ALAMEDA COUNTYWIDE PEDESTRIAN PLAN

"Alameda County will be a community that inspires people of all ages and abilities to walk for everyday transportation, recreation and health"

Adopted October 25, 2012

Prepared by the Eisen | Letunic team

ALAMEDA County Transportation Commission

www.AlamedaCTC.org

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ACKNOWLEDGEMENTS

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EXECUTIVE SUMMARY

Background and plan purpose

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 an essential component of vibrant, livable, healthy communities, and an integral part of a complete transportation system. The Alameda County Transportation Improvement Authority, one of the two predecessor agencies to the Alameda County Transportation Commission (Alameda CTC), published the first Alameda Countywide Pedestrian Plan in 2006. Concurrently, the first update to the Alameda Countywide Bicycle Plan was developed by the Alameda County Congestion Management Agency, the other Alameda CTC predecessor agency. From 2010 to 2012—as these two agencies merged to form Alameda CTC—both plans were updated, this time in very close coordination.

Alameda CTC has updated this plan to identify and prioritize pedestrian projects, programs and planning efforts of countywide significance. The plan provides the background, direction and tools needed to increase the number of pedestrians and walking trips in Alameda County while improving pedestrian safety.

Key findings

The chapters on "Existing Conditions" and "Evaluation of Plans, Policies and Practices" contain data, statistics, findings and other information about the state of walking in Alameda County. Below are some of the key findings:

- In Alameda County, as in the Bay Area as a whole, walking is the second most common means of transportation, after driving, representing 11% of all trips.
- In 2000, approximately 3.3 million trips were made primarily on foot every week in the county. This translates to more than 470,000 daily walk trips, or one trip for every three county residents.
- The number of pedestrian commuters increased by 14% from 2000 to 2006–2008 and the walk mode share for commute trips rose from 3.2% to 3.6%.
- From 2000 to 2008, there was an annual average of 25 pedestrian fatalities in Alameda County and 710 pedestrians injured seriously.
- Pedestrians made up 24% of all traffic fatalities in Alameda County; this is more than twice the percentage of all trips that are made by walking in the county (11%).
- Since 2006, four cities have developed pedestrian master plans (either stand-alone or combined with

a bicycle plan). Another four cities remain without such a plan.
- Local jurisdictions estimated the cost of their capital pedestrian and bicycle project needs to be $520 million; of this, $219 million, or more than 40%, was from the county's largest city, Oakland.
- The jurisdictions' annual maintenance expenditure for pedestrian and bicycle facilities is $6.7 million. The annual funding gap is much larger, $17.2 million; this likely indicates substantial deferred maintenance due to insufficient funds.

- The major obstacles to improving the walking environment that were most commonly cited by local-agency staff were inadequate funding, shortage or absence of trained staff and implementation conflicts with other public agencies.
- Four policy areas have emerged or advanced in recent years that will likely contribute significantly to improving the policy landscape for walking: complete streets, climate action, smart growth and active transportation.
- A number of policies and practices exist at all levels of government that could be modified to better integrate walking into the transportation system.

Plan vision and goals

The plan articulates a vision statement of what walking in Alameda County could be like by 2040, with the investments proposed in the plan:

> Alameda County is a community that inspires people of all ages and abilities to walk for everyday transportation, recreation and health. A system of safe, attractive and widely accessible walking routes and districts is created by interconnected pedestrian networks, strong connections to transit and pedestrian-friendly development patterns.

In addition, the plan establishes five goals to guide the actions and decisions of Alameda CTC in implementing the plan and a set of more than 40 specific, detailed and implementable strategies designed to attain the plan's goals. Together, the goals and strategies generally define the roles and responsibilities of Alameda CTC in implementing the Pedestrian Plan. The five goals are:

❶ Infrastructure and design

Create and maintain a safe, convenient, well-designed and inter-connected pedestrian system, with an emphasis on routes that serve transit and other major activity centers and destinations.

❷ Safety, education and enforcement

Improve pedestrian safety and security through engineering, education and enforcement, with the aim of reducing the number of pedestrian injuries and fatalities, even as the number of people walking increases.

❸ Encouragement

Support programs that encourage people to walk for everyday transportation and health, including as a way to replace car trips, with the aim of raising the number and percentage of trips made by walking.

❹ Planning

Integrate pedestrian needs into transportation planning activities, and support local planning efforts to encourage and increase walking.

❺ Funding and implementation

Maximize the capacity for implementation of pedestrian projects, programs and plans.

Countywide priorities

The Countywide Pedestrian Plan establishes countywide capital projects, programs and plans that

are intended to implement the plan's vision and goals. They include a "vision system" of pedestrian facilities throughout the county, a set of priority programs to promote and support walking (see Table E.1), and the creation and updating of local pedestrian master plans. Because funding is limited, the plan also creates a more constrained "priority system" of capital projects on which to focus capital funding, and proposes to stagger the implementation of the programs.

The countywide vision system totals 2,799 miles of pedestrian facilities, of which 211 miles are multi-use trails. The system has five components: projects that provide or facilitate access (i) to transit, (ii) within central business districts, (iii) to activity centers, (iv) to "communities of concern" (communities with large concentrations of low-income populations and inadequate access to transportation); and, (v) a network of inter-jurisdictional trails.

Table E.1 | Priority programs

Encouragement and promotion
1. Countywide walking promotion
2. Individualized travel marketing
3. Programs in community-based transportation plans
Safety, education and enforcement
4. Safe routes to schools
5. Safe routes for seniors
6. Multi-modal traffic school
7. Countywide safety advertising campaign
Technical support and information sharing
8. Technical tools and assistance
9. Agency staff training and information sharing
10. Multi-agency project coordination
11. Collaborative research

Costs and revenue

The estimated cost to implement the Countywide Pedestrian Plan is approximately $2.4 billion (see Table E.2). This includes the costs to construct and maintain the pedestrian system, to implement the pedestrian programs and also to develop and update the pedestrian master plans of local agencies. In the next 28 years, Alameda County jurisdictions and agencies can expect approximately $500 million in funding for pedestrian projects and programs. The difference between estimated costs and projected revenue for projects in this plan—the funding gap—is $1.9 billion. Put another way, the projected revenue for countywide projects is only 21% of the estimated costs. Changing any of the assumptions for the estimates will change the figures somewhat but will not change the fact that the cost greatly exceeds projected revenue. To begin to address this funding gap, Alameda CTC, through its planning and funding processes, will need to prioritize projects and project types so that the most critical needs are funded first.

Table E.2 | Summary of costs and revenue, 2012–2040

In millions; rounded to nearest $100,000

Costs*	**$ 2,397.8**
• Construction of capital projects	$ 1,718.5
• Maintenance of capital projects	$ 598.1
• Programs implementation	$ 75.9
• Local master plans	$ 5.4
Revenue	**$ 495.7**
Funding gap (costs minus revenue)	**$ 1,902.1**

* Includes some shared costs with the Countywide Bicycle Plan (see "Costs and Revenue" chapter).

Although the size of this plan's vision system is only slightly larger than the 2006 Countywide Pedestrian Plan vision system, the overall plan costs have more than doubled and the funding gap has increased substantially. However, because projected revenues have also increased, mainly due to new funding sources, the percent of costs covered by expected revenue is about the same as in the 2006 plan. The main reasons for the large increase in costs are: a new area of countywide significance, communities of concern, was added; cost estimates for the three major countywide trails were improved; maintenance costs were added, which were not in the 2006 plan; and the program costs have been more fully developed.

Next steps

The plan's "Next Steps" chapter describes 16 priority implementation actions that Alameda CTC will undertake in the first five years of the plan's life (2013–2017). These actions will begin to make the plan a reality in the near term and set the stage for implementing the plan's medium- and long-term efforts. The actions, which are listed in Table E.3, fall into three categories: funding; technical tools and assistance; and countywide initiatives.

Table E.3 | Implementation actions

Funding
1. Implement the Countywide Pedestrian Plan by continuing to dedicate funding and staff time to the plan priorities, and integrating the priorities into the agency's activities
2. Fund and provide technical assistance for the development and updating of local pedestrian master plans
3. Coordinate transportation funding with land use decisions that support and enhance walking
4. Conduct research on, and develop resources for, best practices for funding sidewalk maintenance
Technical tools and assistance
5. Develop resources to support local jurisdictions in adopting and implementing Complete Streets policies
6. Offer regular trainings and information-sharing forums for local-agency staff on best practices in pedestrian infrastructure and programs
7. Develop a local best practices resource and other tools that encourage jurisdictions to use pedestrian-friendly design standards
8. Offer technical assistance to local jurisdictions on complex pedestrian design projects
9. Develop tools and provide technical assistance to help local jurisdictions overcome CEQA-related obstacles
Countywide initiatives
10. Develop and implement a strategy to address how to improve and grow (as feasible) four near-term priority countywide programs: Safe Routes to Schools program, Countywide pedestrian safety advertising campaign, Countywide Safe Routes for Seniors program and Countywide walking promotion program
11. Develop and adopt an internal Complete Streets policy
12. Determine options for modifying the countywide travel demand model to make it more sensitive to walking, and implement the best feasible option
13. Determine options for revising the Congestion Management Program to enhance pedestrian safety and access, and implement the best feasible option
14. Work with the County Public Health Department to consider pedestrian data and needs in the development and implementation of health and transportation programs
15. Monitor, evaluate and report on progress annually on implementation of the Countywide Pedestrian Plan
16. Conduct research to inform future plan updates and countywide pedestrian planning

Performance measures

Lastly, the Pedestrian Plan establishes eight performance measures to be used to monitor progress toward attaining the plan goals:

1. Number of completed countywide pedestrian projects
2. Percentage of all trips and commute trips made by walking
3. Number of pedestrian injuries and fatalities
4. Number of pedestrians counted in countywide pedestrian counts
5. Number of local jurisdictions with up-to-date pedestrian master plans
6. Dedicated countywide funds (amount or percentage) for pedestrian projects and programs
7. Number of schools with Safe Routes to Schools (SR2S) programs
8. Number of community members participating in countywide promotional and/or educational programs

Plan organization

The Countywide Pedestrian Plan consists of seven chapters:

Chapter 1: Introduction

Describes the plan purpose, explains the relationship of the plan to the Countywide Bicycle Plan and the Countywide Transportation Plan, and describes in more detail each of the plan chapters.

Chapter 2: Existing conditions

Describes the current state of walking in Alameda County, with data and statistics on the number of pedestrians and walking trips. It also includes sections on pedestrian safety; local planning efforts, support programs and advocacy efforts; and implementation of the 2006 plan.

Chapter 3: Evaluation of plans, policies and practices

Summarizes the key plans, policies and practices at all levels of government that affect walking (and bicycling) in Alameda County and evaluates how they promote or hinder nonmotorized transportation, with a focus on the role of Alameda CTC, as the plan's implementing agency. It also discusses practical challenges encountered by agencies in implementing their plans, policies and projects, and suggests ways to overcome those challenges.

Chapter 4: Vision and goals

Establishes a desired vision of walking in Alameda County in the year 2040; a set of goals, or broad statements of purpose meant to enable the vision to be realized; and under each goal, more specific and detailed strategies for attaining that goal.

Chapter 5: Countywide priorities

Establishes the pedestrian capital projects, programs and plans needed to implement the plan's vision. This chapter also defines the kinds of improvements in each category that will be eligible for funding, and establishes general priorities among them. The capital projects make up a "vision" countywide system of pedestrian facilities focused on the following five areas: access to transit, access within central business districts, access to activity centers, inter-jurisdictional trails and access to communities of concern.

Chapter 6: Costs and revenue

Estimates the cost to deliver the pedestrian projects, programs and plans of countywide significance, and the revenue expected to be available in Alameda County for these efforts through the plan's 28-year horizon.

Chapter 7: Next steps

Describes the implementation actions that Alameda CTC will undertake in the first five years of the plan's life (2013–2017) to begin to make the plan a reality in the near term and to set the stage for implementing the plan's medium- and long-term efforts. The chapter also outlines the eight performance measures that will be used to monitor progress toward attaining the goals of the Countywide Pedestrian Plan.

Plan development and adoption

The Alameda Countywide Pedestrian Plan was developed by Alameda CTC in collaboration with several advisory groups, including Alameda CTC's standing Bicycle and Pedestrian Advisory Committee and an ad hoc technical committee convened for this project, the Bicycle and Pedestrian Plans Working Group. The plan was also reviewed and commented on by Alameda CTC's Alameda County Technical Advisory Committee (ACTAC) and the Paratransit Advisory and Planning Committee (PAPCO). Alameda CTC gathered public input primarily by bringing the proposed countywide priorities to local Bicycle and Pedestrian Advisory Committees in all parts of the county for input, and keeping interested people informed about the planning process.

This plan update was developed concurrently with the Alameda Countywide Bicycle Plan update. Alameda CTC adopted both plans, incorporating them by

reference into the Countywide Transportation Plan, and will use them as a guide for planning and funding pedestrian and bicycle projects throughout the county. The plan will continue to be periodically updated, every four to five years.

1 | 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. After driving, more people in Alameda County walk than use any other transportation mode.

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

Walking is an integral component of vibrant, livable places, and a key element of the transportation system. Walking leads 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.

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 still presents challenges to those who are walking or would like to walk.

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. Many funding sources are 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, the Countywide Pedestrian Plan concentrates on identifying and prioritizing pedestrian projects, programs and planning efforts of countywide significance, and integrating them into other countywide and regional plans.

Plan development process

The Alameda County Transportation Improvement Authority (ACTIA), one of the Alameda County Transportation Commission's (Alameda CTC's) two predecessor agencies, published the first Alameda Countywide Pedestrian Plan in 2006. This was done concurrently with the first update to the Alameda Countywide Bicycle Plan, developed by the Alameda County Congestion Management Agency (ACCMA), the other predecessor agency to Alameda CTC. Between spring 2010 and fall 2012—during which time ACTIA and ACCMA merged to form Alameda CTC—both plans were updated, facilitating close coordination between the two updates.

The merging of ACCMA's and ACTIA's transportation planning, coordination, technical assistance and funding functions is a key development since the original Alameda Countywide Pedestrian Plan was published. The resulting agency, Alameda CTC, is therefore extremely well placed to promote walking and to assist local agencies, which are responsible for implementing most capital pedestrian projects, to do the same.

In content and organization, this plan is very similar to the first Countywide Pedestrian Plan. The major changes that were made to the 2006 plan include:

- Updated data to reflect current conditions;
- Reported on progress made since the first plan was adopted;
- Stronger coordination with the Countywide Bicycle Plan;
- Increased focus on the implementing agency—the recently merged Alameda CTC—and the role it can play in improving walkability in the county; and
- Integration of new policy areas, such as complete streets and climate protection policies.

> The public was engaged in the planning process through presentations at local bicycle and pedestrian advisory committees, and through a webpage that provided updates, the draft plan documents and opportunities to provide comments.

The primary groups that guided the development of this plan were Alameda CTC's standing Bicycle and Pedestrian Advisory Committee and an ad hoc technical committee convened for this project, the Bicycle and Pedestrian Plans Working Group. Specific chapters and the full draft plan were also reviewed and commented on by Alameda CTC's Alameda County Technical Advisory Committee and the Paratransit Advisory and Planning Committee.

The public was also engaged in the planning process through presentations at local bicycle and pedestrian advisory committees in all parts of the county, and through a webpage that provided updates, the draft plan documents and opportunities to provide comments.

The Alameda CTC Board reviewed and adopted the Countywide Pedestrian Plan in October 2012, incorporating it by reference into the Countywide Transportation Plan.

Plan purpose

Like the first Countywide Pedestrian Plan, this plan update was written to elevate the understanding and recognition of walking in Alameda County; it was also written to guide the planning and allocation of discretionary countywide pedestrian funds anticipated through 2040. It seeks to do these by:

- Describing the existing pedestrian environment
- Leveraging local, county, regional, state and federal level efforts that place increasing emphasis on walking as a healthy, climate-friendly and legitimate transportation mode, in the design of transportation and land use projects and programs
- Crafting a vision with specific goals to further pedestrian improvements throughout the county
- Identifying and prioritizing projects and programs of countywide significance
- Estimating the cost of and revenue available to deliver these efforts
- Laying out a course of action to fund and implement these countywide priorities over the next four to five years, or until the plan's next anticipated update.

> This plan update was written to elevate the understanding and recognition of walking in Alameda County and to guide the planning and allocation of discretionary countywide pedestrian funds.

Relationship to the Countywide Bicycle Plan

The Countywide Pedestrian Plan is a companion to the Countywide Bicycle Plan in identifying and prioritizing nonmotorized projects, programs and planning efforts of countywide significance and more generally in promoting nonmotorized transportation in Alameda County. The two plans were updated at the same time and efforts were made to coordinate their development as much as possible. Areas where development of the two plans was coordinated closely include:

- Collection of data on existing conditions (data was collected simultaneously from the same sources, when applicable)
- Document organization (the plans contain parallel chapters, which were written at the same time, and have identical language and information where applicable)
- Evaluation of current policies and practices in nonmotorized transportation
- Development of parallel vision, goals and strategies as applicable
- Categories of projects and areas considered to be of "countywide significance"
- Mapping (maps for the two plans were developed by the same sub-consultant and reviewed concurrently)
- Estimation of costs (primarily for multi-use trails) and projected revenue for implementation
- Presentation of cost and revenue figures (in addition to stand-alone figures, the totals are shown for both plans, to allow a full picture of nonmotorized transportation costs and funding gaps)
- Project management (there was a single project manager for the two plans and the plans were developed by the same team of consultants)
- Document appearance (the two plans have the same general graphic look)

How to use this plan

The Countywide Pedestrian Plan was written for practitioners, policy-makers, community members, advocates, community-based organizations, potential funders and others who have a stake in improving walkability in Alameda County. Following this introduction are six chapters that provide the detailed information that forms the basis of the plan's data and analysis. Below are brief descriptions of the plan's remaining chapters:

❷ Existing conditions

Sets the context for the rest of the plan by describing the current state of walking in Alameda County, and highlighting the trends and changes since the 2006 plan was adopted. This chapter tackles four questions that are central to understanding and planning for the needs of pedestrians in the county:

- Who is walking in Alameda County? (examines walking rates by key demographic characteristics)

- How many people are walking? (looks at the number of walking trips and pedestrian commuters in the county)
- Why are people walking? (explores the purposes of trips made on foot)
- Where are people walking? (analyzes numbers and rates of walking trips in specific areas of the county, including transit and multi-use pathways)

In addition, the chapter includes sections on pedestrian safety; local pedestrian planning efforts, support programs and advocacy efforts; and progress on implementing the 2006 Countywide Pedestrian Plan. This chapter provides detailed information which can serve as a reference for public agency staff, advocates and others, for example, for those who want to assemble countywide or area-wide data on walking to support a grant application, or for those who are unfamiliar with walking conditions in portions of or throughout Alameda County.

