Alameda County TOTAL	1,443,741	536,757	471,680	737	1.1	$55,946	10.9%
Regional Total/Average	7,039,362					$62,024	9.9%

Source: 2000 U.S. Census and Existing Land Use in 2000: Data for Bay Area Counties, Association of Bay Area Governments.

** Populated area is defined here as the combined acreage—both urbanized and non-urbanized—of the cities and the populated unincorporated communities within each planning area. Although this number includes the non-urbanized areas within the cities and unincorporated communities, it does not include the non-urbanized unincorporated areas outside of the borders of these areas. Unfortunately, the urbanized acreage alone of each planning area is not available. (Note: The TOTAL area of Alameda County reported under the two area columns is the total area, and is not limited to the populated areas.)*

*** The gross density of an area is calculated by dividing the number of housing units in that area by the area's populated acreage. Ideally, gross density would be calculated using the urbanized acreage only. However, as stated in the footnote above, this data is not available. Net density—a common measure of a community's walkability—would go further to exclude certain uses from the area's acreage, such as roadways and urban public spaces. While the gross densities shown may be used to compare the relative density of one planning area to another, they should not be confused with net densities.*

South Planning Area

The South Planning area comprises Newark, Union City and Fremont. Union City and Fremont are similar to the other large and medium-sized cities in the North and Central planning areas in that they are primarily flat, but include steep neighborhoods along their eastern borders. Newark, located entirely on the west side of I-880 and bordered by Fremont and the Bay, is completely flat. Dry Creek and Alameda Creek flow from the eastern hills west to the Bay. Due to its location much farther from the mouth of San Francisco Bay, temperatures in the South planning area are much higher than they are in the North and Central planning areas.

Newark, Union City and the communities of Centerville, Niles and Irvington began developing around the same time that Hayward and San Leandro were incorporating, in the 1870s, but did not incorporate into the South planning area's three cities until the mid-to-late 1950s. The resulting land use pattern includes small, pedestrian-scale districts at the sites of the original communities, and primarily automobile-oriented development elsewhere, characterized by long blocks of higher-speed traffic, cul-de-sacs, and segregated land uses. As described in the *Future Pedestrian Improvements* section, development patterns are changing in Fremont and Union City, as these cities strive to create transit- and pedestrian-oriented communities. In Fremont, an increasing number of higher density housing developments are being constructed in the 15-30 units per acre range and Union City's Intermodal Station plans call for 40-80 units per acre.

Fremont is the second largest city in Alameda County, with a population of over 200,000. About twenty percent of Alameda County residents live in the South planning area, which comprises almost thirty percent of the County's land area. Average gross densities are consistent among Fremont, Union City and Newark: 1.4 to 1.5 dwelling units per acre, well below the County average of 2.0. Median income in this planning area is the second-highest in the county ($75,000) and fewer than five percent of households have no automobile, less than half the County average of 10.9 percent.

> The South planning area has small, pedestrian-scale districts at the sites of the original communities, and primarily automobile-oriented development elsewhere.

East Planning Area

The East planning area—the Alameda County portion of the area known as the "Tri-Valley"—includes Dublin, Pleasanton, Livermore and the unincorporated hamlet of Sunol. This area is primarily flat, with a number of canals and arroyos, and is surrounded by rolling hills. Summertime temperatures here are the highest in Alameda County, due to the region's distance from the cooling influence of San Francisco Bay.

A primary difference between the East and South planning areas is that, while the original settlements in the south were in a number of small districts, Pleasanton and Livermore grew outward from a single downtown in each city. The results in this planning area are pedestrian-scale downtowns, both of which have or were undergoing a walkability renaissance, as of early 2006. Dublin has plans to create a walkable downtown core, although none exists today. Outside of these downtown areas and the vicinity of the Dublin/Pleasanton BART station, the East planning area—like the South—is primarily characterized by long blocks, wide, fast-moving arterials, and segregated land uses.

The two largest cities in the East planning area—Pleasanton and Livermore—have unique development histories in that both were farming communities that incorporated in the mid- to late 1800s, but did not see most of their development until a century later. Dublin incorporated in 1982, the last Alameda County city to do so. Sunol, a "census-designated place," covers over 30 square miles—greater than Dublin's land area—but is home to fewer than 400 families. East planning area communities have a combined population of 170,000 and land area of 111 square miles, making this the smallest planning area in terms of population, but nearly the largest in terms of area. Gross densities range from 0.02

units per acre in Sunol to 0.5 units per acre in Dublin to 1.7 in Pleasanton and Livermore, all well below the County average. As described in *Future Pedestrian Improvements* section, Dublin, Pleasanton and Livermore are increasing their supply of higher density housing.

East planning area annual median income is the highest in the county, over $80,000, and like the South planning area, fewer than five percent of households have no automobile.

The Pedestrian Environment

Purpose

To describe the physical aspects of the County's 14 jurisdictions and unincorporated communities that influence how safe, convenient, accessible, and pleasant each area is for pedestrians.

Key Findings

1. There are opportunities to walk in every city in Alameda County.
2. Communities within each planning area tend to have similar pedestrian environments.
3. Cities in the North and Central planning areas are more walkable in general than those in the South and East.

This section describes the physical aspects of the jurisdictions within each of the four planning areas—such as sidewalks, crossings and physical barriers—that influence how safe, convenient, accessible, and pleasant each area is to pedestrians. Infrastructure needs, as identified by city staff, are also described.

Because this document provides a countywide view of the pedestrian environment in jurisdictions throughout Alameda County, this section does not itemize local conditions in detail, as a local pedestrian master plan would. In mid-2006, ACTIA conducted a survey of local jurisdictions in Alameda County which showed that there is a local need of upwards of $940 million in pedestrian improvements, including new and repaired sidewalks, new and upgraded curb ramps, pedestrian signal improvements (such as pedestrian signal heads, audible signals and countdown signals), and trail and pathway improvements. Please note that this figure does not include needs in the City of Berkeley—which is in the process of developing comprehensive curb ramp, sidewalk and crosswalk inventories—and that each agency used a different methodology to calculate local costs. See Appendix C for a breakdown of the data provided.

> There are opportunities to walk in every Alameda County city, and in many neighborhoods distances are short enough to allow walking to school, the grocery store, the library, the park.

The environment is most conducive to walking in the North planning area and in older downtown areas elsewhere in the County. However, there are opportunities to walk in every Alameda County city. In many neighborhoods, distances are short enough to allow walking to school, the grocery store, the library, the park. Particularly in the South and East planning areas, these trips are rarely made on foot due to high summertime temperatures, frequent wide arterials, and development patterns that segregate land uses, sometimes with walls and fences. As discussed in *Future Pedestrian Improvements*, plans are in the works to make many of these areas more inviting to pedestrians.

North Planning Area

In general, jurisdictions in the North planning area have continuous sidewalks, although the majority were built before standards calling for five feet of clear width were instituted. In places, telephone poles, tree wells, sign posts and other obstructions block sidewalk access, which is inconvenient for most pedestrians and unsafe for wheelchair users and those pushing strollers. On average, road crossings are easier than in other parts of Alameda County, due to narrower arterials, slower

traffic, and improved pedestrian crossing facilities, such as countdown signals.

Berkeley, Oakland and Piedmont have extensive pathway and stairway networks, originally built to access transit. They provide pedestrian shortcuts, interesting walking opportunities, and a safe place to walk in hilly neighborhoods that often lack sidewalks.

Nearly half of all of Alameda County's disabled population lives in the North planning area. The City of Berkeley, in particular, has been an international pioneer in the field of accommodating people with disabilities and in disability rights. Berkeley was one of first cities in the nation to make improvements to sidewalks and crossings for people with disabilities. Many of the facilities that help create a good pedestrian environment are even more important for those with impaired vision or mobility than for able-bodied pedestrians.

Cities in the northern part of Alameda County typically have both narrower and slower streets than those found elsewhere in the County. Even San Pablo Avenue, Telegraph Avenue and International Boulevard, the area's primary inter-jurisdictional arterials, have only two lanes of traffic in each direction, frequent median refuge islands and curb-to-curb cross-sections of about 75 feet in most segments. Although this is a long distance for some to cross, it is less than the 100-foot (or more), six-lane crossings frequently found in the South and East planning areas.

Countdown traffic signals (which let pedestrians know how many seconds are left to cross the street), flashing crosswalks, high-visibility pedestrian crossing signs, and lengthened pedestrian signal phases are used in locations throughout the North planning area.

Due to its development before the advent of post-WWII automobile-oriented design, most blocks in the North planning area are short compared to those found in the South and East planning areas. Although this translates into frequent crossing opportunities, it also creates a need for more ADA-accessible curb ramps.

With the exception of Emeryville, North area jurisdictions primarily cite sidewalk maintenance and code-compliant curb cuts as their highest pedestrian infrastructure needs. Emeryville's stated highest pedestrian-related infrastructure needs are the construction of three multi-use paths: the Emeryville Greenway, and pedestrian/bicycle bridges over I-80 near Ashby Avenue and over the Amtrak tracks near the Bay Street mixed-use development.

According to staff in North planning area cities, the Union Pacific/Amtrak railroad tracks and Interstate 80/880 pose the most formidable crossing barriers in Albany, Berkeley, Oakland, and Emeryville, while the City of Alameda's island status—and the extremely narrow Posey Tube path—challenge pedestrians trying to reach Oakland from the west end of the main island. The significant number of freeways in Oakland creates a large barrier to walking safety and access throughout the City. Other barriers to pedestrian travel in the North planning area include the perception of crime, older sidewalks that can pose a tripping hazard, and obstruction of sidewalks by unmaintained trees and shrubs.

Case Studies

Berkeley Path Wanderers Association

The Berkeley Path Wanderers Association is dedicated to the creation, preservation and restoration of public paths, steps and walkways in Berkeley for the use and enjoyment of all. The Association publishes a map of Berkeley's system of 136 paths.

Marin Avenue Road Diet

In an attempt to slow vehicular traffic, improve pedestrian crossing safety, improve bicycle and motor vehicle safety, and reduce conflicts between moving traffic and parking vehicles, in 2005, the cities of Albany and Berkeley reconfigured Marin Avenue, from San Pablo Avenue to The Alameda. The project, which entailed restriping the street from four lanes to two plus a center turn lane, will undergo a one-year trial phase, at which point the project's effectiveness will be evaluated by both cities.

Pole-Mounted Radar Speed Signs

The City of Alameda has installed six permanent pole-mounted radar speed signs to remind drivers to respect posted speed limits. The signs indicate the approaching driver's speed, which flashes if it exceeds the limit. Signs were installed in the vicinity of a school, a neighborhood commercial area, and a curve in the road where visibility is somewhat limited. The City is in the process of collecting data to analyze the signs' effectiveness, but anecdotal evidence indicates that the signs are having a positive impact.

Central Planning Area

A range of sidewalk conditions are represented in the Central planning area. San Leandro staff noted that, although there is a complete network of sidewalks, the City could be more conducive to walking by having wider and better-lit sidewalks and by having more shade trees. Hayward staff report some roadways without sidewalks and cite the need to inventory and install new sidewalks, particularly near schools. The unincorporated areas of the County have the biggest gaps in their sidewalk network, and County staff are working to close them, especially in the vicinity of schools.

Roadway crossings can be difficult in the Central planning area due, in part, to wider arterials with faster speeds. The presence of fewer pedestrians than in the northern jurisdictions also contributes to potential crossing hazards because motorists are less accustomed to seeing them.

Many pedestrian-scale neighborhoods are found in the central part of Alameda County. These neighborhoods are often surrounded by wide arterials carrying fast-moving traffic, making crossings difficult and in some cases, unsafe. San Leandro, Hayward, and the County are installing pedestrian countdown signals, flashing crosswalks, bulbouts, and other pedestrian facilities to improve the safety of these crossings. Local planners and traffic engineers throughout the Central planning area also cite the Union Pacific railroad tracks as a physical barrier to pedestrians, particularly those traveling in wheelchairs.

San Leandro is including wider sidewalks, street trees and improved lighting in all new Capital Improvement Program (CIP) projects, whenever possible. Hayward is encouraging walking from store to store by requiring new commercial buildings to be located with storefronts

facing the street, and parking in the rear. Upcoming development in the downtown will be designed in this way. New sidewalks and other pedestrian improvements have recently been installed in the vicinity of a number of schools in the unincorporated communities of Ashland and Cherryland.

To mitigate the effect of warm summertime temperatures on pedestrians in this area, the planting of street trees is also a priority. Interestingly, although the U.S. Census reports that ten percent of the Central planning area's population is disabled—amounting to over 34,000 individuals—staff did not cite curb ramps, truncated dome ramp texturing or other features to assist people with disabilities as a priority, perhaps indicating that the jurisdictions in this planning area have done a good job of providing such facilities.

South Planning Area

Built primarily in the post-WWII era, South planning area streets were constructed with ample right-of-way for wide travel lanes, parking and sidewalks. With the exception of some of the industrial areas, most roadways in this planning area have adequate sidewalks; however, crossing wide arterials can be challenging. Residential cul-de-sacs lengthen the distance that pedestrians must walk, although Newark has a number of sidewalk short-cuts that allow pedestrians to access adjacent streets directly.

Although built with sidewalks, the roadway network in the South planning area has sometimes been designed to facilitate automobile movement at the expense of pedestrians. For instance, staff report that a number of intersections have only three marked crosswalks to prevent pedestrians from impeding high-volume left turns. This situation sometimes requires pedestrians to cross three streets rather than one, increasing their travel time and exposure to collisions.

> With the exception of some of the industrial areas, most roadways in the South planning area have adequate sidewalks; however, crossing wide arterials can be challenging.

With the exception of the original communities of Newark, Union City, Centerville, Niles, Irvington, and Mission San Jose, and an assortment of trail opportunities, pedestrians in the South planning area face an environment that was built primarily for the automobile. Additional challenges to walking include hot summertime temperatures and a dearth of street trees, fast-moving traffic, and a development pattern that often locates shops and other businesses at the rear of large parking lots, far from residential areas.

According to local transportation engineers and planners, the predominant pedestrian infrastructure needs in this planning area are curb ramp upgrades and ongoing sidewalk maintenance. Interstate 880 is a more significant barrier to pedestrians, bicyclists and even motorists in Union City than in other parts of the County because only one road (Alvarado-Niles Road) crosses the freeway to provide access between the east and west parts of town. There are also a number of active railroad tracks with limited crossing opportunities that traverse the South planning area, which create particular hazards for pedestrians.

East Planning Area

Sidewalks in East planning area cities, like those in southern Alameda County, are generally adequate, although crossing major arterials with multiple lanes of fast-moving traffic often makes the pedestrian environment less than hospitable. All new development is required to build sidewalks, with the exception of rural Sunol, which lacks them on many roadways. This planning area experiences the highest summertime temperatures in Alameda County. City staff identified a lack of street trees, as well as the spread-out nature of development, as the two primary barriers to walking.

Outside of the original (and thriving) downtown districts of Pleasanton and Livermore, the East planning area's building placement and roadway system are similar to

what is found in the south planning area. However, the trail network is more extensive than perhaps anywhere in Alameda County. (The County's only three local trail plans were written for Dublin, Pleasanton and Livermore.) Local agency staff identify Interstates 580 and 680, and the Union Pacific Railroad tracks as three of the major barriers to pedestrian travel in Dublin, Pleasanton, and Livermore.

As Livermore continues to grow, staff cite keeping up with and implementing curb ramp standards as a constant challenge. The pedestrian emphasis in Dublin, Pleasanton and Livermore is focused on the downtown areas, their trail network, and ensuring the walkability of new development.

Walking to Public Transit

Purpose

To describe bus, rail, and ferry service in Alameda County; to illustrate the quality of pedestrian access to public transit facilities throughout the County; and to document rates of walk access to bus and rail in each planning area.

Key Findings

1. In Alameda County, 90 percent of AC Transit bus passengers and 22 percent of BART passengers reach transit on foot.
2. The ability to reach public transit service on foot is an essential requirement for walking to be a true travel choice.
3. Improving walk access to bus stops and rail stations is a priority for the primary Alameda County transit operators, AC Transit and BART.

This section discusses walking to public transit throughout Alameda County. Bus stops, rail stations and, to a lesser extent, ferry terminals throughout the County are common pedestrian destinations. The ability to reach public transit service on foot is an essential part of the pedestrian experience because, by walking to buses, trains and ferries, pedestrians can travel far beyond their typical range. This is important for those, including people with disabilities, who prefer to travel without an automobile, as well as for those who have no choice. Improving walk access to bus stops and rail stations is a priority for the primary Alameda County transit operators—AC Transit and BART. Both agencies have recently published reports reinforcing the importance of pedestrians to the growth and success of their transit services. Like trails, pedestrian transit access involves agencies other than local jurisdictions—agencies with needs, design standards, and in some cases, funding streams of their own.

> The ability to reach public transit service on foot is an essential part of the pedestrian experience because, by walking to buses, trains and ferries, people can travel far beyond their typical range.

While there are an estimated 520,000 walk trips for various purposes in Alameda County each weekday,[2] there are another 190,000 walk trips to and from AC Transit[3] bus stops and 12,000 to BART stations.[4] In addition, there are many thousands more walk trips to and from BART stations since the 12,000 figure captures only walk trips from home to Alameda County BART stations, but not other trips such as between BART and UC Berkeley, downtown Oakland destinations, and commuters' homes. (Since the smaller transit operators do not collect access mode information, and their combined ridership is a fraction of BART and AC Transit's, this analysis focuses on information provided by AC Transit and BART.)

[2] San Francisco Bay Area Travel Survey 2000, Regional Characteristics Report, MTC, 2004. See Table 6 for more detail.

[3] 2002 AC Transit Passenger Survey.

[4] BART Station Profile Study, August 1999.

This section begins with an overview of the seven public transit agencies that serve Alameda County. Then, walking rates to AC Transit and BART are discussed, as well as the qualities of good transit access. Next is an overview of walk access to transit in each planning area, including transit-oriented development (growth designed to capitalize on proximity and orientation to public transportation facilities). Future plans for station improvements aimed at increasing the share of people accessing transit on foot is covered in the *Future Pedestrian Improvements* section of this chapter.

AC Transit

AC Transit operates local buses within and transbay service from Alameda County, with the exception of the Tri-Valley area. The five corridors with the highest ridership and most frequent service—known as "trunklines"—primarily travel north/south through the flatlands of Albany, Berkeley, Oakland, Alameda, San Leandro and Hayward:

- San Pablo Avenue from Downtown Oakland to Albany and beyond
- International Blvd./E. 14th St from Downtown Oakland to Hayward
- Bancroft/Foothill/Shattuck/Telegraph from San Leandro to Berkeley
- Macarthur/40th St. from San Leandro and East Oakland to Emeryville
- University/College/Broadway in Berkeley/Oakland to Santa Clara St. in Alameda

In addition, the agency provides service to Union City, Newark and Fremont, commuter service into San Francisco, and operates feeder service in other neighborhoods throughout Alameda County.

> In Alameda County, 90 percent of AC Transit bus passengers and 22 percent of BART passengers reach transit on foot.

AC Transit has over 3,000 pairs of bus stops in Alameda County, with 106,000 daily linked trips. (A linked trip can include one or more transfers.) On-board passenger surveys show that 90 percent of AC Transit passengers walk to their first bus stop, which accounts for 95,000 of these trips.[5]

Table 3: Public Transit Operators in Alameda County

Operator	Service Area
Alameda-Contra Costa Transit District (AC Transit)	Alameda County (with the exception of the Tri-Valley), Contra Costa County and San Francisco
Alameda/Oakland Ferry	Oakland and the City of Alameda to San Francisco
Altamont Commuter Express (ACE)	Tri-Valley and Fremont to the San Joaquin Valley and San Jose
Amtrak's Capitol Corridor	Berkeley, Emeryville, Oakland, Hayward, Fremont to Sacramento and San Jose
Bay Area Rapid Transit (BART)	Berkeley, Oakland, San Leandro, Hayward, Union City, Fremont, Castro Valley, and Dublin/Pleasanton to San Francisco, Contra Costa County, and the San Francisco Peninsula
Dumbarton Express	Union City, Fremont and Newark to the San Francisco Peninsula
Emery Go Round	Emeryville
Harbor Bay Ferry	City of Alameda to San Francisco
Union City Transit	Union City
Wheels	Dublin, Pleasanton and Livermore

[5] Fiscal year 2002/03 Federal Transit Administration Section 15 Report Ridership data and 2002 AC Transit Passenger Survey data. There are 180,000 weekday unlinked trips in Alameda County, which translates to 106,000 weekday linked trips, based on the system's average number of transfers.

Alameda/Oakland and Harbor Bay Ferries

The Alameda/Oakland Ferry carries commuters and tourists from Oakland's Jack London Square and the City of Alameda's Gateway terminal to San Francisco. A proposal is being considered to move the Gateway terminal to Alameda Point. Harbor Bay service also travels between Alameda and San Francisco, leaving from a terminal on the west side of the island. At present, these three are the only ferry terminals in Alameda County; however, plans are being developed to recommence service from Berkeley.

Altamont Commuter Express (ACE)

The Altamont Commuter Express, as its name implies, is primarily a commuter rail service, which operates six trains—three westbound morning trains and three eastbound evening trains—from Stockton and Manteca through Alameda County and south to San Jose. ACE has two stops in Livermore and one each in Pleasanton and Fremont.

Amtrak's Capitol Corridor

Capitol Corridor rail service operates between Sacramento and San Jose and has stops in Berkeley, Emeryville, Oakland, Hayward and Fremont. This service is provided by a partnership of Amtrak, BART and other agencies.

BART

The Bay Area Rapid Transit District—the region's primary rail service—operates trains throughout the central Bay Area, including service to Berkeley, Oakland, San Leandro, Hayward, Union City, Fremont, Castro Valley and Dublin/Pleasanton. BART's 1999 Station Profile Report (the most recent information source available) reports that walking is the second most common method of reaching BART from home (at 22 percent, countywide), although this rate varies widely from 57 percent at the Downtown Berkeley station to one percent at Dublin/Pleasanton.

Dumbarton Express

Dumbarton Express provides commuter express bus service over the Dumbarton Bridge from Union City, Fremont and Newark to the San Francisco Peninsula. Additional rail service is planned to complement these buses via the Dumbarton rail bridge.

Emery Go Round

The Emery Go Round is a free shuttle, which carries 2,500 riders daily to Emeryville from MacArthur BART and Emeryville Amtrak train stations. Buses run every day, with a frequency of 10-12 minutes during weekday commute hours, and serve employment centers, shopping destinations, and residential areas.

Union City Transit

The City of Union City operates a small bus system that provides local access to AC Transit, BART and Dumbarton Express, with most transfers occurring at the Union City BART station. Union City Transit carries approximately 1,500 passengers per day.

WHEELS

WHEELS is the primary bus operator in the eastern portion of Alameda County. Its primary route carries 3,500 daily passengers to the Dublin/ Pleasanton BART station from Livermore, Pleasanton and Dublin. System-wide, it carries approximately 6,000 passengers. WHEELS is operated by the Livermore Amador Valley Transit Authority (LAVTA).

Paratransit

In addition to these fixed-route operators, East Bay Paratransit provides transportation service to seniors and people with disabilities in the North, Central and South planning areas and serves the Dublin/Pleasanton BART station in East County. LAVTA and Union City Transit also provide specialized transportation for these populations within their respective service areas. Most cities in Alameda County provide complementary city-based paratransit, as well. The presence of these services gives disabled people a transportation option if walking or rolling to public transit is infeasible.

Walk Access to AC Transit

AC Transit's 2002 passenger surveys show that 90 percent of riders walk to their first bus stop. This figure is remarkably consistent throughout the agency's service area, in part because three-fifths of AC Transit passengers are transit-dependent, meaning that they do not have access to a car for that trip. In addition to AC Transit passengers' low auto ownership rates, the relative number of bus stops versus BART stations in Alameda County (3,000 pairs versus 19) is among the reasons why the walking rate for AC Transit access is so much higher than for BART. Alameda County residents are much more likely to live within walking distance of a bus stop than a BART station. Additionally, parking at bus stops is very limited, except for a few stops in the South and Central planning areas that are located at commuter park-and-ride lots.

Transit Streets

Transit streets are designated by local jurisdictions as priority bus routes where streetscape improvements and projects to reduce traffic congestion should not come at the expense of impeding bus service. Many designated transit streets are, in fact, historic transit (streetcar) routes, and therefore provide direct access to commercial centers. The cities of Berkeley and Oakland have designated a network of transit streets and the City of Alameda is considering doing so as they update their street classification system. To strengthen transit streets, cities are also making efforts to support infill development along these corridors.

Bus Rapid Transit

Bus Rapid Transit (BRT) incorporates rail-like features to provide faster, more convenient service than is usually offered by conventional buses. These features include frequent runs, widely spaced stops, upgraded shelters with electronic bus arrival information and fare-vending machines, low-floor buses with multiple doors, traffic signal priority for buses and—where right-of-way is available—bus-only lanes or queue-bypass lanes at intersections.[6]

AC Transit is planning BRT on Telegraph Avenue, International Boulevard and East 14th Street in northern and central Alameda County. Because BRT bus stops would primarily be located in the center median of these busy arterial roadways, BRT development presents an opportunity to strengthen the concept of transit streets (see information at left) by using BRT investment in pedestrian crossing facilities to address pedestrian safety, thus transforming these streets into pedestrian-oriented corridors. Such improvements would be unlikely to otherwise occur due to the high cost.

[6] East Bay Bus Rapid Transit: Designing State-of-the-Art Transit Service for the Future, AC Transit, 2005

Case Study

Webster Street Renaissance Project, City of Alameda

AC Transit operates frequent bus service on Webster Street in the City of Alameda. In an effort to improve bus operations and pedestrian access to buses on this trunkline, the City worked with AC Transit to design and construct a number of streetscape improvements, including elevated transit plazas, which allow bus riders to enter and exit the bus more easily, mid-block plazas to provide additional seating areas, corner extensions to reduce intersection crossing distances, as well as new trees, landscaping, street furniture and lighting.

The goal of these changes is to make bus stops feel more like light rail stops (thus increasing ridership), to bring disabled passengers up to bus floor level, and to add to the aesthetics and interest of Webster Street. Since some of the design elements do not conform to Caltrans standards, the City worked with Caltrans to remove a portion of Webster Street from the state route system.

Walk Access to BART Stations

Walking is the second-most common method of reaching a BART station, after driving. Of those accessing stations in Alameda County, 22 percent walked (compared to 26 percent for stations system-wide),[7] a far higher rate than the countywide walk rate for all trips of 12 percent. As might be expected, this rate varies greatly among BART's 19 Alameda County stations. Table 4 shows that the Downtown Berkeley station, for instance, had a 57 percent walking share, whereas just one percent of passengers going to the Dublin/Pleasanton BART station walked.

[7] BART Station Profile Study, August 1999

Table 4: BART Alameda County Walk Access Trips

BART Station	Total Home-Based Entries	Percent who Walked	Number who Walked
North Planning Area	**34,180**	**29%**	**9,810**
North Berkeley	2,549	30%	765
Downtown Berkeley	3,098	57%	1,766
Ashby	2,755	46%	1,267
MacArthur	3,685	27%	995
19th Street	2,082	49%	1,020
12th Street	3,956	29%	1,147
West Oakland	3,116	11%	343
Rockridge	3,052	32%	977
Lake Merritt	2,104	32%	673
Coliseum	2,576	7%	180
Fruitvale	5,207	13%	677
Central Planning Area	**12,894**	**15%**	**1,876**
San Leandro	3,177	18%	572
Bay Fair	3,393	14%	475
Hayward	2,656	15%	398
South Hayward	2,116	13%	275
Castro Valley	1,552	10%	155
South Planning Area	**5,555**	**9%**	**517**
Union City	2,409	11%	265
Fremont	3,146	8%	252
East Planning Area	**3,119**	**1%**	**31**
Dublin/Pleasanton	3,119	1%	31
COUNTYWIDE	**55,748**	**22%**	**12,234**

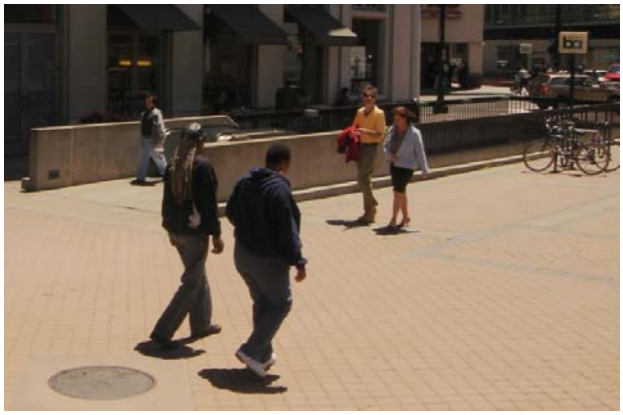
Source: BART Station Profile Study, August 1999

Improving Walk Access

Given that parking lots at most BART stations are full by 8:00 am and that new, structured spaces cost on the order of $30,000 apiece to construct, in 2000 BART developed system-wide access targets that call for a shift in access modes toward walking, biking, and transit. Toward that end, the agency recently completed a study of the nine stations between Lake Merritt and Fremont, investigating the question of what factors influence an individual's

decision to reach BART on foot.[8] The study concludes, "Land use and parking will be the largest determinants of how people choose to access BART. Some of the many land use attributes which would contribute to BART ridership include:

- Clustered development;
- A mix of uses;
- Higher densities with more people living/working near BART; and
- A fine-grained street network allowing people to easily walk or bicycle to the station."



Like walking to the bus, an inviting walk to BART or other rail stations or ferry terminals does not require further infrastructure than that found in an average walkable community. Exceptions to this rule include way-finding signs and sidewalks that provide pedestrians safe and convenient access that avoids parking lots. Please see *Future Pedestrian Improvements* for a discussion of BART's plans to improve and increase walk access to Alameda County stations.

Two refurbished Alameda County BART stations—Hayward and Fruitvale—provide excellent examples of how land use and streetscape improvements can transform the pedestrian environment, making it much easier, safer and more pleasant for passengers to walk to the train.

Hayward BART

After the Loma Prieta earthquake, Hayward City Hall relocated to temporary accommodations outside of the downtown. In the early 1990s, the City of Hayward was considering moving City Hall back downtown. Plans included a vibrant and walkable downtown, including a new City Hall, housing and retail opportunities. However, the BART parking lot stood on the land viewed as the logical pedestrian connection to BART.

The City eventually obtained the property, built a pedestrian plaza, and added two stories to the existing BART garage to replace the original lot. While all of the downtown development has not yet occurred, the redevelopment of the downtown and the associated streetscape improvements have enhanced the image of downtown Hayward, and have promoted walking.

Fruitvale BART

The Fruitvale BART station is just two blocks from International Boulevard, the heart of Oakland's Fruitvale commercial district. The primary impediment to walking between International Boulevard and the Fruitvale BART station has historically been conflicts with vehicular traffic along surrounding corridors, and an inability to visually see the connections between the shopping district and the station.

After fifteen years in the planning, major construction was completed at the Fruitvale Transit Village in 2004. The new transit village is centered on a pedestrian plaza that is lined with small shops and restaurants extending from International Boulevard to the BART station. In addition, the City of Oakland has improved pedestrian crossing conditions on International Boulevard, and other

[8] BART, A-Line Study Final Report, September 2005

local arterials with the installation of bulbouts, refuge islands, and other streetscape improvements. Further improvements are needed to address safety concerns of BART passengers entering the Fruitvale station from the north and west.

Walk Access to Transit in each Planning Area

North Planning Area

The North planning area has the most frequent and dense transit service in Alameda County. Although AC Transit serves the North, Central and South planning areas, the majority of its service is concentrated in the north. Bus stops tend to be most closely spaced here and AC Transit's five primary corridors (or "trunklines") either pass through or are wholly within this planning area. Almost all residential areas in the North planning area are within one-quarter mile of a bus line, except for some hill locations.[9]

Many of the AC Transit lines converge in downtown Oakland, reflecting the historic streetcar development pattern. AC Transit lines typically serve the eighteen BART stations in its service area, of which eleven are in the North planning area. Forty-five percent of AC Transit customers ride on these BART-serving routes.

[9] AC Transit GIS data.

Not surprisingly, more passengers travel to and from the North planning area as well: of the Alameda County bus stops with 500 or more weekday boardings and alightings, almost three-quarters are in the North planning area.[10]

All five of the BART system's lines serve the North planning area. On average, 29 percent of BART passengers in the North planning area walk to the station, compared to a countywide average of 22 percent. (See Table 4.)

The North planning area is home to four Capitol Corridor stations, Berkeley, Emeryville, and two stations in Oakland: Jack London Square and Coliseum BART. This is the only planning area in the County with ferry service: the Oakland/Alameda and Harbor Bay ferries which both serve San Francisco. The regional Water Transit Authority has plans to initiate service from Berkeley in 2010.

Central planning area

AC Transit is the primary bus operator in the Central planning area. Three of the system's five trunklines serve locations such as the area's BART stations, Cal State University, East Bay and major shopping centers. Almost all residential areas in the Central planning area, except for some hill locations, are within one-quarter mile of a bus line.[11] Five of the system's most heavily used bus stops—at the four BART stations and the University—are in the Central planning area, including three of the top ten.

There are five BART stations in the Central planning area, two in each of the incorporated cities, San Leandro and Hayward, and one in unincorporated Castro Valley. On average, 15 percent of BART passengers walk to access these stations. The Capitol Corridor has one station in the Central planning area, located in Hayward.

South Planning Area

Due to its proximity to Silicon Valley, the South planning area is served by a greater number of transit agencies than the rest of Alameda County, but this service is primarily limited to commute hours. ACE and the Capitol Corridor serve the Fremont's Centerville station,

[10] Personal communication, AC Transit, 10-3-05

[11] AC Transit GIS data.

with future plans to serve the Union City Intermodal Station. Dumbarton Express operates buses between Union City, Newark, Fremont and employment centers on the Peninsula. Union City Transit provides feeder service to AC Transit, BART, and Dumbarton Express and has a daily ridership of approximately 1,575 passengers.

AC Transit and BART are the two primary operators in the South planning area. Three of the 43 AC Transit bus stops with 500 or more weekday boardings and alightings are in this area: Union City BART, the intersection of Fremont & Mowry, and Ohlone College. Although there are bus lines within one-quarter mile of most South planning area residents,[12] AC Transit reports that somewhat fewer AC Transit passengers walk to the bus here than elsewhere in the County. The number of free park and ride lots, lower residential densities, wider bus stop spacing, and other impediments such as subdivision walls that force would-be passengers to walk circuitous routes are all responsible for these lower walk access rates.

There are BART stations in Union City and Fremont, with a planned extension to southern Fremont that may eventually extend into Santa Clara County. Nine percent of South planning area BART passengers reach the station on foot, compared to the countywide average of 22 percent.

East Planning Area

With the exception of paratransit trips to the Dublin/ Pleasanton BART station, the East planning area is the only portion of Alameda County that is not served by AC Transit. Livermore Amador Valley Transit Authority (LAVTA) operates WHEELS, a fixed-route bus service in Dublin, Pleasanton and Livermore, which in 2000 carried approximately 6,000 passengers per day. LAVTA does not collect mode-of-access information.

The ACE train serves Livermore and Pleasanton. In 2006, there was one BART station (Dublin/Pleasanton) in this planning area, which approximately one percent of BART passengers accessed on foot. Transit-oriented development projects are being planned for both sides of this BART station, in the cities of Dublin and Pleasanton. In addition, a new station in west Dublin is being planned, funded in a unique public/private partnership.

Inter-Jurisdictional Trails

Purpose: To inventory paved inter-jurisdictional trails in Alameda County and to describe plans to extend and close gaps in the County's major trail systems.

Key Findings:

1. Trails can provide: a means to reach destinations that are otherwise inaccessible; an alternative route to congested roadways; and an environment to walk for physical activity and to be closer to nature.
2. The major trail systems in the County are the San Francisco Bay Trail, which travels along the Bay shoreline through the North, Central and South planning areas, and the Iron Horse Trail in the East planning area, which links the Tri-Valley with Dublin, Pleasanton, and, one day, with Livermore.