> This plan was written for practitioners, policy-makers, community members, advocates, community-based organizations, potential funders and others who have a stake in improving walkability in Alameda County.

❸ Evaluation of plans, policies and practices

Summarizes the key plans, policies and practices at the local, county, regional, state and federal levels that affect walking (and bicycling) in Alameda County and evaluates those plans, policies and practices with an eye toward how they promote or hinder walking (and bicycling), with a focus on the role of Alameda CTC, as the plan's implementing agency. This chapter is essentially identical in both the Pedestrian and the Bicycle Plan.

This chapter also discusses practical challenges encountered by agencies in implementing their plans, policies and projects, and suggests ways to overcome those challenges. Special attention is paid to relevant policy areas that have emerged or advanced in importance in the past five years. In addition to being used by Alameda CTC, this chapter can be used by local elected officials, transportation and planning commissioners, planning and engineering staff at public agencies to identify obstacles to walking and to learn about potential solutions to such barriers.

❹ Vision and goals

Establishes a desired vision of walking in Alameda County in the year 2040; a set of goals, or broad statements of purpose meant to enable the vision to be realized; and under each goal, more specific and detailed strategies for attaining that goal. Together, the goals and strategies generally define the roles and responsibilities of Alameda CTC with regard to walking and are meant to guide the actions and decisions of the agency in implementing the plan and, more generally, in supporting walking in the county. This chapter will also be of interest to local elected officials, transportation and planning commissioners and staff at public agencies. It can be used to link the findings of the previous two chapters to opportunities that Alameda CTC has to influence the pedestrian environment in Alameda County.

❺ Countywide priorities

Establishes the pedestrian capital projects, programs and plans needed to reach the plan's vision. Because needs far exceed the resources to implement them, this chapter also defines the kinds of improvements in each category that will be eligible for countywide discretionary funding, and establishes certain general priorities among them. Regarding capital projects, the chapter establishes a "vision system" of pedestrian facilities, irrespective of funding constraints, and a subset "priority system" to focus Alameda CTC's limited funds for pedestrian improvements on those areas and projects that are most important and effective from a countywide perspective. There are five categories of projects and areas considered to be of countywide significance under the vision system:

1. Access to transit
2. Access within central business districts
3. Access to activity centers
4. Inter-jurisdictional trails
5. Access to "communities of concern" (those with large concentrations of low-income populations and inadequate access to transportation)

This chapter will be of interest to local governments, non-profit agencies and other advocates in understanding the countywide pedestrian funding priorities.

❻ Costs and revenue

Estimates the cost to deliver the pedestrian projects, programs and plans of countywide significance described in the previous chapter and the revenue expected to be available in Alameda County for these efforts through the plan's 28-year horizon. These estimates help determine the funding gap for implementing the plan. The chapter has five main sections: detailed estimated costs to, (i) construct the pedestrian vision system, (ii) maintain the system, (iii) implement the pedestrian programs and, (iv) develop and update local pedestrian master plans; (v) the revenue expected for pedestrian projects and programs over the life of the plan. This chapter can be used by Alameda CTC to develop prioritization criteria for the funding sources it administers, so that the most critical needs are funded first, and also to bring attention to the need for additional sources of revenue to implement the plan.

❼ Next steps

Describes the implementation actions that Alameda CTC will undertake in the first five years of the plan's life (2013–2017) to begin to make the plan a reality in the near term and to set the stage for implementing the plan's medium- and long-term efforts. The chapter also outlines the eight performance measures that will be used to monitor progress toward attaining the goals of the Countywide Pedestrian Plan. This chapter may be used as a roadmap of actions for making the plan a reality.

2 | EXISTING CONDITIONS

Introduction

This chapter sets the context for the rest of the Countywide Pedestrian Plan by describing the current state of walking in Alameda County, and highlighting changes since the original Pedestrian Plan was adopted, in 2006. The chapter tackles four questions that are central to understanding and planning for the needs of pedestrians in the county:

- **"Who is walking in Alameda County?"** examines walking rates by key demographic characteristics.
- **"How many people are walking?"** looks at the number of walking trips and pedestrian commuters in the county.
- **"Why are people walking?"** explores the types of places that people are walking to and from.
- **"Where are people walking?"** analyzes numbers and rates of walking trips in specific areas of the county, including transit and multi-use pathways.

In addition, the chapter includes sections on pedestrian safety; local pedestrian planning efforts, support programs and advocacy efforts; and progress on implementing the 2006 plan.

The chapter incorporates data from several sources: the 2006 plan; information gathered through a 2010 survey of local jurisdictions; interviews with local, countywide and regional staff, transit agency staff and pedestrian advocates; and statistics available as of late 2010 (when this chapter was researched) from regional, state and federal sources. The local jurisdiction survey was administered to all 15 jurisdictions (the County and the 14 cities). It asked about many aspects of existing conditions for walking (and bicycling), including local plans and policies, infrastructure, programs, public involvement, funding availability and need, and challenges and opportunities. Not all questions were answered by every jurisdiction, and jurisdictions responded in varying levels of detail.

The main non-local sources of statistics on walking used for this plan were:

- The 2000 Census and 2006–2008 American Community Survey (ACS), for statistics on the number of people who walk to work. The ACS is an annual survey, also administered by the U.S. Census Bureau, that replaced the "long form" of the census. This report uses ACS data for the combined years 2006–2008 instead of for 2008 alone; the three-year data is somewhat less up-to-date than the one-year data but is much more accurate because it samples three times as many households. The 2006–2008 ACS does not provide data for unincorporated Alameda County or for jurisdictions with populations under 20,000; in

Alameda County, these include Albany, Emeryville and Piedmont. Some ACS figures regarding walking may not be statistically significant because of the small sample sizes involving pedestrians. Data from the 2010 Census was not used, since it was not available at the time this information was collected.

- The year 2000 Bay Area Travel Survey (BATS2000) from the Metropolitan Transportation Commission (MTC), for data on walking trips made for all purposes (2000 is the most recent year in which BATS was conducted). It is important to note that BATS significantly undercounts walking trips because it does not include trips to or from transit, a large percentage of which are made on foot. Some BATS2000 figures regarding walking may not be statistically significant if there are small sample sizes involving pedestrians.
- Station profile studies from 1998 and 2008 conducted by the Bay Area Rapid Transit District (BART) to determine, among other things, how passengers access BART stations.
- The California Highway Patrol's Statewide Integrated Traffic Records System (SWITRS), a database of traffic collisions as reported to and collected by local police departments and other law enforcement agencies across the state.

What is "mode share"?

The term "mode share" is used frequently in this chapter. The term, also known as "mode split," refers to the percentage of trips or people using a particular form of transportation, such as walking, driving, transit or bicycling. A walk mode share (or walk share) of 10%, for example, means that 1 out of 10 trips is made on foot, or that 1 out of every 10 people travel on foot.

Key findings

This chapter contains a wealth of data and other information about the state of walking in Alameda County. Below are some of the key findings from the chapter:

Who is walking in Alameda County?

- Women make just over half of all walking trips in Alameda County (52%), very close to their population share.
- People under 39 and over 65 walk more than those in middle-age (ages 40-64).
- Children (ages 5-17) are more than twice as likely to walk as those aged 40-49 (15.9% versus 6.8%); also, children make between a quarter and a third of all walking trips in the county.
- As incomes go up, people make more trips per day but the percentage of trips made by walking decreases significantly. People in the lowest income group make well over twice as many of their trips on foot as those in the highest income group (17.3% versus 7.4%).

How many people are walking?

- In Alameda County, as in the Bay Area as a whole, walking is the second most common means of transportation, after driving, representing 11% of all trips.
- In 2000, approximately 3.3 million trips were made primarily on foot every week in the county. This translates to more than 470,000 daily walk trips, or one trip for every three county residents.
- If walking trips to or from transit are included, the weekday number of walk trips in Alameda County increases by more than 410,000, to a total of 880,000. This figure includes approximately 360,000 trips to AC Transit bus stops and almost 53,000 to BART stations.
- The number of pedestrian commuters increased by 14% from 2000 to 2006–2008 and the walk mode share for commute trips rose from 3.2% to 3.6%.

Why are people walking?

- Most walking trips in Alameda County are shopping trips (27%), while only 6% of all walking trips are made to get to and from work.
- Of all trips made to school—pre-kindergarten through college—21% were made on foot.
- Physical barriers and connectivity gaps prevent more people from walking more often. Significant barriers in Alameda County include auto and rail infrastructure such as highways, interchanges and railroads. Key gaps include missing segments along multi-jurisdictional paths and trails.

Where are people walking?

- Almost two-thirds of all walking trips in the county take place in the North planning area (63%), far above its population share of 42%.
- The North planning area also has the highest percentage of all trips that are made on foot (16%); its share is almost three times higher than that of the East planning area (6%)
- Among the planning areas, as density and the percentage of car-free households decreases, so does the walking share of trips.
- The five jurisdictions with the highest commute walk shares are all in the North planning area, as are the nine BART stations with the most walk access trips.
- The three BART stations with the greatest number of people walking to them—Downtown Berkeley and Oakland's 12th and 19th Street—are the only ones in Alameda County that have no parking.
- In the Bay Area, 40% of walk trips last 10 minutes (a half-mile) or less and almost three-quarters (73%) are under 20 minutes (1 mile); 27% are longer than 20 minutes.

Pedestrian safety

- From 2000 to 2008, there was an annual average of 25 pedestrian fatalities in Alameda County and 710 pedestrians who were injured seriously or visibly.
- There was a significant decline in total pedestrian fatalities from 2004 to 2007, from 29 to 18. This drop was followed in 2008 by a significant spike to 34.
- Most collisions are concentrated along two general corridors: from central Berkeley to downtown Oakland; and from downtown Oakland to downtown Hayward, running through central San Leandro.
- The North and East planning areas' share of the county's pedestrian fatalities and injuries is roughly in balance with their share of the county's walk trips. The Central planning area's share of pedestrian collisions is higher than its share of the county's walk trips while the opposite is true for the South planning area.
- The North planning area has the highest share of pedestrian collisions but the second fewest collisions per 100 pedestrian commuters. The Central planning area has the most collisions per 100 pedestrian commuters.
- The jurisdiction with the fewest collisions per 100 pedestrian commuters is Berkeley; Hayward and San Leandro have the most.
- Children made 35% of all walk trips in Alameda County but represented only 27% of pedestrians killed or injured. Seniors made 6.2% of all walk trips but represented more than one-tenth of the fatalities and injuries (10.6%).
- Almost 40% of pedestrian fatalities and injuries occurred in the afternoon and evening, a period covering only four hours (4–8 pm).
- In the collisions, drivers were found at fault more than twice as often as pedestrians (60% to 29%).
- Pedestrians made up 24% of all traffic fatalities in Alameda County; this is more than twice the county's walk mode share (11%).

Local planning, programs and advocacy

- Almost every local jurisdiction administers one or more pedestrian support program in the areas of safety, law enforcement, education and encouragement. Nine cities and the County conduct safe routes to school activities, while six cities have a traffic calming program with dedicated funding.
- The main local development in recent years in pedestrian advocacy is the formation of Walk Oakland, Bike Oakland.

Local funding, infrastructure and program needs

- Local jurisdictions estimated the cost of their capital pedestrian and bicycle project needs to be $520 million; of this, $219 million, or more than 40%, was from the county's largest city, Oakland.
- The cost estimate for the jurisdictions' top priority pedestrian and bicycle projects for the next three years is $136 million; the unfunded portion of these costs is $68 million

- The jurisdictions' average annual maintenance expenditure for pedestrian and bicycle facilities is $6.7 million. The annual funding gap is much larger, $17.2 million; this likely indicates substantial deferred maintenance due to insufficient funds.
- The local jurisdictions indicated that their three highest-priority pedestrian infrastructure needs are ADA improvements; improving intersection safety; and upgrading or maintaining sidewalks.
- The jurisdictions indicated that their three highest-priority pedestrian programmatic needs are obtaining grant funds for projects; creating "safe routes to school" plans; and developing or updating a pedestrian master plan.
- The five community-based transportation plans (CBTPs) that have been completed for areas of Alameda County propose 45 pedestrian and/or bicycle projects and programs.

Implementation of the 2006 plan

- Local jurisdictions reported implementing 21 projects in public-transit areas of countywide significance; 15 projects in or near activity centers of countywide significance; and 11 projects as part of inter-jurisdictional trails of countywide significance. These numbers are likely under-reported, since many capital projects have a pedestrian component.
- A significant new support program that has been implemented at a multi-jurisdictional level since 2006 is the Safe Routes to Schools (SR2S) Alameda County Partnership.
- Since 2006, four cities have completed a pedestrian or pedestrian/bicycle plan and an additional two are in the process of developing one. Four cities (Piedmont, Hayward, Dublin and Livermore) remain without a plan. In addition, all jurisdictions have adopted ADA transition plans.
- By far, the challenges most commonly encountered by local jurisdictions in implementing the priorities in the 2006 plan are insufficient funding and staff time, and right-of-way constraints.

Who is walking in Alameda County?

The simplest answer to this question is that everyone walks (including drivers, to and from their parked car). However, as might be expected, not everyone in Alameda County walks the same amount or as often. While men and women tend to walk at about the same rates, more younger and older people walk than those in middle age, and more lower-income people walk than those with higher income.

By gender

Women and men have similar walking rates, with women making just over half of all walking trips (see Table 2.1). This split is almost the same as the overall gender split in Alameda County (51% women, 49% men). Also, women and men are almost as likely to take a trip by foot (10.6% and 11.5% respectively).

Table 2.1 | Walk mode share by gender

Source: BATS2000

	Share of all walking trips	*Walk trips as % of all trips*
Women	52%	10.6%
Men	48%	11.5%

By age group

Walking rates vary much more across age groups than across gender (see Figures 2.1 and 2.2):

- People under 39 and over 65 walk more than those in middle-age (ages 40-64).
- Children between ages 5 and 17 are more than twice as likely to walk as those between 40 and 49 (15.9% versus 6.8%). Also, children and youth make 35% of all walking trips in Alameda County.
- A possible implication of the data is the need to increase walking safety and convenience particularly for children and seniors (who are already walking in relatively large numbers) while focusing promotion and encouragement efforts primarily on middle-aged people (a smaller share of whom currently walk)

Walking, seniors and people with disabilities

Alameda County is experiencing a "grayby" boom: its population of people 65 and older is expected to soar by 170% between 2005 and 2030. This cohort will place severe demands on the county's health system and, given that more than one in five seniors do not drive, also on transit and paratransit services. There will also be a demand for even better pedestrian infrastructure, since seniors walk at higher rates than most other adults. At the same time, Alameda County has a large number of people with disabilities (nearly half of whom lives in the North planning area). Both of these populations, seniors and people with disabilities, deserve particular attention when it comes to improving the walking environment.

As a form of both physical activity and transportation, walking can help seniors and people with disabilities maintain their independence, social connections and physical and mental health as they age. Walking can also greatly enhance mobility by making transit a more viable option.

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. There are obstacles that prevent many older people and people with disabilities from walking: missing sidewalks, short crossing times at traffic lights, poor lighting, lack of resting places, fears about personal security, and long distances to destinations are some common ones. Actions to overcome these obstacles include:

- Engineering changes to streets and paths: reducing the driving design speed; retiming signals for slower walking speeds; pedestrian islands and corner bulb-outs to shorten crossing distances; curb ramps; smoother sidewalks and trails that are also wide enough for wheelchair users; better lighting; and seating areas.
- Regulatory signage and enforcement of traffic laws to make streets safer and traffic less intimidating.
- Education, especially about safety and the feasibility of walking for transportation, including to transit.
- Encouragement through programs that promote and support walking, such as social walking groups and clubs.

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.