Trails are an important component of the pedestrian environment in Alameda County. They can offer a way to reach destinations that are otherwise inaccessible, such as much of the San Francisco Bay shoreline; provide shortcuts through walled residential areas; and allow pedestrians to avoid walking along unpleasant roadways. Although on a multi-use trail pedestrians are more likely to encounter bicyclists and, in some parts of the County, even horses, walking on a trail is often quieter and closer to nature than sidewalk use.

Well-designed, well-sited and well-maintained trails can provide an excellent environment in which to walk for exercise, commute efficiently to work, walk a dog, push a stroller, visit with a friend or simply view the natural

[12] AC Transit GIS data.

surroundings. Trails in Alameda County hug the Bay shoreline, offering incomparable views of the Golden Gate Bridge and San Francisco, airplanes taking off at Oakland International Airport, salt ponds, and shorebirds and other wildlife. Many trails follow the myriad creeks that cross Alameda County on their way to the Bay. Trails follow rail corridors, both abandoned and in operation. And trails can sometimes provide alternate routes across major barriers such as highways.

In addition to many miles of local trails, Alameda County has an abundance of countywide and inter-jurisdictional trails. This section primarily focuses on paved trails that travel through and link urbanized areas in Alameda County, and the plans to extend and close gaps in these major trail systems.

The San Francisco Bay Trail

When completed, the San Francisco Bay Trail will be a continuous 500-mile bicycling and hiking path around San Francisco Bay, including 119 miles along the Alameda County shoreline (called the "spine"), and another 65 miles connecting the Bay Trail to other trails, transit, local destinations, and points of interest along the waterfront (see Table 5). Approximately 112 miles of the ultimate 185 mile Alameda County Bay Trail mileage is already in place, including long continuous segments in Albany, Berkeley, Emeryville, Oakland, Alameda, San Leandro and Hayward. According to the Bay Trail Project's *Gap Analysis Study* (September 2005), it will cost approximately $94 million to design, permit and construct the remaining 72 miles of trail. Approximately $47 million is anticipated to be provided by private developers, or as part of other transportation projects. This leaves an expected funding gap of $48 million.

TABLE 5: PAVED INTER-JURISDICTIONAL TRAIL MILEAGE

San Francisco Bay Trail segments in Alameda County

COMPONENT	EXISTING	PROPOSED	TOTAL	DESCRIPTION
Spine	66.9	52.5	119.4	Main Bay Trail alignment, intended as a continuous recreational and commuter corridor encircling the Bay and linking the shoreline of all nine Bay Area counties.
Connector	23.8	9.8	33.6	Connectors link the Bay Trail to inland recreation sites, residential neighborhoods, employment centers, and public transit facilities, or provide restricted access to environmentally sensitive areas.
Spur	21.8	10.1	31.9	Spurs provide access from the spine to points of natural, historic and cultural interest along the waterfront.
Total	112.5	72.4	184.9	

Source: San Francisco Bay Trail Project, Association of Bay Area Governments

Trails in Alameda County operated and maintained by East Bay Regional Park District*

TRAIL	LOCATION	EXISTING	PROPOSED	TOTAL
Iron Horse Trail	Dublin, Pleasanton, Livermore	5.5	9.0	14.5
Alameda Creek	Fremont, Newark, Union City	12.0	0.0	12.0
Alamo Canal Trail	Dublin, Pleasanton	0.9	0.3	1.2
Tassajara Creek	East Dublin	1.5	1.6	3.1
	TOTAL	19.9	10.9	30.8

Source: EBRPD

Note: This table lists existing, regional, paved, multi-use trails that are operated and maintained by EBRPD and excludes approximately 21 miles of Bay Trail that are within EBRPD parklands and are operated and maintained by the Park District. All of these trails, plus many more, are included in the Park District's Master Plan 1997.

The Gap Analysis Study estimates that it will take up to 15 years to complete the trail through Alameda County. Once completed, the Bay Trail will stretch uninterrupted from the Albany Bulb, past the Berkeley Marina, the future Eastshore State Park, and the Emeryville Marina, provide access to the pathway on the new east span of the Bay Bridge, travel through Jack London Square, providing access to the ferry to San Francisco and the City of Alameda, travel along Crown Memorial State Beach in Alameda, by the San Leandro Marina and the Hayward Regional Shoreline, through Union City, across Alameda Creek, past Ardenwood Historic Farm in Fremont and into the San Francisco Bay National Wildlife Refuge. Bay Trail plans include providing connections to regional transit centers whenever possible, including the Coliseum and El Cerrito Plaza BART stations in Alameda County.

East Bay Regional Park District Trails

East Bay Regional Park District (EBRPD) is a California-designated special district, which functions as the park and recreation agency for Alameda and Contra Costa counties. In Alameda County, EBRPD operates and maintains 41 miles of regional paved multi-use trails (Class 1), approximately half of which is part of the San Francisco Bay Trail, discussed in more detail above. Approximately eighteen of the remaining twenty miles of trail is on the Iron Horse Trail in Dublin and Pleasanton and on the Alameda Creek Trail in Fremont, Newark, and Union City. Short trail segments along the Alamo Canal and Tassajara Creek Trail make up the remaining paved segments in Alameda County. Many more miles of both paved and unpaved regional trails are operated and maintained by local agencies.

Iron Horse Trail

The Iron Horse Trail—built along the alignment of an abandoned railroad right-of-way—travels through central Contra Costa County and the Tri-Valley area, through Dublin to the Dublin/Pleasanton BART station. EBRPD has plans to extend the Trail south through Pleasanton and east through Livermore, and eventually to the San Joaquin County border. In 2006, construction began on an ACTIA-funded one-mile segment in the City of Pleasanton. When complete, the trail will run 35 miles in Alameda County, between the Contra Costa and San Joaquin county lines.

In 1997, the Park District surveyed trail users and people living within two blocks of Iron Horse Trail access points. Overall, two-thirds of respondents use the Trail for recreation, such as exercise or walking a dog, while the remaining third are traveling to work, school and doing errands. One-quarter of those surveyed were walking. Fifty-one percent of mailed surveys were returned and, of those, nearly all reported using the trail, with walking being the most common activity. This finding is consistent with national public health data that shows a high correlation between living near a trail and getting a higher than average amount of physical activity. (See *Walking and Public Health* section of this chapter.) Although all interview sites were in Contra Costa County, EBRPD staff presume that results are relevant for Alameda County Iron Horse trail-users as well.[13]

Alameda Creek Regional Trail

The Alameda Creek Trail follows the historic course of Alameda Creek for twelve miles between the Fremont

[13] *Iron Horse Regional Trail: Trail Use Study*, East Bay Regional Park District, Summer 1997

foothills and the San Francisco Bay and the Bay Trail. This continuous multi-use path also passes by Newark and Union City. (The Creek itself has been diverted to a concrete flood control channel two miles to the south.)

Ohlone Greenway

The Ohlone Greenway runs from near downtown Berkeley, past the North Berkeley BART station, through Albany, to just past the El Cerrito del Norte BART station, with planned links to the San Francisco Bay Trail. The Trail, which was built on BART property after construction of the Richmond BART line and which consists of separate walking and bicycle paths through much of its length, is maintained by the local jurisdictions through which it passes. In 2005, the Safe Routes to Transit program funded the installation of permanent path lighting along the Greenway.

Union Pacific Railroad Right-of-Way

The Union Pacific (UP) Railroad right-of-way between Oakland and Fremont could eventually offer another inter-jurisdictional trail opportunity in Alameda County. This little-used freight corridor is adjacent to BART's aerial tracks and travels through Oakland, San Leandro, Hayward, Union City, and Fremont, terminating at the Fremont BART station. In 2006, MTC, BART and the Joint Powers Board, which operates Caltrain, were jointly developing a Regional Rail Plan to, among other things, determine the best use of this corridor. The Plan will consider if the right-of-way should be preserved for future rail service, if developing it as a trail is a better option or if both options could be implemented. In 2006, Urban Ecology began efforts to advocate for a trail in the BART or UPRR right-of-way.

Case Studies

Ohlone Greenway to Bay Trail Connector

The cities of Albany and El Cerrito (in Contra Costa County) are planning to complete a bicycle and pedestrian trail along Cerrito Creek from the Ohlone Greenway (near the El Cerrito Plaza BART station) to the Bay Trail and Eastshore State Park. In early 2006, the City of Albany was pursuing funding for a trail along Pierce Street to connect the Creek trail to the existing Buchanan Street bicycle/pedestrian ramp that leads to the San Francisco Bay Trail.

Emeryville Greenway

The Emeryville Greenway will eventually be an inter-jurisdictional, combination multi-use path/sidewalk corridor for pedestrians, built adjacent to the increasing amount of residential housing. The Greenway extends from Berkeley's Ninth Street Bicycle Boulevard, and will connect, through the previously constructed Doyle Street portion of the Greenway, to 59th Street, which connects to the Amtrak bicycle/pedestrian overcrossing of the Union Pacific Railroad and Emeryville's commercial areas. In future years, the Emeryville Greenway will lead directly to the Bay Trail access on the new Bay Bridge East Span and to Mandela Parkway in Oakland.

Walking Data

Purpose: To present socio-economic characteristics of Alameda County residents relevant to walking, and walking rates by planning area.

Key Findings:

1. Median household income and average rates of automobile ownership in each planning area negatively correlate with walking rates, as would be expected.
2. Twelve percent of all daily trips (not including walk-to-transit trips) in Alameda County, or 520,000, are on foot, higher than either regional or national averages.

There are two types of factors that influence a person's decision to walk:

- **Characteristics of the environment,** such as land use mix, densities, transit and parking availability, climate and, of course, pedestrian infrastructure and amenities, and
- **Characteristics of the pedestrians themselves,** such as income and automobile ownership.

Previous sections of this chapter have described the pedestrian environment in Alameda County. This section addresses the pedestrians themselves. Using demographic data provided by the 2000 U.S. Census, the first part of this section presents relevant socio-economic characteristics of Alameda County residents. The second provides walking rates in Alameda County.

Characteristics of Alameda County Residents

As shown in the *Pedestrian Environment* section of this chapter, walkability in the four planning areas varies considerably, with the North planning area containing more of the density, transit, and streetscape factors considered important for good pedestrian access, and fewer of such characteristics in the South, East, and to a lesser extent, Central planning areas. Interestingly, at least two measurable characteristics of the population in each planning area also indicate more walking in the North, and less in south, east and central Alameda County. Research has shown two demographic characteristics to be linked with walking rates: median income and automobile ownership rates.

Median Income

The extent to which people walk is often related to their household income. People with less income could be walking more because they cannot afford to own or operate a car (see below), but also due to other factors such as employment status and the corresponding lack of need to commute. Although Alameda County's median household income ($56,000) is higher than the rest of California's and the nation's, it is lower than the Bay Area average.

At the planning area level, however, distinct differences are apparent: Median income is lowest ($45,000 per year) in the North planning area. Median income in the Central planning area ($55,000) is close to the County average. At $75,000 per year, income in the South planning area is second-highest in the county, well above the County average. Finally, median income is highest ($80,000) in the Eastern planning area.

Automobile Ownership

Alameda County residents without access to an automobile are much more likely to walk and take public transit than their car-owning neighbors. (This phenomenon is most obvious with children, pre-teens and senior citizens.) The extent to which households in an area are car-free is often negatively correlated to income, particularly in communities with plentiful free parking. Put another way, except in areas of scarce parking and excellent public transit (Russian Hill in San Francisco, for example), high income areas usually have low percentages of car-free households. U.S. Census data shows that Alameda County is no exception: just as median income rises from the North planning area to the Central, to the South, and to the wealthiest planning area, the East, so does the rate of car ownership.

Walking Rates in Alameda County

After driving, walking is the second most popular mode for weekday trips in Alameda County. Of 4.4 million average daily trips in the County in 2000 (the most recent year for which data is available), twelve percent or 520,000 are on foot, higher than either regional (ten percent) or national (less than nine percent) averages.[14, 15] It is important to note that these figures do not include walk-to-transit trips, which would drive them

[14] San Francisco Bay Area Travel Survey 2000, Regional Characteristics Report, MTC, 2004

[15] National Household Travel Survey, daily trip file, U.S. Department of Transportation, 2000

significantly higher, given Alameda County's transit and walk-to-transit rates, which are both higher than the regional average.

> After driving, walking is the second most popular mode for weekday trips in Alameda County.

Table 6 shows these trips by planning area and trip purpose. Walk-to-work trips, which are most often quoted because of the availability of commute data, constitute just three percent of all walk trips in Alameda County. In the North planning area, a higher proportion of trips for each purpose are on foot than in any of the other areas of the county. Central planning area walk rates are lower than in the North planning area, but are still slightly higher than in the South or East planning areas.

While work, shopping, social/recreational and non-home-based trips (such as going out to lunch during the workday or running an errand on the way home from work) generally follow this pattern, school trips diverge in some interesting ways. Over one-quarter of grade school students in the South planning area walk to school, higher than anywhere else in the County. There is no obvious explanation for the fact that such a high percentage of people walk to school in this area compared to walking for other trip purposes. Possibilities include the prevalence of neighborhood schools relative to other parts of the County, where busing may be more common, or the coincidence of walk-to-school events with the dates on which MTC conducted its surveys.

An equal proportion of North, Central and East area high school students walk to school (about one-fifth), while only 13 percent walk to high school in the South area. Twice as many college trips are made on foot in the North area as in the South or East areas (20 percent versus 11-12 percent) and more than three times as many college trips are on foot in the North area compared to the Central area. These rates are more easily explained than the grade school anomaly: whereas thousands of UC Berkeley students live within walking distance of campus, Cal State East Bay is located in a hillside neighborhood, accessible primarily by car and bus.

It is clear that high walking rates in the North planning area are partially attributable to the existing walking environment in Oakland, Berkeley and its immediate neighbors.

With respect to the second set of potentially influential factors, characteristics of pedestrians, the Bureau of Transportation Statistics finds that the single most important predictor of an individual's walking rate is car ownership and that the highest walking rates occur in households without access to a car. Only 12 percent of those who have access to a car report walking for errands and personal business, while 46 percent of members of households with no car report walking for these types of trips. This difference is much higher than the difference attributable to income, ethnicity or density.[16]

Studies suggest that more people would be walking if neighborhoods were more walkable. Clearly, more research is needed to better understand the factors that spur Alameda County pedestrians to choose this form of transportation, including walking to transit, and how the pedestrian infrastructure in the County influences them.

[16] Hu, Pat and Timothy Reuscher, "Summary of Travel Trends: 2001 National Transportation Household Survey" U.S. Department of Transportation, Federal Highway Administration, December 2004

TABLE 6: WALKING RATES

Alameda County Total Trips by Mode

MODE	NUMBER	PERCENT
Auto	3,390,884	77%
Walk	**525,718**	**12%**
Transit	355,156	8%
Bicycle	92,685	2%
Other	60,341	1%
TOTAL	4,424,784	100%

Source: Bay Area Transportation Survey 2000 Trip Tables

Walk trips by purpose (number and percent of all trips that are on foot)

	HOME-BASED WALK TRIPS							
PLANNING AREA / LOCATION	WORK	SHOPPING	SOCIAL / REC	GRADE SCHOOL	HIGH SCHOOL	COLLEGE	NON-HOME-BASED*	TOTAL WALK TRIPS
North	24,669	72,805	64,929	41,710	11,655	15,423	95,389	326,580
	6%	18%	20%	27%	20%	20%	21%	17%
Central	2,902	31,148	20,814	11,570	3,031	1,433	14,161	85,059
	1%	11%	13%	16%	20%	6%	8%	9%
South	2,586	16,624	10,819	26,919	3,059	3,046	6,607	69,660
	1%	7%	7%	29%	13%	11%	4%	8%
East	1,462	13,410	6,201	8,630	2,285	1,236	5,993	39,217
	1%	9%	6%	21%	19%	12%	5%	7%
Alameda County	31,619	133,987	102,763	88,829	20,030	21,138	122,150	520,516
	3%	12%	14%	25%	18%	15%	13%	12%
Bay Area	152,253	565,719	373,407	297,500	75,781	57,566	572,592	2,094,818
	3%	11%	11%	20%	16%	11%	13%	10%
National Average	3%							9%
San Francisco	12%							23%

Source: Bay Area Transportation Survey 2000 Trip Tables

** Non-home-based trips are those that neither originate nor terminate at the traveler's home. Examples include walking to lunch from work or shopping on the way home from school.*

Note: Percentages are percent of all trips. E.g., six percent of all trips to work in the North planning area are on foot. Therefore, percentages do not add to 100%.

WALKING AND PUBLIC HEALTH

PURPOSE: To present data about the relationship between walking and public health, in terms of obesity, disease, collisions with automobiles, and personal security.

KEY FINDINGS:

1. There is a strong connection between the lack of physical activity resulting from communities designed primarily for travel by auto and the negative health effects caused by physical inactivity.
2. In 2005, half of Alameda County adults were considered obese or overweight. However, the Alameda County population is generally "healthier" than the rest of the state.
3. The risk that a pedestrian might be hit by a motor vehicle is often lower at intersections with greater pedestrian volumes—even if those intersections experience more collisions.
4. Since 2000, 23 percent of all people killed in Alameda County traffic collisions were pedestrians.
5. Even without specific crime data, the perception of crime is a powerful deterrent against walking, particularly at night or in isolated areas.

The Role of Walking in Preventing Disease

In recent years, public health professionals and urban planners have become increasingly aware that the impacts of automobiles on public health extend far beyond asthma and other respiratory conditions caused by air pollution. In particular, there is now a much deeper understanding of the connection between the lack of physical activity resulting from communities designed primarily with cars in mind and the negative health effects caused by physical inactivity. Physical inactivity is now widely understood to play a significant role in the most common chronic diseases in the US, including coronary heart disease, stroke and diabetes—each of which is a leading cause of death in Alameda County.[17] In California, physical inactivity costs almost $16 billion annually in medical care, lost employee productivity and worker's compensation costs.[18]

> Physical inactivity is now widely understood to play a significant role in the most common chronic diseases in the US, including coronary heart disease, stroke and diabetes—each of which is a leading cause of death in Alameda County.

Physical inactivity also strongly influences obesity and the tendency to be overweight, conditions that have increased dramatically over the past two decades. In 1985, less than ten percent of Californians were considered obese (measured by Body Mass Index, which translates to being approximately 30 pounds overweight for a 5'4" person). Twelve years later, more than fifteen percent of Californians were considered obese, and by 2001, more than twenty percent.[19] In Alameda County today, over half of adults are considered obese or overweight.[20] Of the county's school children in three grades tested, 68 percent were not considered physically fit.[21] If these trends continue, children born today in California will have a shorter a lifespan than their parents.[22]

> In Alameda County today, over half of adults are considered obese or overweight. Of the county's school children in three grades tested, 68 percent were not considered physically fit.

Despite these numbers, today a higher percentage of adult Alameda County residents have what is considered

[17] McKenna, M.T., Taylor, W.R., Marks, J.S., & Koplan, J.P. (1998). Current issues and challenges in chronic disease control. In: Chronic Disease Epidemiology and Control, (2nd Ed.). Brownson, R.C., Remington, P.L., Davis, J.R. (Eds.). Washington: American Public Health Association.

[18] California Center for Physical Activity, 2005.

[19] Centers for Disease Control & Prevention. Behavioral Risk Factor Surveillance System, 1985-2003.

[20] UCLA Center for Health Policy Research, 2003. California Health Interview Survey.

[21] Fitnessgram data, California Department of Education, 2005

[22] A Kelter. (2005) "Which one is the big one?" California Department of Health Services presentation

to be a healthful weight and a higher percentage of adults report "walking for transportation, fun and exercise" than adults statewide.[23] The percentage of the County's school children who fall within the "healthy fitness zone" for several health indicators is generally two-to-four points higher than for children statewide.[24]

The public-health profession has begun to advocate for the creation of walkable neighborhoods as one of the most effective ways to encourage active lifestyles. Recent studies have found that people with access to sidewalks are more likely to walk and meet the Surgeon General's recommendations for physical activity.[25] Studies show that residents in highly walkable neighborhoods engage in about 70 more minutes per week of moderate and vigorous physical activity than residents in low-walkability neighborhoods,[26] and that 43 percent of people with safe places to walk within ten minutes of home meet recommended activity levels, compared to only 27 percent of those without safe places to walk.[27]

By providing more opportunities to walk for transportation and exercise, transportation agencies can contribute to other public sector efforts to increase rates of physical activity and reduce medical costs in Alameda County.

Walking and Public Safety

Collisions

Another dimension of public health and walking is pedestrian safety. Motor vehicle crashes account for more than half of all unintentional injury deaths in Alameda County.[28] Collisions, of course, have a disproportionate impact on the most vulnerable users of the transportation system, namely pedestrians (and also bicyclists). This is evidenced by the fact that 23 percent of all people killed in Alameda County traffic collisions are pedestrians, nearly double the 12 percent of all trips that are made by pedestrians in the County. (See Table 7.)

> Since 2000, 23 percent of all people killed in Alameda County collisions were pedestrians, while just 12 percent of all trips in the County were on foot.

Over 90 percent of pedestrian-vehicle collisions in Alameda County are caused by violations of the California Vehicle Code. Fifty-nine percent of these code violations were committed by the driver; 33 percent by the pedestrian.

Between 2000 and 2004, there was no discernable trend in the number of pedestrians injured or killed in collisions with automobiles in Alameda County. (See Table 7.) The geographic breakdown of these collisions, however, shows a clear pattern. Collision numbers were highest in the North planning area—Oakland and Berkeley primarily—as were the percentage of total collisions. This should not be surprising, given the high populations of these two cities. A 2004 study of collisions at intersections by the UC Berkeley Traffic Safety Center, however, shows that the number of people walking must be considered when evaluating collision statistics. They showed that the traditional method of ranking the level of safety of an intersection according to the number of pedestrian-vehicle crashes has given an inaccurate picture of the actual threat posed to pedestrians at those intersections. By also taking pedestrian volumes into account—the number of pedestrians that use an intersection in a given period of time—the Center researchers found that, surprisingly, the "risk" that a pedestrian might be hit by a motor vehicle is often lower at intersections with greater pedestrian volumes—even if those intersections experience more collisions.[29]

[23] UCLA Center for Health Policy Research, 2003. California Health Interview Survey.

[24] California Department of Education, Fitnessgram, 2004.

[25] Eyler, A.A., Brownson, R.C., Bacak, S.J., & Housemann, R.A. (2003). The epidemiology of walking for physical activity in the United States. Medicine & Science in Sports & Exercise, 35 (9), 1529-1536.

[26] Saelens, B., Sallis, J.F., Black, J., et al. (2003). Neighborhood-based differences in physical activity: An environment scale evaluation. American Journal of Public Health, 93, 1552-1558.

[27] Powell, K.E., Martin, L., Chowdhury, P.P. (2003). Places to walk: Convenience and regular physical activity. American Journal of Public Health, 93, 1519-1521.

[28] Alameda County Health Status Report 2006, Alameda County Public Health Department.

[29] *Safety in Numbers*, UC Berkeley Traffic Safety Center newsletter, Spring 2004.

When Alameda County collision figures are evaluated relative to the number of pedestrian commuters, the North planning area appears far less unsafe. In fact, the City of Berkeley goes from appearing to be one of the least safe Alameda County cities for pedestrians, to one of the safest (0.02 collisions per pedestrian commuter in Berkeley, compared to 0.04, on average, in the County as a whole).

Reported collisions tell only part of the story of pedestrian safety. The public safety impact of motor vehicles can be thought of as an iceberg, with deaths and hospitalized injuries representing the visible tip. Less obvious but far more numerous are the non-hospitalized injuries, especially those that go unreported, and the near-misses, which cause stress and anxiety. The result is often an unfortunate vicious cycle, in which even the perception of dangerous roads causes fewer people to walk. Smaller numbers of pedestrians are less visible and reduce the constituency for pedestrian improvements, which then keeps roads from being made safer for pedestrians.[30]

Personal Security

A related issue is the effect of threats to personal security—and the perception of such threats—on walking rates in Alameda County. Data on actual crime against pedestrians is extremely difficult to obtain. Such statistics are collected by almost 20 individual police departments countywide and there is no central repository for such information.

Even without specific crime data, the perception of crime is a powerful deterrent against walking, particularly at night or in isolated areas. Additionally, similar to the perception of unsafe streets, the perception of crime can lead to a vicious cycle of fewer people on the street, which makes people feel less safe, which results in even fewer people walking. Solutions which prevent these perceptions—such as trails and sidewalks that avoid isolating pedestrians, community design that draws out other pedestrians, and pedestrian-level lighting—can go a long way toward encouraging walking in Alameda County.

[30] P. L. Jacobsen "Safety in numbers: more walkers and bicyclists, safer walking and bicycling" Injury Prevention, Sep. 01, 2003 9: 205-209.

TABLE 7: ALAMEDA COUNTY PEDESTRIAN COLLISION DATA (Continues on next page)

Source: Statewide Integrated Traffic Records System (SWITRS)

Pedestrians Killed and Injured

YEAR	PEDESTRIANS KILLED	PEDESTRIANS INJURED	TOTAL	TOTAL PEOPLE KILLED IN COLLISIONS*	PERCENT PEDESTRIANS KILLED
2000	25	723	748	114	22%
2001	24	775	799	111	22%
2002	28	847	875	112	25%
2003	23	752	776	113	20%
2004	29	690	719	103	28%
Total	**130**	**3,787**	**3,917**	553	23%

Total Pedestrian-Automobile Collisions

PLANNING AREA	CITY	2000	2001	2002	2003	2004	TOTAL[1]	ANNUAL AVG	% OF TOTAL COUNTY COLLISIONS	COLLISIONS PER 1,000 POPULATION	COLLISIONS PER PED COMMUTER[2]
North	Oakland	345	335	384	355	348	1,767	353	44%	0.88	0.06
	Berkeley	126	108	139	134	109	616	123	15%	1.20	0.02
	Albany	3	8	13	8	10	42	8	1%	0.51	0.03
	Piedmont	2	3	4	0	1	10	2	0%	0.18	0.03
	Emeryville	6	15	8	4	8	41	8	1%	1.19	0.03
	Alameda	37	44	38	40	36	195	39	5%	0.54	0.04
	Subtotal	519	513	586	541	512	2,671	534	67%	0.88	0.03
Central	Unincorp'd	43	48	42	43	37	213	43	5%	0.74	0.09
	Hayward	80	69	78	65	65	357	71	9%	0.51	0.05
	San Leandro	46	37	37	20	33	173	35	4%	0.44	0.05
	Subtotal	169	154	157	128	135	743	149	19%	0.54	0.06
South	Fremont	65	63	67	42	42	279	56	7%	0.27	0.05
	Newark	13	10	13	7	4	47	9	1%	0.22	0.06
	Union City	15	17	16	19	10	77	15	2%	0.23	0.04
	Subtotal	93	90	96	68	56	403	81	10%	0.26	0.05
East	Dublin	9	5	6	7	9	36	7	1%	0.24	0.04
	Livermore	23	25	17	13	12	90	18	2%	0.25	0.03
	Pleasanton	7	5	15	10	12	49	10	1%	0.15	0.02
	Subtotal	39	35	38	30	33	175	35	4%	0.21	0.03
TOTAL		820	792	877	767	736	3,992	798	100%	0.58	0.04

[1] Totals are greater than in fatality/injury table because not all collisions result in injury and some injuries are not reported.

[2] Walk-to-work trip

TABLE 7: ALAMEDA COUNTY PEDESTRIAN COLLISION DATA (Continued from previous page)

Primary Factors for Pedestrian Collisions

PRIMARY COLLISION FACTOR	2000	2001	2002	2003	2004	TOTAL	PERCENT
(Vehicle) Code Violation	756	726	784	712	680	3,658	91%
Other Improper Driving	3	0	10	2	5	20	1%
Other Than Driver	7	9	13	9	7	45	1%
Unknown	44	40	45	27	33	189	4%
Fell Asleep	0	0	0	0	0	0	0%
Not Stated	10	17	25	17	11	80	2%
Total	820	792	877	767	736	3,992	100%

Detail of Code Violations

VIOLATION	NUMBER	PERCENT
Pedestrian at Fault		
Pedestrian violation	1,180	31%
Auto right-of-way	66	2%
Ped - drugs or alcohol	34	1%
TOTAL PEDESTRIAN VIOLATIONS	1,280	33%
Vehicle at Fault		
Pedestrian right-of-way	1,415	37%
Other driver code violations	857	22%
TOTAL DRIVER VIOLATIONS	2,272	59%
Other/Unknown	288	8%
TOTAL VIOLATIONS	3,840	100%

Future Pedestrian Improvements

Purpose: To catalogue local and regional plans to improve walkability throughout Alameda County.

Key Findings:

1. The pedestrian environment in Alameda County, particularly in the vicinity of rail stations, is being improved through the work of local governments, transit operators, and regional agencies.
2. Just over half of Alameda County jurisdictions have adopted either a stand-alone pedestrian plan or a combined bicycle/pedestrian plan.

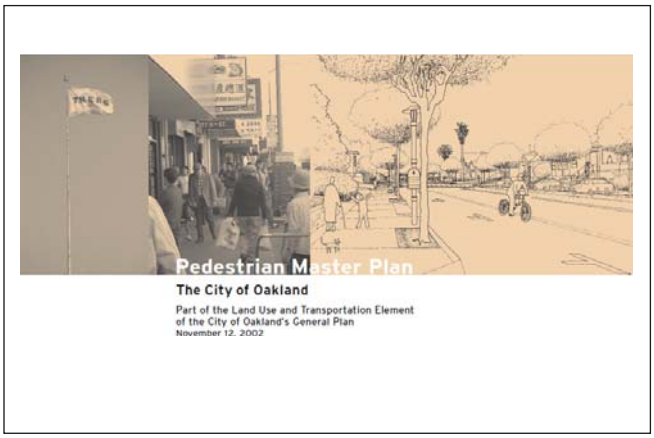
Increasingly, new development and roadway projects are improving the pedestrian environment. Developers, planners and traffic engineers are becoming more familiar with tools that are available to make communities safer and more inviting for pedestrians. Moreover, these professionals are finding new ways to monitor walking conditions to identify needed improvements, including pedestrian counts, routine analysis of pedestrian/vehicle collisions and monitoring pedestrian "trip and fall" reports. (See Appendix D.) In many locations, new advocacy groups are forming to demand that these changes occur.

Behind all of these activities are local policies that support walking, adopted by most every Alameda County jurisdiction in recent years. Cities throughout Alameda County are focusing efforts on revitalizing and making their downtowns more walkable. Some cities with no central business district are literally creating them. These policies show that many local governments are paying attention to the importance of creating safe, convenient and pleasant pedestrian environments. Some have gone further by developing design standards, specific plans and other policy-like instruments. Transit agencies are also taking steps that acknowledge the importance of pedestrians to their success.

This section contains an overview of the variety of planning efforts taking place throughout the County aimed at improving walkability. Particularly innovative locally adopted plans and broader planning efforts are highlighted. Note: Future trail planning efforts are discussed in the *Trails* section and a listing of which jurisdictions have pedestrian or pedestrian/bicycle plans appears in Table 8 in the *Countywide Priorities* chapter.

North Planning Area

The existence of planning documents to guide future improvements to the pedestrian environment varies in the North planning area. As of early 2006, the City of Oakland was the only northern city with an adopted pedestrian master plan, although the cities of Alameda and Berkeley are both developing such plans. Emeryville has an adopted bicycle and pedestrian master plan whose pedestrian emphasis is on a citywide greenway and multiple pedestrian/bicycle bridges over I-80 and the Amtrak railroad tracks. The cities of Alameda and Albany have adopted policies supporting the completion of their trail and pathway systems, particularly the San Francisco Bay Trail. And Piedmont's emphasis is on maintaining its sidewalks and pathways.



On the ground, efforts to improve walkability in the North planning area are, broadly speaking, primarily focused around public transit facilities. Local governments in Berkeley and Oakland are actively working with BART to create compact, mixed-use, pedestrian-friendly communities adjacent to every BART

station in the Northern planning area, with the exception of North Berkeley. Bus stop and other streetscape improvements are also taking place along AC Transit's San Pablo Avenue Rapid Bus corridor as well as future Bus Rapid Transit (BRT) routes on Telegraph Avenue and International Blvd. One area of emphasis for the City of Alameda is the new development that will eventually occur at Alameda Point, the former Naval Air Station and future ferry terminal site.

In recent years, BART has commissioned station access plans for the majority of Alameda County stations, including the Lake Merritt, West Oakland, Fruitvale, Coliseum, and San Leandro stations. In addition, at seven of the North planning area's BART stations, local governments are planning improvements to conditions for pedestrians accessing these stations:

Downtown Berkeley BART Plaza Redesign

The plaza at the downtown Berkeley BART station is being redesigned to be more inviting to BART passengers and other pedestrians in downtown Berkeley.

Ashby BART Ed Roberts Campus Transportation Enhancements

The Ed Roberts Campus, a transit-oriented development designed to serve disability rights and services organizations, will improve safety and access to the east side of the Ashby BART station area for pedestrians, bicyclists, and people with disabilities.

MacArthur Transit Village Project

MacArthur Transit Village Project

The proposed project includes 800 units of high-density, mixed-income multi-family housing, 30,000 square feet of ground floor neighborhood-serving retail, community space, a new public street from Telegraph Avenue, renovation of the BART entry plaza, a new intermodal area, and a new public plaza adjacent to the retail space.

Downtown Oakland Enhanced Pedestrian Linkages

Funded with Oakland Measure DD funds, this project will improve the pedestrian environment between the 12th and 19th Street BART stations and Lake Merritt.

Streetscape Improvements West of the Lake Merritt Station

This project will improve walkability on Oak Street between the BART station and the new residential neighborhoods west of I-880.

West Oakland Transit Oriented Development

In 2006, work had begun on the West Oakland Transit Village Action Plan, which ultimately calls for streetscape improvements to 7th Street, over 2,000 residential units and 2,000 square feet of retail in the next five years.

Coliseum Transit-Oriented Development

A financial feasibility and market study were underway in early 2006 for 500-600 residential units, with ground floor, neighborhood-serving retail on the Coliseum BART parking lot site. Coliseum Gardens—under construction in 2006—will provide 250 affordable rental units and a five-acre park. In early 2006, San Leandro Street was undergoing streetscape improvements in the vicinity of the BART station. Connections from Coliseum BART to the Bay Trail are also being planned.

Central Planning Area

Upcoming pedestrian improvements in the Central planning area will occur in the downtown districts of San Leandro and Hayward, at four BART stations (San Leandro, Bay Fair, Hayward and South Hayward), along future Bus Rapid Transit on East 14th Street, and around schools.

In 2004, the City of San Leandro adopted a Bicycle and Pedestrian Master Plan and companion design guidelines. As a result, San Leandro has designated six "Pedestrian Improvement Areas" where wider sidewalks, bulb-outs and pedestrian amenities are planned. These efforts focus on improving crossings for pedestrians and increasing driver awareness of non-vehicle traffic. The County adopted a Pedestrian Master Plan for the unincorporated areas in July 2006. A number of recent specific planning efforts in the unincorporated portions of Central County area pay particular attention to pedestrian improvements in the vicinity of schools.

The City of Hayward reports that they would like to encourage pedestrian and bicycle access to schools, but have had difficulty competing for State Safe Routes to Schools funding because school districts have not had funding available to prepare the requisite Safe Routes to Schools plans. The cities of San Leandro and Hayward are also working on projects to improve walkability around the cities' four BART stations, as described below.

Central San Leandro BART Station

In 2001, the City of San Leandro adopted the Central San Leandro BART Station Area Revitalization Plan and has since been pursuing a variety of streetscape improvements and considering possible new development on selected sites around the station. A specific planning effort was underway in 2006 to create a transit-oriented strategy for downtown San Leandro, future BRT service on East 14th Street, and the nearby BART station.