For further reading: "Promoting Active Transportation for Older Adults" (Alameda CTC): http://www.localcommunities.org/lc/066/FSLO-1318033880-526066.pdf

Figure 2.1 | Walk mode share by age group

Source: BATS2000

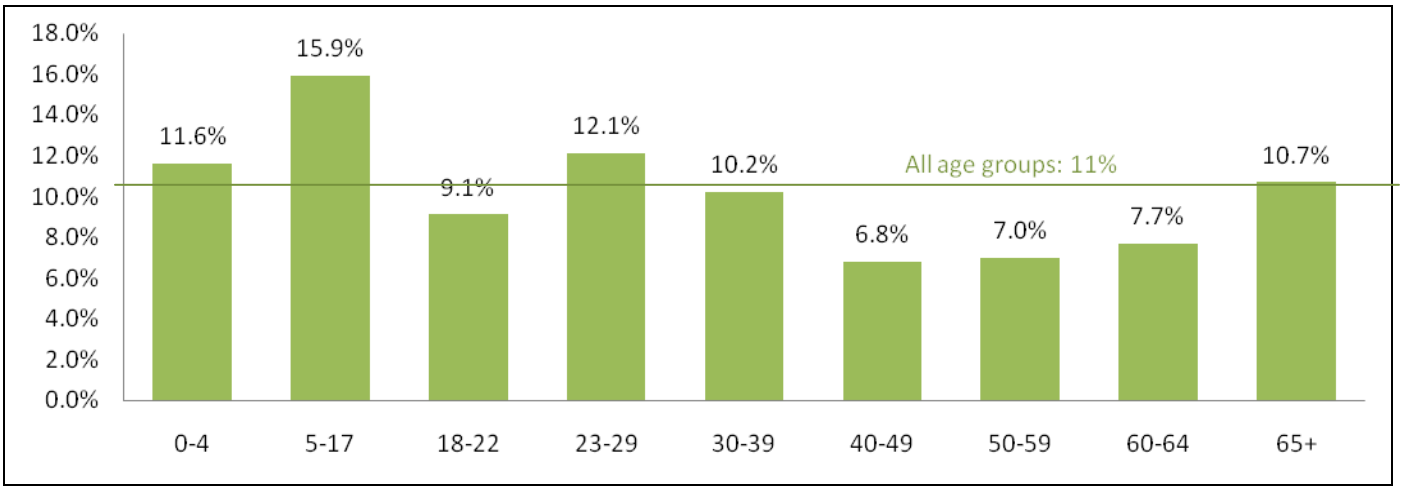
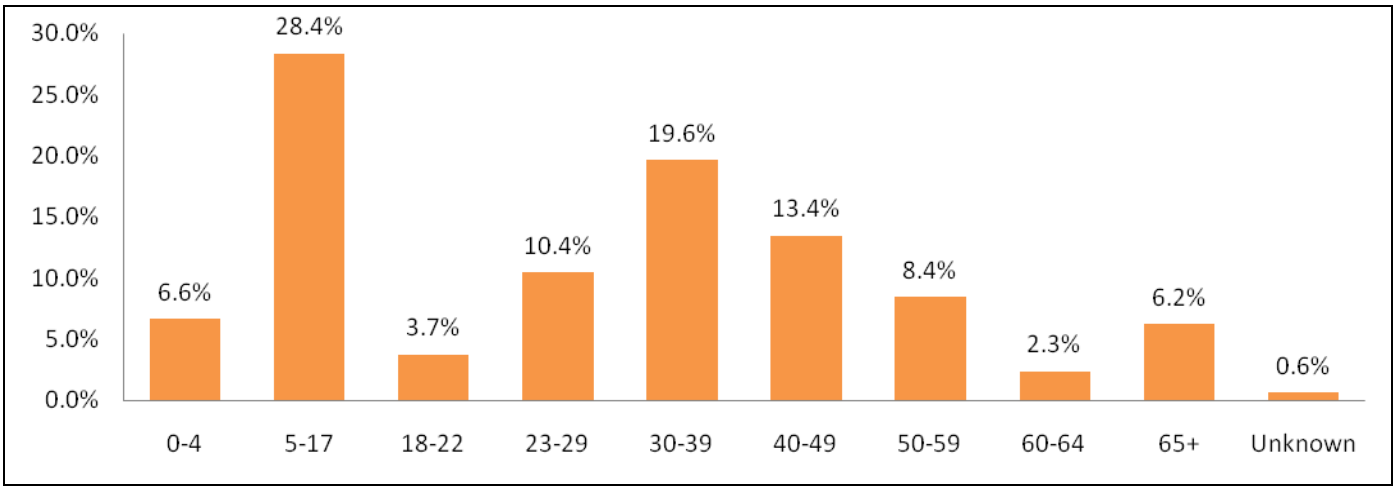


Figure 2.2 | Percentage of walk trips by age group

Source: BATS2000



By income level

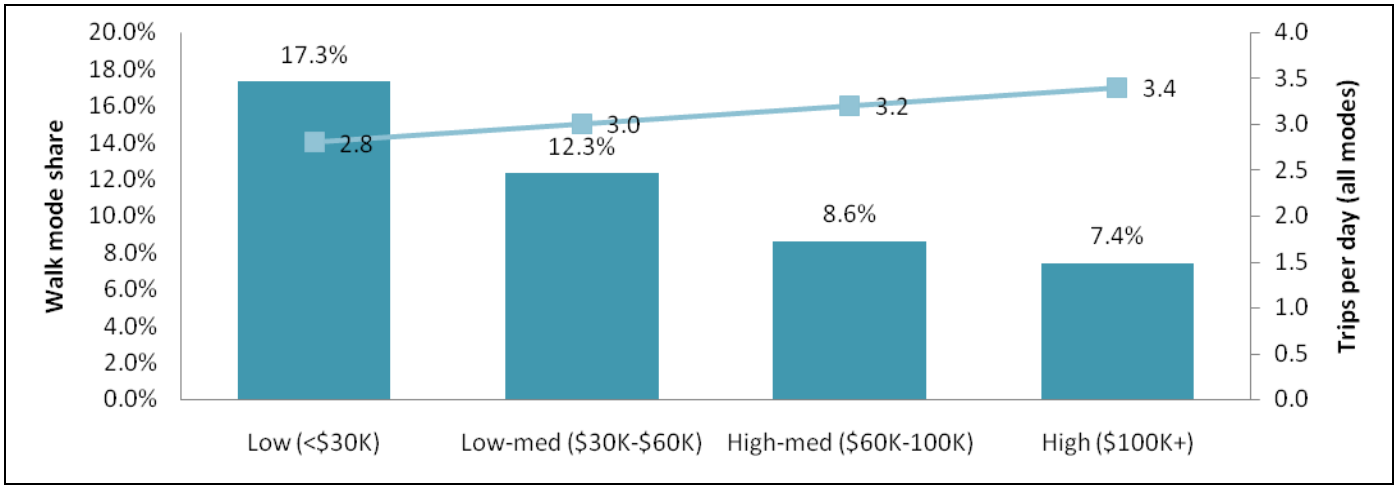
Walking rates vary even more across income levels than across age groups or gender (see Figure 2.3; the left axis and dark blue bars indicate walk mode share; the right axis and light blue line and points indicate trips for all modes per day):

- People in the lowest income group make well over twice as many of their trips on foot as the highest income group (17.3% against 7.4%).
- As incomes go up, people make more trips per day while the percentage made by walking decreases significantly.
- As with the data on walking by age group, one implication is the need to increase walking safety and convenience particularly for low-income populations while focusing promotion and encouragement efforts primarily on higher-income populations.

Figure 2.3 | Walk mode share by income level

Source: BATS2000

Left axis and dark blue bars indicate walk mode share; right axis and light blue line and points indicate trips per day



Walking and social equity

Low-income individuals are more likely to live in neighborhoods where jobs, medical services, grocery stores and other important everyday destinations are scarcer. People in these neighborhoods may be forced to travel elsewhere for goods and services, but they may not own cars, and their finances are more likely to be stretched by the cost of transportation. At the same time, these areas may face disproportionate risks, real and perceived, from traffic or crime; and, low-income individuals may lack the time and money for activities that promote a healthy lifestyle, such as taking part in organized sports or joining a gym.

Walking can begin to address some of these challenges, since it is an affordable transportation option and improves health. To encourage walking, communities must have safe sidewalks, street crossings, multi-use pathways and other pedestrian facilities and amenities, especially with connections to transit. As local governments try to design walkable communities, they will need to ensure that low-income populations also have access to choices and opportunities for walking. The "Evaluation of Plans, Policies and Practices" chapter provides additional information on walking and social equity, in relation to the Metropolitan Transportation Commission's "communities of concern" and of community-based transportation plans.

For further reading

- "Life and Death from Unnatural Causes: Health and Social Inequity in Alameda County" (Alameda County Health Department):http://www.acphd.org/media/53628/unnatcs2008.pdf
- "Active Living and Social Equity: Creating Healthy Communities for All Residents" (International City/County Management Association): http://bookstore.icma.org/freedocs/Active%20Living%20and%20Social%20Equity.pdf

How many people are walking?

Walking trips

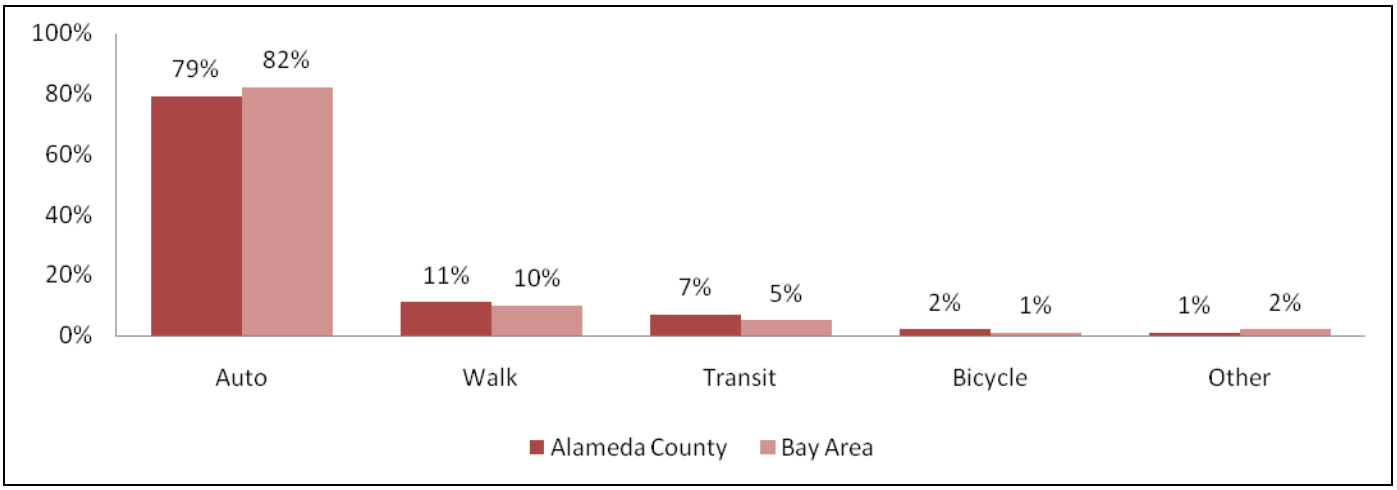
On average, Alameda County residents walk more than residents of the Bay Area as a whole. According to BATS2000, approximately 3.3 million trips were made primarily on foot every week in Alameda County in 2000 (see Appendix A for more detailed information, including by area of the county). This translates to more than 470,000 daily walk trips, or one

for every three Alameda County residents. In Alameda County, as in the Bay Area as a whole, walking is the second most common means of transportation, after driving, representing 11% of all trips (see Figure 2.4).

As large as they are, the figures above significantly undercount the number of walking trips. BATS does not include walking (or bicycling) trips to or from transit, since in those cases transit is considered the primary form of travel. If walking trips to/from transit are included, the weekday number of walk trips in Alameda County increases by more than 410,000, to a total of 880,00 trips. This includes approximately 360,000 trips to AC Transit bus stops (according to the agency's 2002 On-Board Transit Rider Survey) and almost 53,000 to BART stations (2008 Station Profile Study).

Figure 2.4 | Mode share for all trips

Source: BATS2000



Commuting to work

More recent U.S. Census data is available about commute trips, allowing the opportunity to see trends since 2000, albeit on a very small percentage of all walk trips. Work commute trips represent only a quarter to a fifth of all trips, and of these, very few are made by walking alone.

According to the Census, approximately 3.6% of work commuters in Alameda County walked to work in 2006-2008, an increase from 3.2 % in 2000. While a modest uptick in absolute terms, it represents a significant 14% increase in pedestrian commuters, compared to an increase of 2% for all commuters (see Table 2.2; see Appendix C for more detailed information).

Table 2.2 | Journey-to-work mode share

Sources: 2000 U.S. Census and 2006–2008 ACS

	Alameda County 2000	*Alameda County 2006–'08*	*Bay Area 2006–'08*
Drive alone	66.4%	66.5%	67.8%
Carpool	13.8%	10.4%	10.4%
Transit	10.6%	11.2%	10.0%
Work at home	3.5%	5.0%	5.3%
Walk	3.2%	3.6%	3.6%
Bicycle	1.2%	1.5%	1.3%
Other	1.2%	1.8%	1.6%

Pedestrian counts

Routine countywide pedestrian counts, which are useful in gauging long-term changes in walking rates, have begun to be conducted regularly in Alameda County. MTC conducted counts at twelve intersections throughout the county in 2002 and 2003. In 2008 and 2009, UC Berkeley's Safe Transportation Research & Education Center (SafeTREC) and Alameda CTC collaborated on pedestrian and bicycle counts at 50 and 30 locations respectively. In 2010 and 2011, Alameda CTC and MTC counted pedestrians at a combined 63 locations throughout the county, some of which have been counted in the past, providing an opportunity to see longer-term trends. Between 2002 and 2011, pedestrian counts increased by 47% at six overlapping locations.

In the future, the annual count effort being done at a larger number of locations will allow an even more accurate assessment of countywide trends in pedestrian levels. Continuous 24-hour automated counts are also being conducted by Alameda CTC and by the East Bay Regional Park District along some sidewalks and multi-use trails.

Why are people walking?

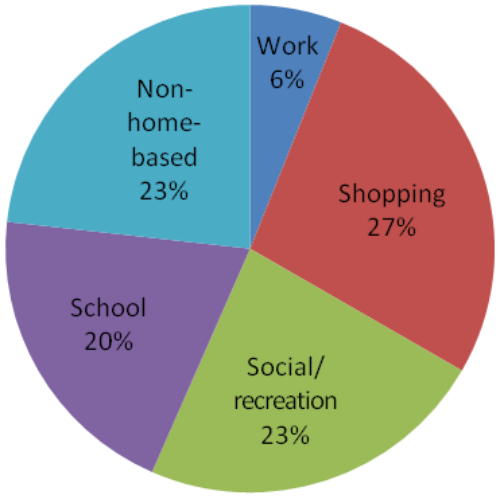
This section provides information primarily on the purpose of walk trips made by Alameda County residents, on walking to school and to transit, and on physical obstacles that prevent people from walking.

Trips by purpose

MTC's data from 2000 provides information on the purpose of walk trips made by Alameda County residents. The survey broke down all trips into those that start or end at home (called "home-based") and those that start and end somewhere else; for example, a lunch-time errand from the office (called "non-home-based"). Home based trips were further broken down into trips to or from work, shopping, social/recreation, or school (again, BATS does not include walking trips to or from transit). Figure 2.5 shows walk trips in Alameda County broken down by trip purpose (see Appendix A for more detailed information).

Figure 2.5 | Walk trips by purpose

Source: BATS2000

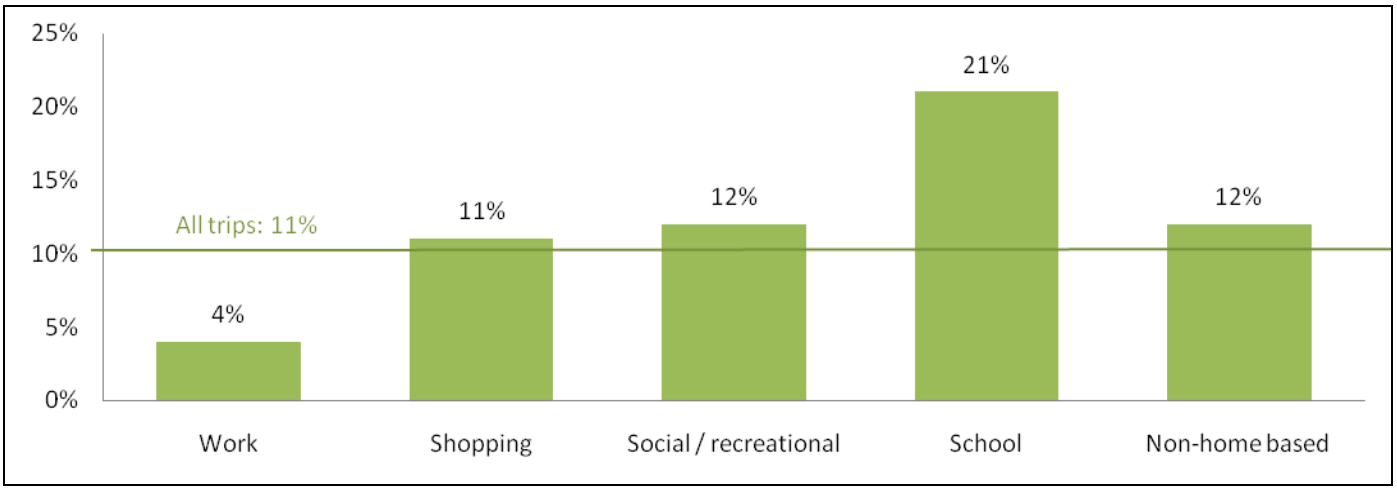


- Most walk trips in Alameda County are for shopping (27%). Since these trips start at home, this implies that many people live within walking distance of one or more stores.
- The least common reason for walking was going to work (6% of all walk trips), not surprisingly, since most people do not live within walking distance of their workplace.
- More people took walking trips starting or ending at their home than to or from other places (77% versus 23%). Possible explanations for this are that people spend more time at home than at other places, or that people are especially familiar with walking routes and walkable destinations near their home

Another way to look at why people are walking is to examine the percentage of all trips of a certain purpose that are made on foot. The leading purpose, by far, is trips to school (pre-kindergarten through university): more than a fifth (21%) of all trips to school were made on foot (see Figure 2.6). This finding emphasizes the need to improve safety on routes to school. Lower percentages for other trip purposes could argue for the need for promotional efforts to encourage people to walk to work and for errands.

- The percentages of shopping, social/recreational and non-home based trips made on foot (11-12%) were all roughly the same as the share of all walk trips (11%).
- Only 4% of work trips were made on foot (this compares closely to the 3.2% of pedestrian commuters reported by the 2000 Census).

Figure 2.6 | Walk mode share by trip purpose
Source: BATS2000



Walking to school

As explained in this section, school trips (pre-kindergarten to college) are made on foot more often than other kinds of trips. This masks to some extent the fact that the percentage of children walking to school has dropped significantly in recent decades. Thirty years ago, two thirds of children nationwide walked to school; today, the rate is under 15%. Below is the percentage of walk trips to school in each of the four planning areas into which Alameda County is divided (see page 19 for an explanation of the planning areas):

- North planning area: 24%
- Central planning area: 14%
- South planning area: 23%
- East planning area: 19%

Walking to transit

It is hard to overestimate the importance of transit to pedestrians. Transit services allow pedestrians to travel far beyond their typical range, enabling them to make trips that would be nearly impossible on foot alone. Many transit trips, especially by bus, involve walking. It is estimated that Alameda County residents make approximately 360,000 daily walk trips to AC Transit bus stops and almost 53,000 to BART stations.