Bay Fair BART

Recent changes in Bay Fair Mall's ownership are improving the possibility of development of the BART property. Ultimately, a vibrant mixed-use commercial center is envisioned, with transit-oriented retail, future housing opportunities, and enhanced public spaces. Meanwhile, the Alameda County Redevelopment Agency is leading the implementation of new pedestrian improvements, including sidewalks, crosswalks, lighting and other elements in the neighborhoods surrounding the station.[31]

[31] http://bart.gov/docs/planning/BAY_FAIR.pdf

Case Studies

Revive Chinatown-Phase I

Oakland's Pedestrian Master Plan identified Chinatown as having the highest concentration of pedestrian/motor vehicle collisions in the City of Oakland. This data led the City to target improvements at 16 contiguous intersections centered on the core of Chinatown, including scramble traffic signals, which provide a dedicated phase when all motor vehicles stop and pedestrians are allowed to cross in all directions; bulbouts; pedestrian countdown signal heads; high visibility crosswalks; streetscape improvements; and way-finding signage to BART.

Alameda Point, City of Alameda

The City of Alameda is planning to redevelop 700 acres of the former Alameda Naval Air Station, located on the northern tip of the island. The Preliminary Development Concept calls for a transit-oriented, pedestrian friendly community, including 1,800 new mixed income housing units, neighborhood-serving, small scale commercial services, day care centers, places of worship, and other neighborhood and civic uses within a five minute walk of each home. A Town Center will include a transit center, providing regular ferry service to San Francisco, bus service to Oakland and BART, and car-share and bicycle facilities. Most new homes and businesses will be located within a ten minute walk of the transit center. New Bay Trail segments will also be constructed.

HAYWARD BART

The City of Hayward is working to develop a long-range plan for transit-oriented development within a 120-acre area immediately to the west of the BART station. The plan establishes a framework for the transformation of this older industrial area into a new transit-oriented community.[32]

CASE STUDY

CREATING AN INTEGRATED STRATEGIC VISION FOR THE EDEN AREA

The Eden Area is comprised of the central County unincorporated communities of Ashland, Castro Valley, Cherryland, El Portal Ridge, Fairmont Terrace, Fairview, Hayward Acres, Hillcrest Knolls, Mt. Eden and San Lorenzo. With the assistance of local leaders, residents of this sub-region have initiated a process to develop a community vision, increase community participation in political decisions, and develop a stronger sense of place and identity so that the area can be easily recognized by others seeking to locate businesses, shop, socialize, or otherwise invest in the community. The planning phase of this initiative is expected to be completed in early 2007.

SOUTH HAYWARD BART

The City of Hayward, working closely with BART, is preparing a conceptual design plan for the South Hayward BART/Mission Boulevard area. The study will investigate development opportunities within walking distance of the station to encourage transit-oriented development, particularly on vacant and underutilized properties. The study will result in the development of a conceptual design that illustrates how future redevelopment could be compatible with the surrounding neighborhoods. The concept plan will be sufficiently detailed to provide a framework for reviewing private sector development proposals and public agency capital improvements and related activities.

[32] http://bart.gov/docs/planning/HAYWARD.pdf

South Planning Area

Pedestrian planning in southern Alameda County is concentrated in Union City and Fremont. Both cities have adopted policies that call for continuous pedestrian networks. Union City's Pedestrian and Bicycle Master Plan is expected to be completed in 2006. The City of Fremont is developing its first pedestrian master plan, expected to be completed in 2007.

UNION CITY INTERMODAL STATION

Efforts to improve pedestrian conditions in both cities are focused at transportation facilities, although Fremont is also planning to improve walkability in its downtown. The City of Union City is planning extensive land use and pedestrian infrastructure changes to its BART station, which will be served by BART, Capitol Corridor rail, AC Transit, Dumbarton Express, future Dumbarton Rail, and Union City Transit. The first phase of this project will reconfigure the BART property for transit-oriented development and to improve access for pedestrians and other BART passengers, including 15-foot wide sidewalks and reconfiguration of the west side of the station. Upon completion, a grade-separated pedestrian connection will link BART to adjacent development sites, the passenger rail station, and a public plaza on the east side of the Intermodal Station. Construction is expected to begin in 2007.

FREMONT DISTRICT PLANNING

Fremont is concentrating planning efforts on four districts: its downtown and the Centerville, Irvington and Niles districts. The City's 20-year plan for the downtown, adopted in 2001, includes reducing the number of traffic lanes on arterials in the area and shortening blocks by building new intersecting roadways, in an effort to create an inviting pedestrian environment. The 2004 Niles Concept Plan covers the area around a historic rail depot, while a future BART station is envisioned in the 2004 Irvington Concept Plan. The Centerville Specific Plan calls for a pedestrian-scale future at this operating Capitol Corridor/ACE station.

NEWARK'S "OLD TOWN"

Given sufficient redevelopment funds, the City of Newark would like to reconfigure its "Old Town" along Thornton Avenue with a narrower street and wider sidewalks.

East Planning Area

Like much of Alameda County, pedestrian improvements in the East planning area are focused at BART station areas and downtown districts.

Dublin/Pleasanton Transit Center

Dublin and Pleasanton are working independently to intensify development north and south of the Dublin/Pleasanton BART station respectively. Dublin is planning a large transit-oriented development on the north side of the station, which will include 1,800 residential units (at net densities up to 70 units per acre), 70,000 square feet of ground floor retail, and two million square feet of campus office. Extensive pedestrian facilities will join this new development with the BART station. Construction began in early 2006.

Hacienda Transit Oriented Development

The City of Pleasanton, East Bay Community Foundation, BART, the Hacienda Business Park Owners Association and the citizens of Pleasanton are developing a specific plan for the area between the Hacienda Business Park and the south side of the Dublin/Pleasanton BART station in which a mix of transit-supportive land uses, densities, and development patterns is envisioned in a highly walkable place with meaningful public opens space and plazas.[33]

West Dublin/Pleasanton BART Station

The cities of Dublin and Pleasanton are working with BART and a private developer on plans for a new BART station in the I-580 median, west of the existing Dublin/Pleasanton station and the I-580/680 interchange. Plans for the station, which will be funded through a unique public/private partnership, call for transit-oriented development to link the station to the Stoneridge Mall to the south and to a new, walkable downtown Dublin to the north.

[33] Hacienda Transit Oriented Development Specific Plan Scope of Work

Downtown Livermore and Pleasanton

Livermore is using its 2004 Downtown Specific Plan and companion Design Standards and Guidelines to guide pedestrian improvements in the downtown. Up to 3,000 higher density residential units are planned for the downtown area, near the ACE station. Also, discussions are underway to extend BART service to Livermore, although neither the technology, alignment, nor the station location has been agreed upon. Pleasanton's 2002 Downtown Specific Plan and 2003 Downtown Design Guidelines are spurring improvements there.

Regional & Countywide Planning Efforts

In addition to local efforts in each planning area, are regional efforts that seek to influence walkability throughout Alameda County. The Alameda County Congestion Management Agency is channeling county set-aside Transportation for Livable Communities funding to eight transit-oriented development projects at existing and future BART stations: Ashby, MacArthur, West Oakland, Coliseum, San Leandro, Union City, Warm Springs, and Dublin/Pleasanton.

In 2006, the Metropolitan Transportation Commission completed a Pedestrian Districts Study, which reviewed pedestrian planning in the Bay Area, developed a typology of pedestrian districts, presented case studies of Bay Area pedestrian districts, developed cost estimates for typical pedestrian improvements, defined next steps for MTC in the pedestrian realm, and made recommendations for updating MTC's Regional Pedestrian Resource Guide. Also, MTC's Regional Pedestrian Committee, established in 2001, facilitates information-sharing between public agency staff and pedestrian advocates from around the region, and advises MTC staff on pedestrian-related projects. Finally, the agency's Transportation 2030 Plan calls for the development of a regional pedestrian plan.

MTC is increasingly making funds available for projects that encourage walkability, in an effort to reduce the number of automobiles on Bay Area roads. These efforts generally involve inducements to local governments to increase residential densities, create a mix of land uses, and improve the pedestrian environment surrounding the region's major transit stops and stations.

MTC's new transit-oriented development policy, approved in 2005, conditions rail extension funding on minimum residential densities at new stations, the first

such policy in the nation. In addition, the agency's new Station Area Planning Program funds local planning efforts aimed at increasing densities and improving walkability within a half-mile of bus, ferry and rail stations. Three of the first eight grants were awarded to Alameda County cities (San Leandro, Alameda, and Pleasanton), with ACTIA providing matching grants.

Programs and Advocacy to Encourage Walking

Purpose: To provide examples of promotional, educational, and technical assistance programs that encourage walking and walkable communities.

Key Findings:

1. In addition to good pedestrian infrastructure, programs and advocacy efforts to encourage walking and the improvement of the pedestrian environment are needed.
2. There are many existing programs and program models in Alameda County that target school children, the elderly and disabled communities, drivers, and those who walk for exercise.
3. There are only a few pedestrian advocacy groups in Alameda County, but those that exist are working to encourage local governments to improve the walking environment.

Programs

As important as pedestrian infrastructure is, sometimes an inviting physical environment is not enough to persuade people to walk. It is for this reason that local governments, nonprofit organizations and others increasingly offer programs aimed at getting people to walk for exercise and transportation.

School Children

Each October, school districts as well as city and county governments across Alameda County organize events in honor of International Walk to School Day and Week. Berkeley, Oakland, the City of Alameda, San Leandro, Livermore and Alameda County reported such efforts in their local schools. Some cities, such as Alameda and San Leandro use education kits provided by the Bay Area Air Quality Management District to organize Walk and Roll to School Days where elementary, middle school and high school students who may normally be driven, get to experience walking to school.

Safe Moves traffic education program (a branded, educational program available for a fee) is offered to over 8,500 students at 16 Fremont schools. All children are taught how to be safe pedestrians, while high school students are also taught how to be aware of pedestrians when they drive.

Automobile Drivers

The perception that it is safer to be inside a car than to risk being hit by one as a pedestrian deters at least some walking trips. A number of innovative efforts are aimed at improving drivers' awareness of the presence of non-motorized traffic, as described below.

The cities of Alameda, Oakland and Berkeley police departments routinely conduct sting operations to ticket drivers who fail to yield to pedestrians.

Go Safe and Slow in San Leandro is a public education campaign that targets drivers, parents, children and pedestrians. Pleasanton's Economic Development Department works with local employers to encourage walk commutes as part of their Commendable Commutes program, part of the City's trip reduction program. Promotional materials for the program state that less traffic congestion and better air quality contribute to the attraction and retention of employees and customers, and are important for businesses which depend on freeway transport of goods.

Senior Citizens

There are a number of walk encouragement programs tailored to senior citizens throughout Alameda County. These are focused on exercise, safety and education. Most of these—including Dublin's Tri-Valley Treckers, Emeryville's One More Step Walking Club, walking clubs started by United Seniors of Oakland and Alameda County (USOAC), and Union City's Walkers' Group—organize and lead walks for senior citizens. USOAC holds an annual walk event at Lake Merritt.

Walking for Physical Activity

Like senior citizen walks, other programs throughout Alameda County increasingly involve guided walking groups. Civic leaders in the City of Alameda lead one-hour Saturday walks as part of Alameda Walks! San Leandro's Recreation Department offers walking tours of the City's historic districts and buildings. Walk

Oakland…for Life!, Walk Cherryland and Walk Ashland help neighborhood groups form walking clubs, and Union City's Stroller Striders encourages the mothers of young children to walk.

Kaiser Permanente sponsors *Thrive,* a marketing and public education campaign aimed at encouraging adults to walk for exercise. This effort is unique in that it is privately funded and seeks to change behavior.

Technical Assistance

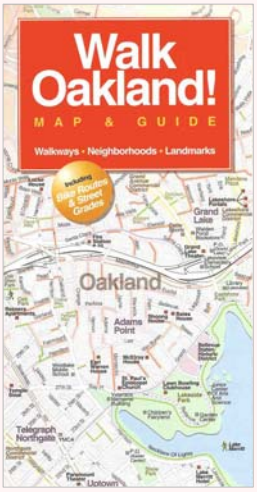
Some programs are aimed at improving the pedestrian environment, rather than directly encouraging people to walk. Such programs target traffic engineers, planners, elected officials and others responsible for improving the physical environment.

In 2005, the Alameda County Public Works Agency held a pedestrian planning workshop for its staff, and also invited traffic engineers from jurisdictions throughout the County. Caltrans and the California Department of Health Service jointly fund a program that trained seven people in California to be "Walkability Experts." Local jurisdictions can hire one of these professionals to help groups of city staff and others—including engineers, planners, police officers, fire-fighters, school district officials, senior center staff, transit providers, elected officials, and community-based groups—identify ways to improve the pedestrian conditions in a particular neighborhood. Typical day-long sessions include a presentation of pedestrian planning principles, a walking tour of the neighborhood, a group mapping and action-plan development activity, and tools to identify probable funding sources. In 2003, Cherryland and East Oakland took advantage of this program.

Advocacy

By working to encourage government to improve the walking environment, advocacy goes beyond programs that offer Alameda County residents the opportunity to get more exercise. In the past 20 years, bicycle advocacy has grown from a few clubs complaining about potholes to literally hundreds of nonprofit organizations at the city, county, regional, state and national levels. If there are many times more pedestrians as bicyclists, why is pedestrian advocacy still in its infancy?

Case Study



Walk Oakland! Map & Guide

The Walk Oakland! Map & Guide highlights the City's historic walkways, neighborhoods, and landmarks to raise awareness and encourage walking in Oakland's many great places. The map includes bikeways, street grades, parks, schools, libraries, and post offices, as well as information on pedestrian and bicyclist safety, city resources, and area transit. The map is available at local bookstores and bike shops throughout Oakland.

The needs of pedestrians are often associated with, yet overshadowed by, those of bicyclists. Since everyone is a pedestrian (even drivers have to walk from their parking spaces), not many identify themselves as part of a group that requires support. Related to this is that walking is not commonly seen or understood as a mode of travel. Finally, most people do not identify themselves as a pedestrian, since no special equipment is needed to walk.

Notwithstanding these challenges, pedestrian advocacy in general is growing. There are very strong groups in San Francisco and Sacramento and a few notable organizations are working throughout Alameda County, the Bay Area, and statewide.

Alameda County

Bicycle/Pedestrian Advisory Committees

Four Alameda County cities—Berkeley, Oakland, Emeryville and Fremont—have appointed committees to advise them on matters that affect walking and biking in their cities. (Only Berkeley's Pedestrian Subcommittee to the Transportation Commission deals solely with pedestrian issues.) ACTIA has a Bicycle/Pedestrian Advisory Committee, as well. MTC's Regional Pedestrian Committee focuses only on pedestrian issues. Although these groups are considered to be advisors rather than advocates per se, in the absence of

widespread advocacy, they may take on the traditional role of advocacy organizations.

Oakland Pedestrian Safety Project is a project of the City of Oakland to promote pedestrian safety and access by working with city agencies and community-based organizations to develop comprehensive solutions to pedestrian problems. OPSP has been responsible for multiple neighborhood pedestrian advocacy and improvement projects, Walk-to-School events since 1998 (at least one year at every school in Oakland), the *Walk Oakland! Map & Guide*, and the first Pedestrian Plan in the State.

Walkable Neighborhoods for Seniors

This program, sponsored by United Seniors of Oakland and Alameda County, works to increase pedestrian safety and walking for older adults by identifying barriers and advocating for and implementing identified solutions. Their activities include leading six walking clubs, holding an annual Walkable Neighborhoods for Seniors workshop, and educating the public about the special needs of senior pedestrians.

Walk and Roll Berkeley seeks recognition of walking as transportation, improvement of the walking environment, safer walking, and increased rates of walking in the City of Berkeley. The group was instrumental in the City's decisions to develop a Pedestrian Plan and to form a Pedestrian Subcommittee of the Transportation Commission, and the City's ongoing effort to assess and complete safety improvements at Berkeley's 25 most dangerous intersections.

Pedestrian Friendly Alameda is dedicated to making the City of Alameda a safe and enjoyable place to walk by advocating for projects and programs that improve pedestrian safety, access, and convenience. Pedestrian Friendly Alameda develops pedestrian and motorist education programs, helps coordinate Walk & Roll to School Day events, and works with the City of Alameda to develop pedestrian design standards and support funding for pedestrian improvements.

Albany Bicycling and Walking is an online advocacy group that formed in 2004 to address walking and bicycling in the City of Albany.

Regional Level

Great Communities Initiative is sponsored by the Transportation and Land Use Coalition, an Alameda County-based nonprofit. The goal of the program is to ensure that half of all new homes built by 2030 are in walkable communities located near transit, at a range of prices affordable to families of all income levels, by partnering with local advocates and decision-makers.

BayPeds

Formed in 1999, BayPeds is the region's first pedestrian advocacy organization. BayPeds was instrumental in attracting Office of Traffic Safety grants for pedestrian projects to the Bay Area and in nurturing the formation of numerous Bay Area walk organizations.

Bay Area Walkable Communities Collaborative was formed in 2004 to bring together professionals in the fields of public health, transportation, land use, education, law enforcement, recreation, with pedestrian advocates and elected officials. As of early 2006, the group was building support for a Bay Area-wide Pedestrian Plan, as part of the Regional Transportation Plan.

State & National Levels

California Walks is a coalition of local and other nonprofit pedestrian advocacy groups promoting walkable communities throughout California.

California Pedestrian Advisory Committee (CalPed) is a standing committee of transportation professionals and pedestrian advocates that advises Caltrans on issues involving pedestrian safety and mobility in California. An example of their work is making recommendations to modify the State Traffic Collision Report form (CHP 555) by increasing the detail on traffic control type, crosswalks, and geo-referencing.

America Walks is a national coalition of advocacy groups dedicated to promoting walkable communities.

CONCLUSIONS

The Alameda County pedestrian environment varies from dense, highly walkable downtown districts to high-speed, sometimes dangerous arterial crossings and urbanized streets with no sidewalks. Overall, though, the County and each of the 14 cities provide adequate sidewalks and other basic pedestrian facilities. In addition, residents in many areas have access to extensive trail networks.

Encouragingly, Alameda County jurisdictions are in the midst of a pedestrian renaissance, in which no new development is approved without sidewalks, pedestrian crossing times are being extended to accommodate slower walking rates, and walking is a focal point of most all development and redevelopment efforts.

This changing environment offers a number of opportunities to influence walkability throughout Alameda County from the countywide level.

Pedestrian plans

Few Alameda County jurisdictions have developed stand-alone pedestrian plans and so have not taken the opportunity to envision and prioritize desired improvements. Such plans—including companion streetscape design guidelines—should be a funding priority.

Basic infrastructure

Local planning and engineering staff cite a shortage of funding that can be used to build new sidewalks and curb ramps and to maintain the existing pedestrian infrastructure. Although a number of jurisdictions use Measure B local set-asides for this purpose, other funds could be invested in this area.

Bus access

Although over 190,000 daily walk trips are to and from bus stops, Alameda County jurisdictions are investing very little in safe pedestrian routes to these locations.

Transit station areas

A great deal of federal, state, regional and local funding is pouring into rail and ferry stations in Alameda County. Nonetheless, there remains a need for additional funds to realize the myriad projects being planned.

Programs

The visibility and, perhaps, effectiveness of efforts to encourage walking could be boosted with the creation of countywide programs to encourage walking and provide education on pedestrian safety.

There is no shortage of opportunities to help improve Alameda County's pedestrian environment. However, because funding alone will not be sufficient to improve walkability, the following chapter discusses other institutional obstacles to improving walkability and potential solutions to these challenges.

2. Institutional Obstacles

CHAPTER GUIDE

TOPIC: Institutional (as opposed to physical) obstacles that can stand in the way of creating a pedestrian-friendly environment.

AUDIENCE: Locally-elected officials, transportation planners and commissioners, land use planners and planning commissioners, traffic/ transportation engineers, and developers.

USES: To help local jurisdictions and others identify institutional barriers to an improved walking environment, as well as to learn about innovative solutions to these barriers.

INTRODUCTION

Staff and elected officials of Alameda County's 15 jurisdictions recognize the importance of good pedestrian design for the future livability of their communities. They are using new development and streetscape projects as opportunities to improve walkability, and stand-alone pedestrian projects are being funded by countywide, regional, state, and federal sources more than ever before.

But why aren't these improvements occurring more quickly? Physical barriers throughout Alameda County—from numerous active railroad tracks and high-speed arterials to creeks and canals—certainly pose expensive challenges to local jurisdictions. But even with unlimited financial resources, communities still face challenges to creating hospitable pedestrian environments as a result of a host of less tangible factors.

This chapter summarizes the institutional barriers facing jurisdictions in Alameda County (and beyond) in the pursuit of walkable communities, and some of the solutions agencies have found. These barriers were identified through interviews with planning and engineering staff working in all 15 Alameda County jurisdictions and fall into the following categories:

- Policies of other public agencies
- Local agency policies & practices
- Lack of multi-modal perspective
- Public awareness
- Funding

Below is a summary of the obstacles in each of these areas that were identified during the development of the Plan.

POLICIES OF OTHER PUBLIC AGENCIES

One of the most common sets of institutional obstacles to improving walkability cited by local agencies are policies of other governmental agencies that affect local conditions. Examples include Caltrans standards that apply to state highways that double as local roads, such as San Pablo Avenue; the need to obtain encroachment permits from other agencies with property within a local jurisdiction; and interpretations of the California Environmental Quality Act (CEQA) requiring traffic "improvements" that prove detrimental to pedestrians, such as dedicated turn lanes and retimed traffic signals.

Obstacle 1: Caltrans policies have historically prohibited certain pedestrian improvements

Until recently, Caltrans policies have had a single focus: to facilitate the movement of motor vehicles. At times, this mission can be at odds with local efforts to improve walkability, particularly where a State highway doubles as a local arterial or as a town's main street. In the past, Caltrans has rejected proposals for wider sidewalks, bulbouts, street trees and other infrastructure to improve the pedestrian environment on such facilities.

Institutional Obstacles

Policies of Other Public Agencies
- Obstacle 1: Caltrans policies have historically prohibited certain pedestrian improvements
- Obstacle 2: Non-local control of right-of-way

Local Agency Policies & Practices
- Obstacle 3: Local land use policies that hamper walking
- Obstacle 4: Lack of collaboration between city departments
- Obstacle 5: Shortage or absence of staff trained in pedestrian planning
- Obstacle 6: Limited enforcement of traffic laws

Lack of a Multi-Modal Perspective
- Obstacle 7: Statewide design standards do not adequately address pedestrian facilities
- Obstacle 8: Traffic calming is not applied systematically
- Obstacle 9: Policies based on prioritizing motor vehicle flow

Public Awareness
- Obstacle 10: Lack of understanding of economic benefits of walking to the community
- Obstacle 11: Fear that pedestrian improvements will bring unintended consequences
- Obstacle 12: Lack of knowledge of the health benefits of walking

Funding
- Obstacle 13: Inadequate funding

Another instance where Caltrans' ownership and operation of "local" roads can interfere with the implementation of pedestrian improvements are trail alignments that cross Caltrans facilities at places other than signalized intersections, since such locations rarely meet Caltrans "warrants," or justification, for a new traffic signal. In interviews for this Plan, local jurisdictions did not report any cases where Caltrans has allowed such crossings to occur.

Solution 1a: Transfer street ownership to locality

Cities have responded in a number of creative ways, including working with Caltrans to swap ownership of a parallel roadway that does not have the need for significant pedestrian facilities. Such an approach has negative consequences, however: every mile of State highway that is transferred to local ownership, without a corresponding transfer of a local road to the State, reduces the amount of State transportation funding local jurisdictions receive. Such transfers also shift the responsibility for maintenance to the local agency without providing additional funding.

Case Study

Livermore State Highway Swap

First Street is Livermore's Main Street. Until 2005, First Street was designated as State Route 84 and carried heavy commuter and truck traffic. In order to realize the City of Livermore's plans to create a walkable downtown district, the City negotiated with Caltrans to shift SR 84 to Isabel Avenue. First Street has since been transformed into a pedestrian-friendly street, all truck traffic has been banned and motorists have found parallel arterial routes to the freeway.

Solution 1b: Implement Caltrans' new policies

In 2001, Caltrans adopted two policies with the potential to profoundly change the agency's treatment of pedestrians. First, Deputy Directive 64 states that Caltrans "considers the needs of non-motorized travelers in all" of its work. Known as "routine accommodation," this new policy further directs staff to ensure that capital projects incorporate best practices for non-motorized travel and that the transportation system is maintained and operated in ways that recognize the needs of non-motorized travelers.

Also in 2001, Caltrans' director issued a set of "Context Sensitive Solutions," which require the agency to work through a "collaborative, interdisciplinary" process "involving all stakeholders" on its highways, particularly those that function as local streets. Since these two ground-breaking policies were released, some local jurisdictions have perceived a shift in Caltrans' response to proposals for pedestrian improvements, though others have not. It will likely take some time for an agency the size of Caltrans to make this sustained philosophical shift. However, as local jurisdictions and Caltrans engineers alike become more familiar with the new policies and together experience related successes, the potential for these policies to allow the transformation of

main streets across the County and the State will be realized.

Obstacle 2: Other cases of non-local control of right-of-way

Beyond having to work with the State to make roadway improvements, local jurisdictions in Alameda County report challenges in obtaining permission from other public agencies to construct, operate and maintain pedestrian facilities, particularly trails. Examples include policies of the Public Utilities Commission and private railroads that prohibit new at-grade railroad crossings, and hesitance on the part of the Alameda County Flood Control District to allow public access on maintenance roads along County creeks.

Solution 2A: Respond to controlling agency concerns

By addressing the concerns of these agencies and private companies—concerns which often relate to liability—local agencies have obtained permission to allow public access on trails that were previously closed to the public. Examples of actions that have addressed agency concerns include prohibiting nighttime trail access, and shared or total local acceptance of trail maintenance responsibility.

Local Agency Policies & Practice

While local jurisdictions often feel constrained by the guidelines of other public agencies, at times it is their own policies and practices that get in the way of efforts to improve walkability. Areas where this can be apparent include land use policies, coordination among city departments, staffing levels, and enforcement of traffic laws.

Obstacle 3: Local land use policies that hamper walking

Examples include zoning that segregates land uses, laws that restrict the development of multi-family housing, strategies that rely on regional auto-oriented shopping as a city's primary revenue source, and parking requirements.

Solution 3A: Develop and adopt local pedestrian master plans and new general plan policies that promote walkability

Creating a pedestrian plan and/or General Plan policies intended to improve walkability can help jurisdictions mitigate the effect of previously adopted policies on walking.

Solution 3B: Develop new local zoning and design standards

Alameda County jurisdictions are trying to overcome self-imposed institutional barriers to walkability in a number of creative ways. Fremont's Central Business District Plan emphasizes pedestrian travel through mixed use and higher density development, shorter block lengths, and wider sidewalks. Hayward is trying to encourage shoppers to walk—rather than drive—between new stores by requiring new buildings to front the sidewalk, with parking in the rear. The City of Dublin has re-zoned land adjacent to the Dublin/Pleasanton BART station to allow 1,800 new housing units at densities up to 70 units per acre.

Solution 3C: Revise parking requirements at mixed use/transit-oriented development

At the regional level, MTC is performing a landmark parking study aimed at overcoming the barrier that parking requirements can pose to new transit-oriented and infill development. The project will identify reformed parking policies and approaches to address the needs of local communities, commuters, businesses, and other stakeholders for mixed use/transit-oriented and infill developments. Also, BART has modified its replacement parking policy for development projects on BART property, from a strict one-to-one requirement to allowing fewer replacement spaces in some situations.

Solution 3D: Engage in revenue-sharing with neighboring jurisdictions

Since 1978, when California voters passed Proposition 13, the "People's Initiative to Limit Property Taxation," local governments have become increasingly dependent on sales tax revenue. One result has been the lure that "big box" retail establishments have on local governments, even in locations (such as transit station areas) that are inappropriate for such development.

In response, recent State legislation permits a limited amount of revenue-sharing among adjacent cities. Such arrangements reduce the attraction that big box retail can have for local governments by allowing such

establishments to locate where it makes the most sense from both a transportation and land use perspective, and by spreading the resulting sales tax revenue among neighboring jurisdictions.

Obstacle 4: Lack of collaboration between city departments

Beyond policy, the practices of local agencies can inadvertently act as institutional obstacles to walkability. One example is the lack of collaboration between departments within a single jurisdiction.

Solution 4a: Institutionalize inter-departmental collaboration

Although departmental segregation is the norm in most local jurisdictions, there are Alameda County examples of institutionalized collaboration intended to allow specialized staff to learn from each other. For instance, each week Livermore's engineering and planning staff hold combined team meetings so they can approach upcoming planning efforts and construction projects with the broadest possible perspective. The County of Alameda has held several inter-agency coordination meetings regarding walkability issues, including jointly performing walking audits (see *Programs and Plans* section of *Costs and Revenue* chapter).

Obstacle 5: Shortage or absence of staff trained in pedestrian planning

With the exception of the City of Oakland, no city in Alameda County has full-time staff dedicated to pedestrian planning. Without personnel who are assigned to the task of improving walkability, pedestrian needs can be overlooked in the transportation and land use planning processes. The effect of these oversights can be missed opportunities to provide walking facilities in conjunction with larger projects.

Solution 5a: Provide training for local planners and engineers on the principles of walkability

Although most communities do not have dedicated pedestrian planning or engineering staff, all employ professionals who—with adequate training—can bring the skills of a pedestrian professional to their own work.

Caltrans and the California Department of Health Services jointly fund a program to educate staff and others on the fundamentals of creating walkable communities. A group of people in California have been trained as "Walkability Experts," whom local jurisdictions can hire to help engineers, planners, police officers, fire-fighters, school district officials, senior center staff, transit providers, elected officials, community-based organizations and other groups identify ways to improve pedestrian conditions in a particular neighborhood. A typical session includes a presentation of pedestrian planning principles, a walking tour of the neighborhood, a group mapping and action-plan development activity, and tools to identify probable funding sources. In 2003, Cherryland and East Oakland took advantage of this program. Other Alameda County communities have used this program as well.

Solution 5b: Create grant-funded positions

There is sufficient interest in the fledgling field of pedestrian planning that cities can likely attract qualified pedestrian professionals, even if these jobs are not permanent. In some cases, foundations may be willing to fund such a position for a particular objective, such as developing a pedestrian master plan or a specific plan in a particular neighborhood.

Obstacle 6: Limited enforcement of traffic laws

Law enforcement officials who do not cite jay-walkers are inadvertently teaching pedestrians that this behavior is acceptable, which ultimately results in dangerous situations. Similarly, by neglecting to ticket drivers who do not yield the pedestrian right-of-way, police officers are communicating that walking is not important.

Solution 6a: Train law enforcement professionals

Programs are needed that reinforce the importance of local police enforcement of existing traffic laws, thereby furthering their city's efforts to improve walkability by

creating an environment that is safe for pedestrians, particularly those with disabilities. This obstacle is not solely an education issue: many police departments are understaffed and often, understandably, prioritize violent crime.

Solution 6b: Conduct police stings

Local police departments, including those in the cities of Alameda and Oakland, have deployed police officers to enforce pedestrian right-of-way and speed laws in high-visibility locations where vehicle/pedestrian interactions are consistently problematic. In addition to sensitizing police officers to pedestrian crossing issues, such activities help create public awareness through enhanced media coverage of the pedestrian right-of-way and educate individual drivers.

Lack of a Multi-Modal Perspective

The needs of motor vehicles, buses, bicycles and pedestrians are often, inarguably, different. Every city in Alameda County has locations where conflicting needs are apparent: bulb-outs that make turning difficult for trucks; traffic signal timing that allows pedestrians insufficient time to cross; and trails with inadequate width to separate bicyclists and pedestrians. Although these are examples of physical barriers to improved walkability, institutional obstacles are often at their root. Examples include design standards that prioritize motor vehicle traffic, inconsistent application of traffic engineering methods that can benefit pedestrians, and data analysis methodologies that are based on the primary importance of the automobile.

Obstacle 7: Statewide design standards do not adequately address pedestrian facilities

The design standards that local traffic engineers typically turn to are those issued by Caltrans and the Federal Highway Administration. Although these publications contain standards for sidewalk design and pedestrian signal phasing, they are primarily written with motor vehicles in mind and have few guidelines for pedestrian facilities. Straying from these state- and federally-sanctioned standards is, in many cases, not considered an option, due to liability concerns.

Solution 7a: Develop local multi-modal design guidelines

Locally-adopted roadway and development standards or guidelines that pertain to all modes can offer the key to creating walkable communities by serving as easy-to-use reference guides for local traffic engineers; avoiding the need to work out potential inter-departmental conflicts on a case-by-case basis; and bringing together best practices to minimize conflicts between users. Such standards can, but need not, be written in conjunction with local pedestrian master plans.

> Although the design standards that local traffic engineers typically turn to contain standards for sidewalk design and pedestrian signal phasing, they are primarily written with motor vehicles in mind, and have few guidelines for pedestrian facilities.

Because standards are flexible and constantly being updated, local documents offer the added opportunity to provide information about traditional roadway standards when they change. A current example of a changing standard is the Manual of Uniform Traffic Control Devices (MUTCD), which is in the final stages of incorporating, as a recommendation, longer pedestrian-signal green times.

Beyond providing a resource for traffic engineering staff, the process of developing local design standards offers different departments within a single city the opportunity to discuss their individual needs with respect to roadway design. Such citywide conversations are essential for developing solutions that acknowledge

the needs of each division of city government, while addressing the needs of all transportation modes. Examples include finding ways to accommodate bicycle lanes on roads with bulbouts; fire trucks on traffic-calmed streets; and bus stop shelters on narrow sidewalks.

Another way in which local design guidelines can help improve walkability relates to trails. Often, local opposition to new trails is prompted by fears that such facilities will attract criminal activity. Developing local trail design standards—by working with neighborhood groups and by referring to national examples—allows cities and park districts to design trail projects that are less isolated, more inviting, and safer than some older trail examples.

The companion *Toolkit* to this Plan lists local, state and national examples of design standards that can serve as a template for the development of local documents.

Obstacle 8: Traffic calming is not applied systematically

Traffic calming—streetscape improvements that slow motor vehicles and provide a more conducive environment for non-motorized traffic—has become popular in recent years and is becoming more accepted by trained traffic engineers. In the past, pedestrian refuge islands, raised crosswalks, bulbouts and the like were perceived, for the most part, to degrade automobile level of service to an unacceptable degree.

Solution 8a: Study the intended and unintended effects of traffic calming

Research that shows the effect of well-designed traffic-calming projects on local traffic helps local jurisdictions weigh the costs and benefits to all modes of making these improvements and can help cities plan and design appropriate local systems. For instance, there are many examples of traffic calming projects that have improved automobile level of service such as those that restrict turning movements.

Obstacle 9: Policies based on prioritizing motor vehicle flow

In some instances, efforts to protect the environment through the California Environmental Quality Act (CEQA) can have unintended consequences to pedestrian travel. By assuming that free-flowing motor vehicle traffic is always best for the environment, the Act can inadvertently hinder walking and bicycling. Local goals prioritizing motor vehicle flow exacerbate this situation. While fewer cars idling in traffic does mean cleaner air, most jurisdictions do not recognize that the net effect on air quality may be negative when keeping traffic moving requires impediments to pedestrian travel. Examples of the deleterious effects of mitigations for the projected traffic of proposed development projects include dedicated turn lanes, which create wider roads for pedestrians to cross; and retimed traffic signals, which often cause pedestrians to wait longer to cross. In all cases, a balance is needed between environmental and human protections.

> Efforts to protect the environment through the California Environmental Quality Act (CEQA) can have unintended consequences to pedestrian travel.

Trip generation rates, which are used to project the number of vehicle trips that will result from a particular development, are the basis for these mitigations. These rates were developed before the advent of concepts such as transit-oriented development, in-fill and walkable communities. They assume that all new development generates as much automobile traffic as suburban-style, auto-oriented developments.

The primary goal of California's county-level congestion management agencies is to minimize traffic congestion on key countywide facilities, measured using a standard called "Level of Service" (LOS). LOS standards prioritize transportation projects that maintain traffic flow, which can sometimes come at the expense of walkability.

Solution 9a: Cite research that shows where pedestrian improvements also have benefits for other modes

In the short term, comments on individual CEQA environmental documents can refer to studies that document the relationship between improving motor vehicle traffic flow and deterring pedestrians and bicyclists, as well as research that looks at the circumstances under which non-motorized trips can be expected to replace auto trips, and the resulting effect on air quality (see companion *Toolkit*). This information could be shared with municipalities and environmental consultants.

Solution 9b: Revise trip generation rates

A current effort by the Association of Bay Area Governments and the Institute of Transportation Engineers is contributing to the development of revised trip generation rates to reflect the reduced number of auto trips that result from compact, mixed-use development that is oriented to nearby public transit. This work has the potential to reduce the extent of auto-oriented mitigations that such new development would typically be required to provide. In a separate effort, proponents of walkable communities in Sacramento are working with environmental groups to find acceptable ways to exempt this type of development from CEQA altogether, perhaps modeled on CEQA's existing exemption for affordable housing projects.

Solution 9c: Relax LOS standards in certain districts

In recognition of the inevitability of higher congestion levels in denser areas, some Bay Area cities, including Oakland, allow less stringent LOS thresholds in designated pedestrian districts. This is currently the case for downtown Oakland.

Solution 9d: Develop mode-specific level of service standards

The City of Seattle is investigating the replacement of LOS measures with Quality of Service (QOS) in order to put all modes on a level playing field. Each mode's QOS is determined by a different measure. For instance, transit is measured by the percent of the posted speed limit buses can travel; bicycle QOS is measured by compatibility index and comfort level; and pedestrian mode is measured by perceived safety. Only transit QOS measures have been adopted. The data on which pedestrian and bicycle measures would be based, is costly and difficult to obtain.

Solution 9e: Choose not to mitigate traffic impacts under CEQA

CEQA requires disclosing the anticipated impacts of a particular project, but does not require the mitigation of these impacts. Public agencies are often reluctant to disclose negative impacts without proposing solutions for political reasons. However, studies have shown, for example, that a certain degree of congestion may actually make some places more vibrant and livable, not less. If pedestrian improvements were made in conjunction with such disclosures, perhaps this would be an easier position to take.

Public Awareness

Lack of knowledge of the benefits of pedestrian facilities and walking in general can lead members of the public to object to pedestrian improvements.

Obstacle 10: Lack of understanding of economic benefits of walking to the community

Many businesses advocate for policies that facilitate auto access, such as free parking and new freeway interchanges, and underestimate the economic impact of walk-in customers. Purchases made by pedestrians generate revenue for business owners, as well as sales tax for the community.

Solution 10a: Develop data that shows revenue generated by walk-in customers.

All walk-by traffic helps retail businesses, regardless of how pedestrians reach the commercial district. Surveys are needed to document the value of pedestrian improvements to local businesses. This work would

assess the importance of unplanned purchases by pedestrians, which occur more frequently than with shoppers who drive, particularly in congested shopping districts.

Obstacle 11: Fear that pedestrian improvements will bring unintended consequences

Residents in parts of many of the County's unincorporated areas, for instance, fear that new sidewalks will eliminate parking in front of their homes. Others object to sidewalks on the basis that they will displace mature trees in their path.

Solution 11a: Work with property owners

Alameda County has worked with concerned property owners to ensure that parking is retained and that sidewalk design accommodates existing trees whenever possible. In response to residents' opposition to a new trail behind their homes, Dublin held public meetings that resulted in the City buying and planting trees on neighboring properties.

Obstacle 12: Lack of knowledge of the health benefits of walking

If local officials and residents don't understand how walking as transportation can improve personal health and environmental quality, then they may not demand good pedestrian facilities. Without this pressure, other budgetary priorities will likely take precedence, resulting in less funding for pedestrian improvements.

Solution 12a: Public education

Public awareness of the benefits of walking is needed and these efforts clearly need to extend beyond the general public to elected decision-makers. Safe Routes to School programs are a good example of a type of publicly-sponsored education campaign that encourages physical activity and puts pressure on local governments to improve walking facilities in the vicinity of schools. The Kaiser Foundation's "Thrive" campaign uses billboards and other mass marketing techniques to educate the public about the benefits of regular physical activity. Such efforts can spur local residents to demand facilities that will allow them to meet this public health objective.

Funding

Obstacle 13: Inadequate funding

Even during periods of generous transportation funding, pedestrian projects are rarely at the top of any agency's funding lists. But during economic downturns, it is especially difficult to fund such improvements.

Solution 13a: Utilize new funding sources

There are more sources now that will fund pedestrian projects than ever before (see *Funding* chapter of the companion *Toolkit*). For instance, the recently passed federal transportation bill—SAFETEA-LU—includes provisions for bicycle and pedestrian projects in five distinct funding programs.

Solution 13b: Develop creative funding arrangements

Public agencies can enter into creative funding partnerships or pursue non-traditional sources of funding. For instance, the County of Alameda has obtained one of the 3M Corporation's quarterly grants for feedback speed signs—electronic messages that show drivers how fast they are going—and the City of Emeryville uses funds from Alameda County's "StopWaste.org" Recycled Product Procurement Program to construct bus stop benches.

Solution 13c: Develop facility performance standards

Pedestrian facility performance standards use measures, such as the level of pedestrian use or the number of pedestrian injuries, to allow pedestrian projects to be compared more directly to other projects competing for scarce non-motorized transportation funds.

3. Vision and Goals

CHAPTER GUIDE

TOPIC: Description of what the pedestrian environment in Alameda County could look like in 2030, as well as goals and strategies to enable this vision to be realized.

AUDIENCE: Locally-elected officials, transportation planners and commissioners, land use planners and planning commissioners.

USES: To establish clear steps towards creating a more walkable County and to link the findings of the *Existing Conditions* and *Obstacles* chapters to any opportunities that ACTIA and the ACCMA have to influence the pedestrian environment in Alameda County.

INTRODUCTION

The information contained in the *Existing Conditions* and *Institutional Obstacles* chapters has informed the remainder of the Pedestrian Plan, in particular the Plan's vision and goals.

The vision is an ambitious, but achievable, description of what the Alameda County pedestrian environment could be like in 2030. Attaining this vision will require a strong commitment by all of the communities and agencies in the County, and a significant investment of time and resources. The goals describe improvements in particular topic areas that, together, will allow this vision to be realized. Under each goal are corresponding strategies that detail the efforts, by multiple agencies and organizations, needed to achieve these goals.

Local agencies and others already have adopted many good plans and policies to improve walkability. The goals contained in this Plan are meant to support these local activities. Although neither ACTIA nor the ACCMA have direct control over the planning, design or implementation of most pedestrian-related projects or programs in Alameda County, the two agencies wield considerable influence by way of coordination efforts, training opportunities, and the allocation of funds.

PROCESS OF DEVELOPING THE VISION AND GOALS

The challenge in developing a vision and goals is to produce language that is specific and useful, while respecting the diversity of geographic locations, walking environments, and pedestrians in Alameda County. The Plan's vision was developed over a period of months in collaboration with the Pedestrian Plan Working Group, ACTIA's Bicycle and Pedestrian Advisory Committee, and the Paratransit Advisory and Planning Committee. It builds upon ACTIA's previously adopted vision statement for bicycling and walking in Alameda County.

Together the groups listed above wanted a vision statement that would encompass the concepts of safety, attractiveness, accessibility and connectivity. Furthermore, they wanted the vision to go beyond providing just a description of the physical pedestrian environment, by incorporating the concept of how that environment could inspire more walking. Finally, they

wanted the statement to highlight the importance to walkability of public transit and development patterns.

With a vision statement in place, the same groups developed a list of seven goals with corresponding strategies that identify how the goals are to be reached. Goals are typically much more specific than vision statements and, where possible, progress toward goals can be measured. These goals are relevant in all parts of the County, regardless of the existing pedestrian environment or the current level of walking. They are also relevant at the countywide level, but are not limited to areas over which ACTIA and the ACCMA have direct control; rather, these agencies can influence these goals through funding, coordination, and the direct provision of technical resources, such as the *Toolkit*, the Plan's companion document.

THE VISION

Alameda County will be a community that inspires people to walk for everyday trips, recreation and health, where development patterns, connections to transit, and interconnected pedestrian networks offer safe, attractive, and widely accessible walking routes and districts.

GOALS AND STRATEGIES

1. Number and Percentage of Walk Trips

Increase the number and percentage of walking trips with the intention of reducing motor vehicle use, preserving air quality, and improving public health.

a. Increase the percentage of walking trips for all trip purposes, from 12 percent to 14 percent by 2010[1] and to 18 percent by 2020,[2] by replacing vehicle trips whenever possible.
b. Focus countywide funding on pedestrian improvements in high density transit-dependent areas.
c. Encourage incorporating walking into everyday activities to increase physical fitness.
d. Enhance public awareness about the health benefits of walking, particularly for obese individuals and those at risk for diabetes, heart disease and stroke.

2. Safety

Improve actual and perceived pedestrian safety and security.

a. Significantly improve methods of collecting and analyzing data on collisions and collision rates, using geographic information systems (GIS) and other analysis tools to ensure funding is focused on projects of greatest need.
b. Implement pedestrian safety and security improvements in locations with the highest collision rates and security issues.
c. Improve pedestrian safety, especially for the young, elderly, and disabled.
d. Reduce annual pedestrian collision rate by 50 percent by 2030.[3]
e. Improve driver awareness of pedestrian rights.

3. Infrastructure and Design

Improve Alameda County's pedestrian environment through additional infrastructure, better design and maintenance.

a. Improve the state of the practice of pedestrian infrastructure design so that all transportation

[1] The "current" walking rate of 12% is from the 2000 U.S. Census. The 2010 walking rate goal of 14% is, in fact, the actual walking rate in 1990.

[2] The 2020 walking rate goal is based on Caltrans' 2002 California Blueprint for Bicycling and Walking, which called for a 50 percent increase in walking trips between 2000 and 2010, a ten year period, while this Plan calls for a similar increase over a 20 year period.

[3] The safety rate goal is based on Caltrans' 2002 California Blueprint for Bicycling and Walking, which called for a 50 percent decrease in pedestrian fatality rates between 2000 and 2010, a ten year period, while this Plan calls for a similar decrease over the life of the Plan, a 25 year period.

facilities are well-designed and standardized, where appropriate.

b. Support efforts to ensure that pedestrians are fully considered in all transportation projects, to the extent feasible, including by supporting the Routine Accommodation policies of regional, State and federal agencies.
c. Encourage local agencies to develop and follow pedestrian design guidelines and amend local ordinances as appropriate to reflect them.
d. Support local agency compliance with provisions of the Americans with Disabilities Act related to public access.
e. Support maintenance of the existing pedestrian infrastructure with countywide funds when no other maintenance funds are available.
f. Support efforts to plan, design and fund transportation facilities that minimize conflicts between pedestrians and other travel modes (i.e., bicycles, transit, autos).
g. Support a mix of land uses and activities in development and redevelopment projects that will maximize pedestrian travel.

4. Connectivity

Ensure that essential pedestrian destinations throughout Alameda County—particularly public transit—have direct, safe and convenient pedestrian access.

a. Encourage the prioritization of pedestrian projects that provide access to essential destinations such as commercial districts, schools, healthcare facilities, senior centers, grocery stores, and parks and trail systems, particularly in high density, transit-dependent areas.
b. Support investment in the creation of convenient, safe pedestrian routes to transit, including to bus stops, ferry terminals and rail stations.
c. Increase countywide pedestrian access share to BART by 6.5 percent, from 22 percent in 1998 to 23.5 percent in 2010.[4]
d. Encourage development that is designed to optimize access by public transit and on foot.
e. Complete the San Francisco Bay Trail and paved inter-jurisdictional EBRPD trail systems that serve populated areas in Alameda County.
f. Support the acquisition and conversion of abandoned railroad corridors for multi-use trails where there is potential for frequent pedestrian use.

5. Planning and Research

Support planning and research to improve understanding of the benefits of walking, how best to encourage walking, and the need for improved facilities.

a. Ensure that all Alameda County jurisdictions have a current pedestrian plan by 2012 by providing adequate countywide funds.
b. Support the collection of data on pedestrian trips, facilities and collisions by local, countywide and transit agencies.
c. Support research and implementation of multi-modal—including pedestrian—level of service (LOS) standards and other methods to minimize conflicts between modes.
d. Encourage coordination of pedestrian research and planning efforts among transportation planning agencies in Alameda County, and the region.

6. Staffing and Training

Ensure that public agency staff and elected and appointed officials are well-informed and well-trained in the pedestrian realm.

a. Inform elected and appointed officials about issues of importance to pedestrian planning and funding.

[4] BART Station Access Guidelines (April 2003).

b. Work with public agency staff to develop and provide training in pedestrian planning, design and engineering.
c. Provide Alameda County public agencies with successful models of innovative land use and transportation policies aimed at improving pedestrian conditions.
d. Work with law enforcement agencies on pedestrian safety, enforcement of traffic laws, and the collection of collision data.

7. Funding

Maximize the amount of funding for pedestrian projects, programs and plans in Alameda County, with an emphasis on implementation.

a. Work creatively and diligently to obtain maximum levels of countywide, regional, state and federal pedestrian funds and to attract non-traditional funding sources.
b. Support and encourage sufficient funds to implement this Plan.
c. Encourage local agencies to pursue competitive funding, beyond what is administered by ACTIA and the ACCMA.
d. Work with local agencies to identify additional funding sources for pedestrian facility maintenance and upgrades to meet current codes.

4. Countywide Priorities

Chapter Guide

Topic: Defines Alameda County pedestrian capital, programmatic and planning efforts of countywide significance.

Audience: Local governments, non-profit agencies and locally-elected officials.

Uses: To define topic areas of countywide significance for pedestrian projects, programs and plans; to guide the development of detailed scoring criteria for Measure B, Regional Bicycle and Pedestrian Program funding, and other countywide pedestrian funding sources; to indicate to potential project sponsors what projects, programs, and plans are eligible for these funding sources; to document pedestrian projects of countywide significance for public and private funders whose policies require that projects be included in a plan to be eligible for funding, and to raise understanding of the countywide importance of walking.

Introduction

One of the primary ways in which ACTIA and the ACCMA can implement the Pedestrian Plan's vision and goals is by directing the countywide pedestrian funding sources managed by these agencies to capital projects, programs, and planning efforts that help achieve the vision and goals. The subject of this chapter is defining what constitutes a pedestrian project, program and plan of "countywide significance" in Alameda County and is, therefore, a priority for countywide pedestrian funds.

Capital Projects of Countywide Significance

Pedestrian projects are often viewed as purely serving local needs, but in reality, there are pedestrian projects that are important to more than one jurisdiction, if not to the County as a whole. Unlike bicycles and motor vehicles, which have roadway and trail networks that allow travel between cities throughout the County, pedestrians do not typically travel from city-to-city on a sidewalk or trail network; rather, walking is generally clustered around local areas and pedestrians are connected via pubic transit to other parts of a city, a neighboring community or the entire county.

In this Plan, areas of countywide significance are defined as "places that serve pedestrians traveling to and from a variety of locations throughout Alameda County and beyond."

> Areas of countywide significance are defined as "places that serve pedestrians traveling to and from a variety of locations throughout Alameda County and beyond."

There are three categories that follow from this definition, which are discussed in detail, below: (1) Public transit; (2) Activity centers; and (3) Inter-jurisdictional trails. All areas that are currently known to meet the definitions described in this section are shown in Figures 3-7. For the most part, these figures do not show future projects (such as rail stations or ferry terminals). In all cases, the figures are intended to illustrate the definitions of the various areas of countywide significance, but may not include all possible areas of significance. Funding eligibility will be determined based on projects meeting the definitions, as opposed to being shown in the figures.

❶ Public transit

The ability to reach public transit on foot is an essential part of the pedestrian experience because, by walking to buses, trains and ferries, pedestrians can travel far beyond their typical range. This is important for those, including the disabled, who prefer to travel without an automobile, as well as for those who have no choice. Furthermore, public transit is a county transportation funding priority. Therefore, improving walk access to transit can increase ridership, thereby reinforcing this countywide investment.

Priority walk access to bus transit focuses on bus routes of countywide significance, defined below, while all rail and ferries are considered to be of countywide significance. In all cases, capital projects must be at most one-half mile from the entry to these transit services, the typical distance that most people are willing to walk. This distance is calculated using actual walking distance, rather than "as the crow flies" measurement. In order to be considered priorities for countywide pedestrian funding, projects must show a direct relationship to improving pedestrian access to public transit of countywide significance.

New major bus corridors that meet the criteria for countywide significance, as well as future rail stations and ferry terminals, will be considered to have countywide significance and therefore will be eligible for countywide funding. However, it is assumed that new stations and terminals will be designed for a high level of pedestrian safety, convenience and access, since they are being built from the ground up, and therefore basic pedestrian access improvements will not be eligible for funding.

Bus Corridors of Countywide Significance

Bus corridors include trunklines, as defined by individual operators, plus additional service in areas of Alameda County where there are geographic gaps in trunkline service. Below are the trunklines that each Alameda County bus operator has designated, as well as additional service as described above.

AC Transit

AC Transit is the largest bus operator in Alameda County, serving all cities in the County, with the exception of Dublin, Pleasanton and Livermore. AC Transit has designated the roadways on which the system's highest ridership and most frequent routes operate as their trunklines (indicated with an asterisk (*), below). To provide fuller coverage in central Alameda County and Fremont, two of AC Transit's "major corridors" (on Hesperian Blvd. and East 14th/Mission Blvd.) and a third corridor that serves central/south Fremont are also considered to be of countywide significance. And, to ensure that major activity centers and transit facilities are linked, three additional east-west AC Transit corridors are considered to be of countywide significance. These 11 routes have a combined mileage of 120 miles.

- San Pablo Avenue from Downtown Oakland to Albany (and further north into Contra Costa County)*
- International Blvd./E. 14th St. from Downtown Oakland to Hayward*
- Bancroft/Foothill/Shattuck/Telegraph from San Leandro to Berkeley*
- Macarthur/40th St. from San Leandro and East Oakland to Emeryville*
- University/College/Broadway in Berkeley/Oakland to Santa Clara St. in Alameda*
- Hesperian Blvd. from Bayfair BART to Union City BART, with a segment on Alvarado-Niles Road
- Outer East 14th St./Mission Blvd. from Bayfair BART to Union City BART
- Fremont Blvd. connecting to Ohlone College in Fremont
- 35th Avenue, from Merritt College to Fruitvale BART
- Fruitvale BART to Eastmont Mall, via Alameda, the Oakland Airport, and Southshore Center
- CSU East Bay to Chabot College, via Hayward BART and Southland Mall

Dumbarton Express

Dumbarton Express is a fifteen-mile long express bus route (five miles of which are in Alameda County) that serves commuters traveling between the Union City BART station, Fremont, Newark and the Peninsula. Additional rail service is planned to complement these buses via the Dumbarton rail bridge.

Union City Transit

Union City operates a small bus system that provides local access to AC Transit, BART and Dumbarton Express, with most transfers occurring at the Union City BART station. Union City Transit identifies their trunklines as the routes that have historically had the highest ridership and operate along main arterial roads. These routes have a combined mileage of 29 miles. The trunklines are:

- Route 1A/1B
- Route 2 Whipple

WHEELS

WHEELS serves the eastern portion of Alameda County. The agency identifies two lines, with a combined mileage of 33 miles, that could be considered trunklines since they serve many passengers, travel longer hours than other routes, and sometimes act as collectors from feeder routes. Both routes serve the Dublin/Pleasanton BART station and the Livermore Transit Center. These trunklines are:

- Route 10 (provides local service through all three communities in WHEELS' service area and carries half of the system's total ridership)
- Route 12 (a semi-express that runs between eastern Dublin, downtown Livermore and Las Positas College)

Bus Corridors of Countywide Significance

AC Transit (120 total miles)

- San Pablo Avenue from Downtown Oakland to Albany (and further north into Contra Costa County)
- International Blvd./E. 14th St. from Downtown Oakland to Hayward
- Bancroft/Foothill/Shattuck/Telegraph from San Leandro to Berkeley
- Macarthur/40th St. from San Leandro and East Oakland to Emeryville
- University/College/Broadway in Berkeley/Oakland to Santa Clara St. in Alameda
- Hesperian Blvd. from Bayfair BART to Union City BART, with a segment on Alvarado-Niles Road
- Outer East 14th St./Mission Blvd. from Bayfair BART to Union City BART
- Fremont Blvd. connecting to Ohlone College in Fremont
- 35th Avenue, from Merritt College to Fruitvale BART
- Fruitvale BART to Eastmont Mall, via Alameda, the Oakland Airport, and Southshore Center
- CSU East Bay to Chabot College, via Hayward BART and Southland Mall

Dumbarton Express (5 miles in Alameda County)

- Dumbarton Express bus route

Union City Transit (29 total miles)

- Routes 1A/1B
- Route 2 Whipple

WHEELS (33 total miles)

- Route 10
- Route 12

Rail Stations and Ferry Terminals of Countywide Significance

All existing and future rail stations and ferry terminals in Alameda County have countywide significance. Below is a listing of existing stations and terminals, by transit operator. (More details are provided about each operator in the *Existing Conditions* chapter.)

Altamont Commuter Express (ACE)

There are four Alameda County ACE stations: Vasco (in Livermore), Downtown Livermore, Downtown Pleasanton and Fremont.

Amtrak's Capitol Corridor

There are six Capitol Corridor rail stations in Alameda County. They are in Berkeley, Emeryville, Oakland (Jack London Square and Oakland Coliseum), Hayward and Fremont.

Bay Area Rapid Transit (BART)

There are 19 BART stations in Alameda County. They are in the following jurisdictions: Berkeley, Oakland, San

Leandro, Hayward, Union City, Fremont, Castro Valley and Dublin/Pleasanton.

Ferry service

There are three existing ferry terminals in Alameda County: one in Oakland at Jack London Square and two in Alameda, one on either side of the city.

❷ Activity Centers

Each of the activity centers described below is a popular and/or important destination, which attracts people from other parts of Alameda County, and beyond. These locations are, therefore, considered to be of countywide significance, and have been grouped into eight sub-categories:

- Downtowns
- Major commercial districts
- Shopping centers
- Post-secondary educational institutions
- Hospitals and medical centers
- Major public venues
- Government buildings
- Regional parks

Safe, convenient, and pleasant pedestrian access to and within these activity centers allows pedestrians to reach and walk within these locations. This includes drivers, bicyclists, and transit riders, all of whom become pedestrians once they are in the vicinity of their destination. A safe and inviting pedestrian environment will attract more people to these centers, and will create a more pleasant experience once they are there.

Countywide significant capital projects are those that directly improve pedestrian safety and access within downtowns or major commercial districts, and those that improve safety and access between the entrance to the other six activity centers and the closest bus stop, rail station or ferry terminal to each, provided the distance is within one-eighth mile.

Downtowns and Major Commercial Districts

The central business district of any city in Alameda County, as defined by the local general, specific or downtown plan, is considered to be of countywide significance. Downtowns typically include retail, office and some level of residential development. In addition, any city's major commercial districts, as defined by the local general plan, are also of countywide significance. A major commercial district is a collection of mainly retail and service establishments in a multi-block area. Unlike downtowns, major commercial districts need not—but may—include office and/or residential uses. Alameda County examples include Albany's Solano Avenue, Alameda's Webster Street, and Pleasanton's Hacienda Business Park, once it is redeveloped to include housing and retail, as envisioned in a current planning process.

Shopping Centers

Major shopping centers that attract visitors from throughout Alameda County are considered to be of countywide significance. See Appendix E for a list of these locations.

Post-Secondary Educational Institutions

Post-secondary educational institutions with enrollment over 3,000 are considered to be of countywide significance. In Alameda County there are nine such institutions: UC Berkeley, Cal State East Bay and the County's seven community colleges: Chabot, Laney, Ohlone, Las Positas, Merritt, College of Alameda and Berkeley City College (formerly Vista).

Hospitals and Medical Centers

Sixteen major hospitals and medical centers in Alameda County have countywide significance. A list of sites that are thought to meet this criteria is included in Appendix E.

Major Public Venues

Alameda County contains 17 major public venues considered to be of countywide significance, including large museums, centers for performing arts, concert halls, and professional sports facilities. Appendix E contains a list of these locations.

Government Buildings

Government buildings of countywide significance are county, regional, state and federal offices in Alameda County with significant numbers of visitors from various jurisdictions in Alameda County. There are 24 such buildings, which are listed in Appendix E.

Regional Parks

The 25 regional parks, regional preserves, regional recreation areas and regional shorelines adjacent to or within populated areas are considered to be of countywide significance. See Appendix E for a list of these locations.

❸ Inter-jurisdictional trails

Trails are important for health, recreation and transportation. The trails considered to be of countywide significance are inter-jurisdictional paved, shared-use paths (Class I, in Caltrans terms) that link populated areas. (On some segments of inter-jurisdictional trails, a Class I facility, while desirable, may not be feasible in the foreseeable future. These segments, which may be sidewalks or unpaved trails, still meet the definition of countywide significance.)

Projects that develop the San Francisco Bay Trail, the Iron Horse Trail and other inter-jurisdictional trails that link populated areas, meet the definition of countywide significance, as do projects that improve the intersection of these trails with roadways. All of the following trails link jurisdictions or population centers, or provide access to regional parks.

San Francisco Bay Trail

The primary Bay Trail alignment is referred to as the "spine." "Connectors" link the spine to inland recreation sites, residential neighborhoods, employment centers, and public transit facilities. "Spurs" link the Bay Trail to points of interest along the shoreline. Bay Trail segments of countywide significance include all spine and connector segments, although priority will be given to spine segments in an attempt to complete the Bay Trail in Alameda County, thereby providing a continuous pedestrian network to all bayside communities.

Iron Horse Trail

The Iron Horse Trail—built along the alignment of an abandoned railroad right-of-way—currently provides pedestrian access between Contra Costa County communities, Dublin, the Dublin/Pleasanton BART station and Pleasanton. There are plans to extend the trail eastward to Livermore and eventually to the San Joaquin County border.

The Iron Horse Trail is EBRPD's primary regional trail in eastern Alameda County. Essentially, it is this area's counterpart to the Bay Trail. Given that trails of countywide significance must link populated areas, segments east of the City of Livermore are not considered to be of countywide significance.

Other Inter-Jurisdictional Trails that Link Populated Areas

In addition to the Bay Trail and the Iron Horse Trail, there are other existing and planned inter-jurisdictional trails that link populated areas in Alameda County. Some examples of these include the Ohlone Greenway, which travels along the BART alignment through Berkeley and Albany (and to the north into Contra Costa County); the Jack London/Arroyo Mocho trail, which links Livermore and Pleasanton; segments of other EBRPD trails such as the Alameda Creek Trail; and the potential conversion of the Union Pacific Railroad right of-way between Oakland and Fremont.

Pedestrian Programs of Countywide Significance

In addition to capital projects of countywide significance, creating a thriving pedestrian culture in Alameda County will require programs that promote, educate, and provide other programmatic support for walking. Pedestrian programs considered to be of countywide significance fall into four general categories: (1) promotion; (2) education; (3) technical support; and, (4)

support for school and low income area improvements. A description of each program type follows. (See companion *Toolkit* for examples of each.)

❶ Promotion

Pedestrian promotions encourage people to walk, whether for transportation, recreation or health benefits. Promotions can be for a limited time period—such as an annual walkathon or a monthly walk commute day—and yet instill or improve long-term walking habits. Examples of pedestrian promotions include individualized marketing, walk-to-transit programs, organized walks and walking maps, each of which is described briefly below. All pedestrian promotions of countywide significance have the following characteristics in common:

- Are Countywide in nature, or at least provide a model that could be transferable throughout Alameda County;
- Attempt to change long-term walking habits (unlike one-time events);
- Include a focus on walking as a transportation option, with the potential to replace automobile trips; and
- Have been shown to be effective at encouraging walking or improving pedestrian safety.

Individualized Marketing

Programs that use this technique offer residents of targeted neighborhoods information about alternatives to the single-occupant vehicle, including walking. These programs have been shown to be very effective at influencing participants' behavior, particularly a shift from driving to walking for short trips.

Walk-to-Transit Programs

Since most public transit trips begin and end with walking, increased access to public transit can provide more opportunities for people to be physically active, according to a new study by the Centers for Disease Control and Prevention. Americans who use buses, subways and other public transit spend a median of 19 minutes a day walking to and from transit.

"Transit ambassador" or "travel training" programs offer personalized orientation for new users of public transit in a particular geographic area. Trained volunteers assist new riders in learning how to read schedules, plan a trip, find the nearest bus stop, use transfers and passes, pay the fare, and how to use special features such as the wheelchair lift and "kneeling" buses. An added benefit is that these programs can increase transit ridership.

> Since most public transit trips begin and end with walking, increased access to public transit can provide more opportunities for people to be physically active.

Organized Walks

Many organizations throughout Alameda County lead weekly or annual walks as a way to encourage physical activity, introduce residents to each other and to their communities, and to promote walking for transportation.

Walking Maps

Walking maps show walking routes through neighborhoods, historic districts, parks, greenways and along bodies of water. Such maps can identify routes that start and end at the same place, or suggest good ways to reach popular destinations on foot. Some walking maps indicate walking times in addition to distances.

❷ Education

Pedestrian education programs typically teach pedestrians how to walk safely and/or teach drivers how to interact safely with pedestrians. Examples include safe routes to schools programs that show children and their parents safe routes and how to look out for cars, and driver education programs.

Pedestrian education programs of countywide significance have the following characteristics:

- Are Countywide in nature, or at least provide a model that could be transferable throughout Alameda County; and
- Have been shown to be effective at encouraging walking or improving pedestrian safety.

Safe Routes to Schools

Safe Routes to School (SR2S) refers to a variety of multi disciplinary programs aimed at promoting walking and bicycling to school, and improving traffic safety around school areas through education, encouragement, law enforcement, and engineering measures. SR2S programs typically involve partnerships among municipalities, school districts, community and parent volunteers, and law enforcement agencies. There may be opportunities at the countywide level to support or encourage SR2S programs.

Driver Education Programs

Driver education programs alert drivers to their responsibility to ensure pedestrian safety. This can take the form of classes; public service announcements via radio, TV, billboard or bus shelter advertising; speed-feedback trailers; or traffic stings targeted at pedestrian safety.

❸ Technical support

There are countless people working in the public and private sectors whose responsibilities influence the pedestrian environment. Beyond pedestrian/bicycle coordinators and dedicated pedestrian planners (still a rarity), the work of traffic engineers, transportation planners, trail planners, code inspectors, and others help shape pedestrian facilities and other streetscape characteristics. Private architects, developers and contractors also shape the pedestrian environment. Training these transportation, planning, and building professionals can go a long way toward making sure that adopted design guidelines are followed and that designs with unintended impacts to pedestrians are avoided. This support could take a number of forms:

Technical Assistance

By providing on-call technical assistance or small grants to jurisdictions so they can obtain expert advice, local governments in Alameda County could receive engineering assistance and expertise for resolving small scale, regionally significant bicycle and pedestrian safety, access, and convenience issues. This program could be modeled after the Metropolitan Transportation Commission's Traffic Engineering Technical Assistance Program (TETAP).

Staff Training

Training on the planning, design, and operation of pedestrian facilities, and on new policies and legislation, is another type of technical support that could help jurisdictions improve local pedestrian facilities. Workshops could target engineers, planners, and maintenance crews; those who review, approve, or inspect plans that affect this right-of-way; and architects, developers, and others working on private development with impacts on pedestrian circulation or activity. Training programs that are presented on-site tend to reach the most staff-members, particularly staff who might not be willing to take the time to travel to a class.

Development of Technical Tools

Needed tools identified through the Pedestrian Plan development process include countywide pedestrian design guidelines, pedestrian level of service guidelines, and pedestrian collision analysis tools.

❹ Support for school and low income area improvements

Grant funding for pedestrian capital projects in particularly critical areas provides an opportunity to leverage countywide funds while encouraging local agencies to submit grant applications for projects that facilitate walking. Investing in safe walk-to-school trips

is of countywide significance because school trips represent a large percentage of morning peak auto trips and teaching children to walk for transportation establishes healthy habits. Investment in a safe walking environment in low-income neighborhoods is of countywide significance because these areas have traditionally been underserved by transportation projects and because they are often characterized by low rates of automobile ownership, so residents are more dependent on walking.

Providing local jurisdictions with the "local match" for existing grant programs that fund routes to school projects and pedestrian improvements in low-income areas is one way to support these pedestrian improvements. Such grant programs include Safe Routes to School, Environmental Justice and Lifeline Transportation grant programs.

Planning Efforts of Countywide Significance

Local pedestrian master plans are critical tools to help local governments prioritize capital projects within their boundaries, thus ensuring that projects that are needed most are funded first. At the countywide level, these plans are significant because they assist in achieving the countywide walking rate and safety goals, and provide accurate information about pedestrian infrastructure and funding needs.

Just one third of Alameda County jurisdictions either have adopted or are currently developing stand-alone pedestrian plans (as opposed to combined bicycle/ pedestrian plans, which tend to focus on bicycles) (see Table 8). One of the Countywide Pedestrian Plan strategies is to "ensure that all Alameda County jurisdictions have adopted a current pedestrian plan by 2012."

Effective plans include policies, inventories, prioritized project lists and design guidelines. More information regarding pedestrian master plans is provided in the companion *Toolkit.*

Table 8: Local Pedestrian Plans in Alameda County

Jurisdiction	Ped Plan	Ped/Bike Combined	No Ped Plan
North Planning Area			
Alameda (City of)	Underway		
Albany			✓
Berkeley	Underway		
Oakland	✓		
Piedmont			✓
Emeryville		✓	
Central Planning Area			
San Leandro		✓	
Hayward			✓
Unincorporated	✓		
South Planning Area			
Fremont	Underway		
Newark			✓
Union City		✓	
East Planning Area			
Pleasanton			✓
Dublin			✓
Livermore			✓
Total	**2**	**3**	**7**

Funding Eligibility

All projects, programs and plans must meet the definitions described in this chapter to be eligible for countywide pedestrian funds. The prioritization of specific projects, programs and plans will take place during each grant funding cycle, using adopted evaluation criteria.

In general, eligible capital projects of countywide significance should be focused on pedestrian infrastructure that improves pedestrian safety, convenience and access. Pedestrian amenities, such as typical streetscape and landscaping elements, are not the highest priority for developing a walkable county. MTC's "Cost Estimating Template" (Table 4-1) in the *Pedestrian Districts Study* (2006) will be used as a guide to distinguish pedestrian infrastructure from pedestrian amenities, and to generally assess effectiveness of various improvements. (See Appendix F.)