The East Bay is fortunate to have relatively extensive transit service, provided by a number of agencies, or transit operators (see Table 2.3).However, operators are struggling in the face of funding shortfalls as a result of the ongoing economic downturn. In 2009 and 2010, the region's two largest operators introduced service cuts and fare increases. AC Transit raised fares 15–25 cents in 2009 and in 2010 instituted two rounds of service cuts. In 2009, BART reduced service at night and on weekends, raised fares and began a parking charge at eight additional station lots in the East Bay. These reductions have a greater impact on those dependent on transit, including low income communities, seniors and people with disabilities. Cutbacks in transit service are likely to result in fewer people taking fewer rides. Given the large number of walk trips made to AC Transit stops and BART stations, these cutbacks could also result in fewer daily walk trips being made in Alameda County.

Table 2.3 | Transit service in Alameda County

Operator	*Service area*	*Stops or stations in Alameda county*	*Daily ridership (system-wide; FY 2009–10)*
Alameda-Contra Costa Transit District (AC Transit)	Alameda County (with the exception of the Tri-Valley), western Contra Costa County and downtown San Francisco	6,500 (both counties)	236,000
Altamont Commuter Express (ACE)	Tri-Valley and Fremont to the San Joaquin Valley and San Jose	4	3,700
Amtrak/Capitol Corridor	Berkeley, Emeryville, Oakland, Hayward, Fremont to Sacramento and San Jose	6	4,400
Bay Area Rapid Transit (BART)	Berkeley, Oakland, San Leandro, Hayward, Union City, Fremont, Castro Valley, and Dublin/Pleasanton to San Francisco and Contra Costa and San Mateo counties	20	350,000
Dumbarton Express	Union City, Fremont and Newark to San Mateo County	4	873
Emery Go Round	Emeryville	25	n/a
Livermore Amador Valley Transit Authority (LAVTA; Wheels)	Dublin, Pleasanton and Livermore	500	4,500
Union City Transit	Union City	165	1,637
Water Emergency Transportation Authority	Alameda (city)/Oakland to San Francisco and South San Francisco; Harbor Bay to San Francisco	3	2,125

Paratransit

Paratransit provides a transportation option to people who, because of a disability or a disabling health condition, are unable to ride transit or to access a bus or train stop without the help of someone else. The main provider in Alameda County is East Bay Paratransit, a service established jointly by AC Transit and BART to meet requirements of the Americans with Disabilities Act (ADA). It provides transportation service in the North, Central and South planning areas and serves the Dublin/Pleasanton BART station in East County. The service transports riders from their origin to their destination in vans equipped with a wheelchair lift or in sedans. In addition, LAVTA and Union City Transit provide paratransit service within their respective service areas, while most cities in the county provide complementary, city-based service.

While essential for many, paratransit service is very expensive: a study by San Francisco's program found that the average cost per paratransit trip among 11 programs around the country is almost $33. One way to reduce these costs—while promoting physical activity—is to provide training on using fixed route transit and to remove physical barriers that prevent people with disabilities from walking or rolling to transit. This would encourage more people who are able to use regular transit services.

For additional information:
www.accessalameda.org

Walking and health

Decades of car-oriented development in the U.S. have caused Americans to replace daily active transportation, such as walking and bicycling, with driving. In combination with busy lifestyles, finding time to re-incorporate physical activity back into daily life is a major challenge. As a result, physical activity is at an all-time low.

According to California Active Communities, "In California, physical inactivity is by a large margin the most prevalent chronic disease risk factor with more than 50% of adults reporting a sedentary lifestyle, contributing to an estimated 30,000 deaths each year." According to the Alameda County Public Health Department, over half the county's population (52%) is considered overweight or obese, while 22% of children are clinically obese. The California Center for Public Health Advocacy estimates that the cost in health care and lost productivity associated with overweight, obesity and physical inactivity in Alameda County in 2006 was $2.2 billion.

Social awareness and the will to make active transportation more attractive and accessible to Americans is growing, especially in the Bay Area. This is resulting in the opportunity to build environments that encourage people to be active on a daily basis. Walking, as one of the most accessible forms of physical activity, promises multiple public health benefits. Physical activity helps prevent or control chronic diseases such as high blood pressure, heart disease, stroke, diabetes and certain cancers; helps maintain a healthy weight; and improves mood, lowers stress level and reduces depression. The study referenced at the end of this text box found that states and cities with higher rates of walking and cycling had a higher percentage of adults who achieved recommended levels of physical activity and a lower percentage of obese or diabetic adults.

Strategies to improve walkability and health include creating:

- Compact, mixed use neighborhoods that also connect pedestrians to health-promoting destinations such as parks, community
- Pedestrian-oriented building and site design
- Safe, convenient and attractive sidewalks, paths, intersections and crosswalks
- Multi-use trails to provide access to destinations and opportunities for fun and relaxation
- Car-free zones, traffic calming in residential neighborhoods and reductions in traffic speeds

For further reading:"Walking and Cycling to Health: A Comparative Analysis of City, State, and International Data" (American Journal of Public Health): http://ajph.aphapublications.org/cgi/content/abstract/100/10/1986

Physical barriers and connectivity gaps

A different way to look at this section is, "Why aren't more people walking?" Some of the most common reasons—including lack of facilities, concerns about traffic safety and long distances—are at least in part related to the existence of physical barriers or connectivity gaps.

Below is a list of significant physical barriers in Alameda County mentioned by local jurisdictions in the 2010 questionnaire. The majority of them are automobile and rail infrastructure—highways, freeways, railroads and interchanges. Freeways are a widespread problem for pedestrians, often creating an impassable barrier stretching several miles or more, with limited crossings that are most commonly built primarily with automobiles in mind. Most freeway interchanges do not include safe and convenient pedestrian facilities, and retrofitting them to be more accessible is very costly.

North planning area

- Interstates 80, 580, 880 and 980
- State Routes 24 and 13
- Railroad tracks in Alameda, Albany, Berkeley, Emeryville and Oakland
- Freeway and railroad crossings (Albany specified the Gilman Street interchange)

Central planning area

- Interstates 580 and 880
- Railroad tracks
- San Leandro specified the I-880 interchanges at Davis Street, Marina Boulevard and Washington Avenue; and the Union Pacific Railroad Oakland Subdivision underpasses on Washington Avenue and San Leandro Boulevard

South planning area

- Interstates 880 and State Route 84
- Union Pacific railroad tracks
- Various creeks and canals

East planning Area

- Interstates 580 and 680

Connectivity gaps refer to missing pedestrian connections or segments along pedestrian routes, such as multi-use paths and sidewalks. As gaps are completed, trails and sidewalks become more usable, connecting more destinations, and encouraging more walking. Major connectivity gaps in Alameda County cited by local jurisdictions include:

North planning area

- San Francisco-Oakland Bay Bridge
- Lake Merritt channel (Oakland)
- Oakland Estuary waterfront (Oakland/Alameda)

South planning area

- Bay Trail gap between south Fremont Boulevard and Dixon Landing Road (Fremont)
- A number of trail segments along creeks and canals

East planning Area

- Along the Iron Horse Trail crossing Santa Rita Road, the intersection of Stanley Boulevard at Valley and Bernal avenues (Pleasanton)
- Arroyo Mocho Creek at Stoneridge Drive (Pleasanton)
- Intersection of the Alamo Canal and Tassajara Creek trails and I-580 (Dublin)

Where are people walking?

This section looks at the number of pedestrians and walk trips by specific areas of the county, including the county's four planning areas, its 15 jurisdictions and its 19 BART stations.

Alameda County planning areas

For planning purposes, the Alameda County Transportation Commission divides the county into four planning areas, as follows (in parentheses is their approximate population):

- **North County** (600,000): Alameda (city), Albany, Berkeley, Emeryville, Oakland and Piedmont
- **Central County** (350,000): Hayward and San Leandro, and surrounding unincorporated areas of the county
- **South County** (390,000): Fremont, Newark and Union City
- **East County** (170,000): Dublin, Livermore and Pleasanton, and surrounding unincorporated areas

For more information on differences among the planning areas, see "Walking and the built environment" sidebar below.

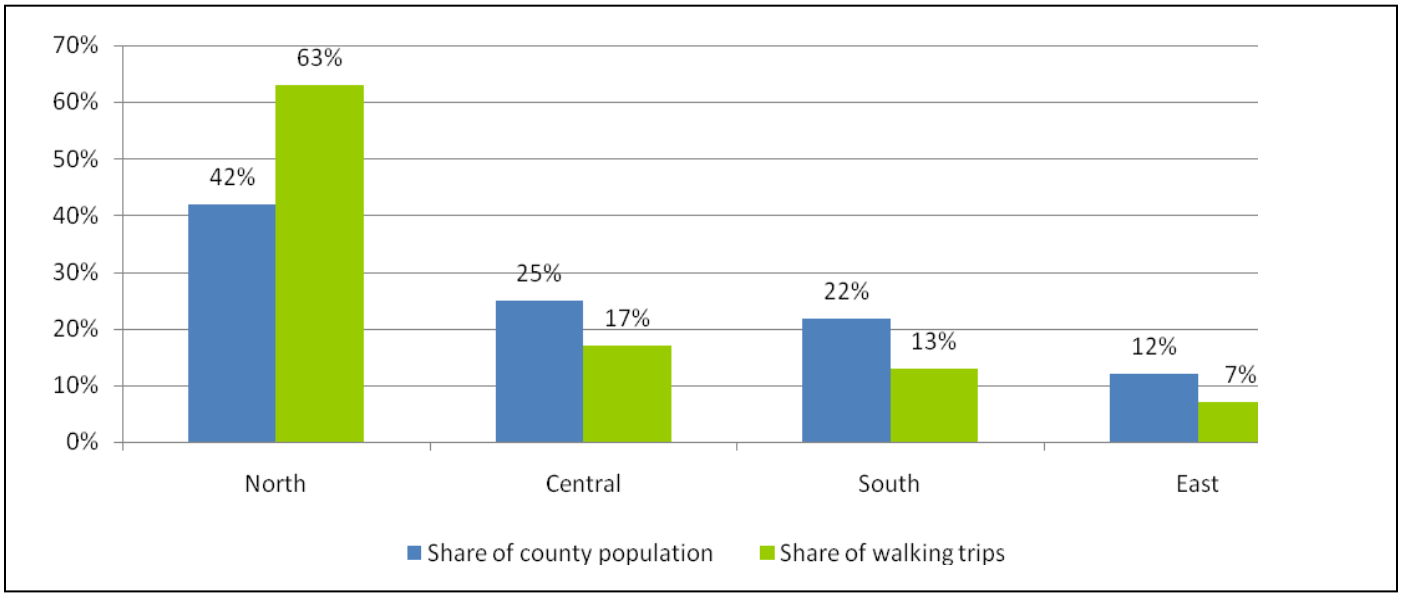
By planning area

Figure 2.7 shows the percentage of walk trips that were made in each planning area. For comparison purposes, the chart also shows each planning area's share of the county's population.

- More than half of all walking trips in the county take place in the North planning area (63%), far above its population share of 42%. In large part, this can be explained by the many dense, compact areas with gridded streets and local shopping districts, and the UC Berkeley campus area.
- The Central planning area, and especially the South and East planning areas, all have lower shares of the county's walking trips than of the county's population. This can also be explained by aspects of the built environment, which in these areas is typically more car-oriented.

Figure 2.7 | Share of county population and walking trips by planning area

Sources: 2000 Census, BATS2000

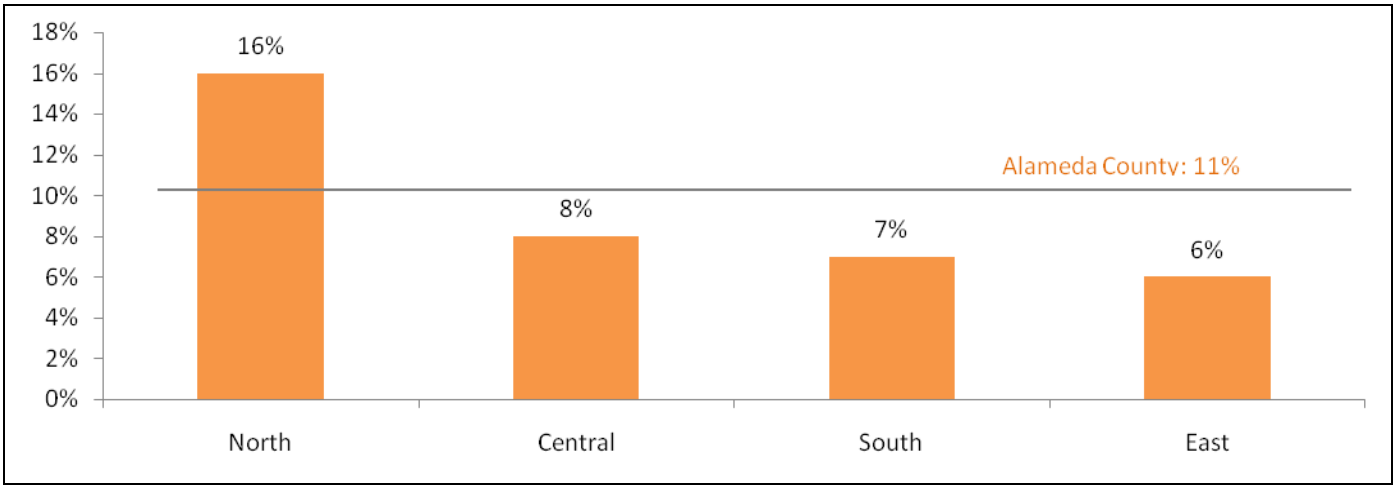


Another way of looking at the data is what percentage of people are walking in each planning area, as seen in Figure 2.8 below.

- The North planning area has by far the highest percentage of people taking their trips on foot (16%); its share is almost three times higher than that of the East planning area (6%).

Figure 2.8 | Walk mode share by planning area

Source: BATS2000



Walking and the built environment

There are many factors that affect how often and how much people walk, from their age, income and health condition to hills and the weather. In addition, many aspects of the built environment have a strong effect on people's decision to walk. The following characteristics of the built environment are associated with higher walking rates:

- Higher-density neighborhoods, making for shorter distances between destinations
- Neighborhoods that integrate different activities (homes, jobs, shops and parks, for example)
- A grid street system, short blocks and narrower streets, with lower-speed traffic
- Buildings close to each other, with interesting facades and with entrances close to the street
- Fewer car-oriented features such as surface parking lots and drive-throughs
- Pedestrian facilities such as sidewalks, multi-use trails, stairways, striped crosswalks and street trees
- Elements that increase perceptions of safety such as pedestrian-level lighting and entrances and windows facing the street

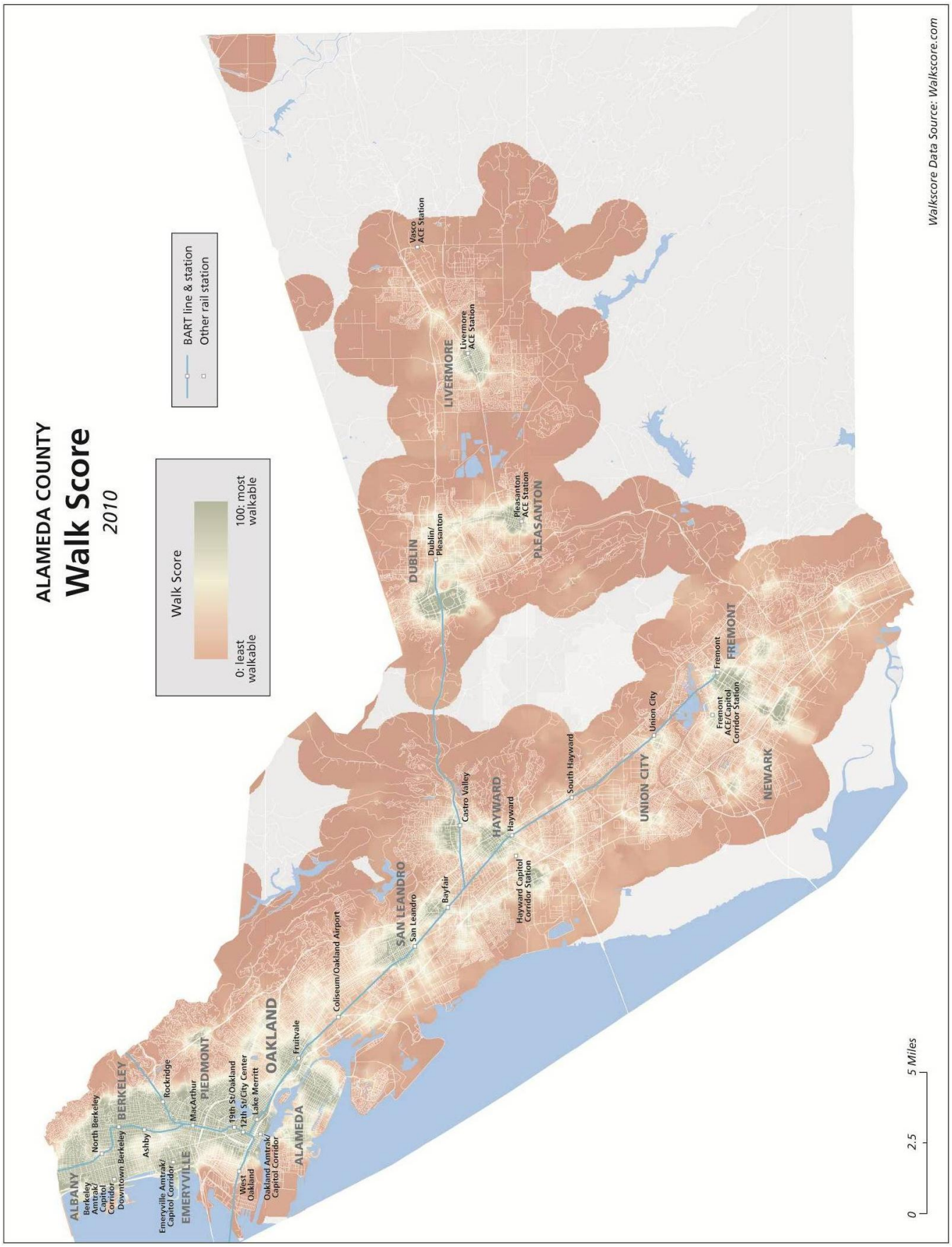
The aspects listed above help explain much of the current difference in the walking rates of the four county planning areas. For example, the North planning area, which has the highest share of walking trips, contains many dense, compact areas with gridded streets and local shopping districts. The Central planning area includes two pedestrian-scaled downtown districts and some neighborhoods that, in their urban fabric, resemble those in the North area; however, these are surrounded by neighborhoods characterized by long street blocks, cul-de-sacs and segregated land uses, and separated by wide, higher-speed arterials.