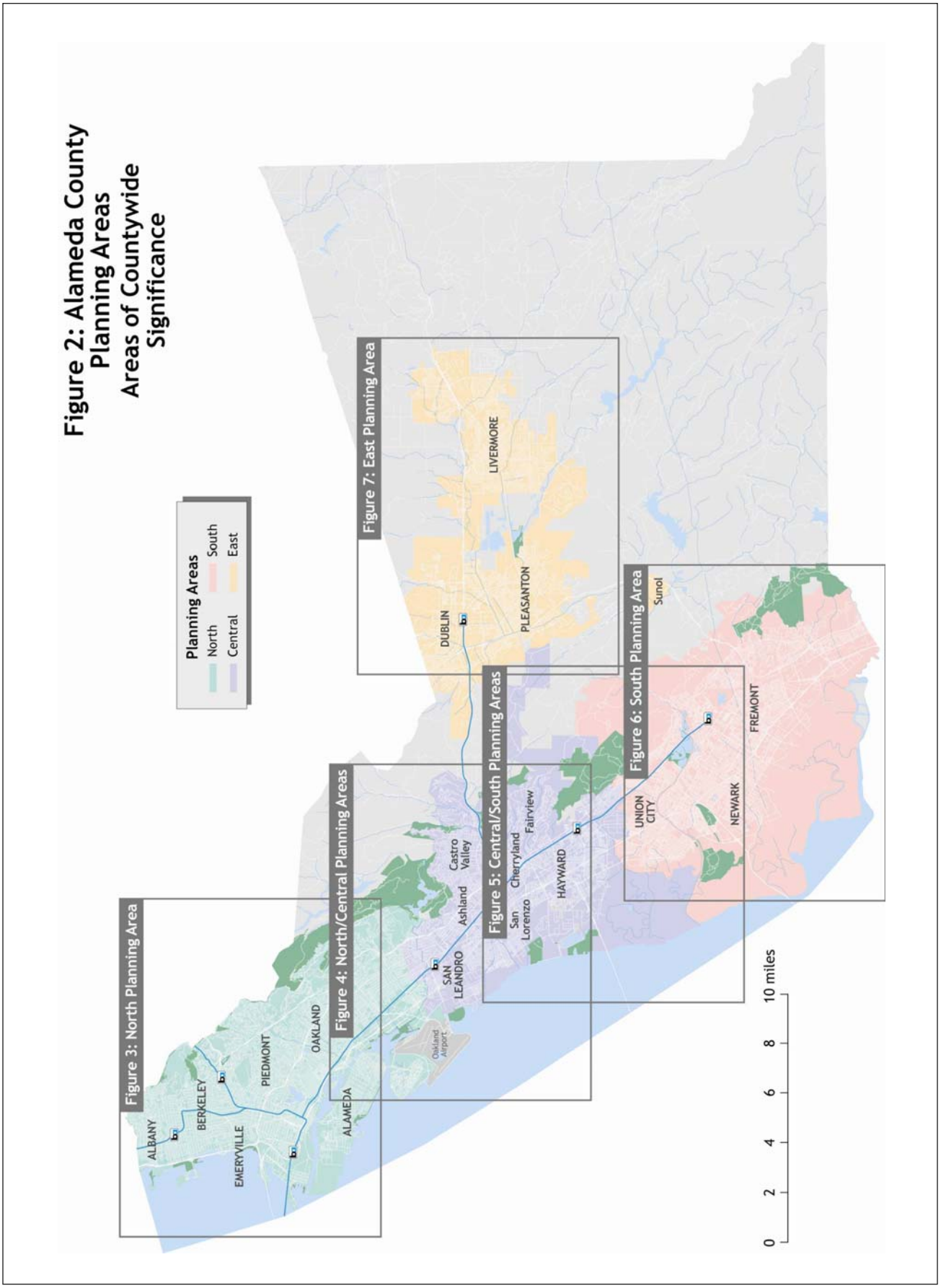
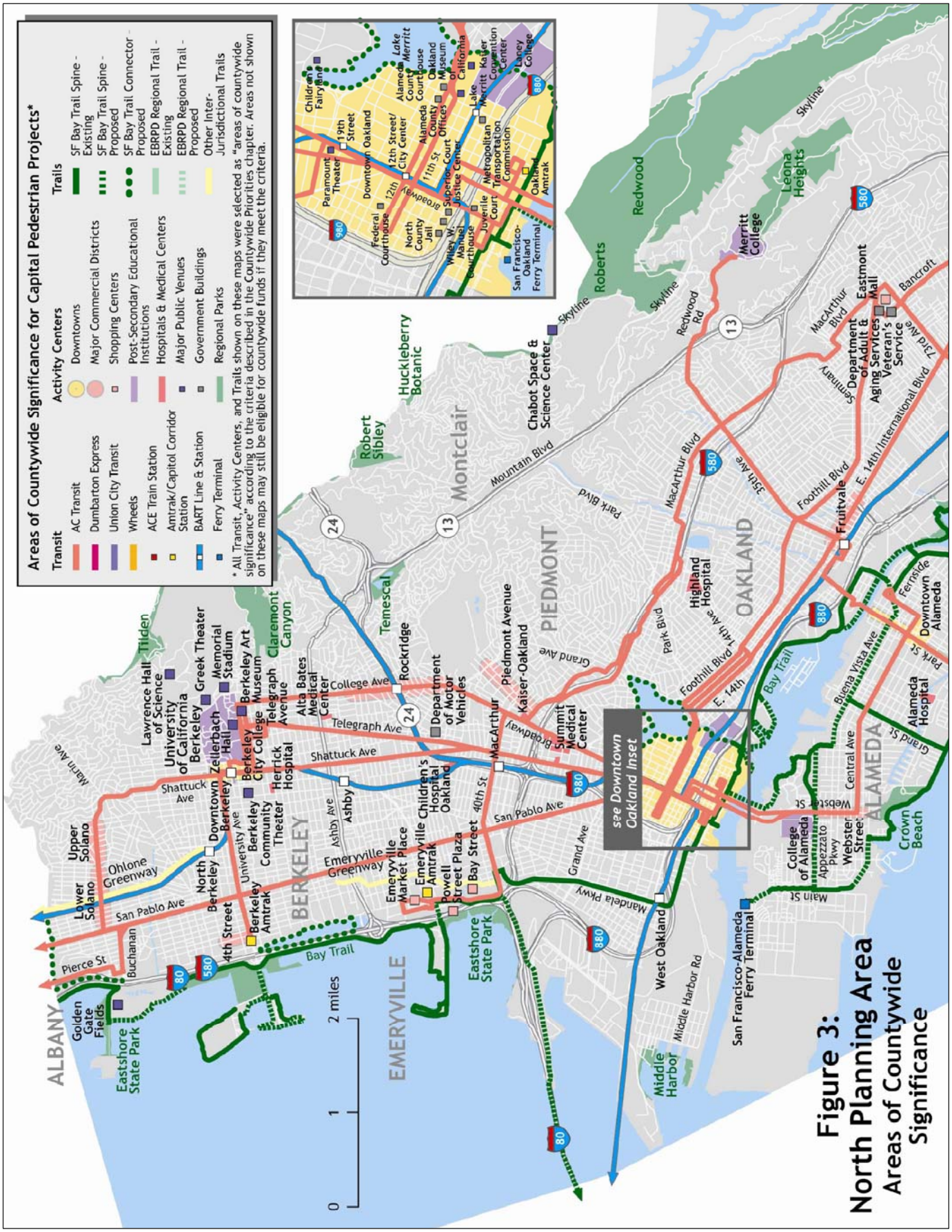
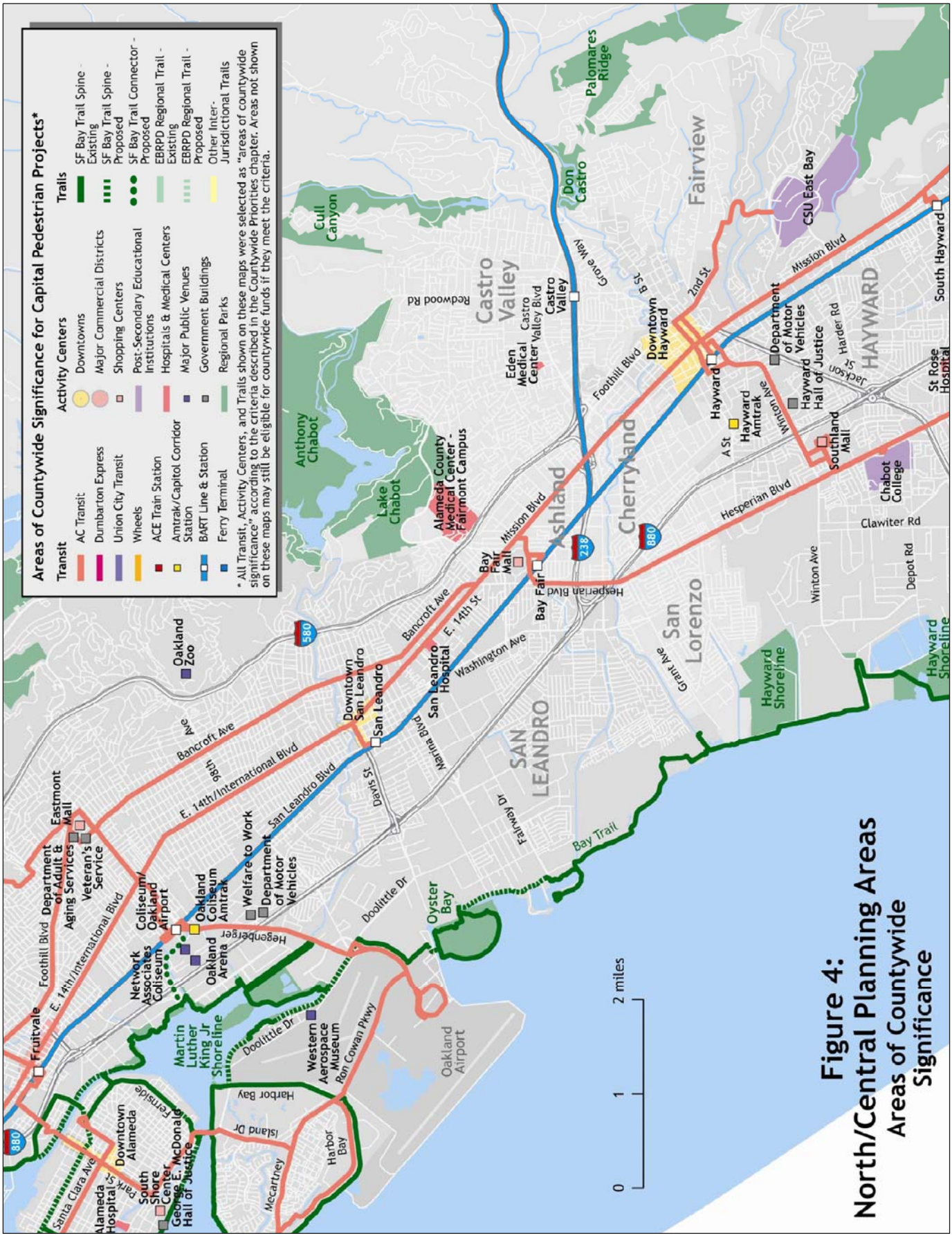


Figure 2: Alameda County
Planning Areas
Areas of Countywide
Significance
Planning Areas
North
South
Central
East
Figure 3: North Planning Area
Figure 4: North/Central Planning Areas
Figure 5: Central/South Planning Areas
Figure 6: South Planning Area
Figure 7: East Planning Area
ALBANY
BERKELEY
EMERYVILLE
PIEDMONT
OAKLAND
ALAMEDA
Oakland Airport
SAN LEANDRO
Ashland
Castro Valley
San Lorenzo
Cherryland
Fairview
HAYWARD
UNION CITY
NEWARK
FREMONT
Sunol
DUBLIN
PLEASANTON
LIVERMORE
0
2
4
6
8
10 miles


Areas of Countywide Significance for Capital Pedestrian Projects*
Transit
AC Transit
Dumbarton Express
Union City Transit
Wheels
ACE Train Station
Amtrak/Capitol Corridor Station
BART Line & Station
Ferry Terminal
Activity Centers
Downtowns
Major Commercial Districts
Shopping Centers
Post-Secondary Educational Institutions
Hospitals & Medical Centers
Major Public Venues
Government Buildings
Regional Parks
Trails
SF Bay Trail Spine - Existing
SF Bay Trail Spine - Proposed
SF Bay Trail Connector - Proposed
EBRPD Regional Trail - Existing
EBRPD Regional Trail - Proposed
Other Inter-Jurisdictional Trails
* All Transit, Activity Centers, and Trails shown on these maps were selected as "areas of countywide significance" according to the criteria described in the Countywide Priorities chapter. Areas not shown on these maps may still be eligible for countywide funds if they meet the criteria.
see Downtown Oakland Inset
ALBANY
BERKELEY
EMERYVILLE
PIEDMONT
OAKLAND
ALAMEDA
Golden Gate Fields
Eastshore State Park
Tilden
Claremont Canyon
Huckleberry Botanic
Robert Sibley
Montclair
Temescal
Redwood
Roberts
Leona Heights
Skyline
Lawrence Hall of Science
University of California Berkeley
Greek Theater
Memorial Stadium
Berkeley Art Museum
Telegraph Avenue
Alta Bates Medical Center
Zellerbach Hall
Berkeley City College
Herrick Hospital
Department of Motor Vehicles
Piedmont Avenue
Kaiser-Oakland
Summit Medical Center
Highland Hospital
Children's Hospital Oakland
Emeryville Market Place
Emeryville Amtrak
Powell Street Plaza
Bay Street
Chabot Space & Science Center
Merritt College
Eastmont Mall
Department of Adult & Aging Services
Veteran's Service
Fruitvale
Alameda Hospital
Downtown Alameda
College of Alameda
West Oakland
San Francisco-Alameda Ferry Terminal
Middle Harbor
Crown Beach
Bay Trail
Ohlone Greenway
Emeryville Greenway
Upper Solano
Lower Solano
North Berkeley
Downtown Berkeley
Berkeley Community Theater
Berkeley Amtrak
Ashby
Rockridge
Buchanan
Pierce St
San Pablo Ave
Shattuck Ave
Telegraph Ave
College Ave
Ashby Ave
Martin Ave
University Ave
4th Street
40th St
MacArthur
Broadway
Grand Ave
Park Blvd
Foothill Blvd
E. 14th
Mountain Blvd
MacArthur Blvd
Redwood Rd
35th Ave
14th Ave
Seminary
73rd Ave
E. 14th/International Blvd
Bancroft
Ferryside
Buena Vista Ave
Central Ave
Webster St
Park St
Grand St
Main St
Appezzato Pkwy
Mandela Pkwy
Middle Harbor Rd
Paramount Theater
Children Fairyland
19th Street
Downtown Oakland
12th Street/ City Center
Alameda County Courthouse
Lake Merritt
Oakland Museum of California
Lake Merritt Kaiser Convention Center
Laney College
Broadway
12th
11th St
Federal Courthouse
North County Jail
Wiley W. Manuel Courthouse
Superior Court Offices
Juvenile Court
Metropolitan Transportation Commission
Oakland Amtrak
San Francisco-Oakland Ferry Terminal
0
1
2 miles
Figure 3:
North Planning Area
Areas of Countywide Significance


Areas of Countywide Significance for Capital Pedestrian Projects*
Transit
AC Transit
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Union City Transit
Wheels
ACE Train Station
Amtrak/Capitol Corridor Station
BART Line & Station
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Activity Centers
Downtowns
Major Commercial Districts
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Post-Secondary Educational Institutions
Hospitals & Medical Centers
Major Public Venues
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SF Bay Trail Spine - Proposed
SF Bay Trail Connector - Proposed
EBRPD Regional Trail - Existing
EBRPD Regional Trail - Proposed
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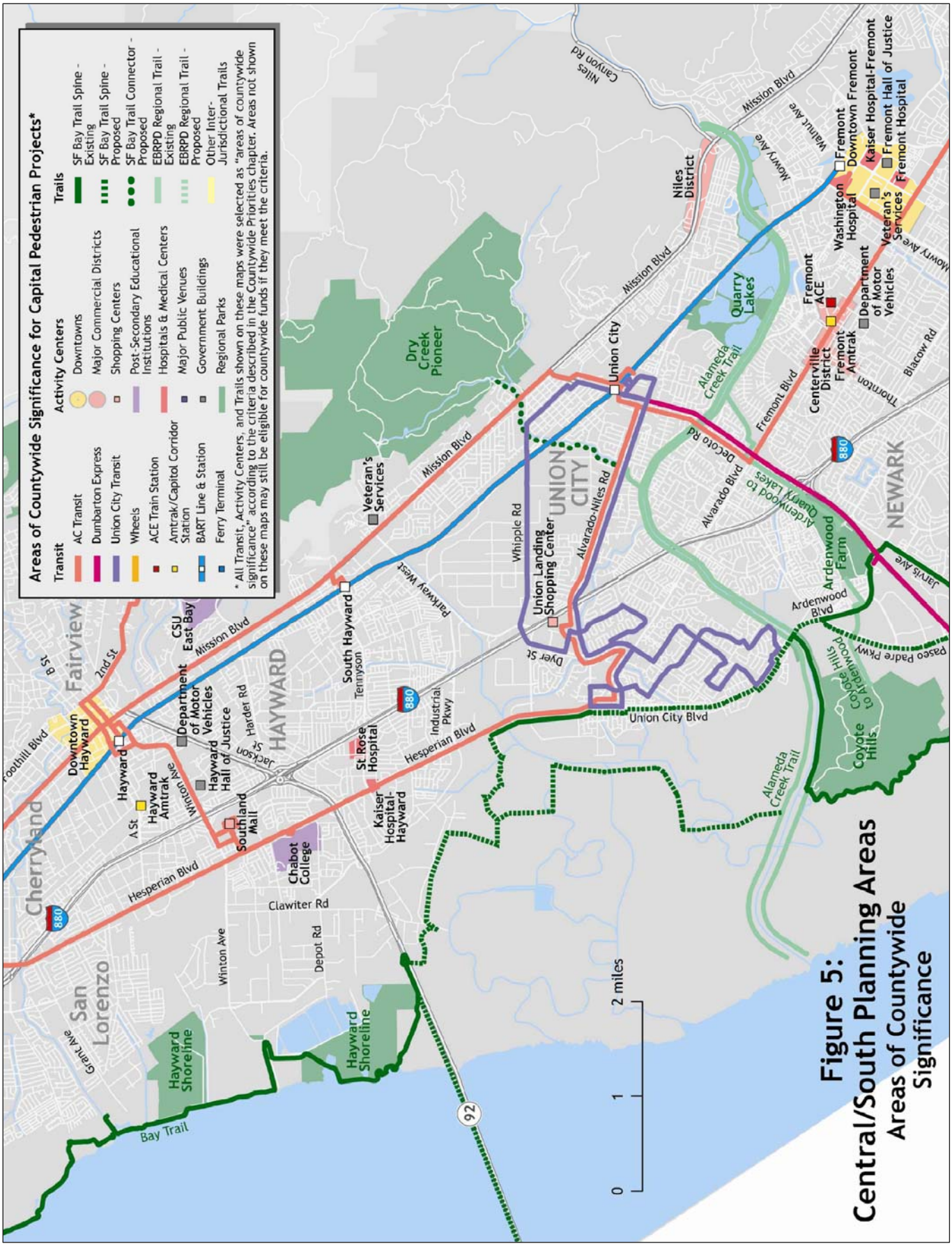
Figure 4:
North/Central Planning Areas
Areas of Countywide Significance
0
1
2 miles
Oakland Zoo
Eastmont Mall
Department of Adult & Aging Services
Veteran's Service
Foothill Blvd
E. 14th/International Blvd
Bancroft Ave
Coliseum/ Oakland Airport
Oakland Coliseum Amtrak
Oakland Arena
Network Associates Coliseum
Welfare to Work
Department of Motor Vehicles
San Leandro Blvd
Hegenberger
Doolittle Dr
Fruitvale
Martin Luther King Jr Shoreline
Western Aerospace Museum
Ron Cowan Pkwy
Oakland Airport
Harbor Bay
Island Dr
McCartney
Harbor Bay
Ferry Terminal
Downtown Alameda
Park St
Alameda Hospital
Santa Clara Ave
South Shore Center
George E. McDonald Hall of Justice
Oyster Bay
Bay Trail
Fairway Dr
Davis St
Martina Blvd
Downtown San Leandro
San Leandro
San Leandro Hospital
E. 14th St
Washington Ave
Bay Fair Mall
Bay Fair
Hesperian Blvd
Mission Blvd
SAN LEANDRO
San Lorenzo
Grant Ave
Hayward Shoreline
Winton Ave
Depot Rd
Clawiter Rd
Chabot College
Hesperian Blvd
Southland Mall
Hayward Amtrak
A St
Hayward
Downtown Hayward
Foothill Blvd
Jackson St
Harder Rd
Department of Motor Vehicles
Hayward Hall of Justice
St Rose Hospital
HAYWARD
2nd St
Mission Blvd
CSU East Bay
South Hayward
Fairview
Palomares Ridge
Don Castro
Grove Way
B St
Castro Valley
Castro Valley Blvd
Eden Medical Center
Redwood Rd
Cull Canyon
Anthony Chabot
Lake Chabot
Alameda County Medical Center - Fairmont Campus
Ashland
Cherryland
580
880
238


Areas of Countywide Significance for Capital Pedestrian Projects*
Transit
AC Transit
Dumbarton Express
Union City Transit
Wheels
ACE Train Station
Amtrak/Capitol Corridor Station
BART Line & Station
Ferry Terminal
Activity Centers
Downtowns
Major Commercial Districts
Shopping Centers
Post-Secondary Educational Institutions
Hospitals & Medical Centers
Major Public Venues
Government Buildings
Regional Parks
Trails
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SF Bay Trail Spine - Proposed
SF Bay Trail Connector - Proposed
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EBRPD Regional Trail - Proposed
Other Inter-Jurisdictional Trails
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Figure 5:
Central/South Planning Areas
Areas of Countywide Significance
0
1
2 miles
Cherryland
San Lorenzo
Fairview
HAYWARD
UNION CITY
NEWARK
Downtown Hayward
Hayward
Hayward Amtrak
Hayward Hall of Justice
Department of Motor Vehicles
CSU East Bay
South Hayward
St Rose Hospital
Kaiser Hospital-Hayward
Chabot College
Southland Mall
Union Landing Shopping Center
Union City
Veteran's Services
Niles District
Fremont Downtown Fremont
Kaiser Hospital-Fremont
Fremont Hall of Justice
Fremont Hospital
Washington Hospital
Veteran's Services
Fremont ACE
Fremont Amtrak
Centerville District
Department of Motor Vehicles
Quarry Lakes
Dry Creek Pioneer
Coyote Hills
Ardenwood Farm
Hayward Shoreline
Bay Trail
Alameda Creek Trail
Mission Blvd
Hesperian Blvd
Union City Blvd
Fremont Blvd
Ardenwood Blvd
Alvarado-Niles Rd
Whipple Rd
Dyer St
Decoto Rd
Alvarado Blvd
Industrial Pkwy
Clawiter Rd
Depot Rd
Winton Ave
Harder Rd
Jackson St
Tennyson
Parkway West
Niles Canyon Rd
Mowry Ave
Walnut Ave
Thornton
Blacow Rd
Jarvis Ave
Paseo Padre Pkwy
Gant Ave
Foothill Blvd
A St
B St
2nd St
880
92

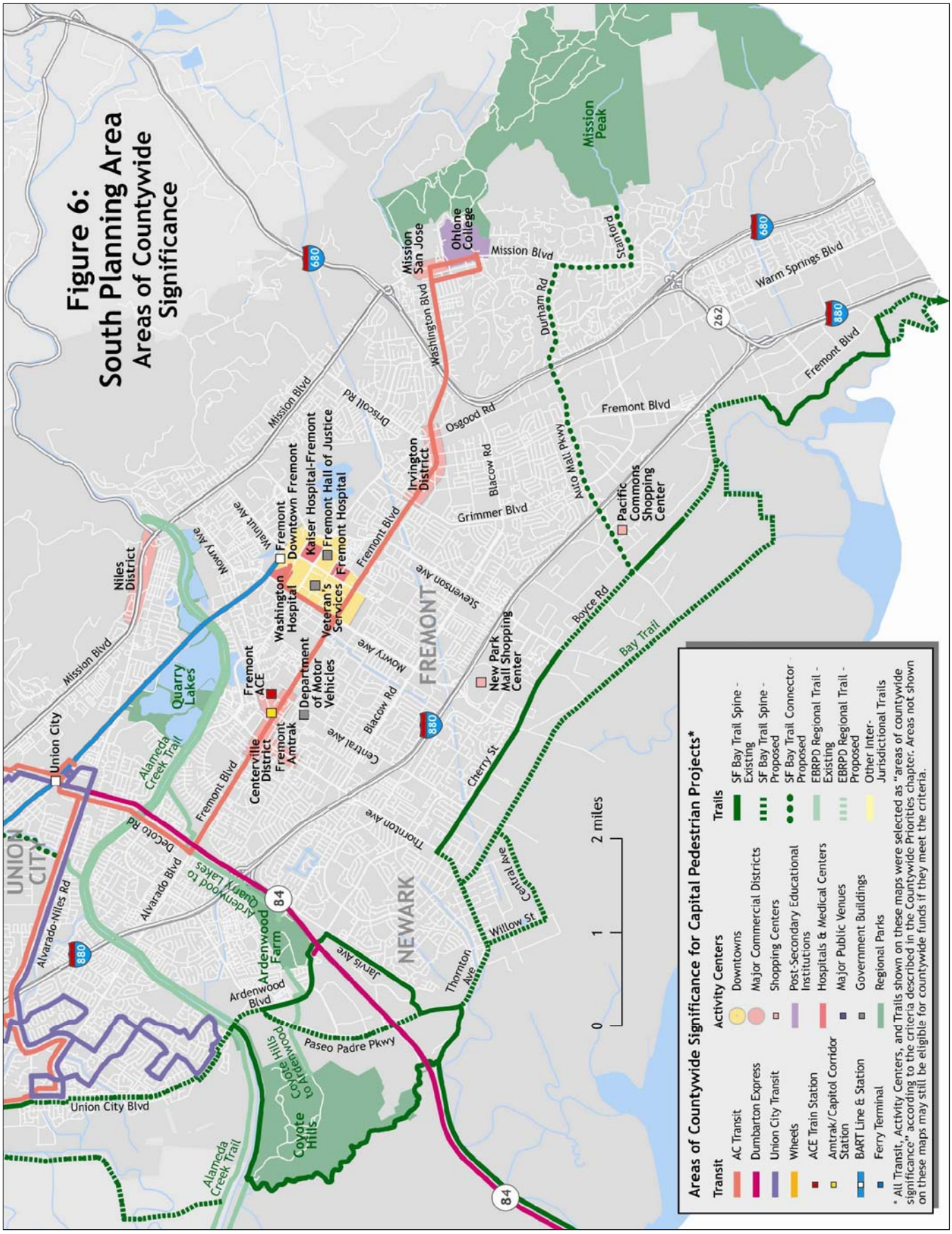
Figure 6:
South Planning Area
Areas of Countywide Significance
Mission Peak
Ohlone College
Mission San Jose
Mission Blvd
Stanford
Durham Rd
Warm Springs Blvd
Fremont Blvd
Washington Blvd
Osgood Rd
Driscoll Rd
Irvington District
Auto Mall Pkwy
Pacific Commons Shopping Center
Grimmer Blvd
Blacow Rd
Fremont Downtown
Kaiser Hospital-Fremont
Fremont Hall of Justice
Fremont Hospital
Washington Hospital
Veteran's Services
Department of Motor Vehicles
Fremont ACE
Fremont Amtrak
Centerville District
Niles District
Walnut Ave
Mowry Ave
Stevenson Ave
Central Ave
New Park Mall Shopping Center
Boyce Rd
Cherry St
Thornton Ave
Willow St
Jarvis Ave
Ardenwood Farm
Ardenwood Blvd
Paseo Padre Pkwy
Alvarado Blvd
Alvarado-Niles Rd
Decoto Rd
Union City Blvd
Quarry Lakes
Alameda Creek Trail
Coyote Hills
Bay Trail
UNION CITY
NEWARK
FREMONT
0
1
2 miles
Areas of Countywide Significance for Capital Pedestrian Projects*
Transit
AC Transit
Dumbarton Express
Union City Transit
Wheels
ACE Train Station
Amtrak/Capitol Corridor Station
BART Line & Station
Ferry Terminal
Activity Centers
Downtowns
Major Commercial Districts
Shopping Centers
Post-Secondary Educational Institutions
Hospitals & Medical Centers
Major Public Venues
Government Buildings
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EBRPD Regional Trail - Proposed
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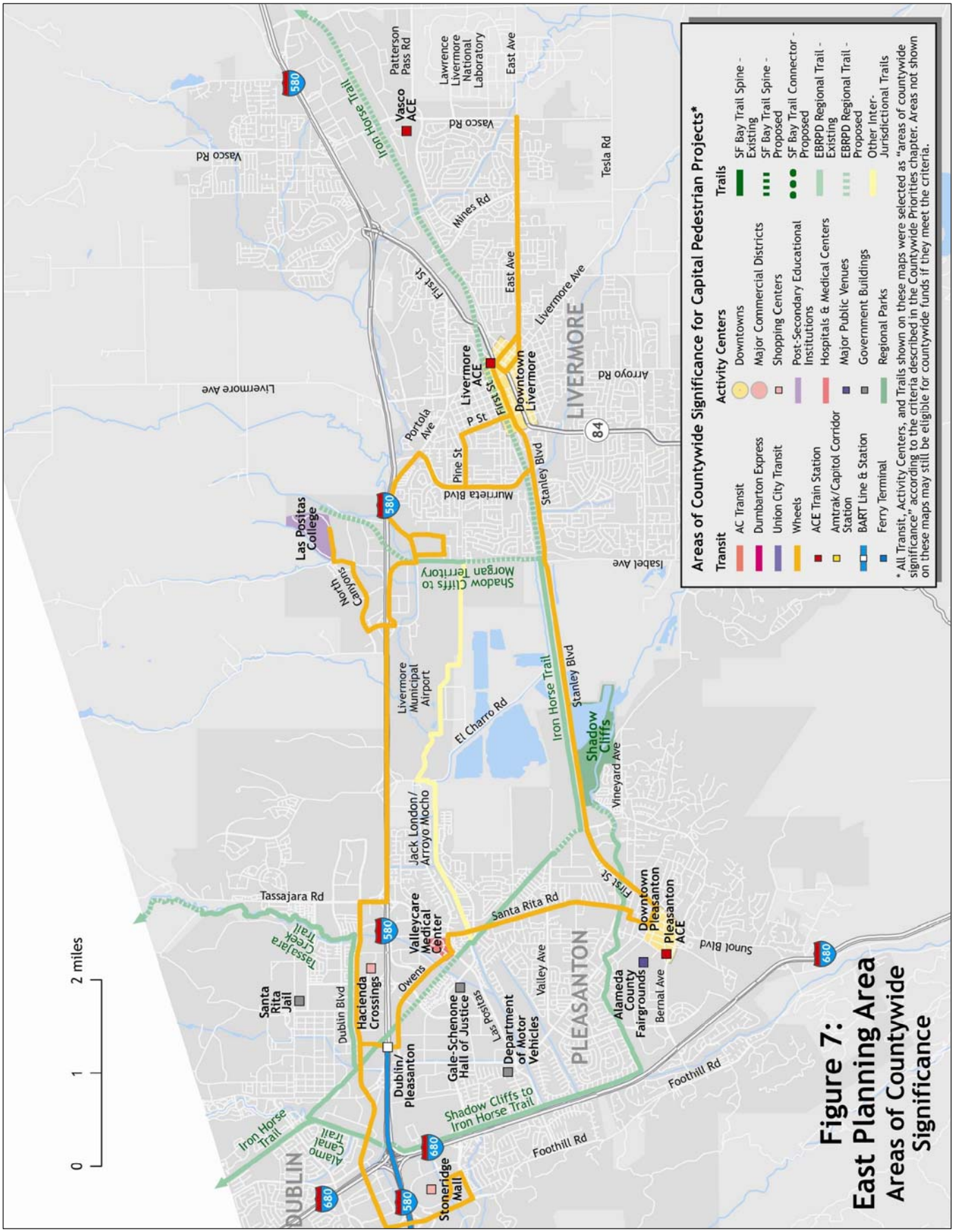
Areas of Countywide Significance for Capital Pedestrian Projects*
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AC Transit
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Union City Transit
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Figure 7:
East Planning Area
Areas of Countywide Significance
0
1
2 miles
LIVERMORE
PLEASANTON
DUBLIN
Vasco Rd
Patterson Pass Rd
Lawrence Livermore National Laboratory
East Ave
Iron Horse Trail
Vasco ACE
Tesla Rd
Mines Rd
First St
Livermore Ave
Livermore ACE
Downtown Livermore
Arroyo Rd
Portola Ave
P St
Pine St
Murrieta Blvd
Stanley Blvd
Las Positas College
North Canyons
Shadow Cliffs to Morgan Territory
Isabel Ave
Livermore Municipal Airport
El Charro Rd
Iron Horse Trail
Shadow Cliffs
Vineyard Ave
Jack London/ Arroyo Mocho
Tassajara Rd
Tassajara Creek Trail
Valleycare Medical Center
Santa Rita Rd
Downtown Pleasanton
Pleasanton ACE
Sunol Blvd
Santa Rita Jail
Dublin Blvd
Hacienda Crossings
Owens
Valley Ave
Alameda County Fairgrounds
Bernal Ave
Gale-Schenone Hall of Justice
Department of Motor Vehicles
Dublin/ Pleasanton
Shadow Cliffs to Iron Horse Trail
Foothill Rd
Iron Horse Trail
Alamo Canal Trail
Stoneridge Mall
580
680
84

5. Costs and Revenue

Chapter Guide

Topic: Analysis of estimated cost to deliver pedestrian projects, programs and plans of countywide significance and the revenue expected to be available in Alameda County for these efforts over the life of the Pedestrian Plan and beyond.

Audience: Potential sponsors of projects, programs and plans of countywide significance; countywide transportation planners; and public officials.

Uses: To develop prioritization criteria with which to evaluate projects, programs and plans competing for countywide pedestrian funding; to strategize which anticipated funding sources are best suited for which proposed improvements; and to identify where funding gaps are expected to occur in order to pursue additional funding.

Introduction

The *Countywide Priorities* chapter laid out Alameda County capital projects and programmatic and planning efforts that are of countywide significance. The subject of this chapter is the estimation and analysis of the cost of these priority investments and the revenue expected to be available in Alameda County for these efforts over the life of the Pedestrian Plan and beyond. This analysis provides a countywide order-of-magnitude estimate, in 2006 dollars, of costs and revenue that Alameda County can expect over the next 25 years.

Background

The methodology and assumptions used to estimate the cost and revenue projections presented in this chapter are detailed in Tables 9 and 10, and in Appendices G and H. It is important to understand what conclusions can and cannot be drawn from the data contained in this chapter.

Estimated costs

Because few local cost estimates have been developed for the improvements envisioned in the *Pedestrian Plan*, the countywide level capital cost estimates outlined in this chapter were calculated using the Metropolitan Transportation Commission's *Pedestrian District Cost Estimating Template,* developed in 2005, coupled with assumptions regarding the type and intensity of improvements for each of the countywide priorities. The cost to maintain these facilities is not included in these estimates, although adequate maintenance of pedestrian facilities is a critical ingredient in any walkable community. The estimated cost for the programs and local pedestrian master plans of countywide significance described in the *Countywide Priorities* chapter is based on historic costs to develop similar programs and plans.

This cost information is valuable as a sketch planning tool for comparing the relative cost of improvements in one topic area of countywide significance versus another. The figures that make up this analysis should not be relied on to make decisions about whether or not to proceed with a particular project; such decisions require an engineer's cost estimate that takes into consideration factors that the broad-brush, countywide analysis did not

consider, such as drainage, utilities, right-of-way, and existing conditions. (Note: many of these factors were considered in the cost estimates presented in this chapter, but local conditions can result in widely different results.)

The cost estimates summarized in this chapter may not, in all cases, take into account existing local pedestrian conditions in Alameda County due to the dearth of inventories or information regarding on-the-ground pedestrian conditions. Therefore, in some cases, projected costs may exaggerate current need. However, it is likely that there are many more cases where such needs may have been understated. In balance, given the broad nature of this analysis, the information contained in this chapter, if used as intended, serves well as an order-of-magnitude guide to expected costs.

> Given the broad nature of this analysis, the information contained in this chapter, if used as intended, serves well as an order-of-magnitude guide to expected costs.

Beyond capital projects, the cost to deliver programmatic and planning efforts to encourage walking are also presented in this chapter. As with the cost estimates for specific categories of capital projects, actual programmatic costs may also diverge from estimates, primarily due to actual levels of effort differing from those that were assumed.

Finally, as stated in the *Countywide Priorities* chapter, whether or not a project, program or plan is explicitly called out in this section does not influence its eligibility for future pedestrian funding. Rather, the types of investments called out in this section were used to estimate the cost to develop a "culture of walking" in Alameda County. Specific eligibility questions will be addressed in the prioritization processes of the Measure B, Regional Bicycle and Pedestrian Program, and other countywide sources of pedestrian funding.

Projected revenue

The level of funding that will be available for Alameda County pedestrian efforts is unknown. Revenue forecasts were made for the 25-year life of the Plan, and were based on the historic levels at which Alameda County pedestrian projects, programs and planning efforts have been funded by dedicated funding sources in the past, as well as other sources that can fund pedestrian projects. The revenue projections provided in this chapter are useful to begin to match sources with investments, in order to identify obvious funding gaps and to develop strategies for filling them. However, since the estimated funding levels anticipated in this chapter are a best guess, they should not be relied on for planning or other purposes aside from those mentioned above.

Coordination with Countywide Bicycle Plan

The cost and revenue information presented in this chapter has been coordinated with that in the 2006 *Alameda Countywide Bicycle Plan Update.* The primary area of cost overlap is on trails. Due to this partial overlap, the total cost of the countywide bicycle and pedestrian networks described in the two plans cannot simply be added together to calculate the cost of future non-motorized transportation costs. Base assumptions for all revenue sources that fund bicycle and pedestrian projects and programs are the same in both plans, although in many cases, the proportion of funding that is projected to be allocated to bicycles is different than for pedestrians, based on historic distributions and funding source criteria. Appendix I contains a comparison of the plans' revenue estimates, a map of the intersection between high priority bicycle projects and pedestrian areas of countywide significance, and a description of the relationship between the two plans.

Cost and Revenue Summary

Based on the methodologies and assumptions described in this chapter, the cost to deliver pedestrian capital projects of countywide significance is estimated to be on the order of $892 million, not including local pedestrian needs or maintenance expenses. In addition, training, local match funds, programs to encourage walking, and pedestrian master plans will cost approximately $11 million. The total projected cost is, therefore, $903 million. In the next 25 years, Alameda County jurisdictions and agencies can expect on the order of just under $174 million to fund these countywide efforts. Therefore, it is expected that there will be approximately 19 percent the level of revenue needed to deliver all desired projects, programs and plans of countywide significance. The assumptions and methodologies used to develop these cost and revenue estimates are the subject of the following sections.

TABLE 9: COST CALCULATIONS (2006 dollars in $1,000s)

AREAS OF COUNTYWIDE SIGNIFICANCE	CATEGORY COST	COMPONENT COST	% TOTAL COST
CAPITAL PROJECTS			
Bus Corridors	$ 544,184		60%
• Total Corridor Cost		$ 211,792	
• Total Off-Corridor Cost		$ 332,392	
Rail & Ferry Station Areas	$ 181,038		20%
• BART		$ 161,750	
• ACE		$ 13,982	
• Capitol Corridor		$ 3,516	
• Alameda/Oakland Ferries		$ 1,790	
Activity Centers*	$ 86,604		10%
• Downtowns		$ 60,000	
• Commercial Districts		$ 14,689	
• All other activity centers		$ 11,915	
Inter-jurisdictional trails	$ 80,181		9%
• San Francisco Bay Trail		$ 43,844	
• Iron Horse Trail		$ 17,229	
• Other trails		$ 19,108	
TOTAL CAPITAL PROJECTS COST	$ 892,006		99%
TOTAL PROGRAM COST	$ 8,280		1%
TOTAL PLAN COST	$ 2,625		0%
TOTAL PROJECTED COSTS	**$ 902,911**		**100%**
TOTAL PROJECTED REVENUE**	**$ 173,946**		
PERCENT COST COVERED BY EXPECTED REVENUE	**19%**		

** Portions of the improvement costs for some activity centers are included in the rail and ferry station areas costs. See Appendix G for details.*

*** Total projected revenue are those funds expected to be available to fund projects, programs and plans of countywide significance. See Appendix H for detailed revenue assumptions.*

Note: Detailed cost calculations are included in Appendix G.

As discussed in the *Existing Conditions* chapter of this Plan, a very conservative estimate of the cost to deliver local pedestrian projects, based on information provided by each jurisdiction, is upwards of $940 million. As detailed in Table 10, however, less than a quarter of this amount—just $216 million—is projected for pedestrian projects in Alameda County.

Some portion of the local cost figure may duplicate some of the countywide amounts summarized above; however the extent of that duplication will not be known until all Alameda County jurisdictions have developed pedestrian master plans. This local cost figure includes available data from all but one jurisdiction, and includes new and repaired sidewalks, new and upgraded curb ramps, pedestrian signal improvements, and trail and pathway improvements. This figure does not take into consideration pedestrian access improvements to many local bus corridors or schools, or the development of local trails and pathways. It is very important to note that the agencies that provided information each used different methodologies to calculate local costs. See Appendix C for a breakdown of the local data provided.

Detailed Estimated Costs

The *Countywide Priorities* chapter identifies three categories of areas of countywide significance for capital projects: transit, activity centers, and trails. (Please see Appendix E for a complete list of specific areas of countywide significance, and Table 9 and Appendix G for detailed cost projection calculations.)

Transit

Transit projects considered to be of countywide significance include selected bus corridors and rail station and ferry terminal station areas. The cost to improve pedestrian access to all bus stops along and within one-half mile of corridors of countywide significance is estimated to be on the order of $544 million (60 percent of the total project, program, and plan cost), while access improvements to rail stations and ferry terminals is estimated to be about $181 million (another 20 percent of total costs), for a total of approximately $725 million, as detailed below. The cost of way-finding is included in all cost estimates.

The cost to improve pedestrian access to all bus stops along and within one half-mile of corridors of countywide significance is estimated to be approximately $544 million, while access improvements to rail stations and ferry terminals is estimated to be about $181 million.

Bus Corridors

Sixteen bus corridors—operated by AC Transit, Union City Transit, WHEELS and Dumbarton Express—are considered to be of countywide significance. These corridors represent 187 miles of service throughout the County, and collectively carry nearly two-thirds of the bus systems' Alameda County riders each day. Since access to all bus transit routes is primarily on foot, pedestrian improvements within one-half mile of stops (walking, rather than straight-line, distance) along these corridors are of countywide significance, and were calculated in two parts: corridor improvements and off-corridor improvements.

Corridor improvements are focused on elements that will improve pedestrian safety, access, and convenience for riders walking to the bus stop, such as traffic signal improvements, including countdown signals, and audible signals; crosswalk improvements, such as ramps, signs, bulbouts, zebra striping, refuge islands, and lighting; and general streetscape improvements, including pedestrian-level lighting, trees (in areas with high summertime temperatures), and sidewalk repair. Pedestrian amenities, such as benches, trash receptacles, and decorative lighting, were not included in cost calculations.

Each of the improvements were assumed to be implemented at particular frequencies, primarily based on bus stop spacing on each corridor and a general understanding of the current quality of the pedestrian environment along each corridor. Corridor improvements for all bus operators were estimated to average just over one million dollars per mile, including design fees, mobilization and contingency fees, and construction for a total of approximately $212 million. This cost does not include bus stop shelters, transit schedules or other improvements that one would expect to accompany Bus Rapid Transit or Rapid Bus services. The focus of the improvements that were included is on

safe and convenient pedestrian access to bus stops, not amenities at the stops themselves.

Off-corridor improvements are those that are within one-half-mile of each bus stop on corridors of countywide significance, but are not on the bus corridor itself. These improvements were assumed to be limited to curb cuts, pedestrian signal heads, and widened sidewalks in some locations. Off-corridor improvements, therefore, were estimated to cost just ten percent of the cost to improve the corridors themselves, or just over $100,000 per mile on average for all bus operators. The total for off-corridor improvements will cost approximately $332 million for all operators. Further details for these costs are included in Appendix G.

To put these numbers in perspective, the combined corridor and off-corridor cost of improving pedestrian access to bus corridors of countywide significance is estimated to be on the order of $544 million or, on average, approximately $672,000 per pair of bus stops.

Rail Station and Ferry Terminal Areas

In addition to improvements to selected bus corridors, investments in rail and ferry access were also calculated. Pedestrian access to BART was calculated for three station categories: unimproved; recent or fully funded improvements; and partially funded improvements. (See Appendix G for a link to the station categorization key.)

Costs to improve pedestrian access on streets closest to BART's 19 Alameda County stations—estimated to be on the order of $6 million per roadway mile—are based on figures the City of Oakland has recently developed for streetscape improvements around the MacArthur BART station. These costs include bulbouts, new traffic signals, and crosswalk improvements at each intersection, pedestrian-level lighting, and a new BART plaza. The per-mile differential between this figure and the $1 million figure for bus corridors is likely due to at least three factors. First, the streetscape improvements at MacArthur station will be from scratch, which will entail new drainage and utilities, two of the most costly components of wholesale streetscape projects. Second, the BART station area project includes bulbouts and new traffic signals at every intersection; although the bus estimates include these components as well, they are assumed to occur much less frequently. Finally, the BART station area costs include the cost of improving the BART plaza area, an important pedestrian gathering and access point.

It is estimated that improving pedestrian access within one-half mile of BART's 19 stations, therefore, will cost on the order of $162 million, or about 20 percent of the cost to improve pedestrian access on and around all Alameda County transit corridors and lines of countywide significance.

Improvements to ACE's four Alameda County stations were calculated in different ways based on planned densities at each station. Given the City of Fremont's pedestrian-oriented plans for the Centerville district, improvements to the Fremont ACE station were assumed to be at the same level as BART's, as described above. However, given the lower average density of development that surrounds ACE's Pleasanton and two Livermore stations, and therefore fewer opportunities for passengers to access stations on foot, improvements were assumed to be along the lines of WHEELS' costs. ACE total pedestrian access improvement costs are estimated to be approximately $14 million.

Of the six Capitol Corridor stations in Alameda County, pedestrian improvements within approximately 1/8 mile of four stations—Berkeley, Emeryville, Jack London and Hayward—have already been made. For these stations, improvements have therefore been assumed for only the remaining area beyond the immediate station areas, at the average AC Transit off-corridor rate. The Coliseum

station is jointly operated with BART, so these improvements were included in calculations for BART's stations. Similarly, the Centerville station was calculated under the Fremont ACE station. The estimated cost to improve pedestrian access to Capitol Corridor stations is estimated to be approximately $3.5 million.

Cost estimates for pedestrian improvements in the vicinity of the County's three ferry terminals are based on the Water Transit Authority's plans for the South San Francisco ferry terminal. The terminal area, where pedestrian improvements are estimated to cost about $250,000, will cover about 1/8 of a mile. The cost estimate for improving the remaining area within the half-mile walk-shed, at the average AC Transit off-corridor rate, is about $330,000 per station, for a total ferry terminal area cost estimate of about $1.8 million.

Activity centers

Activity centers of countywide significance include existing and future downtowns, commercial areas and other major destinations, including shopping centers, post-secondary educational institutions, hospitals and medical centers, major public venues, government buildings, and regional parks. Downtowns and commercial centers are the most difficult pedestrian areas of countywide significance for which to estimate costs for several reasons: in most cases, there are no established boundaries; whether or not an area serves people from throughout Alameda County is a subjective determination; and there is limited information available about the current condition of the pedestrian environment in each area.

Given these challenges, the consultant team and staff jointly developed the methodology detailed below to estimate costs to improve pedestrian access to and within areas of countywide significance, estimated to be approximately $87 million, or ten percent of the total cost of all pedestrian capital projects of countywide significance.

Downtowns

Eight Alameda County cities—Berkeley, Alameda, Oakland, San Leandro, Hayward, Fremont (being planned), Pleasanton and Livermore—have downtown districts. Of these, four—Berkeley, Oakland, San Leandro and Hayward—include one or more BART stations within or near the downtown. Therefore, some or all of the costs in the vicinity of transit in these downtowns have already been covered in the transit calculations described above. For downtowns that extend beyond one-half mile from the BART station, additional improvements, at the level estimated near BART stations, were included. (Note: The bus improvements described in the Bus Corridor section, above, assumed a much lower level of improvements than are envisioned for typical downtowns. Therefore, cost estimates for pedestrian improvements in downtown areas have not been reduced along bus corridors of countywide significance, as they have been in the vicinity of BART stations.)

Eight Alameda County cities—Berkeley, Alameda, Oakland, San Leandro, Hayward, Fremont (being planned), Pleasanton and Livermore—have downtown districts.

Pedestrian improvements within the remaining four downtowns—Alameda, Fremont, Pleasanton and Livermore—were calculated based on the approximate area of each, assuming the same per-mile improvement cost as for BART station areas, i.e., $6 million/mile. (See Appendix G.)

Commercial Areas

It is estimated that there are 12 major commercial districts and 12 shopping centers of countywide significance (i.e., they are routinely frequented by people from other parts of Alameda County). See Appendix E for a list of these locations. To calculate the cost of improving pedestrian access within the commercial districts, each district's roadway mileage was multiplied by the local bus operator's average corridor cost, as detailed above. The cost to improve walk access to each shopping center from the nearest bus stop (assumed to be, on average, 1/8 mile away) was calculated using the local bus operator's corridor cost. Using this methodology, improvements to the 24 major commercial districts and shopping centers were calculated to total approximately $15 million.

Other Activity Centers

Beyond downtowns and commercial districts, five other types of activity centers are of countywide significance: post-secondary educational institutions, hospitals and medical centers, major public venues, government buildings, and regional parks, for a total of 91 locations. To estimate the cost to provide pedestrian access to these

locations, it was assumed that access constitutes the route from the nearest transit stop, assumed to be on average 1/8 mile away. Pedestrian improvements were assumed at the average bus corridor rate, approximately $1 million per mile. This rate was multiplied by the total number of eligible activity centers (91) at 1/8 mile each, to yield an estimated cost of almost $12 million.

Trails

The Bay Trail, the Iron Horse Trail and other inter-jurisdictional trails that link populated areas are considered to be of countywide significance. As detailed below, wherever possible these costs are consistent with those found in the *Countywide Bicycle Plan Update.* Together, it is estimated that the trails described in this chapter will cost on the order of $80 million to construct, or about nine percent of the total cost to deliver all capital projects of countywide significance.

San Francisco Bay Trail

All spine and connector segments of the Bay Trail are considered to be of countywide significance, although the spine will be given priority in funding decisions. The spine is the primary Bay Trail alignment. Connectors link the spine to inland recreation sites, residential neighborhoods, employment centers, and public transit facilities. In September 2005, the Bay Trail Project published the *San Francisco Bay Trail Project Gap Analysis Study*, which details the design, permitting, and construction costs to complete the yet undeveloped segments of the Bay Trail. Since the *Gap Analysis* provides costs for spurs but not for connectors, Bay Trail Project staff provided the estimate for developing the connectors. Together, the uncompleted spine and connector segments in Alameda County are estimated to cost a total of almost $44 million, not including segments that are expected to be funded by private developments and nearby transportation projects.

While the Countywide Bicycle Plan includes most of the Bay Trail spine and selected spurs and connectors in its "Vision" bicycle network, the Pedestrian Plan includes all spine and connector segments. Therefore, the Bay Trail mileage and costs do not match in the two plans.

Iron Horse Trail

All uncompleted segments of the Iron Horse Trail are considered to be of countywide significance, with the exception of the segments east of the eastern Livermore city limits. The *Countywide Bicycle Plan* estimates the cost for these sections at about $17 million, which is the amount used in this Plan.

Other inter-jurisdictional trails that link populated areas

In addition to the Bay Trail and the Iron Horse Trail, there are other existing and planned inter-jurisdictional trails that link populated areas in Alameda County. Since this is an open-ended category, the cost of constructing the East Bay Regional Park District's regional trails that fit the above criteria, plus the Jack London/Arroyo Mocho Trail in Livermore/Pleasanton, was calculated using the *Countywide Bicycle Plan* trail cost estimates. These trails are estimated to cost about $19 million to construct. Additional existing and future inter-jurisdictional trails that link populated areas that were not assumed in these calculations will be eligible for pedestrian funding allocated in Alameda County.

Programs and Plans

In addition to the capital projects discussed above, the cost to deliver pedestrian programs and plans of countywide significance was also estimated. Programs fall into three categories: set-asides (which would fund technical support, local match for grants which focus pedestrian improvements in the vicinity of schools and in low-income neighborhoods, and demonstration programs), promotion and education programs, and pedestrian master plans. The cost to deliver the programs described below is estimated to be approximately $8 million, or one percent of the countywide total capital, programmatic, and planning cost.

Set-Asides

Technical support could take the form of on-call or small grants for technical assistance for resolving small-scale, regionally-significant bicycle and pedestrian safety, access, and convenience issues; generic staff training; or the development of technical tools. Given that the cost to provide this support is directly proportional to the scale at which it is provided, no specific cost estimates have been made.

Local match for Safe Routes to School, Environmental Justice or Lifeline Transportation grants to support pedestrian improvements in the vicinity of schools and in low-income neighborhoods. By looking at how much these three programs have funded pedestrian projects and programs in Alameda County in the past, and the required local match for each funding source, it is estimated that providing matching funds would cost approximately $3 million over 25 years.

Demonstration programs could allow some of the programs described below to be funded, in the event that a "call for projects" is not successful in attracting applicants for these program types. The funding level would depend on the programs that are chosen to be funded.

Promotion and Education Programs

The promotion and pedestrian education programs described below are based on those that:

- provide a model that is transferable throughout Alameda County;
- attempt to change long-term walking habits as opposed to one-time events;
- include a focus on walking as a transportation option with the potential to replace vehicular trips; and
- have been shown to be effective at encouraging walking and/or improving pedestrian safety.

Given the assumptions outlined below, these programs are estimated to cost approximately $5.5 million.

Individualized marketing offers residents of targeted neighborhoods information about alternatives to the single-occupant vehicle, including walking. Based on the Transportation and Land Use Coalition's TravelChoice program, fully funding the pedestrian portion of three 50,000 household projects in each of the four planning areas over the life of the Plan, is estimated to cost approximately $3.6 million.

Travel training offers personalized orientation for new users of public transit in a particular geographic area. ACTIA has investigated funding a travel training program aimed at senior citizens for two years at a cost of approximately $140,000. Operating this program for 25 years would cost on the order of $1.7 million.

Walking maps show walking routes through neighborhoods, around physical barriers, and to historic districts, parks, greenways and bodies of water. The City of Oakland has developed a walking map that includes Piedmont, Emeryville and most of Alameda. The City of Berkeley has updated their walking map, which includes Albany and Emeryville. This leaves eight jurisdictions without maps. Assuming three maps (i.e., Hayward/San Leandro, Fremont/Newark/Union City, and Dublin/Pleasanton/Livermore), each at the cost of Oakland's map ($45,000), yields a cost of approximately $135,000.

Walkability audits are one-day, professionally-led workshop/walking tour combinations aimed at broadly assessing pedestrian facilities in a focused area and identifying specific improvements that would make the area safer, more attractive, and more useful to pedestrians. Workshops cost approximately $2,000 each, including the walkability expert fee and the cost to host. Assuming three neighborhoods per Alameda County jurisdiction would cost approximately $90,000.

Pedestrian Master Plans

One of the Countywide Pedestrian Plan goals is to "ensure that all Alameda County jurisdictions have adopted a current pedestrian plan by 2012." Eight jurisdictions have adopted, or are currently developing, stand-alone pedestrian plans or pedestrian/bicycle plans, while seven have neither. (See Table 8 in *Countywide Priorities* chapter.) Over the life of this Plan, plans in all jurisdictions will require on average two updates. The cost to develop these plans and updates is estimated to be approximately $2.6 million.

Revenue Projections

In the next 25 years, Alameda County jurisdictions and agencies can expect approximately $216 million in pedestrian funding, in 2006 dollars. Because fund applicants are typically local jurisdictions, they will sometimes use funds for local projects such as sidewalk

repair, curb ramps, safe routes to schools and others that are not considered in the estimates of projects of countywide significance. For this reason, a separate estimate was made—$174 million—for the funds that could be expected to be used for the projects, plans and programs of countywide significance that are included in this Plan. (Please see Table 10 and Appendix H.)

This funding will come from the countywide, regional, state and federal sources listed below. "Tier 1" funds are funds that are dedicated to bicycle and pedestrian projects, programs and plans in Alameda County. "Tier 2" funds can be used for County pedestrian efforts, but may also be used for other purposes or in other counties. This estimate considers neither local funds (such as general funds, traffic impact fees, redevelopment tax increment, and developer contributions) nor federal earmarks, since they are impossible to anticipate. Non-traditional sources, such as public health funding are also not included in this analysis due to the lack of pedestrian funding history on which to base estimates. Finally, the revenue estimates in this Plan are focused on sources that primarily fund capital projects and planning. Therefore, although programmatic costs are included in the cost analysis, few dollars in the 25-year revenue estimate will be available for pedestrian programs. The assumptions for each funding source are detailed in Appendix H. In general, future revenue totals are assumed to be consistent with historic levels for each source. Similarly, the amount of each fund that is projected to flow to pedestrian projects and to Alameda County is based on historic allocations.

It is critical to note that, with the exception of Measure B, the Regional Bicycle and Pedestrian Program and TDA Article 3, there is absolutely no guarantee that funding will support pedestrian projects nor that it will flow to Alameda County. These projections are a best guess of what the future holds; the actual outcome will depend on numerous factors, such as federal surface transportation policy, the State budget and the quality of Alameda County project applications compared to those submitted from elsewhere.

Many Tier 2 sources originate in federal programs that are reconfigured at the regional level. For instance, depending on the year, Transportation for Livable Communities (TLC) program funds can originate from Surface Transportation Program (STP), Transportation Enhancement Activities (TEA), and/or Congestion Mitigation and Air Quality (CMAQ) funds. The annual State budget funds the State Safe Routes to School (SR2S) program, but SAFETEA-LU—the federal surface transportation bill passed in 2005—includes a similar program that may be merged with the State program. The Lifeline Transportation program, which funds projects that improve mobility for low income Bay Area residents, is a blend of CMAQ, SAFETEA-LU, and State Transit Assistance programs.

Pedestrian-related Funding Sources*

Tier 1 Funds

- Measure B Bicycle/Pedestrian Safety Funds
  - – Local pass-through (75%)
  - – Countywide discretionary (25%)
- Regional Bicycle and Pedestrian Program (RBPP)
  - – County-share (75%)
  - – Regional competitive (25%)
- Transportation Development Act (TDA) Article 3

Tier 2 Funds

- Transportation Fund for Clean Air (TFCA)
  - – County Program Manager Fund (40%)
  - – Regional Fund (60%)
- Transportation for Livable Communities (TLC)
  - – Regional capital program
  - – County capital program
- Safe Routes to School (SR2S)
- Safe Routes to Transit (SR2T)
- Lifeline Transportation
- Bay Trail Grant Program
- Office of Traffic Safety
- Recreational Trails Program (RTP) – non-motorized program
- Environmental Justice

*See Table 10 for revenue estimates of each source.

TABLE 10: REVENUE CALCULATIONS (2006 dollars in $1,000s; continues on next page)

SOURCE / AGENCY	TOTAL AMOUNT AVAILABLE (2005-2030)	TOTAL FOR PEDESTRIANS (2005-2030)	TOTAL FOR PEDS IN ALAMEDA (2005-2030)	TOTAL FOR PEDS—AREAS OF C'WIDE SIGNIFICANCE (2005-2030)	PURPOSE
Tier 1: Dedicated Funds*					
Measure B bike/ped - local pass-through (75%) / ACTIA	$ 81,000	$ 40,500	$ 40,500	$ 20,250	Countywide bike/ped improvements through 2022 Measure B authorization period
Measure B bike/ped - countywide discretionary (25%) / ACTIA	$ 27,000	$ 13,500	$ 13,500	$ 10,800	
Regional Bicycle and Pedestrian Program (RBPP) – county share (75%) / ACCMA	$ 150,000	$ 75,000	$ 6,300	$ 6,300	Regionally significant pedestrian projects and bike/ped projects serving schools or transit
Regional Bicycle and Pedestrian Program (RBPP) - regional competitive (25%) / MTC	$ 50,000	$ 25,000	$ 5,250	$ 5,250	
Transportation Development Act (TDA), Article 3 / ACCMA	$ 28,250	$ 14,125	$ 14,125	$ 7,063	Ped/bike facilities, safety programs and planning
Tier 2: Competitive Funds**					
Transportation Fund for Clean Air (TFCA) - County Program Manager Fund (40%) / ACCMA	$ 140,000	$ 2,800	$ 588	$ 588	Development project improvements and/or traffic calming, that reduce motor vehicle emissions
Transportation Fund for Clean Air (TFCA) - Regional Fund (60%) / BAAQMD	$ 250,000	$ 5,000	$ 1,050	$ 1,050	
Transportation for Livable Communities (TLC) - Regional capital program / MTC	$ 450,000	$ 270,000	$ 56,700	$ 56,700	Transportation projects that bring new vibrancy to downtown areas, commercial cores, neighborhoods, and transit corridors
Transportation for Livable Communities (TLC) - County capital program / MTC, ACCMA	$ 225,000	$ 135,000	$ 28,350	$ 28,350	

TABLE 10: REVENUE CALCULATIONS (2006 dollars in $1,000s; continued from previous page)

SOURCE / AGENCY	TOTAL AMOUNT AVAILABLE (2005-2030)	TOTAL FOR PEDESTRIANS (2005-2030)	TOTAL FOR PEDS IN ALAMEDA (2005-2030)	TOTAL FOR PEDS—AREAS OF C'WIDE SIGNIFICANCE (2005-2030)	PURPOSE
Safe Routes to School (SR2S) / Caltrans	$ 560,000	$ 504,000	$ 22,680	$ 11,340	Reduce injuries and fatalities to school children and encourage increased walking and bicycling among students
Safe Routes to Transit (SR2T) / Transportation & Land Use Coalition (TALC) and East Bay Bicycle Coalition (EBBC) on behalf of MTC	$ 50,000	$ 25,000	$ 9,500	$ 9,500	Improve safety and convenience of bicycling and walking to regional transit. Projects must be shown to reduce congestion on one or more Bay Area toll bridges
Lifeline Transportation / MTC and ACCMA	$ 150,000	$ 30,000	$ 8,220	$ 8,220	Improve mobility for low income Bay Area residents
Bay Trail Grant Program / ABAG and Bay Trail Project	$ 30,020	$ 30,020	$ 4,203	$ 4,203	Planning and construction to complete gaps
Office of Traffic Safety / California OTS	$ 93,450	$ 46,725	$ 1,992	$ 996	Reduce the number of traffic collision victims
Recreational Trails Program (RTP) – non-motorized program / FHWA	$ 104,000	$ 104,000	$ 2,080	$ 2,080	Construct and maintain trails-related projects
Environmental Justice / Caltrans	$ 37,500	$ 18,750	$ 1,256	$ 1,256	Public participation to improve conditions for low-income and minority communities
TOTAL			**$ 216,294**	**$ 173,946**	

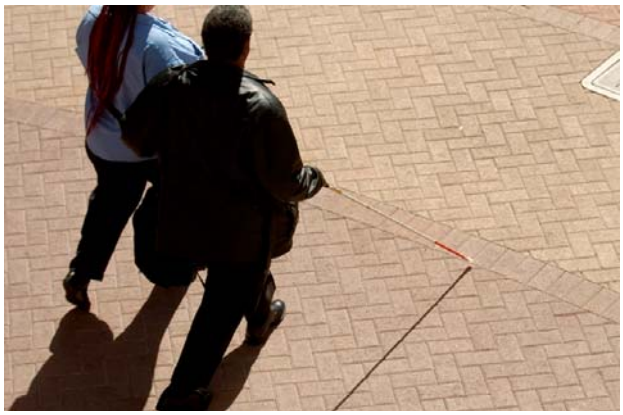
** All or a portion of "Dedicated Funds" are for funding pedestrian projects and/or programs in Alameda County.*

*** Pedestrian projects and/or programs in Alameda County are eligible, but must compete for "Competitive Funds."*

Note: Detailed revenue assumptions are available in Appendix H.

ANALYSIS

The cost to deliver pedestrian projects, programs and plans of countywide significance is estimated to be on the order of $903 million, while about $174 million is expected to flow to such projects over the next 25 years, leaving a funding gap of almost $730 million. Put another way, expected funding is estimated to cover the cost of about 19 percent of desired projects. Changing any of the assumptions that form the basis of the cost and revenue calculations will change the funding picture somewhat. However, it is clear that the cost to deliver pedestrian projects, programs and plans of countywide significance exceeds expected revenue, so only the magnitude of the estimated funding gap will change.



To balance these costs and revenue, the capital and programmatic/planning prioritization process will need to rank potential projects and project types so that the most critical are funded first. One way to accomplish this could be to give preference to projects that fall into more than one eligibility category. Examples of multi-category projects are a streetscape project on an eligible transit corridor within a downtown or a trail project that serves a commercial district. Pedestrian capital projects of countywide significance that coincide with projects on the updated Countywide Bicycle Network could also be prioritized.

A second conclusion that can be drawn from the projected costs and revenue discussed in this chapter is the value of funding local pedestrian master plans. If such a plan were funded in every Alameda County jurisdiction that does not currently have one, and if every jurisdiction's plan were updated twice over the life of the Countywide Plan, the total cost is estimated to be just $2.6 million, or 0.3 percent of total countywide capital, program and plan costs. Such plans are critical tools to help local governments prioritize capital projects within their boundaries, thus ensuring that projects that are needed most are funded first.

In addition to looking at ways to prioritize, plan and identify the highest priority capital pedestrian projects for funding, it is equally important for local and countywide agencies to seek additional funding sources. Examples include developer contributions, traffic impact fees, tax increment in redevelopment project areas, and public health-related grants from foundations such as the Robert Wood Johnson Foundation and the California Endowment. Other potential resources are funds that have historically supported pedestrian projects in Alameda County, but at low levels. Examples include both Transportation for Clean Air funds and the State Office of Traffic Safety.

> The cost to deliver pedestrian projects, programs and plans of countywide significance is estimated to be $903 million, while about $174 million is expected to be available for such projects over the next 25 years, leaving a funding gap of almost $730 million.

Finally, with the advent of State "routine accommodation" policies, which require Caltrans to consider pedestrians and bicyclists in the design, construction, operation, and maintenance of transportation facilities, local jurisdictions can begin to expect that some portion of the costs calculated in the process of developing this Plan will be covered in project construction budgets. (See *Institutional Obstacles* chapter and companion *Toolkit* for a discussion of routine accommodation.) As local and countywide agencies consider routine accommodation, pedestrian facility costs will more frequently be included in other transportation projects as well, such as local roadway construction, new BART stations and Bus Rapid Transit stops.

6. Next Steps

CHAPTER GUIDE

TOPIC: Documents the priority steps needed to begin implementing the Alameda Countywide Strategic Pedestrian Plan in the five-year period before the first Plan update, expected in 2011.

AUDIENCE: ACTIA, the ACCMA, Alameda County's 15 local governments, and other countywide and regional agencies; local and countywide community-based organizations whose missions relate to improving the pedestrian environment throughout the County.

USES: To guide work in the context of the Pedestrian Plan's vision and goals, capital and programmatic priorities, and projected costs and revenue that will take place through 2011.

INTRODUCTION

A great deal of research, analysis, interviews and meetings have gone into the development of the Alameda Countywide Strategic Pedestrian Plan. Combined, this work paints a picture of the County's pedestrian environment in early 2006 and identifies the pedestrian projects, programs and planning desired throughout Alameda County through 2030.

The *Next Steps* chapter describes the priority activities that should occur in the first five years of the Pedestrian Plan's life in order to set the stage for implementing the Plan's remaining efforts. While the focus of this chapter is primarily on actions that will be the responsibility of ACTIA and the ACCMA, many will require partnering with local jurisdictions and other agencies to be accomplished.

NEXT STEPS

1. Prioritize funding investments of countywide significance

ACTIA and the ACCMA need to prioritize pedestrian projects, programs and planning efforts of countywide significance and award funding to the highest priority efforts. In the next five years, there will be several funding cycles for countywide pedestrian and bicycle projects and programs, which should reflect the priorities outlined in this Plan. Furthermore, countywide and local agencies must work creatively and diligently to obtain maximum levels of public and private sources of pedestrian funds as well as attract non-traditional funding sources. Efforts to ensure that pedestrians are "routinely accommodated" in all transportation projects should be supported as a way to design and build needed pedestrian facilities into transportation projects, thereby maximizing the use of public investments. Towards this end, ACTIA and the ACCMA will work with the Metropolitan Transportation Commission to implement their recently adopted Routine Accommodation policies.

2. Elevate importance of pedestrian planning

The first step toward improving the state of pedestrian planning countywide is to ensure that each of the County's 15 jurisdictions has a current pedestrian master plan, including related design guidelines. Such plans are critical tools for helping local governments prioritize capital projects within their jurisdiction, thus ensuring that projects that are needed most are funded first. Design guidelines ensure that new development and transportation projects are built with pedestrians in mind, so that they do not need to be retrofitted in the future.

Beyond local planning, pedestrian planning at the countywide level is also a critical step toward continuing

to improve walkability in Alameda County. Toward that end, this Pedestrian Plan should be updated in five years (by 2011) to ensure that priorities are current and new issues are addressed.

> The first step toward improving the state of pedestrian planning countywide is to ensure that each of the County's 15 jurisdictions have a current pedestrian master plan.

The Plan update will address the following outstanding issues identified during the development of this plan:

- Maintenance needs, including both needs at the local level and in areas of countywide significance;
- Detailed local pedestrian project needs and their associated costs, which should be identified in local pedestrian master plans as they are developed; and
- Detailed collision analysis.

3. Support programs shown to be effective

While walkability in Alameda County cannot improve without significant investment in pedestrian infrastructure, programs that encourage walking among focused populations can be just as effective as capital projects. Below are a few programs that are thought to be essential in the near term for creating a community of people who walk regularly.

Individualized marketing focuses considerable resources on households in walkable and potentially walkable neighborhoods that are interested in learning more about walking (and biking) for transportation. (Please see *Existing Conditions* chapter and companion *Toolkit* for more information.) Due to the proven effectiveness of such programs, if implemented in the near term, they can quickly expand the ranks of regular walkers, thus building a constituency for future pedestrian improvements. These have proven to be effective in the United States in such places as Portland and Seattle, as well as in several countries throughout the world.

Safe routes to school programs (SR2S) promote walking (and bicycling) to school through education, incentives, law enforcement, and engineering measures. SR2S efforts are an effective near-term investment because they improve safety conditions for children, one of the most vulnerable populations, and educate future Alameda County adults, while improving local walking conditions.

Walkable community workshops (also known as walkability audits) are professionally-led workshop/walking tour combinations aimed at broadly assessing pedestrian facilities in a focused area and identifying specific improvements that would make the area safer, more attractive and more convenient to pedestrians. Participants include local transportation engineers, planners, elected officials, pedestrian advocates, and neighborhood residents. These programs are cost-effective and essential in the near term because they result in a blueprint for future pedestrian improvements at the neighborhood level.

4. Strengthen the link between walking and public transit

Public transit cannot survive and thrive without good pedestrian access, since there are limits to the quantity of automobile parking that can be provided at each transit stop, station and terminal. Similarly, pedestrians cannot rely on walking without the availability of good public transit for trips longer than typical walking distance. Therefore, walking to public transit facilities is an essential trip purpose in which to invest.

It is important to take every opportunity to reinforce the link between walking and public transportation through investments related to existing and emerging transit

services such as Bus Rapid Transit (see *Existing Conditions* chapter) and way-finding improvements to BART stations (see *Costs and Revenue* chapter). Additionally, both ACTIA and the ACCMA administer several funding sources that invest in improving public transit and access to it. Both agencies can use the information developed in the *Toolkit* to ensure that funded projects are built with the needs of pedestrians in mind.

5. Raise awareness of the nexus between walking and public health

In the years immediately before this Plan was developed, research on the relationship between physical activity and public health—particularly obesity—was first being published in medical journals and reported in the popular press. As the benefits of regular physical activity for people of all ages becomes better-understood, there are increasing opportunities to link programs and projects that promote alternative transportation for environmental reasons with those that encourage walking to improve health.

Opportunities include working in collaboration with the Alameda County Public Health Department and other organizations—such as Kaiser Permanente—that are developing programs that promote and support walking. Linking efforts to improve walking conditions in terms of transportation with those that support walking for physical activity broadens the potential audience of each type of program, expands the inventory of potential funding resources for each, and offers people an activity that can satisfy two objectives at once.

> Capital projects that encourage walking for transportation and exercise include multi-use trails, hillside stairway networks, and other facilities that provide pedestrians with a pleasant and convenient walking environment.