The South planning area has a number of small, walkable districts at the sites of the original communities in the area but development patterns elsewhere are oriented toward the automobile; however, Fremont and Union City in particular are striving to create transit- and pedestrian-oriented communities. Lastly, the East planning area is the least dense; while it has two significant downtowns and Dublin is building higher density housing near transit stations, the area is primarily characterized by low-density, car-oriented development patterns.

Figure 2.9 on the following page illustrates, very generally, the walkability of different parts of Alameda County, as generated in 2010. It is based on a methodology developed by Walk Score (www.walkscore.com) that allocates points based on the distance of an address to nine types of everyday destinations such as grocery stores, restaurants and schools and also on the intersection density and average block length of walking routes to those destinations (the score, however, does not consider a route's hilliness). As shown in Figure 2.9, the most walkable areas in Alameda County are the central parts of the North planning area; the downtowns of San Leandro, Hayward, Fremont, Dublin, Pleasanton and Livermore; and several other nodes and activity centers throughout the county.

For further reading:"The Built Environment and Walking" (The Heart Foundation): http://www.heartfoundation.org.au/SiteCollectionDocuments/Built_environment_position_statement_FINAL_LR%20for%20web.pdf

Figure 2.9 | "Walk Score" map of Alameda County



Density, car-lessness and income

Figures 2.10, 2.11 and 2.12 help explain the differences in walk mode share among the four planning areas. They show the relationship between walking rates (shown on the left axis) and, respectively, density (measured in dwelling units per acre), car-free households and median income (on the right axis).

- As density decreases, so does the walking share of trips.
- As the percentage of car-free households decreases, so does the walking share of trips.
- As the median income increases, the walking share of trips decreases.

Figure 2.10 | Walk mode share and density by planning area

Sources: BATS2000, Association of Bay Area Governments
Left axis indicates walk mode share; right axis indicates density

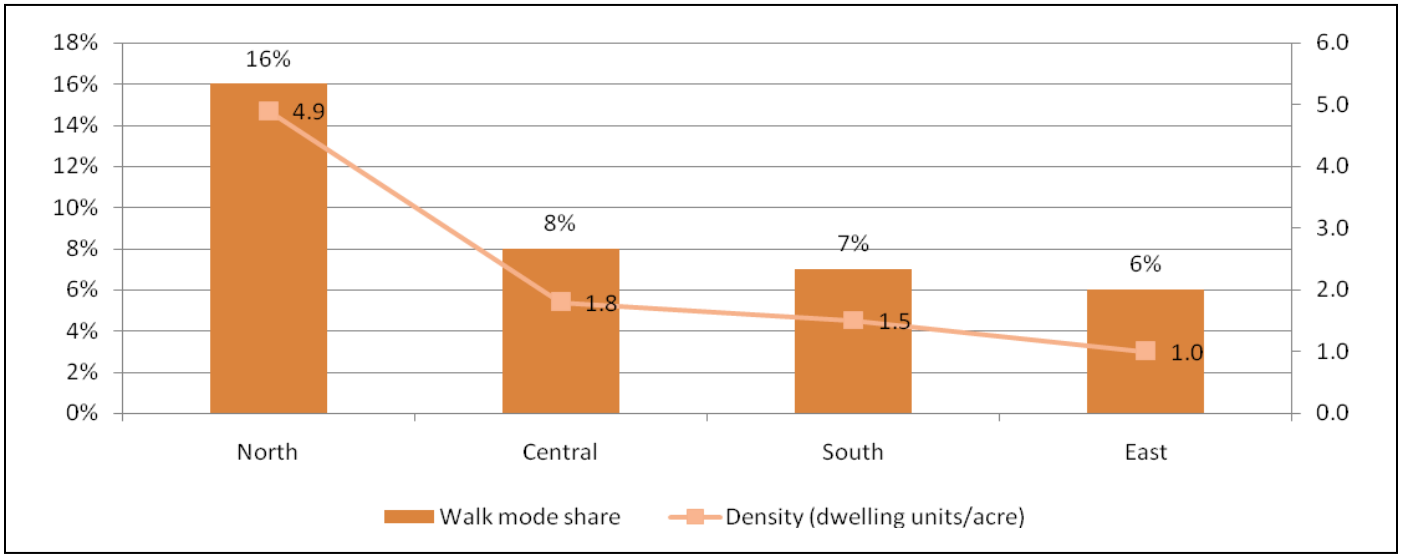


Figure 2.11 | Walk mode share and car-free households by planning area

Sources: BATS2000, Association of Bay Area Governments
Left axis indicates walk mode share; right axis indicates percentage of car-free households

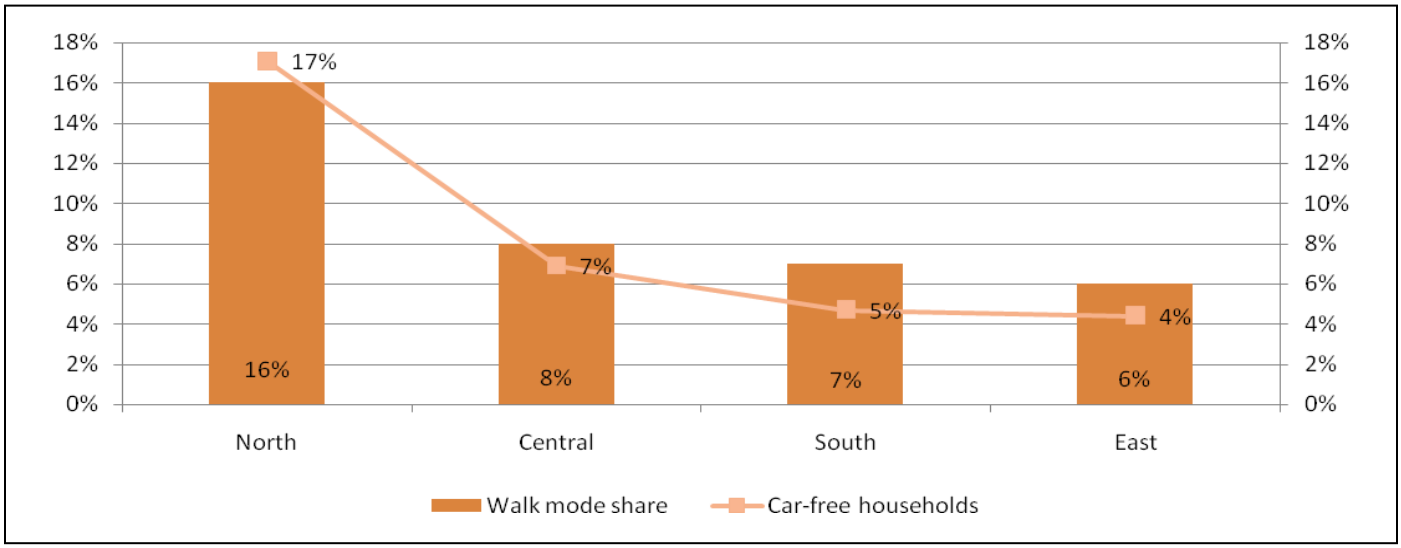
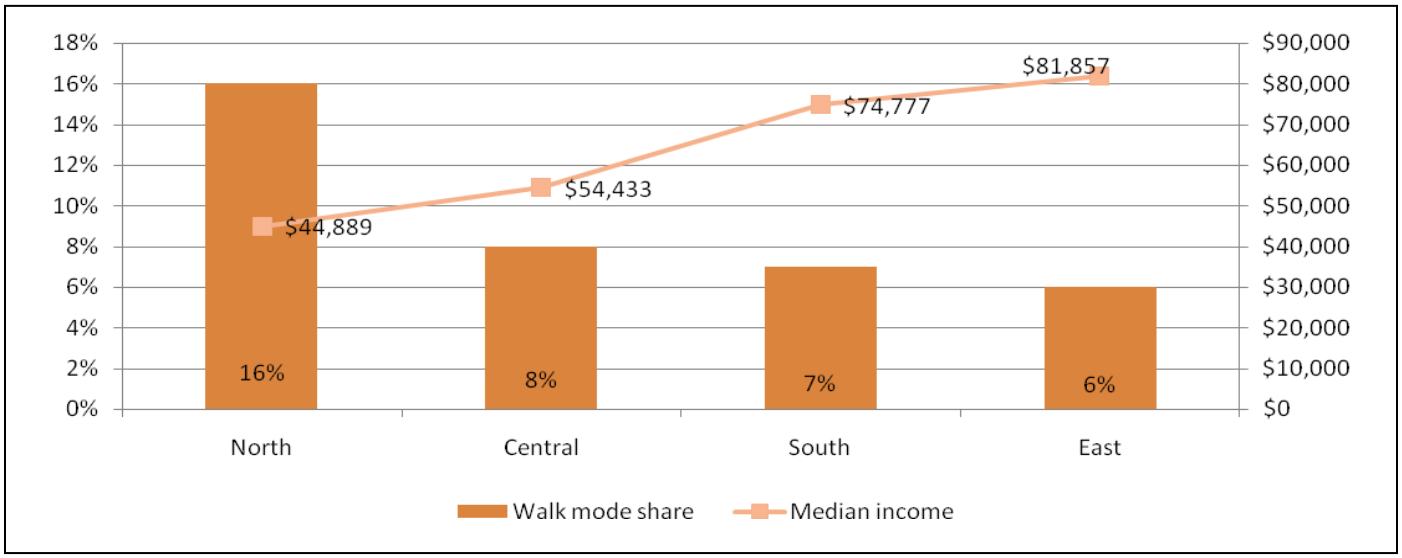


Figure 2.12 | Walk mode share and median income by planning area

Sources: BATS2000, Association of Bay Area Governments
Left axis indicates walk mode share; right axis indicates median income



Priority Development Areas

If this section has shown where Alameda County residents are walking now, where will they be walking in the future? One answer is the county's Priority Development Areas (PDAs). PDAs are sites approved by the Association of Bay Area Governments (ABAG) within existing communities that are appropriate for infill development, with the objective of creating more housing near transit, jobs, shopping and services. PDAs have been designated by local governments and are eligible to receive extra regional and state funding for planning and capital projects. If successful, PDAs could accommodate half of the Bay Area's projected housing growth through the year 2040. PDA's, and their potential impact on walking, are discussed in greater detail in the "Evaluation of Plans, Policies and Practices" chapter.

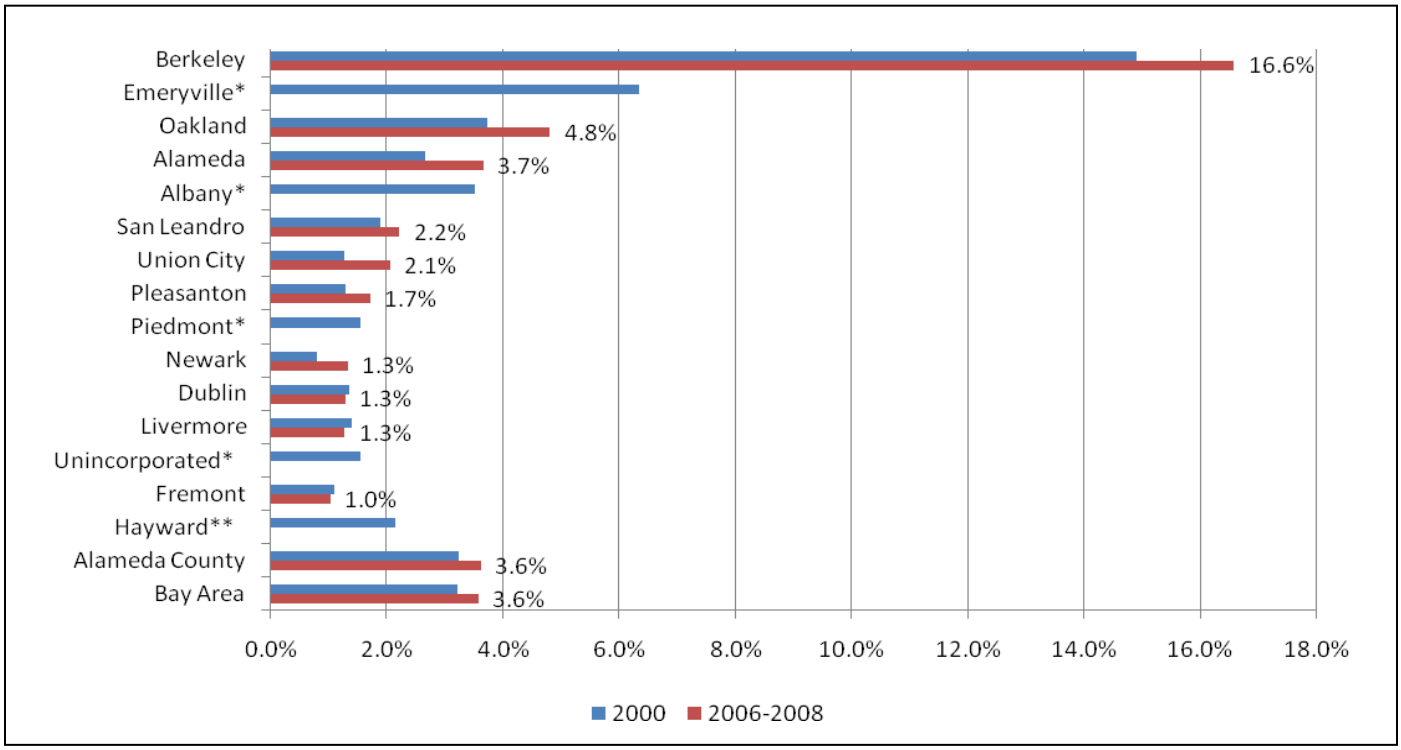
By jurisdiction

The U.S. Census provides data on the mode share of commute-to-work trips for local jurisdictions. Although, as stated earlier, only 6% of all walk trips are made to work, this is the only trip purpose for which more recent data is available. Figure 2.13 below shows the walk mode share in each jurisdiction, with a comparison of 2000 and 2006–2008 data (see Appendix D for more detailed information; 2006–2008 data is not available for Albany, Emeryville, Piedmont and unincorporated Alameda County, as noted earlier). The change in the countywide percentage of those walking to work increased only very slightly (0.4%) in this time period, although as noted earlier, this represented a 14% increase in walking to work.

- Of the 11 jurisdictions for which comparisons can be made between 2000 and 2006–2008, three saw their commute-trip walk share increase by more than 1 percentage point: Berkeley (1.7%), City of Alameda (1.1%) and Oakland (1.1%).
- Five jurisdictions saw their commute-trip walk share change by 0 to 1 percentage points: Union City (0.8%), Newark (0.5%), Pleasanton (0.4%), San Leandro (0.3%) and Dublin (0.0%).
- Two jurisdictions saw a decrease in their walk share: Fremont (-0.1%) and Livermore (-0.1%)
- Hayward had a reported sharp decrease in their walk share (-1.2%). However, the figure appears to be incorrect. The 2006-2008 ACS indicates that the walk mode share in Hayward declined by more than half, this during a period when it increased or remained roughly unchanged in every other jurisdiction in the county.