Beyond programs that encourage walking for transportation and exercise, are capital projects that accomplish the same thing. Examples include multi-use trails, hillside stairway networks, and other facilities that provide pedestrians with a pleasant and convenient walking environment. From a countywide perspective, making strides towards completing the Alameda County portions of the San Francisco Bay Trail and the Iron Horse Trail is, therefore, a short-term priority. Similarly, determining the future of the abandoned Union Pacific Railroad right-of-way, which travels through Oakland, San Leandro, Hayward, unincorporated Alameda County, Union City, and Fremont, in terms of its potential as a north–south countywide non-motorized transportation corridor is also a priority in the first five years of the Plan, so that funding opportunities later in the 25-year planning horizon will not be missed.

6. Create an ongoing pedestrian technical advisory committee

An ad hoc committee of local agency planners, engineers, public health staff and others involved with improving the pedestrian environment was appointed to advise the development of the Alameda Countywide Strategic Pedestrian Plan. The advice of this committee, called the Pedestrian Plan Working Group (PPWG), has been invaluable in the process of creating the Countywide Pedestrian Plan.

Participants in the PPWG reported a clear benefit of these meetings in terms of networking and information-sharing, and expressed an interest in continuing to meet in some form. ACTIA will explore how to best provide an ongoing forum for a similar group, perhaps with a broader membership including all Alameda County jurisdictions. The wisdom and experience of such a committee could help ACTIA and the ACCMA continue to address pedestrian planning issues, advise the agencies on how best to implement programs and technical training, and continue to identify institutional obstacles to improving the pedestrian environment and corresponding solutions.

7. Invest in education and training

ACTIA and the ACCMA are uniquely suited as countywide agencies with staff expertise in walkability to take on the roles of convener and educator of staff at various other public agencies regarding how to improve walkability throughout Alameda County. Such activities can take the form of publications tailored to Alameda County, such as the companion *Toolkit*, which should be updated annually to stay current; or the coordination of training sessions aimed at traffic engineers, transportation planners, and other local staff, on ways to improve the pedestrian environment. These sessions, which are most effective if conducted on-site at each jurisdiction, are important short-term investments because they can lay the groundwork for improvements

to the pedestrian environment that will take place over the life of the Plan.

8. Develop technical tools

In addition to training, transportation professionals throughout Alameda County and elsewhere need a number of technical tools to create a truly great pedestrian environment. Tools that were identified in the development of this Plan include countywide pedestrian design guidelines, pedestrian level of service guidelines, and pedestrian collision analysis tools. ACTIA and the ACCMA will explore ways to collaborate with other agencies to develop these resources.

Appendix A

QUESTIONNAIRE

The following questionnaire was sent to planners and engineers at each of the 15 jurisdictions in Alameda County in September 2005. Follow-up interviews were conducted in person with the agency staff listed in Appendix B.

COUNTYWIDE STRATEGIC PEDESTRIAN PLAN

INTERVIEW QUESTIONNAIRE

Jurisdiction _____

→ INTRODUCTION

Please complete and return this questionnaire before your scheduled interview. Please review the questionnaire ASAP to determine if anyone else in your jurisdiction may be needed to answer particular questions and/or if these colleagues should be included in the interview.

You may complete the form electronically and email it to victoria@eisenletunic.com or fax a hard copy to 510-525-1232.

→ SECTION 1 | STAFF

Which staff work on pedestrian issues (planning, engineering, trails) in your jurisdiction?

Department	*Job title*	*Approx. % FTE*	*Phone number*	*Email address*

→ SECTION 2 | PEDESTRIAN PLANNING IN YOUR COMMUNITY AND RELATED POLICIES

2.1 Planning priorities

A jurisdiction's downtown and other commercial and mixed-use areas are often the centers of pedestrian activity and the focus of civic investment in walkability. Transit stations and/or schools may be other investment priorities. The information below will aid ACTIA in developing countywide pedestrian priorities.

1. Are there any particular areas (e.g., downtown, transit, schools, and shopping districts) where your jurisdiction is focusing pedestrian improvements? ☐ Yes ☐ No
2. If yes, please list these areas and adopted policies guiding these activities, if any.

Area	*Policy reference*

3. How does your jurisdiction define "pedestrian districts"? ☐ No definition

   3a. If applicable, where are your jurisdiction's pedestrian districts located?

4. Are there any policies in your jurisdiction that link walking and public health? ☐ See below ☐ No such efforts

Policies that link public health and walking

2.2 Planning efforts and policies

1. Please list any ongoing or one-time planning efforts aimed at improving walkability in your community, including efforts sponsored by other agencies and organizations. ☐ See below ☐ No such efforts

Plan or effort title	*Completion date or expected*	*Contact person/dept.*

2. Please list your jurisdiction's most innovative policies which influence the walkability of your jurisdiction and which could be used as models in Alameda County.

Innovative policies to improve walkability

2.3 Overcoming institutional obstacles

Communities are often challenged at creating safe and convenient walking conditions as a result of factors such as: state transportation facilities that travel through local jurisdictions; roadway standards that favor automobile travel; conflicting priorities between city departments; facilities that cross jurisdictional boundaries; and lack of funding for pedestrian facilities. The information you provide below will help ACTIA develop priorities and resources that work for Alameda County jurisdictions.

1. In your jurisdiction, what are the primary institutional (as opposed to physical) obstacles to improving the pedestrian environment?

Obstacles to improving pedestrian travel

2. Please list your jurisdiction's most successful efforts to overcome such barriers.

Successful efforts to overcome barriers

➔ SECTION 3 | PEDESTRIAN PROGRAMS AND ADVOCACY WORK

Creating a pedestrian-friendly environment depends on more than a welcoming infrastructure. Many municipalities, non-profit organizations and advocacy groups sponsor educational programs and promotions to encourage local residents and workers to get out and walk. The information below will help ACTIA inventory and spread the word about these resources.

1. Please list any ongoing or one-time educational programs or promotions aimed at improving walkability in your community, including efforts sponsored by other agencies and organizations. ☐ See below ☐ No such efforts

Program or effort title	Timeframe	Contact person/org.

2. Are there any programs in your jurisdiction that link walking and public health? ☐ See below ☐ No such efforts

Public health/walking efforts	Contact person/org.

3. Please list the most successful pedestrian programs in your jurisdiction, if any, which could be used as models in Alameda County. Examples could include educational or promotional programs, and could be provided by advocacy or non-profit groups. (Please respond on following page.)

Successful pedestrian programs

➔ SECTION 4 | PEDESTRIAN INFRASTRUCTURE NEEDS

The information requested below will be used to understand the level of information available about each jurisdiction's pedestrian infrastructure. Specific cost estimates and funding shortfalls will be requested in a separate, focused questionnaire, which will be used to prioritize countywide pedestrian funds, such as Measure B pedestrian grant funds, as well as to attract new funding for pedestrian projects and programs.

4.1 Infrastructure and engineering

Does your jurisdiction have . . .

			Notes:
1. A sidewalk inventory?	☐ Yes	☐ No	
2. A curb ramp inventory?	☐ Yes	☐ No	
3. An inventory of traffic signal with pedestrian facilities (such as pedestrian signal heads)?	☐ Yes	☐ No	
4. An inventory of trails and pathways?	☐ Yes	☐ No	
5. An adopted ADA Transition Plan?	☐ Yes	☐ No	
6. Pedestrian design guidelines/standards?	☐ Yes	☐ No	

Does your jurisdiction regularly collect information and analyze: .

			Notes:
1. Pedestrian collisions?	☐ Yes	☐ No	
2. Pedestrian counts?	☐ Yes	☐ No	

Briefly describe your jurisdiction's pedestrian infrastructure needs.

Please list your jurisdiction's most successful and/or innovative pedestrian infrastructure projects that could be used as models in Alameda County.

Successful pedestrian infrastructure projects

4.2 Crossing barriers

Freeways, railroads and waterways can create significant barriers to pedestrian travel. In some cases, crossings are available but are unsafe, while in others, a lack of crossing requires a significant

detour. The information you provide below will aid ACTIA in developing countywide pedestrian priorities.

1. Are there operating railroad tracks in your jurisdiction (other than BART)? ☐ Yes ☐ No
2. Please tell us about any planned or needed new or improved crossings in your jurisdiction (such as railroad, freeway or canal crossings):

	Facility to cross	*Location*	*Planned/needed improvement*	*Phase of planning or dev.*	*Estimated cost*
Crossing 1					$
Crossing 2					$
Crossing 3					$
Crossing 4					$
Crossing 5					$

3. Please describe additional crossing barriers, if any:

➔ SECTION 5 | FUNDING PEDESTRIAN IMPROVEMENTS

The information requested below will help assess current pedestrian funding needs and will be used to attract additional funds to Alameda County.

1. Please list the funding sources that your jurisdiction typically uses for pedestrian projects and programs. Include grant funding.

Funding Source	*Funded project or program*

2. Does your jurisdiction have an annual sidewalk maintenance program and budget? ☐ Yes ☐ No Notes

3. Please list any funding partnerships or other innovative funding arrangements that your jurisdiction has used to improve walkability.

Funding arrangements to improve walkability

➔ SECTION 6 | USEFUL RESOURCES

An important component of ACTIA's Countywide Strategic Pedestrian Plan is the development of a toolkit to assist interested Alameda County jurisdictions in improving local walkability. This toolkit will include design, policy, and funding information, as well as references to printed resources.

In the space below, please list the resources that you have found most useful in your efforts to improve the pedestrian environment.

Recommended resources

Please tell us about any additional efforts, needs or ideas that were not mentioned in the previous sections.

We may want to follow up on the information provided in this questionnaire. This form was primarily completed by:

Name _____ Phone number _____ Email address _____

Appendix B

List of Interviewees

The following individuals were interviewed during the Pedestrian Plan development in September–October 2005.

Agency/Organization	Name	Title
Alameda (City of)	Barry Bergman	Program Specialist II, Public Works Department
	Andrew Thomas	Supervising Planner
Albany	Cherry Chaicharn	Transportation Planner
Berkeley	Heath Maddox	Associate Planner, Bicycle and Pedestrian Programs
	Kate Clayton	Chronic Disease Prevention Program Manager
Emeryville	Peter Schultze-Allen	Environmental Analyst
	Hank Van Dyke	Public Works Director
	Diana Keena	Associate Planner
Oakland	Jason Patton	Program Analyst III, Planning and Zoning Department
Piedmont	Elizabeth Watty	Planning Consultant
	Larry Rosenberg	Director of Public Works
Hayward	Roxy Carmichael-Hart	Senior Transportation Planner
Alameda County	Paul Keener	Senior Transportation Planner, Public Works Agency
	Cindy Horvath	Senior Transportation Planner, Public Works Agency
San Leandro	Keith Cooke	Principal Engineer
	Reh-Lin Chen	Senior Transportation Engineer
	Debbie Pollart	Planning Manager
Fremont	Rene Dalton	Associate Transportation Engineer
Union City	Marilou Ayupan	Principal Civil Engineer
	Joan Malloy	Planning Manager
Newark	Trang Tran	Associate Civil Engineer
	Soren Fajeau	Associate Civil Engineer
Livermore	Alison Bissell	Assistant Planner
	Anna Vickroy	Associate Transportation Engineer

Appendix B: Interviewees

AGENCY/ORGANIZATION	NAME	TITLE
Pleasanton	Janice Stern	Principal Planner
	Fan Ventura	Management Analyst, Parks and Community Services Department
	Mike Tassano	Senior Traffic Engineer
Dublin	Ferd Del Rosario	Senior Civil Engineer
	Ananthan Kanagasundaram	Assistant Engineer & ADA Coordinator
	Jeri Ram	Planning Manager
Association of Bay Area Governments (ABAG)	Lee Huo	Planner
AC Transit	Nathan Landau	Senior Transportation Engineer
East Bay Regional Park District (EBRPD)	Jamie Perkins	Resource Analyst
Livermore Amador Valley Transit Authority (LAVTA)	Cyrus Sheik	
Union City Transit	Wilson Lee	
Bay Area Rapid Transit District (BART)	Val Menotti	Planning Manager
Alameda County Congestion Management Agency (ACCMA)	Diane Stark	Senior Transportation Engineer
California Walks and **Bay Area Walkable Communities Collaborative**	Wendy Alfsen	
United Seniors of Oakland and Alameda County	Lucy Wicks	
Alameda County Public Health Department	Brooke Kuhn	Physical Activity Consultant
Metropolitan Transportation Commission (MTC)	James Corless	
Urban Ecology	Robert Hickey	Project Coordinator
Union Pacific Railroad (UPRR)	Wayne Horiuchi	
Port of Oakland	Lauren Eisele	Associate Port Environmental Planner

Appendix C

LOCAL COST SUMMARY

NEEDED IMPROVEMENTS ($1,000s)

JURISDICTION	SIDEWALKS	CURB RAMPS	TRAFFIC SIGNALS	TRAILS & PATHWAYS	TOTAL
Alameda (City of)	$ 1,100	$ 740	$ 85	$ 632	$ 2,557
Albany	$ 295	$ 204	---	---	$ 499
Berkeley	---	---	---	---	---
Emeryville	$ 0	$ 0	$ 15	---	$ 15
Oakland	$ 137,400	$ 28,200	$ 8,500	$ 10,500	$ 184,600
Piedmont	$ 15	---	---	$ 5	$ 20
Hayward	$ 4,674	$ 600	$ 158	$ 711	$ 6,143
San Leandro	$ 2,300	---	$ 115	$ 4,600	$ 7,015
Alameda County	$ 600,000	---	---	---	$ 600,000
Fremont	$ 3,051	$ 633	$ 500	$ 9,113	$ 13,297
Newark	$ 1,750	$ 1,500	$ 950	$ 125	$ 4,325
Union City	$ 201	$ 158	$ 1,958	$ 1,640	$ 3,957
Dublin	$ 65	---	---	---	$ 65
Livermore	$ 42,000	$ 5,400	$ 200	$ 60,000	$ 107,600
Pleasanton	---	$ 90	---	$ 17,500	$ 17,590
TOTAL	**$ 792,851**	**$ 37,524**	**$ 12,481**	**$ 104,826**	**$ 947,681**

Note: At the time of the survey, the City of Berkeley was developing comprehensive curb ramp, sidewalk and crosswalk inventories.

Source: Data was provided in April 2006 by local jurisdictions in response to a short survey from ACTIA. Jurisdictions were asked to provide cost estimates based on existing inventories for each category, if available. Costs were developed according to each agency's own methodology and may not represent the complete need.

Appendix D

MONITORING EFFORTS BY LOCAL AGENCIES

PLANNING AREA	JURISDICTION	INVENTORIES				TRACKING / ANALYSIS		
		Sidewalk	**Curb ramp**	**Traffic signal**	**Trail & pathway**	**Ped counts**	**Collect/ analyze ped collisions**	**Issue trip & fall reports**
North	**Alameda (City of)**	No	No	Yes	Yes	As needed	No	Yes
	Albany	Yes	No	Yes	Yes	Yes[1]	Yes[2]	Yes
	Berkeley	Underway	Underway	Yes	Yes	Yes[3]	No	No
	Emeryville	No	No	Yes	Yes	As needed	Yes	Yes
	Oakland	Underway	Yes	Yes	Yes	No	Yes	Yes
	Piedmont	Yes	No	No[4]	Yes	Yes[2]	Yes	Yes
Central	**Hayward**	Partial	Yes	Yes	Yes	Yes[5]	No	No
	San Leandro	No	No	Yes[6]	Yes	Yes[7]	Yes	Yes
	Alameda County	Underway	Underway	Yes	No	No	Yes	No
South	**Fremont**	No	Yes	Yes	Yes	Yes[5]	Yes	No
	Newark	Underway	Yes	Yes	Yes	No	Yes	Yes
	Union City	Yes	Yes	Yes	Yes	No	Yes[8]	No
East	**Dublin**	No	No	Yes	Yes	No	Yes[8]	Yes
	Livermore	Yes	Yes	Yes	Yes	Yes	Yes[9]	Yes
	Pleasanton	No	Yes	Yes	Yes	No	Yes[3]	Yes

Source: Information collected in September/October 2005 through interviews with local agency staff (see Appendix B), in response to the relevant questions listed in the questionnaire (see Appendix A).

Notes

1. On Marin Avenue and the Ohlone Greenway
2. Around schools
3. Annually
4. With only five signals, all attributes are known
5. As part of turning movement counts
6. Focus on visually impaired
7. When needed for Transportation Fund for Clean Air grant
8. Collect, don't analyze
9. Analyze when threshold number of accidents or complaints is reached

Appendix E

Areas of Countywide Significance

The following are the projects and places that were known to meet the definition of countywide significance (as outlined in Chapter 4: *Countywide Priorities*) as of the publication of the Pedestrian Plan. These are the areas that have been included in Figures 3–7.

TRANSIT

AC Transit

1. San Pablo Avenue: Downtown Oakland to Albany
2. International Blvd/E 14th: Downtown Oakland to Hayward
3. Bancroft/Foothill/Shattuck/Telegraph: San Leandro-East Oakland-Emeryville
4. MacArthur/40th: San Leandro to Berkeley
5. University/College/Broadway: Berkeley-Oakland-Alameda
6. Hesperian: Bayfair BART to Union City BART
7. E 14th/Mission: Bayfair BART to Union City BART
8. Fremont Blvd: Fremont BART to Ohlone College
9. 35th Avenue: Merritt College to Fruitvale BART
10. Fruitvale BART to Eastmont Mall: via Alameda and Oakland Airport
11. Cal State University East Bay to Chabot College: via Hayward BART and Southland Mall

Dumbarton Express

Union City Transit

1. Routes 1A/1B
2. Route 2 Whipple

WHEELS

1. Route 10
2. Route 12

Rail

All stops/stations for the following operators:

1. ACE (4 stops)
2. Amtrak/Capitol Corridor (6 stops)
3. BART (19 stations)
4. Alameda/Oakland Ferries (3 stops)

ACTIVITY CENTERS

Downtowns

1. Berkeley
2. Oakland
3. San Leandro
4. Hayward
5. Fremont
6. Pleasanton
7. Livermore
8. Alameda

Major Commercial Districts

1. Lower Solano Avenue, Albany
2. Mid- and Upper Solano Avenue, Albany and Berkeley
3. Fourth Street – Virginia to University, Berkeley
4. Telegraph Avenue – Bancroft to Parker, Berkeley
5. Rockridge – College from Alcatraz to Broadway, Oakland
6. Piedmont Ave – Macarthur to Pleasant Valley, Oakland
7. Fruitvale – International from Fruitvale to 42nd, Oakland
8. Webster Street, Alameda
9. Centerville, Fremont
10. Irvington, Fremont
11. Mission San Jose, Fremont
12. Niles, Fremont

Shopping Centers

1. Eastmont Mall
2. Bay Street
3. Powell Street Plaza
4. Emeryville Market Place
5. South Shore Center
6. Bayfair Mall
7. Southland Mall
8. New Park Mall Shopping Center
9. Union Landing Shopping Center
10. Pacific Commons Shopping Center
11. Hacienda Crossings
12. Stoneridge Mall

Post Secondary Educational Institutions

1. UC Berkeley
2. CSU East Bay
3. Chabot
4. Laney
5. Ohlone
6. Las Positas
7. Merritt
8. College of Alameda
9. Berkeley City College (formerly Vista)

Hospitals and Medical Centers

1. Alameda County Medical Center-Fairmont Campus (San Leandro)
2. Alameda County Medical Center-Highland Campus (Oakland)
3. Alameda Hospital (Alameda)
4. Alta Bates Summit Medical Center (Berkeley)
5. Alta Bates Summit Medical Center - Summit Campus (Oakland)
6. Children's Hospital and Research Center at Oakland (Oakland)
7. Fremont Hospital (Fremont)
8. Kaiser Foundation Hospital (Oakland)
9. Kaiser Foundation Hospital - Hayward (Hayward)
10. Kaiser Foundation Hospital - (Fremont)
11. San Leandro Hospital (San Leandro)
12. St. Rose Hospital (Hayward)
13. ValleyCare Medical Center (Pleasanton)
14. Washington Township Health Care District (Fremont)
15. Eden Medical Center (Hayward/Castro Valley)
16. Alta Bates Summit Medical Center - Herrick Hospital (Berkeley)

Major Public Venues

1. Golden Gate Fields (Albany)
2. Chabot Space & Science Center (Oakland)
3. Network Associates Coliseum (Oakland)
4. Oakland Arena (Oakland)
5. Oakland Zoo (Oakland)
6. Western Aerospace Museum (Oakland)
7. Children's Fairyland (Oakland)
8. Paramount Theater (Oakland)
9. Kaiser Convention Center (Oakland)
10. Lawrence Hall of Science (Berkeley)
11. Berkeley Art Museum (Berkeley)
12. Oakland Museum of California (Oakland)
13. Berkeley Community Theater (Berkeley)
14. Greek Theater (UC Berkeley)
15. Zellerbach Hall (UC Berkeley)
16. Memorial Stadium (UC Berkeley)
17. Alameda County Fairgrounds (Pleasanton)

Government Buildings

Alameda County Offices

1. County Offices - 1221 Oak, Oakland
2. Alameda County Courthouse and Registrar of Voters – 1225 Fallon, Oakland
3. Dept of Adult and Aging Services – 6955 Foothill Blvd, Oakland

Social Services

4. Welfare to Work – 8477 Enterprise Way
5. Veteran's Services – Eastmont Mall
6. Veteran's Services – 39175 Liberty, Fremont
7. Veteran's Services - 29800 Mission Blvd, Hayward

Superior Court

8. Justice Center – 600 Washington, Oakland
9. Berkeley Courthouse – 2000 Center St
10. Fremont Hall of Justice – 39439 Paseo Padre Pkwy
11. Gale-Schenone Hall of Justice – 5672 Stoneridge Dr, Pleasanton
12. George E. McDonald Hall of Justice – 2233 Shoreline Dr, Alameda
13. Hayward Hall of Justice – 24405 Amador
14. Juvenile Court – 400 Broadway, Oakland
15. Wiley W Manuel Courthouse – 661 Washington, Oakland
16. Santa Rita Jail – 5325 Broder Bl, Dublin
17. North County Jail – 550 6th , Oakland

Regional Offices

18. MTC – 101 8th St, Oakland

State Offices—Motor Vehicles Department
19. 501-85th Ave, Oakland
20. 5300 Claremont, Oakland
21. 6300 West Las Positas Bl, Pleasanton
22. 4287 Central Ave., Fremont
23. 150 Jackson St., Hayward

US Government Office
24. Courts– 1301 Clay, Oakland

Regional Parks
1. Anthony Chabot
2. Tilden
3. Coyote Hills
4. Dry Creek Pioneer
5. Lake Chabot
6. Redwood
7. Ardenwood Farm
8. Claremont Canyon
9. Huckleberry Botanic
10. Leona Heights
11. Mission Peak
12. Robert Sibley
13. Palomares Ridge
14. Cull Canyon
15. Don Castro
16. Quarry lakes
17. Roberts
18. Shadow Cliffs
19. Temescal
20. Hayward Shoreline
21. MLK Jr Shoreline
22. Oysterbay Shoreline
23. Crown Beach
24. Eastshore State Park
25. Middle Harbor

TRAILS

1. SF Bay Trail – Spine and Connectors
2. Iron Horse Trail from Dublin/Contra Costa County border to Livermore eastern city limits
3. Shadow Cliffs to Iron Horse (EBRPD #29)
4. Tassajara Creek Trail (EBRPD #31)
5. Coyote Hills to Ardenwood (EBRPD #9)
6. Ardenwood to Quarry Lakes (EBRPD #10)
7. Shadow Cliffs to Morgan Territory (EBRPD #8C) - between Stanley Rd (Iron Horse Trail) and Las Positas College only.
8. Ohlone Greenway Trail (Albany & Berkeley)
9. Jack London/Arroyo Mocho Trail (Livermore/Pleasanton)
10. Emeryville Greenway (Berkeley to Emeryville)

Appendix F

Effectiveness of Pedestrian Improvements

The following list categorizes pedestrian improvements as either an infrastructure item or amenity, and rates the effectiveness of each. The list is from the Metropolitan Transportation Commission's Pedestrian Districts Study (2006), Cost Estimating Template Table 4-1. (See www.mtc.ca.gov/planning/bicyclespedestrians/regional.htm#pedcommittee, under Pedestrian Districts Study, 4. Generic Cost Estimating Tool.)

As described in the Study, "Items in the infrastructure section include the core facilities, or 'building blocks' of a safe and healthy pedestrian district. Facilities in the pedestrian amenities section include items that improve the overall comfort and appearance of the pedestrian environment." The definition of effectiveness is included below the table.

This categorization and the effectiveness ratings will be used as a guide when deciding project eligibility and prioritization for countywide funds.

Item	Description	Effectiveness
Pedestrian Infrastructure		
Crossings		
1.0	Audible Pedestrian Crossing Cues at Intersection	⊙
1.1	Automatic Pedestrian Detection	⊙
1.2	Bulbout (LF curb, SF concrete, wheelchair access, demo)	●
1.3	Crosswalk Countdowns	●
1.4	Crosswalk: Lighted Flashing (In Pavement Flashers)	⊙
1.5	Crosswalk: Raised above grade	⊙
1.6	Crosswalk: Striping (Standard and High Visibility)	⊙
1.7	Pedestrian Push Button Treatments	⊙
1.8	Pedestrian Refuge Island	⊙
1.9	Signage (Standard vs. High Visibility)	●
1.10	Signalized Intersections	●
1.11	Wheelchair Ramps (w/ warning surface half domes)	●
1.12	Yield Lines (Advanced limit lines or back lines)	●
Enforcement		
1.13	Radar Speed Display Sign	●
1.14	Rat Box	⊙
1.15	Traffic Cameras	●

High: ● Medium: ⊙ Low: ○

ITEM	DESCRIPTION	EFFECTIVENESS
Materials		
1.16	Asphaltic Concrete	○
1.17	Concrete Paving Sidewalk (scored)	●
Sidewalks and Lighting		
1.18	Concrete Curb and Gutter Installation	●
1.19	Concrete Curb and Gutter Removal and Replacement	●
1.20	Concrete Sidewalks Removal and Replacement	●
1.21	Pedestrian-Level Street Lights	●
1.22	Standard Street Light (Cobra Head)	○
1.23	Widened Sidewalks	●
Traffic Calming		
1.24	Chicanes	●
1.25	Speed bumps	●
1.26	Stop Signs	⊙
1.27	Traffic Calming Circles	●
Pedestrian Amenities		
2.0	24" Box Trees	●
2.1	60 Day Maintenance	⊙
2.2	Bench (6' wide)	⊙
2.3	Bike Racks	⊙
2.4	Bollards	⊙
2.5	Bus Shelter	●
2.6	Bus Concrete Pad	○
2.7	Crosswalk: Permeable Paving- Brick	○
2.8	Crosswalk: Scored Concrete	○
2.9	Crosswalk: Stamped Colored Concrete	○
2.10	Gateway Features	●
2.11	Grade Separated Crossing (Pedestrian Bridge)	○
2.12	Information Kiosks	⊙
2.13	Landscaped Median	⊙
2.14	Newsracks	○
2.15	Orange Safety Flags at Corner Intersections	○
2.16	Planting at Bulb-outs	⊙
2.17	Seat Wall	○
2.18	Street Pole Banners	⊙

High: ● Medium: ⊙ Low: ○

ITEM	DESCRIPTION	EFFECTIVENESS
2.19	Trash Cans	○
2.20	Tree Grates includes frame (4'x4')	⊙
2.21	Tree Guards (Powder Coated)	○
2.22	Tree Well	●
2.23	Water Fountain	○

High: ● Medium: ⊙ Low: ○

EFFECTIVENESS DEFINITION (QUOTED FROM THE PEDESTRIAN DISTRICTS STUDY)

This column provides a normative assessment of the effectiveness of each pedestrian facility on a high/medium/low scale. The rating is inherently qualitative. A high effective rating means that the facility has strong value related to safety, access, aesthetics and cost. The facility promotes walkability, induces people to walk, improves safety or creates an attractive pedestrian environment. A highly effective facility achieves these things in the most cost effective way possible. Core pedestrian infrastructure such as sidewalks, traffic signals, and pedestrian lights are all considered "high." The effectiveness of other facilities is considered relative to these essential items.

A limitation of the template is that it does not capture the idea that the effectiveness of an individual facility is typically greater when it is installed in combination with other pedestrian improvements. For example, a crosswalk is made more effective when it is implemented with stop back lines and stop signs to ensure that vehicles come to a stop.

Appendix G

Cost Calculations

The methodology used for calculating cost estimates of Alameda County pedestrian capital projects in areas of countywide significance and programmatic and planning efforts of countywide significance is discussed in Chapter 5: *Costs and Revenue*. This appendix provides more detail for selected areas: walk access along bus corridors and to bus corridors, rail stations, ferry terminals and downtown areas. For detailed calculations and assumptions for all costs reported in Chapter 5, please see ACTIA's website (www.acta2022.com/bikeped.html).

Walk access along bus corridors ("corridor improvements")

Calculations are based on MTC's Cost Estimating Template. (See Table 4-1, which can be found at www.mtc.ca.gov/planning/bicyclespedestrians/regional.htm#pedcommittee, under Pedestrian Districts Study, 4. Generic Cost Estimating Tool.) Assumed improvements—at various frequencies—include audible pedestrian crossings, automatic pedestrian detection at signalized intersections, bulb-outs, crosswalk countdown signals, crosswalk striping, pedestrian push buttons, pedestrian refuge islands, signage, new signals, curb ramps, yield lines, removing and replacing concrete curb and gutter and sidewalks, pedestrian level street lights, standard cobra street lights, and street trees.

Walk access to bus corridors ("off-corridor improvements")

Calculations are based on bus stop frequency and assumptions regarding the number of streets within one-half mile of each bus stop. Per-mile cost is assumed to be ten percent of cost to improve pedestrian access along bus corridors themselves, to cover curb cuts, pedestrian signal heads, and widened sidewalks in some locations. Way-finding to 30 planned Bus Rapid Transit stops is also included.

To approximate off-corridor mileage of countywide significance, all block faces surrounding a bus corridor were assumed, on average, to be one-eighth mile (660 feet) long. Corridors with quarter-mile bus stop spacing or less (i.e., all eligible AC Transit and Union City Transit corridors) were estimated separately from those with half-mile spacing (i.e., WHEELS and Dumbarton Express corridors).

Corridors with quarter-mile bus stop spacing

Corridors with quarter-mile bus stop spacing were assumed to have one intersecting, perpendicular street at each bus stop, each being one mile in length (i.e., one-half mile on either side of the bus corridor). (See Figure 8.) Halfway between each consecutive pair of bus stops, it was further assumed that there is another intersecting street, one-eighth mile from each bus stop. Since off-corridor improvements must be within one-half mile of a bus stop, three-eighths of a mile along these midway streets in either direction from the corridor is included, for a total of three-quarters of a mile per stop. (The cost of making improvements to the one-eighth mile along the corridor was included under Corridor Improvements.)

The entire length of streets parallel to and within three-eighths of a mile of bus corridors is within the half-mile walk-shed. (See Figure 8.) For each bus stop, six such streets are assumed on either side of the bus corridor, for a total of 12 one-eighth mile segments per stop. In sum, for each bus corridor with quarter-mile bus stop spacing (or less), the off-corridor mileage will be:

[(# stops) x (1+ ¾) miles)] + [total corridor mileage x 6]
(perpendicular streets) (parallel streets)

Corridors with half-mile bus stop spacing

For corridors with bus stops that are spaced closer to a half-mile apart, the calculations for streets that intersect at the bus stops themselves are the same as for corridors with more closely spaced stops (i.e., one-half mile on either side of the bus corridor). However, rather than assuming one intersecting street between each consecutive pair of bus stops, three such streets were assumed. (See Figure 9.) Improvements along one-quarter mile of the middle street of these three streets on either side of the bus corridor are within the half-mile walk-shed, as they are one-quarter mile from the closest bus stop. The average distance from the other two

midway intersecting streets to the closest stop, however, is only one-eighth mile along the corridor (improvements along these segments were included under Corridor Improvements), which means that three-eighths of a mile along these two midway streets in either direction from the corridor are included in the calculation, for a total of three-quarters of a mile per each midway street.

The entire length of streets parallel to and within one-quarter mile of bus corridors of countywide significance are within the half-mile walk-shed. For each bus stop, there are eight such blocks assumed on either side of the bus corridor, for a total of 16 one-eighth mile segments (two miles) per stop. In addition, one-quarter mile per bus stop along the two streets parallel to and three-eighths of a mile from corridors of countywide significance are also included in the calculation. (See Figure 9.) Therefore, the off-corridor mileage calculation for bus corridors with half-mile spacing is:

[(# stops) x (1+ ½+¾+¾) miles)] + [(# stops x 2 ½ miles)]
(perpendicular streets) (parallel streets)

Walk access to rail stations

As described in Chapter 5, calculations for each rail station vary depending on: whether pedestrian access to the station (within one-half mile) has been recently improved; if improvements are planned, but only partially funded; and/or adjacent land uses. Figure 10 illustrates the half-mile walk-shed assumed around the average rail station. A higher level of improvement was assumed for eight one-eighth mile block faces (for a total of one mile) than for other blocks farther from the station, but within the one-half mile walk-shed (a total of seven miles). The higher level of improvements are based on planned improvements to 40th Street between Telegraph Avenue and Martin Luther King Jr. Way, adjacent to the MacArthur BART station in Oakland; the cost of improvements to the blocks farther from the station were assumed to be ten percent of the higher level improvement costs. Way-finding is assumed to all stations.

Walk access to ferry terminals

Cost estimates of improvements in the immediate vicinity of ferry terminals (assumed to be a 1/8-mile block) are based on the expected cost of pedestrian infrastructure at the planned South San Francisco ferry terminal. Estimates of the cost of pedestrian improvements within the remaining one-half mile walk-shed around each terminal, taking into account that one side is water, include 21 eighth-mile block faces (total of 2.625 miles) and are based on the off-corridor bus cost of the local bus operator. (See Figure 11.)

Pedestrian improvements in downtown areas

Costs are based on the per mile cost of the higher level improvements nearest to the BART stations. Each downtown area is categorized as small, medium or large. Pedestrian improvements to small downtowns are assumed to be equal to those in the immediate vicinity of a BART station. Medium and large downtowns are assumed at twice and five times the cost of small downtowns, respectively. Where the downtown contains a BART station, the assumed BART improvements (see above) are subtracted from the total downtown cost estimate.

Figure 8
Walk Access to Bus Corridors with 1/4 Mile Bus Stop Spacing

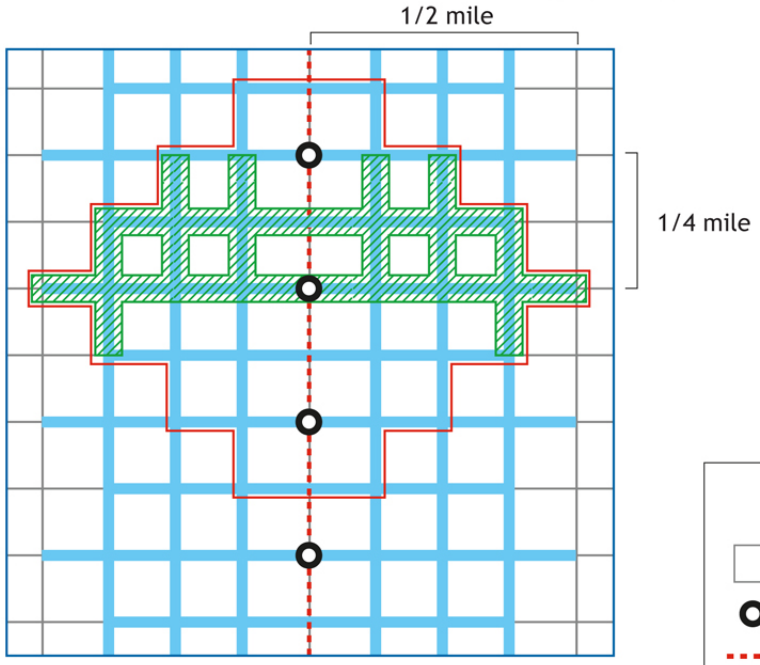
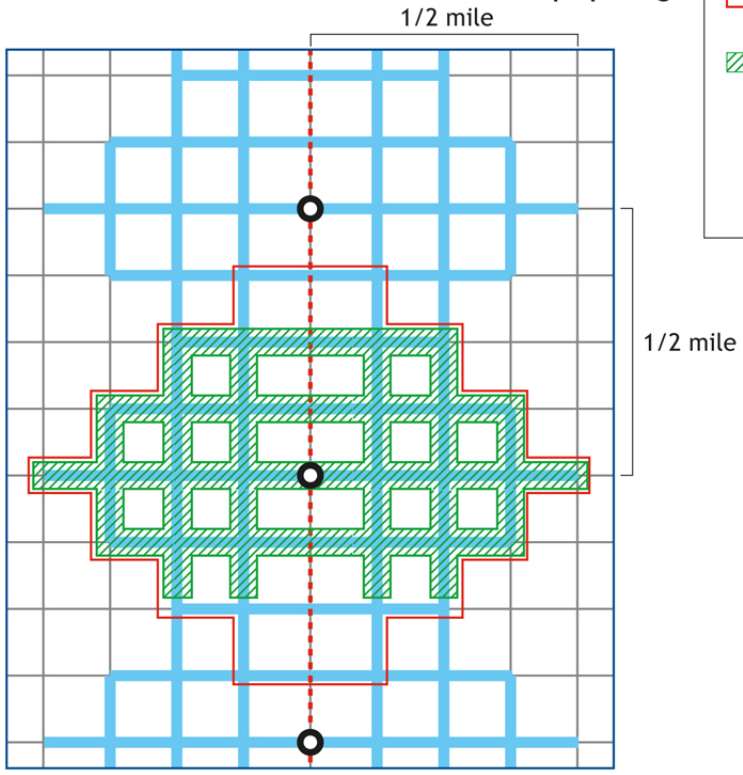


Figure 9
Walk Access to Bus Corridors with 1/2 Mile Bus Stop Spacing



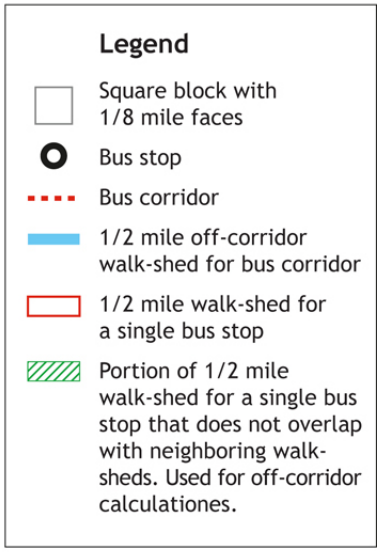


Figure 10
Walk Access to Rail Stations

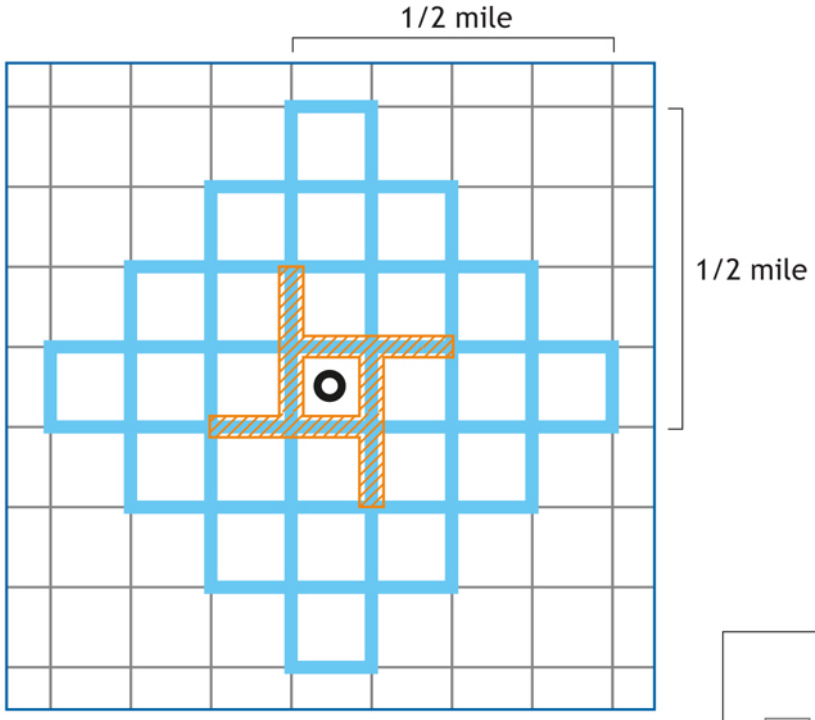
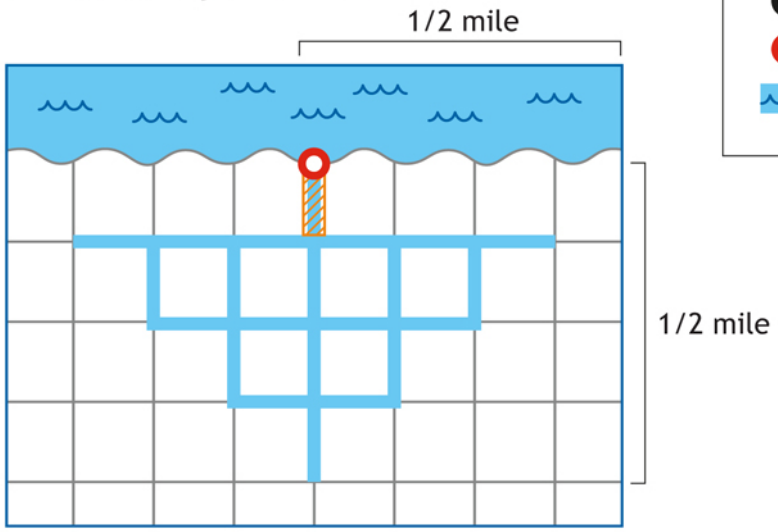
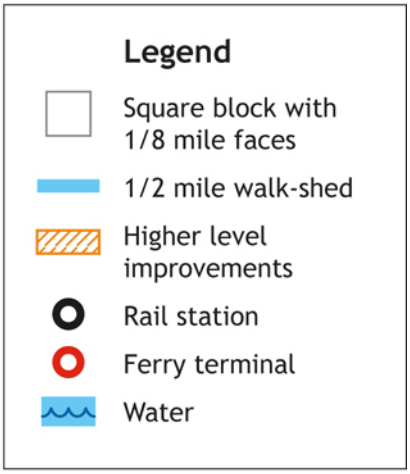


Figure 11
Walk Access to Ferry Terminals





Appendix H

Revenue Assumptions

Calculations of expected revenues discussed in the *Pedestrian Plan* are based on the assumptions listed below. In most cases, these assumptions are not requirements of the respective funding programs; rather they are best guesses based on historical revenue allocations. All amounts are in 2006 dollars. Please see www.actia2022.com/bikeped.html for actual spreadsheet calculations.

Tier 1: Dedicated Funds

Measure B

- Source: ACTIA
- $108 million from 2005 to 2022: The current Measure B expires in 2022; no additional Measure B revenue (for instance, from a new measure) is assumed.
- Assumes 50 percent pedestrian projects /50 percent bicycle projects.
- **Local pass-through**
  - 75 percent of total funds (as required by Measure B).
  - Assumes 50 percent be used in areas of countywide significance (AoCS), since these funds are expended by local agencies and much will go towards local needs that may not be among the areas of countywide significance.
- **Countywide projects/programs**
  - 25 percent of total funds (as required by Measure B).
  - Assumes 80 percent to be used in AoCS, since 20 percent are typically reserved for the countywide bicycle/pedestrian coordinator position, countywide planning, and additional countywide bicycle and pedestrian programs.

Regional Bicycle and Pedestrian Program (RBPP)

- Source: MTC
- Assumes RBPP program goal of 50 percent pedestrian projects/50 percent bicycle projects.
- 21 percent of funds required to go to Alameda County recipients, based on population.
- **County share**
  - 75 percent of total funds
  - 40% of resulting county share funds available because MTC policy for these funds allows congestion management agencies to take a "credit" if their county has a sales tax that includes five percent or more dedicated to bicycle and pedestrian projects, as is the case in Alameda County. These counties can receive a CMAQ credit of up to 60 percent of their RBPP county share funds (but not the regional competitive), and must prove before each cycle that an equivalent amount of credited funds have been allocated from the sales tax funds to regional bicycle and pedestrian projects, as defined in the RBPP. At this time, the ACCMA has chosen to exercise this right, and therefore this assumption was made for the cost calculations.
  - Assumes 100 percent of available funds in AoCS, since these projects are assumed to meet RBPP criteria.
- **Regional competitive**
  - 25 percent of total funds
  - Assumes 100 percent of available funds in AoCS, since these projects are assumed to meet RBPP criteria.

Transportation Development Act (TDA), Article 3

- Source: Alameda County Public Works Agency
- Annual amount is average annual allocation over previous three years.
- Assumes 50 percent pedestrian projects/50 percent bicycle projects.
- 50 percent of available funds assumed in AoCS, with the rest going to local projects.

Tier 2: Competitive Funds

Transportation Fund for Clean Air (TFCA)

- Source: Bay Area Air Quality Management District (Karen Chi)
- $20 million/year total for both programs.
- **County Program Manager Fund**
  - 40 percent of total funds (approximately $8 million/year).
  - Alameda County receives its population share of 21 percent.
  - In Alameda County, 30 percent of these funds goes to transit operators; 70 percent to jurisdictions.
  - Assumes historic proportion of funds will go to pedestrian projects (i.e., two percent).
- **Regional Fund**
  - 60 percent of total funds (approximately $12 million/year).
  - $2 million funds miscellaneous (i.e., non-pedestrian) projects.
  - No information available on historic allocation of regional fund to Alameda County recipients, so 21 percent of available regional funds (i.e., remaining $10 million) assumed to go to Alameda County recipients, based on population.
  - Assumes historic proportion of funds will go to pedestrian projects (i.e., two percent).
- Since TFCA funds must be used for "smart growth" projects, they will likely be in AoCS, so 100 percent of available funds assumed in AoCS.

Transportation for Livable Communities (TLC) (Regional and Local Capital Programs)

- Source: Metropolitan Transportation Commission (Doug Johnson)
- Assumes 60 percent of all projects are pedestrian projects.
- Assumes 21 percent of funds available to Alameda County projects, based on population.
- Note: Since TLC planning grants do not fund pedestrian plans per se, nor do they fund pedestrian programs, these funds are not included in this table.
- **Regional Capital Program**
  - $18 million annual allocation.
  - Since funded projects are likely to be near regional transit, 100 percent of available funds assumed in AoCS.
- **Local Capital Program**
  - $9 million annual allocation
  - Since by ACCMA policy, funded projects must be used at one of eight transit-oriented development sites (all of which are BART stations), 100 percent of available funds assumed in AoCS.

Safe Routes to School (SR2S)

- Source: Caltrans Office of Local Assistance (Chen Wu)
- Assumes available annual statewide amount to be annual average of first five years of program (i.e., $112 million over five years averages $22.4 million/year).
- Assumes 90 percent funds pedestrian-only or bicycle/pedestrian projects, as opposed to bicycle-only (based on historic estimate by Caltrans staff).
- Annual amount available in Alameda County based on historic allocations to County (i.e., $5,147,100 over five years averages $1.029 million/year or 4.5 percent of statewide of total).
- Note: SAFETEA-LU includes a $33 million nationwide SR2S program (2005/06). The State of California is in the process of deciding whether to discontinue its SR2S program, combine it with the federal program or continue to maintain a separately funded program. Since $33 million nationwide is so little compared to, on average $20 million in the State of California, combined State/SAFETEA-LU total assumed to be equal to the historic State program (i.e., no additional funds from SAFETEA-LU).
- Assumes 50 percent of available funds in AoCS.

Safe Routes to Transit (SR2T)

- Source: Transportation and Land Use Coalition (Amber Crabbe)
- $16 million is allocated over eight years (i.e., $2 million/year average).
- Assumes Regional Measure 2 (or another funding source) will be extended through Plan timeframe at current funding level.
- Estimates do not consider historic allocations for plans since SR2T does not fund pedestrian plans per se.
- Assumes 50 percent pedestrian projects/50 percent bicycle projects.
- TALC staff recommends assuming Alameda County share will be similar to first cycle allocation due to multiple toll bridges, and presence of two major transit operators, AC Transit and BART.
- Alameda County projects received 38 percent of first cycle total allocations (i.e., $1,482,584 of $3,938,584 allocated, assuming 50 percent of Ohlone Greenway Lighting project is in Alameda County).
- 100 percent of available funds assumed in AoCS, since all projects must be near transit.

Lifeline Transportation

- Source: MTC website
- $150 million available over 25 years.
- Assumes 20 percent of program to be allocated to pedestrian projects, based on first funding cycle.
- 27.4 percent estimated to be allocated in Alameda County, based on county's percent of region's poverty population.
- Figure does not include $1.3 million region-wide that Caltrans will distribute to small and non-urbanized areas.
- Assumes 100 percent of available funds in AoCS, since all projects must be near transit.

Bay Trail Grant Program

- Source: ABAG/San Francisco Bay Trail Project (Laura Thompson, Lee Huo & Maureen Gaffney)
- Not a secured, regular source of funding. No annual amount is guaranteed and funding levels vary from year-to-year. Annual grant amounts assumed available based on historic grants (1997-2010).
- 14 percent of region-wide grants assumed to go to Alameda County based on Bay Trail cost estimates to complete (publicly-funded portion of) trail in Alameda County and region (i.e., $25,999,669/$187,798,000). Note: These figures represent the cost to construct the spine and spur segments of the Trail. See Chapter 5: *Costs and Revenue* for complete discussion of Bay Trail cost calculations in Alameda County.
- Assumes 100 percent of available funds in AoCS, since the Bay Trail is an AoCS.

State of California Office of Traffic Safety (OTS)

- Source: OTS website (www.ots.ca.gov/Publications/2006hsp.asp)
- Amount available based on first year amounts of 2005/06 grants for "Pedestrian and Bicycle Safety" category projects.
- Assumes 50 percent pedestrian projects/50 percent bicycle projects.
- Grants are awarded purely based on merit; there are neither geographic nor programmatic set-asides.
- Although no OTS grants have been awarded to Alameda County pedestrian projects in the past three cycles (2002/03, 03/04 and 04/05), on average, Alameda County is assumed to receive county's share of state's population (i.e. four percent) over life of the Plan.
- Assumes 50 percent of available funds in AoCS.

Regional Trails Program (RTP)

- Source: California State Parks Department (Ted Novack)
- Per SAFETEA-LU, California statewide RTP program received approximately $3.3 million/year in 2006. This amount will increase by approximately $200,000 each year through 2010. This increase assumed through 2030.
- Assumes all projects assumed are pedestrian projects.
- Northern California receives approximately 40% of statewide amount.
- Alameda County grant success rate (based on ten year historic average) is five percent per grant cycle.
- Assumes 100 percent of available funds are in AoCS, since many Alameda County trails are in these areas.

Environmental Justice

- Source: Caltrans (Reza Narai)
- Total available based on historic average over last five program cycles (2001/02 through 2005/06) of $2 million per year.
- Assumes 50 percent of funds to go to pedestrian projects.
- Share of funding allocated to Alameda County assumed to be equivalent to five-year average (i.e., seven percent).
- Assumes 100 percent of available funds in AoCS, since many funded projects will be near transit.

Appendix I

Relationship between Countywide Pedestrian and Bicycle Plans

Because the *Countywide Pedestrian Plan* was developed at the same time that the *Countywide Bicycle Plan* was being updated, there were many opportunities to coordinate the two plans. This Appendix contains three parts: (1) a description of the relationship between the two plans (below); (2) a map of the intersection between high priority bicycle projects and pedestrian areas of countywide significance (Figure 12); and (3) a comparison of the plans' revenue estimates.

The Countywide Pedestrian and Bicycle Plans will be used to guide countywide planning and funding decisions for their respective modes, including decisions regarding the allocation of countywide bicycle and pedestrian funds, such as Measure B and the Regional Bicycle and Pedestrian Program.

Topic: Capital Projects

- Where Addressed in Pedestrian Plan: *Chapter 4: Countywide Priorities*
- Where Addressed in Bicycle Plan: *Chapter 3: Proposed Facility Improvements,* and *Chapter 5: Implementation Plan*

Although they address different modes, the two plans both focus on countywide needs, and in particular, pedestrian and bicycle improvements that will benefit people traveling throughout the county, rather than within one jurisdiction. The two investment types where there is the most overlap between countywide pedestrian and bicycle projects are trails and transit, both of which provide numerous opportunities for leveraging funds by making improvements that will serve both modes.

Trails - Trails that are in both plans include the Ohlone Greenway, Alameda Creek Trail, Jack London/Arroyo Mocho Trail, Alamo Canal Trail, and Tassajara Creek Trail; and portions of the Bay Trail, the Iron Horse Trail, Shadow Cliffs to Iron Horse, and the Emeryville Greenway. All of these trails are Class I, multi-use trails that are used by both pedestrians and bicyclists.

Transit - Both plans have a focus on improvements at and to major transit in the County. The transit locations that overlap between the two are:

- BART Stations
- Ferry terminals
- ACE rail stations
- Amtrak/Capitol Corridor stations
- Major bus transfer points (as identified in the Bicycle Plan, and shown on Figure 12).

In some cases a facility that is at or around a transit stop or station may serve both modes, such as a new traffic signal. Or, there might be separate pedestrian and bicycle facilities (such as bike lanes and a widened sidewalk), which are built around the same transit stop or station.

Figure 12 shows the areas of overlap between the Pedestrian Plan's areas of countywide significance and the High Priority Capital Project List in the Bicycle Plan Update. As shown, eleven of the 15 High Priority bicycle projects are also pedestrian areas of countywide significance. There are also 52 transit areas that overlap. Please note that this map does not illustrate the overlap between the Pedestrian Plan's areas of countywide significance and the larger Bicycle Plan Vision network.

Topic: Programs

- Where Addressed in Pedestrian Plan: *Chapter 4: Countywide Priorities*
- Where Addressed In Bicycle Plan: *Chapter 4: Proposed Programs*

Although all of the programs described in the Pedestrian Plan address pedestrians specifically, many of these programs could also benefit bicyclists, depending on their design. Two such program categories are also included in the Bicycle Plan:

Promotion – Some programs could promote all non-motorized modes of travel.

Education – These programs could target both pedestrian and bicycle safety.

The following program categories are identified in the Pedestrian Plan only.

Technical Support – This program, to be administered by ACTIA and funded through Measure B, will be designed to provide assistance to local agencies and others on pedestrian and bicycle issues.

Local Match Support for Safe Routes to School, Lifeline Transportation, and Environmental Justice Grants – The matching funds provided through this Measure B funded program would also be available for projects that address bicycling needs.

Topic: Cost Estimating

- Where Addressed in Pedestrian Plan: *Chapter 5: Costs and Revenue, Appendix G*
- Where Addressed In Bicycle Plan: *Chapter 5: Implementation Plan*

The Pedestrian Plan relied on the costs provided in the Bicycle Plan for estimating all trail costs, with the exception of the Bay Trail, for which numbers were provided by the Bay Trail Project.

Topic: Revenue Estimates

- Where Addressed in Pedestrian Plan: *Chapter 5: Costs and Revenue, Appendix H*
- Where Addressed In Bicycle Plan: *Chapter 5: Implementation Plan*

Revenue estimates were initially developed for each mode separately. These numbers were subsequently compared and adjustments made to ensure consistency. A detailed comparison is shown in this appendix, in Table 11. The total revenue estimate for countywide pedestrian projects, programs and plans is $174 million, while the estimate for countywide bicycle projects is presented as a range of $78-to-$99 million. The higher pedestrian revenue estimate is due to the fact that the pedestrian areas of countywide significance cover a much larger area than the Bicycle Plan's Vision network and the Transportation for Livable Communities and several other programs are anticipated to fund a much higher percentage of pedestrian than bicycle projects, given their program foci.

Topic: Design Guidelines

- Where Addressed in Pedestrian Plan: *Toolkit for Improving Walkability in Alameda County* (companion to the Plan)
- Where Addressed In Bicycle Plan: *Chapter 3: Proposed Facility Improvements, Appendix C-4: Design Guidelines and Best Practices*

Both plans include design guidelines and best practices for their respective modes; information about planning for pedestrians and bicycles together; and suggestions for how to minimize conflicts between the two modes. Sections addressing both pedestrians and bicycles provide the same information, although it is in slightly different formats. In the *Toolkit for Improving Walkability*, the information on planning for both modes can be found primarily in the chapter on Design Standards, under "Planning for Pedestrians and Other Roadway Users." Both documents address Class I trail design, designing a street for both modes, and bicycling on sidewalks.

Additionally, many of the resources provided in the *Toolkit* are also applicable for bicycle planning and design. This includes information on policies that benefit both modes, routine accommodation, multi-modal level of service, safe routes to school programs, and funding resources.

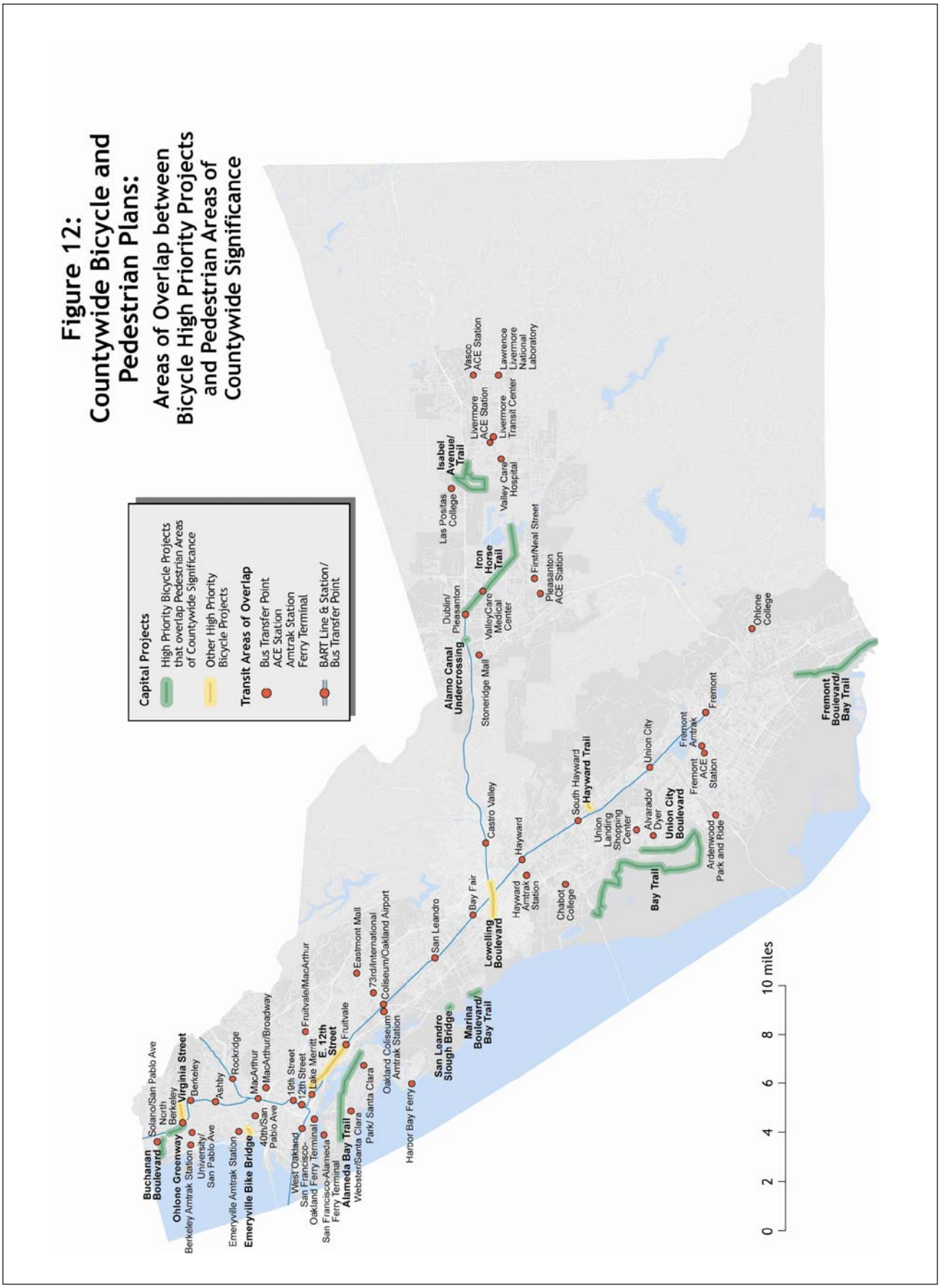


Figure 12:
Countywide Bicycle and Pedestrian Plans:
Areas of Overlap between Bicycle High Priority Projects and Pedestrian Areas of Countywide Significance
Capital Projects
High Priority Bicycle Projects that overlap Pedestrian Areas of Countywide Significance
Other High Priority Bicycle Projects
Transit Areas of Overlap
Bus Transfer Point
ACE Station
Amtrak Station
Ferry Terminal
BART Line & Station / Bus Transfer Point
Buchanan Boulevard
Solano/San Pablo Ave
North Berkeley
Ohlone Greenway
Virginia Street
Berkeley
Berkeley Amtrak Station
University/ San Pablo Ave
Ashby
Emeryville Amtrak Station
Emeryville Bike Bridge
Rockridge
MacArthur
40th/San Pablo Ave
MacArthur/Broadway
19th Street
12th Street
Lake Merritt
West Oakland
San Francisco-Oakland Ferry Terminal
San Francisco-Alameda Ferry Terminal
Alameda Bay Trail
Webster/Santa Clara
Park/ Santa Clara
E. 12th Street
Fruitvale
Fruitvale/MacArthur
Eastmont Mall
73rd/International
Coliseum/Oakland Airport
Oakland Coliseum Amtrak Station
Harbor Bay Ferry
San Leandro
San Leandro Slough Bridge
Marina Boulevard/ Bay Trail
Bay Fair
Lewelling Boulevard
Castro Valley
Hayward
Hayward Amtrak Station
Chabot College
South Hayward
Hayward Trail
Union Landing Shopping Center
Alvarado/ Dyer
Union City Boulevard
Bay Trail
Ardenwood Park and Ride
Union City
Fremont Amtrak
Fremont ACE Station
Fremont
Alamo Canal Undercrossing
Stoneridge Mall
Dublin/ Pleasanton
ValleyCare Medical Center
Iron Horse Trail
Las Positas College
Isabel Avenue/ Trail
Livermore ACE Station
Livermore Transit Center
Vasco ACE Station
Valley Care Hospital
Lawrence Livermore National Laboratory
First/Neal Street
Pleasanton ACE Station
Ohlone College
Fremont Boulevard/ Bay Trail
0
2
4
6
8
10 miles

TABLE 11: COMPARISON OF PEDESTRIAN AND BICYCLE PLAN REVENUE ESTIMATES (In $1,000s; 2006 dollars)

SOURCE	TOTAL FOR PEDESTRIANS IN COUNTYWIDE PLAN	TOTAL FOR BICYCLES IN COUNTYWIDE PLAN	EXPLANATION OF DIFFERENCES
Dedicated Funds			
Measure B bike/ped - local pass-through (75%)	$ 20,250	$ 10,000	The Pedestrian Plan Areas of Countywide Significance encompass a higher percentage of jurisdictional streets than the Countywide Bicycle Plan network. Therefore, more local pass-through dollars are likely to be spent on the Pedestrian Areas of Countywide Significance than on the smaller Bicycle Plan network.
Measure B bike/ped - countywide discretionary (25%)	$ 10,800	$ 10,800	
Regional Bicycle and Pedestrian Program (RBPP) - county share(75%)	$ 6,300	$ 6,300	
Regional Bicycle and Pedestrian Program (RBPP) - regional competitive (25%)	$ 5,250	$ 5,250	
Transportation Development Act (TDA), Article 3	$ 7,063	$5,000 - $7,500	The amounts for both plans are basically equal. Based on how this fund source has been allocated in the past, a range was assumed for bicycle projects on the countywide bicycle network; while in the Pedestrian Plan, half of the total funds available were assumed for pedestrian projects, and half of this was assumed for areas of countywide significance.
Competitive Funds			
Transportation Fund for Clean Air (TFCA) - County Program Manager Fund (40%)	$ 588	$2,500 - $5,500	Based on how this fund source has been allocated in the past, bicycle projects are expected to receive a higher percentage of the funding from this source than pedestrian projects.
Transportation Fund for Clean Air (TFCA) - Regional Fund (60%)	$ 1,050	$ 5,000	Based on how this fund source has been allocated in the past, bicycle projects are expected to receive a higher percentage of the funding from this source than pedestrian projects.
Transportation for Livable Communities (TLC) - Regional capital program	$ 56,700	$ 14,000	Based on how this fund source is allocated and defined, pedestrian projects are likely to receive 60% of funding from this source while bicycle projects may receive 15%.
Transportation for Livable Communities (TLC) - County capital program	$ 28,350	$3,000 - $8,500	Based on how this fund source is allocated and defined, pedestrian projects are likely to receive 60% of funding from this source while bicycle projects may receive 5 to 15%.

Source	Total for Pedestrians in Countywide Plan	Total for Bicycles in Countywide Plan	Explanation of Differences
Safe Routes to School (SR2S)	$ 11,340		See "Miscellaneous" below.
Safe Routes to Transit (SR2T)	$ 9,500	$ 9,500	
Lifeline Transportation	$ 8,220		See "Miscellaneous" below.
Bay Trail Grant Program	$ 4,203		See "Miscellaneous" below.
Office of Traffic Safety	$ 996		See "Miscellaneous" below.
Recreational Trails Program (RTP) - non-motorized program	$ 2,080		See "Miscellaneous" below.
Environmental Justice	$ 1,256		See "Miscellaneous" below.
Bicycle Transportation Account		$ 4,500	This fund source is for bicycles only.
STP/Local Streets and Roads		$ 2,000	These funds are typically spent on roadways, and therefore funding will benefit bicycles, but not pedestrians.
Miscellaneous		$ 10,000	Because it is not known how much would be available for bicycle projects from other competitive sources and because that amount is expected to be small, up to $10 million was estimated in the Bicycle Plan to be available from other competitive sources such as Safe Routes to School, Bay Trail Grant Program, impact fees and private sources. For the Pedestrian Plan, estimates for the competitive sources shown above without a corresponding Bicycle Plan estimate total about $28 million and are based on a combination of historical data and assumptions about the amounts that will be allocated to pedestrian projects. For SR2S and Lifeline Transportation, pedestrian projects are expected to receive a higher percentage of the funding than bicycle projects. For the remaining fund sources, the amounts are assumed to be more equal.
TOTAL	**$ 173,946**	**$77,350 - $98,850**	

Appendix J

GLOSSARY

Arterials	Major roadways designed to carry large volumes of traffic through and between cities. Traffic on arterials is generally controlled by traffic signals. Examples of arterials in Alameda County include San Pablo Avenue, Hesperian Boulevard, East 14th Street and Fremont Boulevard.
Audible pedestrian signals	Pedestrian signals that provide a distinctive sound to guide visually impaired pedestrians in crossing the street.
Bulb-out	Where curb, gutter and sidewalk extend into the parking lane, usually in order to shorten pedestrian crossing distance and make pedestrians more visible to drivers.
California Vehicle Code	The body of State law in California which regulates all facets of driving.
Chicane	A traffic calming device which slows traffic by forcing it to divert from a straight path of travel, often into another lane. Chicanes are often built as chokers, narrowing the travel lane. See also Choker.
Choker	A traffic calming device which slows traffic by narrowing the roadway from both directions, constricting traffic into one center lane. See also Chicane.
Crossing treatment	The techniques used at roadway intersections to facilitate safe and convenient pedestrian movement, including crosswalk markings, median refuges, and curb extensions.
Collectors	Secondary streets designed to bring motor vehicle traffic to arterial roadways. Collector streets are generally designed for travel to or within a neighborhood but not for long distance travel. Collectors are narrower than arterials but are generally wider than local streets. Collectors may be controlled by traffic signals or stop signs.
Curb extension	See Bulb-out.
Curb radius	The radius of the imaginary circle drawn by continuing the curve of a curb along a street corner. The bigger the radius, the farther pedestrians will have to cross the street and the faster motor vehicles will turn the corner.
Curb ramp	A combined ramp and landing pad that allows wheeled users to travel easily between street and sidewalk levels.
Free right turns	Right turn lanes which allow vehicles turning right to avoid passing through the intersection. Also know as slip turns.
General Plan	The adopted document that guides a jurisdiction's development. Under California law, each city and county must maintain a current General Plan that includes a land use, transportation, housing and other required elements. The General Plan is a community's broadest statement of how it intends to structure its land use and transportation networks.
Grade separation	Where two surfaces are separated by virtue of being at different vertical elevations, typically to separate pedestrians from automobiles and bicycles. Examples include sidewalks and pedestrian overpasses and underpasses.

Infill	Development in an area that is already developed (although the specific site may not have been previously developed).
Intermodal	A place where transfers occur between different types of transportation, such as bus and rail.
Mode	A type of transportation. Travel modes include automobile, bicycle, bus, ferry, rail and walking (pedestrian). Many trips, especially transit trips, involve more than one mode, and are usually classified by the mode that covers the longest distance.
Multi-modal	Incorporating many types of transportation.
MUTCD	Manual on Uniform Traffic Control Devices, a publication of the Federal Highway Administration that establishes national standards for traffic control.
Raised crosswalk	A high-visibility crosswalk painted on a raised hump, generally at least ten feet wide, six-to-eight inches high, and aligned with the curb, which allows pedestrians to be more visible to motorists and forces motorists to slow down even when pedestrians are not present.
Refuge Island	A raised island in the center of a roadway that provides a safe place for pedestrians to wait between crossing the two directions of traffic.
Right-of-way (ROW)	The right which one has to pass across the lands of another. An easement.
Routine Accommodation	Specific policies supporting or requiring the consideration of pedestrians in all phases of building transportation facilities.
Smart growth	Compact, mixed-use, development within existing developed areas, which is designed to minimize the amount of land consumed and to maximize opportunities for travel by means other than driving alone. Transit-oriented development is a common type of smart growth.
Specific plan	A specific plan guides a community's development in a focused neighborhood or district. The policies put forth in a specific plan are more detailed and geographically specific that those found in a General Plan.
Speed hump	A traffic calming treatment which uses a gradual rise in the roadway to cause vehicles to slow in order to pass over it safely. The gradual sloping shape of the speed hump does not jolt vehicles or bicycles abruptly, as do speed bumps.
SPUI	A Single Point Urban Interchange is a modified diamond interchange, where all traffic meets at a single traffic signal in the center of the interchange. The SPUI design allows opposing left turns to proceed concurrently, allowing for greater capacity within a smaller right-of-way footprint. Standard SPUI signal timing does not include a phase for pedestrian crossing (as it would decrease efficiency).
Tactile warning	A surface treatment, usually at a curb ramp or any unexpected edge, such as a rail platform, to warn those with vision impairments.
Traffic circle	An intersection with a circular shape which forces vehicles entering the intersection to curve around a central island. Traditional traffic circles are controlled by yield signs, allowing vehicles to merge at higher speeds than if they were required to stop before entering the intersection. Variations on this design control traffic with stop signs or traffic signals, thus using the central island to slow and direct traffic, rather that to provide a continuous flow of traffic around the circle.
Transit-oriented development (TOD)	Housing, commercial or mixed use development sited and designed, in large part, to take advantage of adjacent or nearby transit service, such as a rail station or bus hub.
Urban design	The element of city planning that concerns how buildings and other features are physically arranged in a city. Many cities have urban design guidelines that seek to make streets and neighborhoods attractive and pedestrian-friendly. These guidelines regulate such matters as buildings' relationship to the sidewalk, location of doors, stepbacks on upper stories, etc.