Figure 2.13 | Commute-to-work walk mode share

Sources: 2000 Census and 2006-2008 ACS



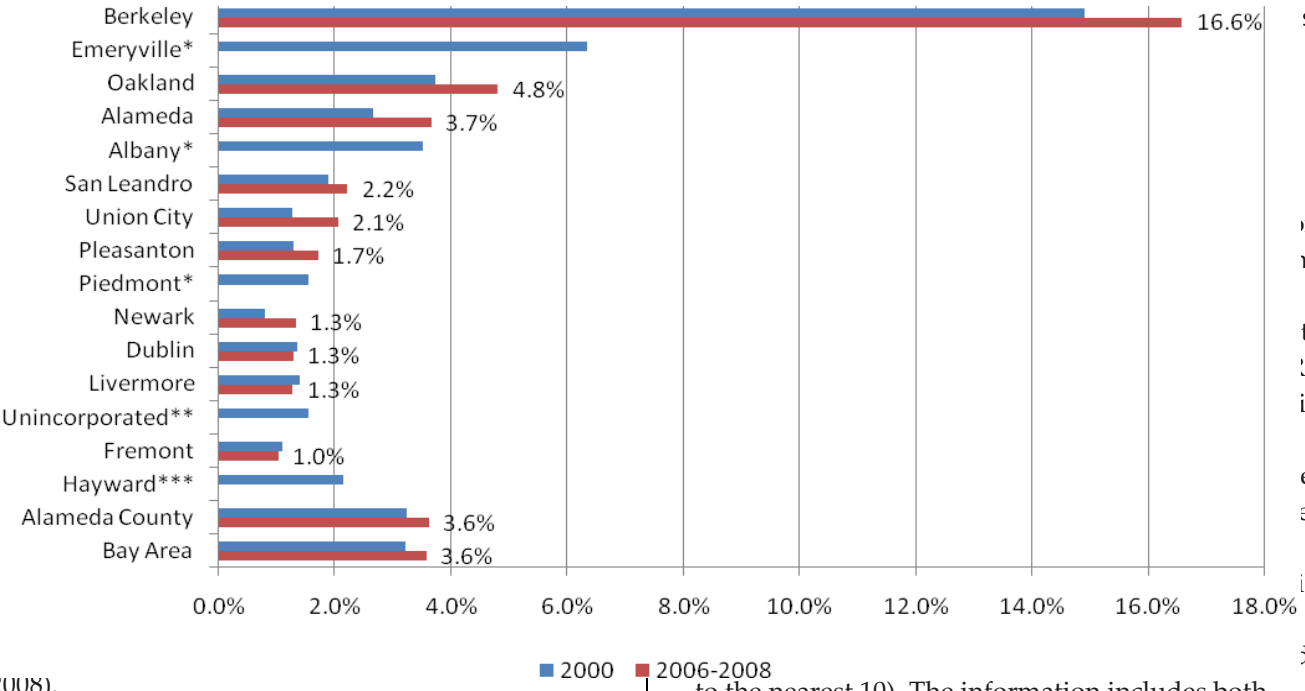


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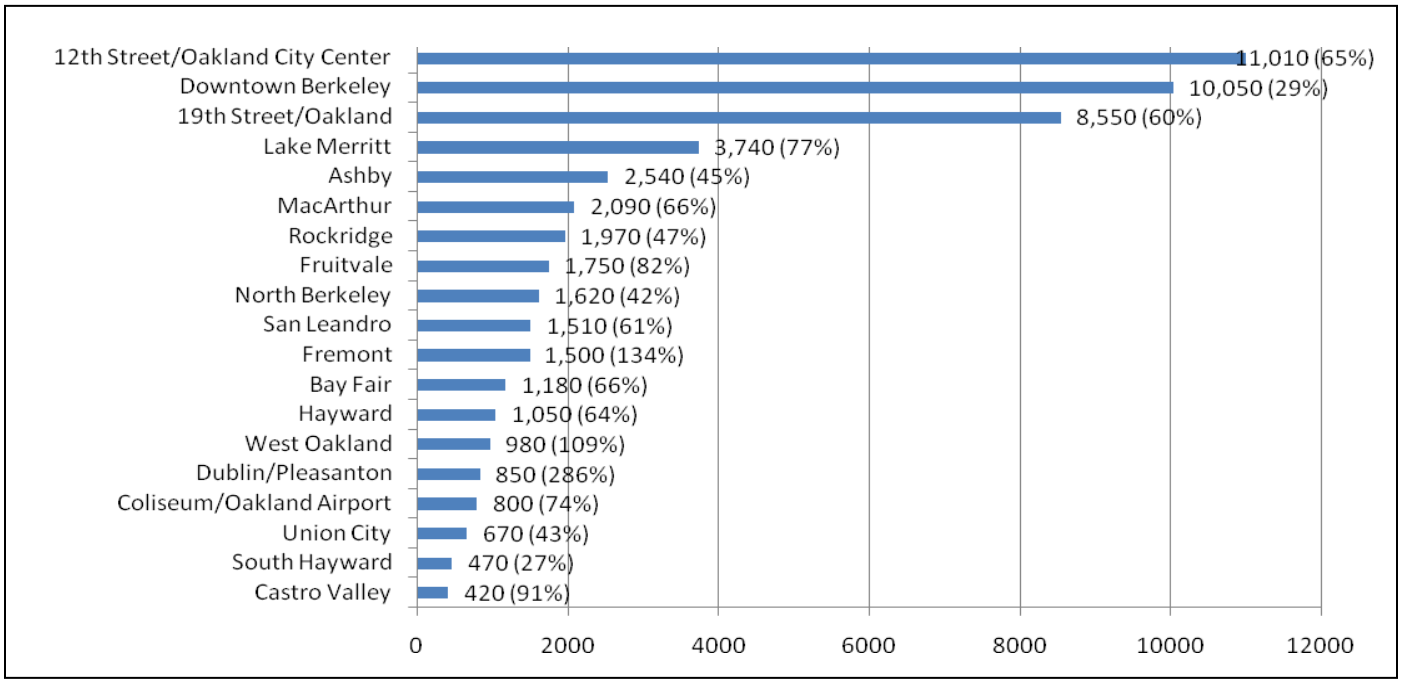
Figure 2.14 | Daily walk trips to BART stations (and percent change from 1998–2008)

Source: BART's 2008 Station Profile Study (and 1998 Study for percent change); includes both home-based and non-home-based trips



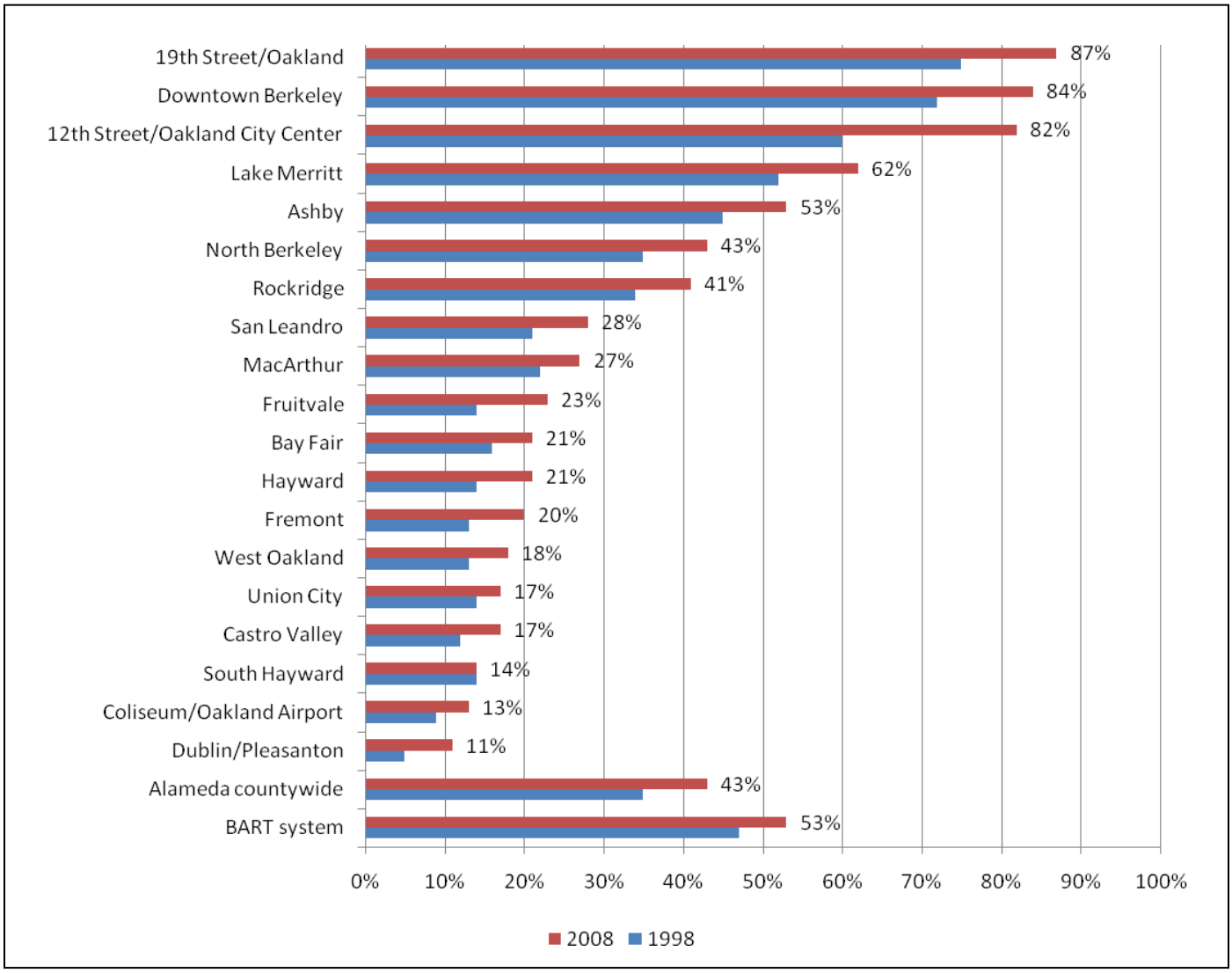
- The top nine stations with the most walk access trips are all in the North planning area.
- The three stations in the downtowns of Oakland and Berkeley plus Lake Merritt have, by far, the most walk access trips; combined, they represent 56% of all walk access trips to Alameda County BART stations (33,350 daily trips).
- The three stations with the greatest number of people walking to BART—12th Street/Oakland City Center, Downtown Berkeley and 19th Street/Oakland—are the only ones in Alameda County that have no parking.

Figure 2.15 below looks at the BART walk access data in a different way. The bars show the walk mode share of all trips (home-based and non-home-based) to each station. Overall, the walk share to BART stations in Alameda County increased by 8 percentage points—from 35% to 43%—between 1998 and 2008; this is higher than for the BART system as a whole, where the walk share increased by 6 percentage points. Every station in the county saw an increase in walk share, except for South Hayward, which remained the same.

- The top seven stations with the highest share of walk access trips in 2008 are all in the North planning area.
- In 2008, five stations out of all 19—the three in downtown Oakland and Berkeley, plus Lake Merritt and Ashby—had walk access shares higher than 50% and equal to or higher than for the BART system as a whole; seven stations had walk access shares of 20% or lower.
- In terms of percentage points, the greatest increases in walk access share from 1998 to 2008 were at the 12th Street/Oakland City Center station (up by 22 percentage points), followed by the 19th Street/Oakland and Downtown Berkeley stations (12 percentage points); the lowest were at South Hayward (0 points), Union City (3 points) and Coliseum/Oakland Airport (4 points). In the remaining 13 stations, the increase was between 5 and 10 percentage points.
- In relative terms, the most dramatic increase in walk access share was at the Dublin/Pleasanton station, where it more than doubled, from 5% to 11%.

Figure 2.15 | Walk access share to BART stations

Sources: BART's 1998 and 2008 Station Profile Study; includes both home-based and non-home-based trips



Duration of walking trips

Walking trips tend to be relatively short, in terms of both time and distance (see Table 2.4 below). This data underscores the importance of creating communities that reduce the distance that people must travel. This can done most effectively through denser, more compact development patterns and by integrating land uses.

Table 2.4 | Duration of walking trips

Source: BATS2000

Minutes	*Approximate distance*	*Percent of trips*
0 to 10	Up to 0.5 miles	40%
10.1 to 20	0.5 to 1 miles	33%
More than 20	More than 1 mile	27%

- 40% of all walk trips in the Bay Area last ten minutes or less; assuming an average walking speed of 3 miles per hour, this translates to a half-mile or less.

- Almost three-quarters of walk trips (73%) are 20 minutes (1 mile) or less.
- Only 27% of walk trips are over 20 minutes (1 mile).

Major multi-use paths

Many walk trips, whether for recreation or transportation, take place on multi-use pathways. Alameda County is fortunate to have hundreds of miles of multi-use paths and trails spread throughout the county. In addition to local facilities, the county has a network of planned and existing inter-jurisdictional multi-use pathways. Of these, the most significant—in terms of length and connections across city and county borders—are the East Bay Greenway, the Iron Horse Trail and the San Francisco Bay Trail (see Table 2.5).

East Bay Greenway

This greenway was originally envisioned by Urban Ecology—a Bay Area non-profit that advocates for neighborhood revitalization and regional sustainability—as a multi-use path underneath BART's elevated structure running southeast for 12 miles from 18th Avenue in Oakland to the Hayward BART station. However, a larger vision emerged from the East Bay Regional Park District's most recent Master Plan update (2007), which showed the path connecting north to the Ohlone Greenway in Berkeley and Albany (and further north in Contra Costa County), and to the south along the Union Pacific Railroad right-of way in Fremont. The total length from county line to county line is estimated to be about 49 miles, with only the northern portions along the Ohlone Greenway (and parts of the former Santa Fe Railroad right-of-way/West Street in Berkeley) completed. Implementation of the original 12 mile project is being led by the Alameda County Transportation Commission as a first phase. Many sections of the proposed greenway are still highly conceptual, such as in Oakland and Union City, and are located in built-out urban areas where the public rights-of-way are extremely limited.

Iron Horse Trail

The existing multi-use path extends between the cities of Concord, in Contra Costa County, and Dublin and includes a one-mile segment in Pleasanton, and two miles between Pleasanton and Livermore on Stanley Boulevard. The pathway follows an abandoned Southern Pacific Railroad right-of-way. When complete, it will extend from Suisun Bay (Contra Costa County) to Livermore and the San Joaquin county border, a distance of approximately 53 miles, connecting 12 cities. The alignment length through Alameda County is 25.5 miles, of which 5.8 miles is existing and 19.7 miles is proposed (see Appendix H for more detailed mileage information).

San Francisco Bay Trail

This 500-mile trail system, when complete, will ring San Francisco and San Pablo bays. The system includes 119 miles along the Alameda County shoreline and another 64 miles connecting this "spine" to other pathways, trails and points of interest. Of this ultimate 183-mile alignment, approximately 122 miles are in place, including 11 miles completed since the 2006 Countywide Pedestrian Plan was adopted(see Appendix H for more detailed mileage information). Long continuous segments exist in Albany, Berkeley, Emeryville, Oakland, Alameda, San Leandro and Hayward.

Table 2.5 | Mileage of major trails

Source: Urban Ecology, East Bay Regional Park District, San Francisco Bay Trail Project; figures may not match those in the "Costs and Revenue" chapter, since they were calculated using different data sets

Trail	*Existing mileage*	*Proposed (unbuilt) mileage*	*Total mileage*
East Bay Greenway	1.8	34.8	36.6
Iron Horse Trail	5.8	19.7	25.5
San Francisco Bay Trail	121.8	61.4	183.2
Total	**129.4**	**115.9**	**245.3**

Below are other trails of countywide significance, as defined in the 2006 Pedestrian Plan, including their location and development status:

- Coyote Hills to Ardenwood (EBRPD; Fremont; proposed)
- Ardenwood to Quarry Lakes (EBRPD; Fremont; proposed)
- Tassajara Creek (EBRPD; East planning area; partly completed)

- Shadow Cliffs to Morgan Territory (EBRPD; between Stanley Rd [Iron Horse Trail] and Las Positas College only; East planning area; proposed).
- Shadow Cliffs to Iron Horse (EBRPD; East planning area; partly completed)
- Ohlone Greenway Trail (Albany and Berkeley; complete, but needs upgrades)
- Jack London/Arroyo Mocho Trail (Livermore to Pleasanton; partly complete)
- Emeryville Greenway (Berkeley to Emeryville; partly complete)

Pedestrian safety

Because they do not travel within the relative safety of a car, bus or train, pedestrians, along with bicyclists, are the most vulnerable users of the transportation system. For this reason, pedestrians (and also bicyclists) make up a disproportionate percentage of traffic fatalities and injuries.

Collision numbers versus rates

When considering pedestrian collisions (or fatalities), it is important to remember that absolute numbers do not tell the whole story. If over time more people walked while the number of collisions remained the same, then the rate of collisions (as measured per pedestrian or per walk trip) would decrease.

To illustrate, consider two intersections, each with one pedestrian collision. If intersection A has 60 people crossing while intersection B has only 20 people crossing, the rate of collisions per pedestrian would be much higher at intersection B.

Data on collisions involving pedestrians can help planners and other decision-makers identify areas in which to focus improvement efforts. Pedestrian safety is impacted by a number of variables including the design of infrastructure for walking, the design of intersections and roadways (especially their design speed), law enforcement efforts and education campaigns. Also, because of the "safety in numbers" phenomenon, pedestrian safety tends to increase as pedestrian numbers increase in an area. (This argues for making infrastructure improvements even in some areas where collision rates are low, since pedestrian volumes might be high.)

This section presents information on the number of pedestrian fatalities and serious injuries in Alameda County. The information is examined in several ways, including by planning area, location, time of day and party at fault. Also, there is a brief discussion of another important component of pedestrian safety: personal security from crime.

The analysis uses collision data for the nine-year period from 2000 (the earliest year available) to 2008 (the latest year available at the time this chapter was researched) for more general investigation, such as on total fatalities and injuries; for finer-grained analysis, the data used is for the latest five-calendar-year period, or 2004–2008. The data comes from the California Highway Patrol's Statewide Integrated Traffic Records System (SWITRS), a database of collisions as reported to and collected by local police departments and other law enforcement agencies in the state. Because SWITRS consists only of reports taken by officers in the field, the incidents in the database represent only a portion of all collisions. This also means that the incidents in SWITRS are more likely to be serious, since minor collisions are less likely to be reported to a police officer. Numerous studies have shown that pedestrian collisions are significantly underreported in official crash reports. For example, one 2007 study comparing emergency room visits and official crash reports in California, North Carolina and New York found that only 56% of emergency-room pedestrian cases had been reported in official crash reports[1].

Fatalities and injuries

In the nine-year period from 2000 to 2008, there was an annual average of 25 pedestrians killed and 710 pedestrians injured seriously in traffic collisions in Alameda County (see Table 2.6 and Figure 2.16; appendices I and J provide more detailed information).

[1] "Police Reporting of Pedestrians and Bicyclists Treated in Hospital Emergency Rooms" (Transportation Research Record, Volume 1635).

Table 2.6 | Pedestrians killed or injured, 2000–2008

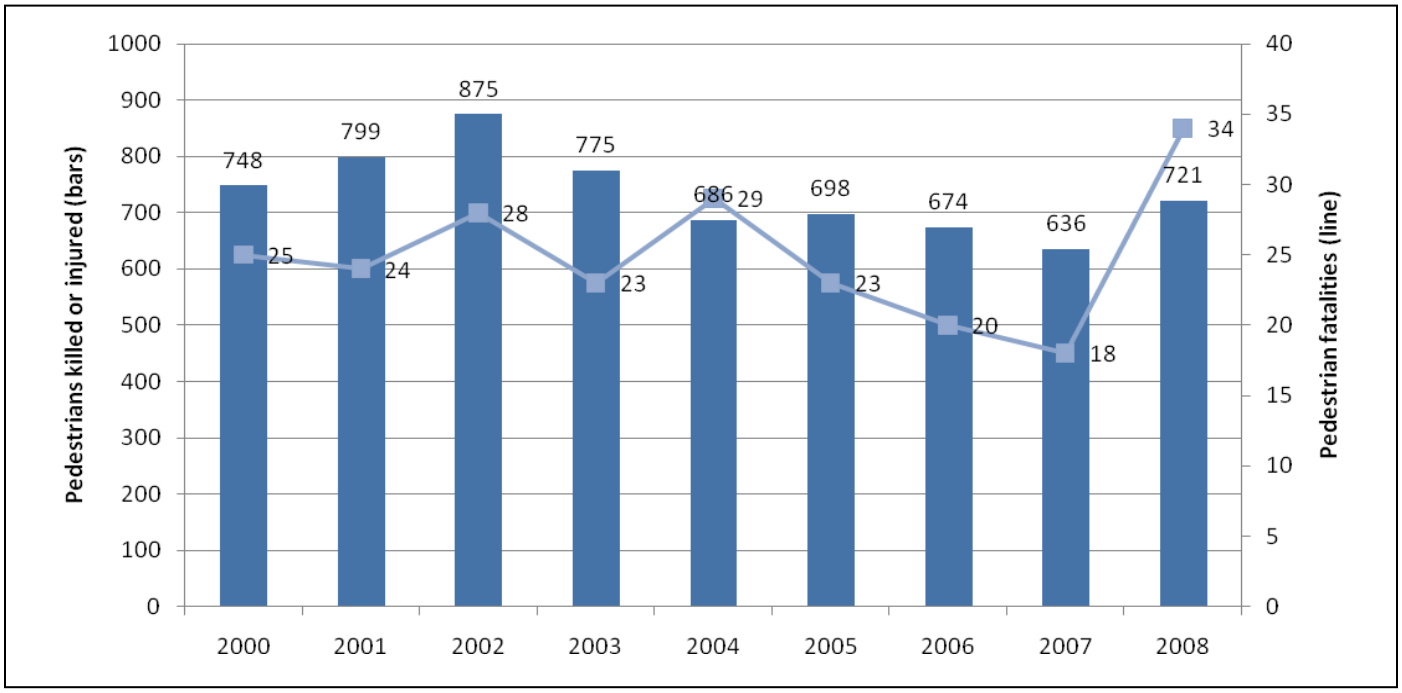
Source: SWRTS

	Annual average
Pedestrians killed	25
Pedestrians injured	710
Pedestrians killed or injured	**735**

- The annual number of pedestrians killed or injured saw a sizable increase in 2000–2002, from 748 to 875. This was followed by an even more substantial decrease in 2002–2007, from 875 to 636.
- The number of pedestrian fatalities each year was relatively stable between 2000 and 2005, ranging from 23 to 29. There was a significant decline in pedestrian fatalities from 2004 to 2007, of more than a third (from 29 to 18).
- The year 2008 saw a spike in the number of pedestrians killed (almost doubling from 18 the year before to 34) or injured (from 636 to 721).The increase could be because high gas prices in 2008 encouraged more people to walk. This is supported by the fact that the number of transit riders (most of whom access transit by foot) did increase that year.

Figure 2.16 | Pedestrian fatalities and injuries, 2000–2008

Source: SWITRS



Collision hotspots

Figure 2.17 on the following page shows the location of all traffic collisions involving pedestrians killed or injured in Alameda County in the five-year period from 2004 to 2008. As shown on the map, the collisions are concentrated along two general corridors: from central Berkeley to downtown Oakland; and from downtown Oakland to downtown Hayward, running through central San Leandro.

The information on the map is confirmed by Tables 2.7 and 2.8. Table 2.7 lists the intersections that experienced 9 or more collisions in 2004–2008 that resulted in a pedestrian fatality or injury. Of the 12 intersections on the list, six are in Oakland, four in San Leandro and one each in Berkeley and Hayward. In general, these intersections are on thoroughfares with many pedestrians and major bus transit routes.

Table 2.7 | Intersections with 9 or more pedestrian collisions, 2004–2008

Source: SWITRS

Intersection	*Jurisdiction*	*Collisions*
40th St & Telegraph Ave	Oakland	14
Estudillo Ave & East 14th St	San Leandro	12
14th St & Broadway	Oakland	10
51st St & Shattuck Ave	Oakland	10
Fairmont Dr & East 14th St	San Leandro	10
Juana Ave & East 14th St	San Leandro	10
Telegraph Ave & Durant Ave	Berkeley	9
Foothill Blvd & Grove Way	Hayward	9
MacArthur Blvd & Fruitvale Ave	Oakland	9
International Blvd & High St	Oakland	9
Bancroft Ave & Church St	Oakland	9
Blossom Way & East 14th St	San Leandro	9

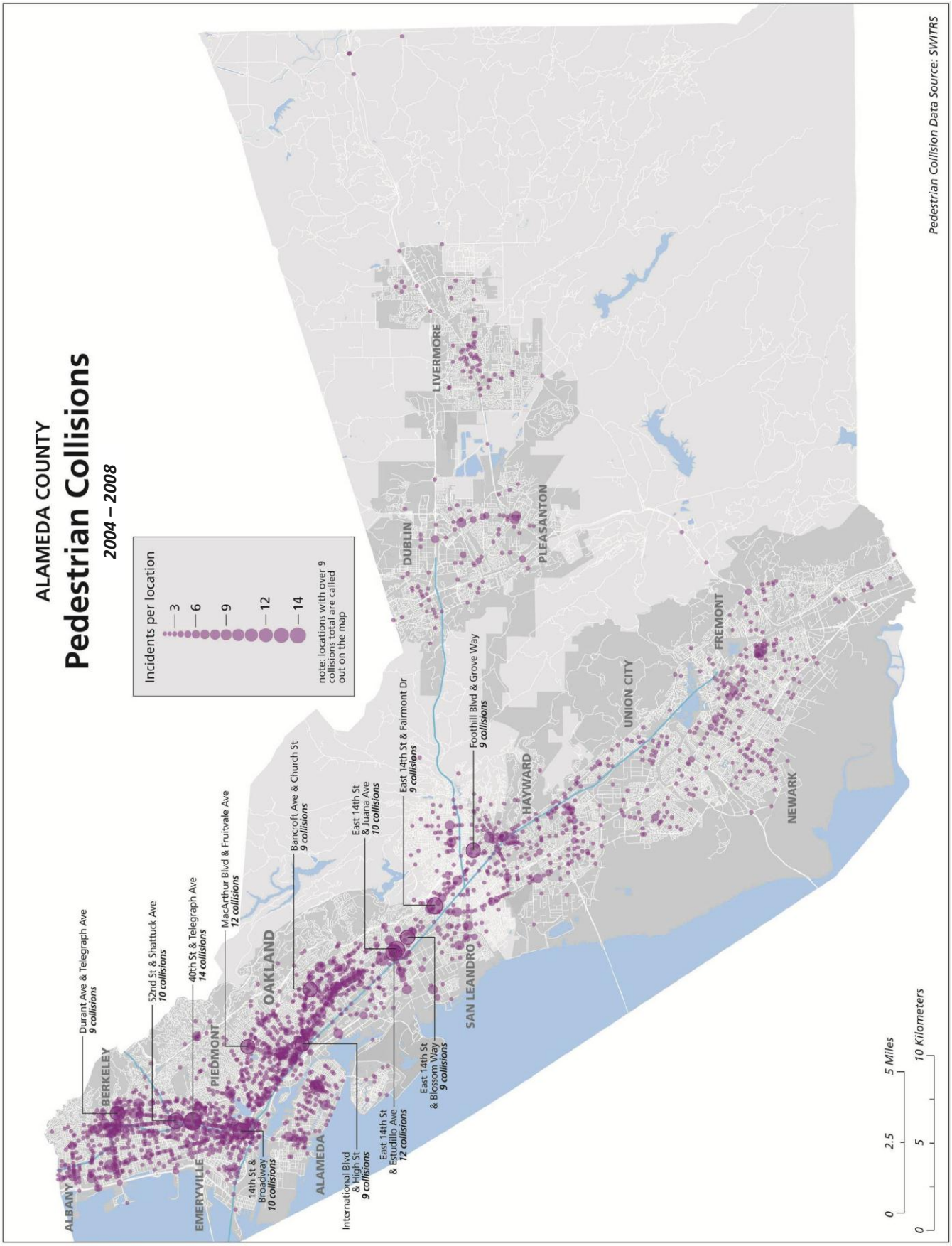
Table 2.8 below lists the roadway corridors that experienced 40 or more collisions in 2004–2008. Of these roads, four are on the central Berkeley-downtown Oakland corridor: San Pablo Avenue, Martin Luther King Jr. Way, Shattuck Avenue and Telegraph Avenue. Another eight are on the downtown Oakland-downtown Hayward spine: Interstate 880 (at interchanges), International Boulevard, Foothill Boulevard, State Route 185 (East 14th), MacArthur Boulevard, Bancroft Avenue, Hesperian Boulevard and State Route 238.

Table 2.8 | Pedestrian collisions by primary road, 2004–2008

Source: SWITRS

Road	*Jurisdiction(s)*	*Collisions*
International Boulevard	Oakland	144
State Route 185 (East 14th Street)	San Leandro, Hayward, uninc. Alameda County	82
Foothill Boulevard	Oakland	81
Interstate 880 (at interchanges)	Oakland, San Leandro, Hayward, Fremont	73
MacArthur Boulevard	Oakland, San Leandro	70
Telegraph Avenue	Berkeley, Oakland	70
Martin Luther King Jr. Way	Berkeley, Oakland	53
Hesperian Blvd.	San Leandro, Hayward, uninc. Alameda County	52
Bancroft Avenue	Oakland, San Leandro	51
San Pablo Avenue	Albany, Berkeley, Emeryville, Oakland	51
Shattuck Avenue	Berkeley, Oakland	49
Fremont Boulevard	Fremont	42
State Route 238	Fremont, Hayward, Union City	40

Figure 2.17 | Map of pedestrian collisions, 2004–2008



Collisions by planning area

Figure 2.18 below shows each planning area's share of the county's pedestrian collisions from 2004 to 2008 against its share of walk trips from 2000 (see Appendix J for data for each local jurisdiction).

- The North planning area's share of the county's pedestrian collisions (64%) is roughly in balance with its share of the county's walk trips (63%). The same is true for the East planning area (6% versus 7%)
- The Central planning area's share of the county's pedestrian collisions (22%) is higher than its share of the county's walk trips (17%).
- The South planning area has a lower share of collisions (9%) than of walk trips (13%).

Yet another method of trying to examine collision rates, rather than just absolute numbers, is to chart collisions per 100 pedestrian commuters against each planning area's share of collisions (see Figure 2.19 and Appendix J; commute trips represent only a minority of trips but there is more data about commuters than about other travelers).

- The North planning area has the highest share of pedestrian collisions (64%) but the second fewest collisions per 100 pedestrian commuters (2.62). Seen this way, the North area is safer for pedestrians than it appears based solely on absolute numbers, at least as far as traffic conditions.
- The Central planning area has the most collisions per 100 pedestrian commuters (5.30).
- The jurisdictions with the lowest rates of collisions per 100 pedestrian commuters are Berkeley (1.16), Piedmont (1.77)and Union City (1.95).
- The jurisdictions with the most collisions per 100 pedestrian commuters are Hayward (10.29) and San Leandro (7.44).

Figure 2.18 | Share of pedestrian collisions (2004–2008) and walk trips by planning area

Sources: SWITRS, BATS2000

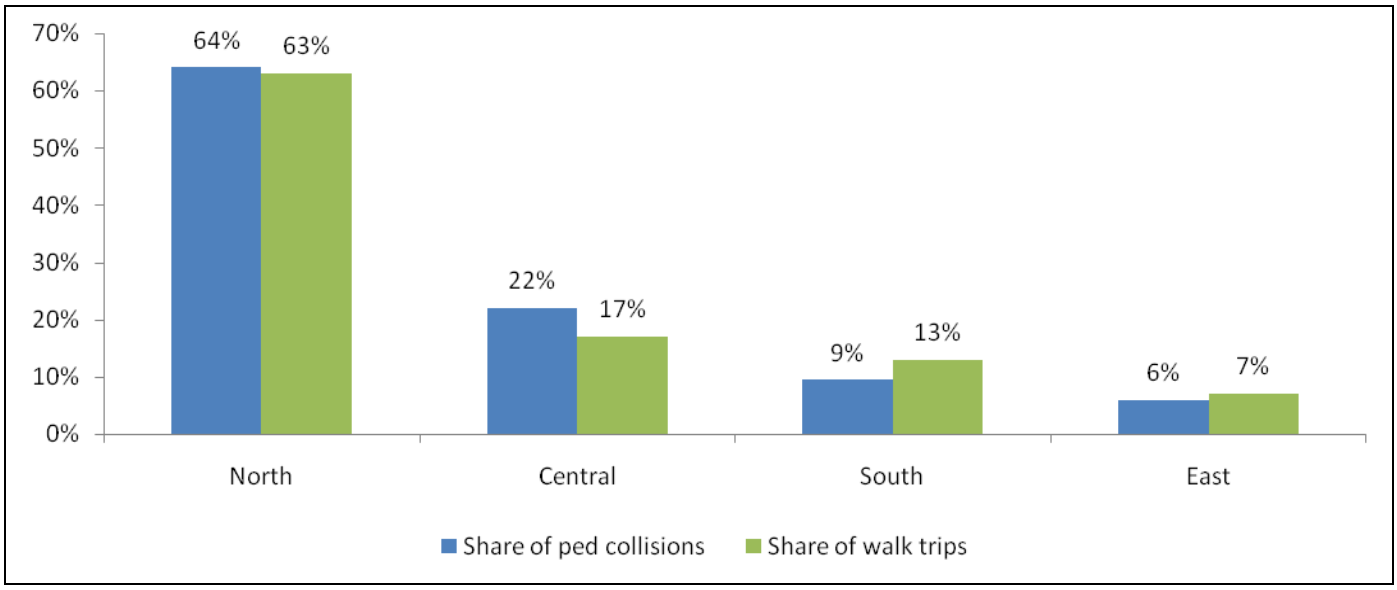
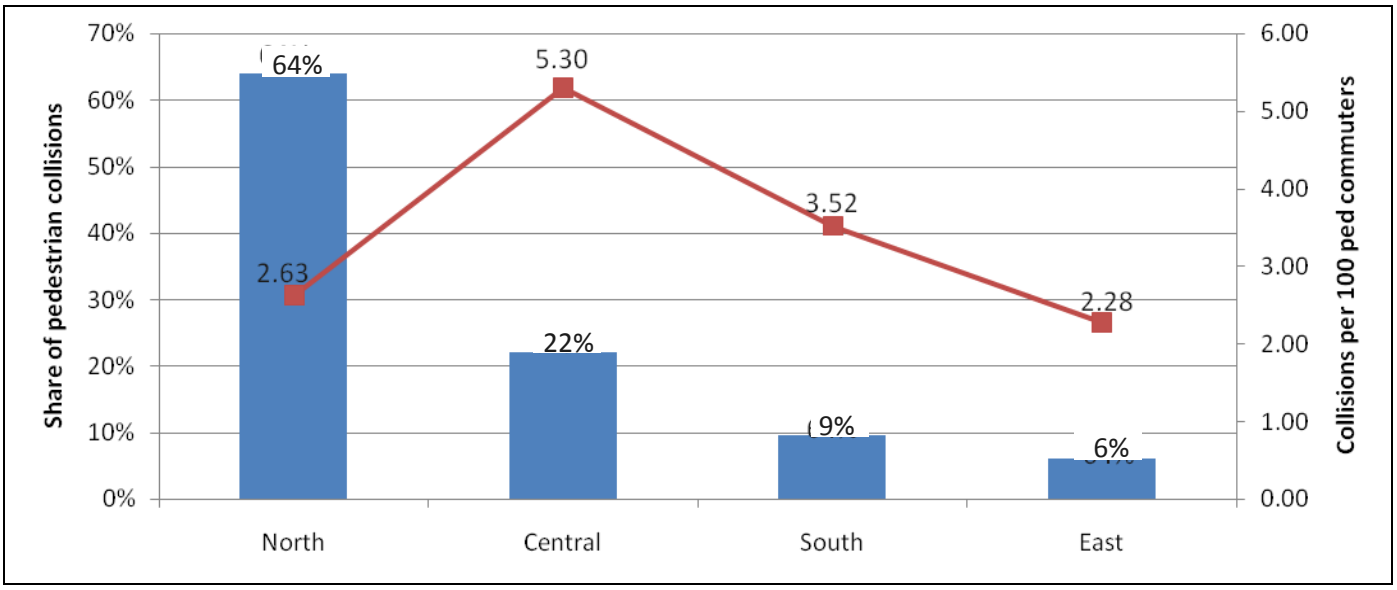


Figure 2.19 | Share of pedestrian fatalities and injuries per 100 pedestrian commuters, 2004–2008

Sources: SWITRS; 2000 Census, 2006-2008 ACS



Collisions by age group

Table 2.9 below shows the number of pedestrians who were killed or injured in Alameda County in 2004–2008 in each of several age groups.

- Children (17 years old and under) made 35% of all walk trips (see Figure 2.2) but represented only 27% of pedestrians killed or injured.
- The elderly (65 years old and older) made 6.2% of all walk trips but represented more than one-tenth the fatalities and injuries (10.6%).

Table 2.9 | Pedestrian fatalities and injuries by age group, 2004–2008

Source: SWITRS

Age group	*Pedestrians killed or injured*	*As percent of total*
Children (0-17)	**957**	**26.6%**
0–4	*115*	*3.2%*
5–13	*475*	*13.2%*
14–17	*367*	*10.2%*
Adults (18–64)	**2,258**	**62.8%**
Seniors (65+)	**382**	**10.6%**
Total	**3,597**	**100%**

Collisions by time of day

Time of day provides another lens through which to view pedestrian collisions (see Table 2.10).

- In 2004–2008, almost 40% of pedestrian fatalities and injuries from collisions occurred in the afternoon and evening, a period covering only four hours (4–8 pm).
- One-quarter of pedestrian fatalities and injuries occurred in the mid-day hours (10 am–3 pm).
- The morning and night each experienced 18% of fatalities and injuries.

Table 2.10 | Pedestrian fatalities and injuries by time of day, 2004–2008

Source: SWITRS

Time of day	*Pedestrians killed or injured*	*As percent of total*
Morning (6–10 am)	638	18%
Mid-day (10 am–3 pm)	899	25%
Afternoon/eve (4–8 pm)	1,412	39%
Night (8 pm–6 am)	647	18%
Total	**3,596**	**100%**

Collisions by party at fault

Table 2.11 below breaks down driver–pedestrian collisions in Alameda County by party at fault and violation of the Vehicle Code.

Table 2.11 | Code violations in vehicle–pedestrian collisions, 2004–2008

Source: SWITRS

Driver at fault	**60%**
Pedestrian right-of-way*	40%
Unsafe speed	6%
Improper turning	5%
Unsafe starting or backing	4%
Driving under the influence	2%
Improper passing	1%
Other	1%
Pedestrian at fault	**29%**
Pedestrian violation	27%
Auto right-of-way**	2%
Other/unknown/not stated	**11%**

* Driver failing to stop for or yield to a pedestrian, for example in a crosswalk.

** Pedestrian failing to stop for or yield to a driver, for example at a driver's green light.

- The driver was found at fault more than twice as often as the pedestrian (60% compared to 29%).
- By far the most common code infraction was drivers' violation of the pedestrian right-of-way, such as failing to stop for a pedestrian walking in a crosswalk. This accounted for 4 in 10 violations.

Pedestrians' share of fatalities

As mentioned earlier, pedestrians, along with bicyclists, are the most vulnerable users of the transportation system. Figure 2-20 below shows the pedestrian share of all traffic fatalities in the county.

- From 2000–2008, pedestrians made up 24% of all traffic fatalities in Alameda County; this is more than twice the county's walk mode share of 11%.
- From 2000–2004, the pedestrian share of fatalities fluctuated between 20% and 28% but in 2004–2007, it declined steadily from 28% to 17%.
- In 2008, the pedestrian share of fatalities more than doubled from 17% the year before to 39%.

Figure 2.20 | Pedestrians as percentage of all traffic fatalities, 2000–2008

Source: SWITRS

Personal security and crime

In the discussion of traffic collisions, it is easy to overlook another important component of safety: the effect on walking of real or perceived threats to personal security. Crime is a powerful deterrent against walking, particularly at night, in isolated areas, in areas with high crime rates, and among certain groups of people including women, seniors and people with disabilities.

Like concerns about traffic safety, crime concerns can lead to a vicious cycle of fewer people on the street making people feel less safe and resulting in even fewer people walking. Making design and maintenance improvements —including pedestrian-level lighting, landscaping that is low to the ground, walkways near other activities and a well-maintained environment— can go a long way toward alleviating fears and crime levels. It is also important for public agencies and the general public to collaborate with law enforcement officials to prevent crime, and to ease concerns and fears when crime rates do not reflect perceptions of safety.

Data on crime against pedestrians is difficult to obtain and compile. Such statistics are collected by nearly 20 individual police departments in Alameda County and there is no reporting standard or central repository for this information.

Local planning, programs and advocacy

Local plans

Pedestrian plans at the local level are important because it is local jurisdictions that are responsible for planning, designing, constructing and maintaining pedestrian facilities. For this reason, one of the strategies in the 2006 Countywide Plan was to "ensure that all Alameda County jurisdictions have adopted a current pedestrian plan by 2012." At that time, just five jurisdictions had adopted local pedestrian or pedestrian/bicycle plans, and three pedestrian plans were underway. Since 2006, five additional cities completed stand-alone pedestrian or combined pedestrian/bicycle plans and two were in the process of developing a plan as of June 2012 (see Appendix M, and Table 3.3 in the "Evaluation of Plans, Policies and Practices" chapter, for more detailed information on local pedestrian plans).

- Three cities that were in the process of developing stand-alone pedestrian plans—Alameda, Berkeley and Fremont—completed and adopted them.
- Additionally, Pleasanton and Albany began and have completed pedestrian/bicycle plans.
- Newark has a combined pedestrian/bicycle plan underway.
- Four cities—Piedmont, Hayward, Dublin and Livermore—remain without a pedestrian or pedestrian/bicycle plan.
- In addition, all jurisdictions have adopted ADA transition plans; these are plans describing any structural or physical changes needed to make a public entity's programs and services accessible.
- Related to local planning, the following jurisdictions and agencies have standing pedestrian or pedestrian/bicycle advisory committees: Berkeley, Emeryville, Fremont and Oakland.

Local support programs

The focus in pedestrian planning is often on building capital projects. However, support programs are also important because they get more people out walking and using the projects, and make sure they are safe doing it. Local jurisdictions in Alameda County administer a broad range of pedestrian support programs to complement their facility-building efforts. These programs can be grouped under the categories of safety, law enforcement, education, promotion or encouragement, safe routes to school and traffic-calming. Below is a summary of jurisdictions sponsoring various types of programs (based on responses received from the local jurisdictions). Programs that were started after the 2006 Pedestrian Plan was adopted are marked as "new:"

Safety

- **Walking audit:** Alameda County, Albany, Piedmont, Berkeley (new) and San Leandro (new)
- **Pedestrian safety education campaign:** Alameda County, Berkeley (new), Dublin, Fremont and San Leandro

Law enforcement

- **Pedestrian/bicycle traffic safety officers:** Alameda County
- **Pedestrian/bicycle enforcement activities:** Eleven jurisdictions: Alameda County, Albany, Berkeley, Dublin, Emeryville (new), Fremont, Hayward, Livermore, Oakland, Pleasanton and San Leandro (new). These activities include "crosswalk stings," in which a plain-clothes police officer crosses the street and another officer gives warnings or tickets to drivers who fail to yield.

Education

- **Inform motorists on pedestrian/bicycle laws:** Albany, Berkeley, Dublin (new) and San Leandro
- **Traffic curriculum:** Albany (new), Berkeley (new), Fremont, Dublin (new) and San Leandro

Promotion/encouragement

- **Walks and tours:** Albany, Berkeley, Fremont, Hayward, Oakland, Piedmont (new) and Pleasanton
- **Walking maps:** Berkeley, Emeryville and Oakland

Safe Routes to School

- Every local jurisdiction except Emeryville and Piedmont participate in the countywide Safe Routes to School (SR2S) program through the SR2S Partnership (described below).

Traffic calming

- Six jurisdictions (Alameda, Berkeley, Emeryville, Newark, Pleasanton and San Leandro) have a substantial traffic-calming program, with a dedicated funding source.
- Five jurisdictions (Alameda County, Albany, Fremont, Livermore and Oakland) have a traffic-calming program but with no dedicated funding source.
- Four jurisdictions (Dublin, Hayward, Piedmont and Union City) do not have a traffic-calming program.

Multi-jurisdictional support programs

In addition to the local programs, there are two support programs of note that serve the entire county or multiple cities:

- **Safe Routes to Schools (SR2S) Alameda County Partnership** (www.transformca.org/sr2s). This program promotes walking and biking to school to students at more than 85 public elementary schools in the county. It is led by Alta Planning and TransForm, with funding from Alameda CTC and MTC.
- **Tri-City Senior Walk Clubs,** providing social and recreational opportunities for seniors in Fremont, Newark and Union City. Club participants follow a multiple week curriculum that encourages walking and promotes its health benefits, teaches awareness of pedestrian safety and personal security, and trains participants to identify and advocate for pedestrian improvements in their neighborhoods).

Advocacy efforts

Pedestrian advocacy seeks to encourage government to improve the walking environment and to encourage more people to walk more often. While bicycle advocacy has surged in the past 20 years, pedestrian advocacy is still small, but growing. A likely reason for this difference is that everyone walks to some extent, and therefore few people identify themselves as "pedestrians," requiring special attention and support. That said, pedestrian advocacy has grown in Alameda County since 2006.

Perhaps the main development in the past five years is the formation of Walk Oakland, Bike Oakland (www.walkoaklandbikeoakland.org), an advocacy group focused solely on the largest city in the county. In June 2010, the group organized Oaklavía (http://oaklavia.org), the closure to car traffic of several blocks in downtown Oakland for strolling, bicycling and other recreational activities. The event was the first example of a "ciclovia" or "Sunday Streets" event in Alameda County. Other advocacy efforts active in the county, include:

- Walkable Neighborhoods for Seniors (sponsored by United Seniors of Oakland and Alameda County; www.usoac.org/wn4s/index.htm)
- Pedestrian Friendly Alameda (active in the city of Alameda; www.pedfriendly.org)
- Albany Strollers and Rollers (focused on improving walking and biking in Albany (sites.google.com/site/albanystrollersandrollers)
- Berkeley Path Wanderers Association
- Berkeley Walk and Roll
- Berkeley Center for Independent Living

Local funding, infrastructure and program needs

As described in the next section on implementation of the 2006 Pedestrian Plan, almost every local jurisdiction cites lack of funding as a major barrier to making pedestrian improvements. In that context, funding needs for pedestrian projects is an important existing condition that can help determine the countywide funding and program priorities.

As part of developing this update to the Countywide Pedestrian Plan, local jurisdictions were asked to estimate their foreseeable funding need for pedestrian (and bicycle) projects. Appendix N provides their responses. The table includes the costs to complete all the capital pedestrian and bicycle projects planned in the local jurisdictions. Excluding two jurisdictions which did not know or report a cost, this figure is roughly $520 million; of this, $219 million, or more than 40%, was reported by the largest city in the county, Oakland. The table also includes the costs of the jurisdictions' top priority pedestrian and bicycle projects for the next three years (approximately $136 million for 14 jurisdictions), and the unfunded portion of these costs ($68 million for 13 jurisdictions).

Finally, the table in Appendix N provides the jurisdictions' average annual maintenance expenditure for sidewalk repairs, curb ramps and other pedestrian and bicycle facilities ($6.7 million for 14 jurisdictions) and the annual funding gap for maintenance ($17.2 million for 13 jurisdictions). That the maintenance funding gap is much greater than annual expenditures likely indicates substantial deferred maintenance of facilities due to insufficient funds.

In addition, the local agency questionnaire also asked local jurisdictions to select from a list their highest-priority or most pressing pedestrian infrastructure needs. Table 2.12 below lists the answers provided by the jurisdictions.

Table 2.12 | Local jurisdictions' infrastructure needs

Need	*Number of responses*
ADA improvements, including curb ramps	14
Improving intersection safety for pedestrians or bicyclists	11
Upgrading/maintaining sidewalks	10
Filling in gaps in the sidewalk network	9
Improving pedestrian/bicycle access to schools	9
Improving pedestrian/bicycle access to transit	6
Building Class I multi-use pathways	5
Improving pedestrian/bicycle access in and around commercial areas	1

The local agency questionnaire also asked local jurisdictions to choose their highest-priority or most pressing pedestrian programmatic needs. Table 2.13 below lists the answers provided by the jurisdictions.

Lastly, the five community-based transportation plans (CBTPs) that have been completed for areas of Alameda County propose 45 pedestrian and/or bicycle projects (see the "Evaluation of Plans, Policies and Practices" chapter for more information on the CBTPs). Appendix O lists these projects, including cost estimates and their relative priority.

Table 2.13 | Local jurisdictions' programmatic needs

Need	*Number of responses*
Obtaining grant funding for projects	13
Creating safe routes to school plans	9
Developing or updating a pedestrian master plan	8
Launching a safe routes to school program	5
Adding or increasing pedestrian/bicycle staff	4
Creating local pedestrian/bicycle maps	3
Implementing a complete streets policy	2
Pedestrian/bicycle training for agency staff	2
Assembling a pedestrian/bicycle advisory committee	1
Developing a traffic calming program	0

Implementation of the 2006 plan

The 2006 Countywide Pedestrian Plan laid out priorities, goals and near-term next steps for implementing the plan. Although progress on implementation is sometimes difficult to track, much has been accomplished since the county's first pedestrian plan was adopted.

Capital projects

Three areas of countywide significance were established for capital projects in the 2006 plan: access to major transit, access to major activity centers, and inter-jurisdictional trails. In 2010, local jurisdictions were polled on pedestrian improvements that had been built during the previous five fiscal years (2005/06 to 2009/10) in these areas of countywide significance. Varying levels of responses were received, making this list of projects more than likely incomplete (see Appendix P for a detailed list of implemented projects):

- Although only six (out of fifteen) jurisdictions reported on implemented projects, it is likely that all jurisdictions made at least some capital improvements in an area of countywide significance, since these areas are so broad.
- One jurisdiction, Oakland, reported a majority of the projects (22 out of 37).
- The break-down by city and number projects is: Alameda (city), 2; Livermore, 5; Oakland, 22; Pleasanton, 2; San Leandro, 4; and Union City, 2.
- 21 projects were located in public-transit areas of countywide significance, that is, within a half mile of rail stations, ferry terminals or major bus routes.
- 15 projects were in or near activity centers of countywide significance (areas within downtowns and major commercial districts, and near shopping centers, post-secondary educational institutions, hospitals and medical centers, major public venues, government buildings and regional parks).
- 11 projects were inter-jurisdictional trails of countywide significance. These included 6 Bay Trail projects (which completed approximately 9 miles of trails) and 4 Iron Horse Trail projects.
- Projects can be located in more than one of area of countywide significance.

Support programs

- Safe Routes to Schools (SR2S) Alameda County Partnership.
- Tri-City Senior Walk Clubs.
- For both programs, see the earlier section on multi-jurisdictional support programs for details.

Progress on "Next Steps" from 2006 plan

The 2006 Pedestrian Plan identified eight priority implementation activities for the five years following adoption of the plan, or the 2006-2010 period. These "next steps" were primarily the responsibility of ACTIA (now Alameda CTC), although it was expected that several would require partnering with local jurisdictions and other agencies. Below is a summary of the progress that has been made on the eight priority activities.

1. Prioritize funding investments of countywide significance

- Incorporated the priorities from the 2006 plan into the criteria for countywide discretionary pedestrian and bicycle funding, so as to focus the countywide funds on the plan priorities.
- Became a partner in the national Active Transportation legislative effort to bring additional

funding for pedestrian, bicycle and access to transit improvements.
- Worked with MTC to implement their Routine Accommodation policy within the county.

2. Elevate importance of pedestrian planning

- Funded three local pedestrian master plans with bicycle/pedestrian funding from Measure B.
- Initiated this update to the Countywide Pedestrian Plan.
- Incorporated the priorities from the 2006 plan into the updates to the 2008 Countywide Transportation Plan and the 2009 Regional Transportation Plan.

3. Support programs shown to be effective

- Funded the establishment and continued operation of the countywide Safe Routes to Schools program, begun in 2007.
- Funded the expansion of TravelChoice, an individualized marketing program, into Berkeley; and also the development of the next iteration of the program, called TravelChoice New Residents, which is aimed at new housing developments.

4. Strengthen the link between walking and public transit

- Continues to coordinate with the county's transit agencies, which includes participating on project Technical Advisory Committees as requested.
- Funded multiple transit access projects with countywide discretionary bicycle/pedestrian funding, such as streetscape improvements near BART stations, pedestrian wayfinding signage near rail stops and the proposed East Bay Greenway.

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

- Continued to collaborate with the public health department on grants, planning efforts and information-sharing.
- Funded the completion of segments of the Bay Trail, along with feasibility studies on two segments of the Iron Horse Trail.
- Funded two efforts to implement the East Bay Greenway: a feasibility study of the Union Pacific Railroad right-of-way as a future trail, and the environmental review and implementation strategy for the first phase of the Greenway.

6. Create an ongoing pedestrian technical advisory committee

- Launched the Pedestrian Bicycle Working Group in 2007, which continues to meet 2-4 times per year.

7. Invest in education and training

- Organized a half-day Bicycle and Pedestrian Conference (2009).
- Began hosting the monthly webinars of the Association of Bicycle and Pedestrian Professionals (2008 to present).
- Updated the Toolkit for Improving Walkability in Alameda County (2009).

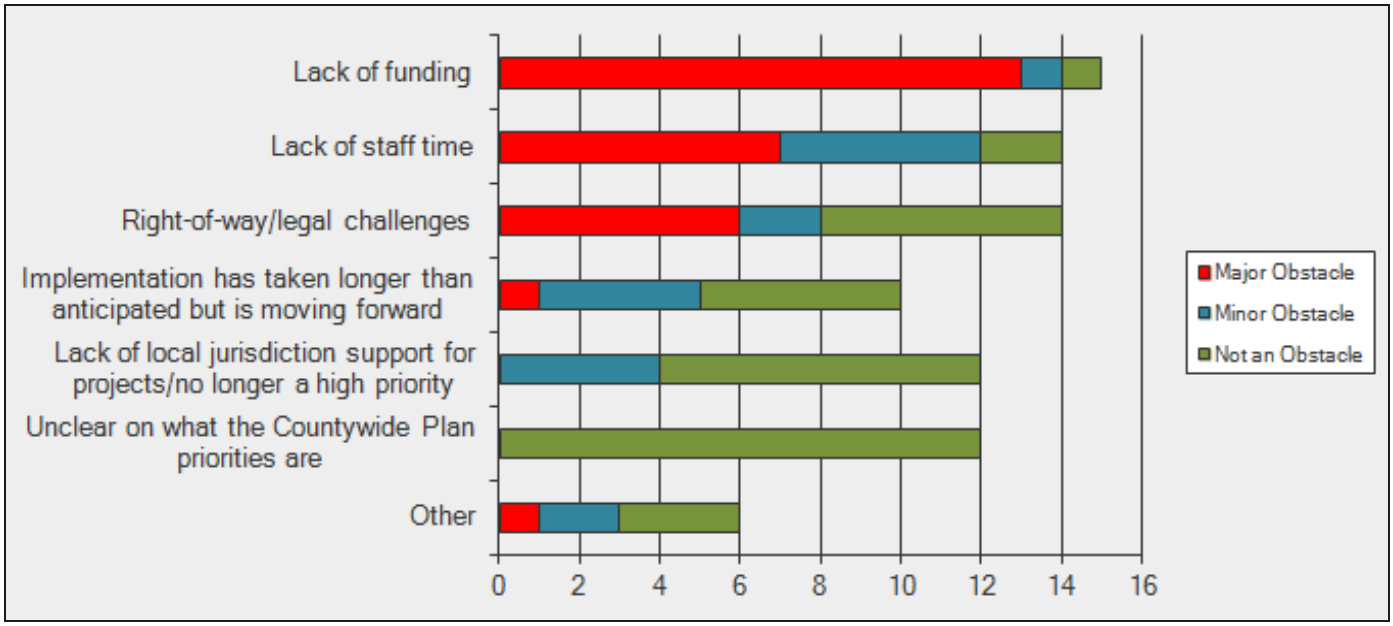
8. Develop technical tools

- Held information-sharing sessions at the Pedestrian Bicycle Working Group meetings on a variety of technical topics. No specific tools have been developed to date.

Challenges encountered

In the 2010 local agency questionnaire (to which all 15 jurisdictions responded), local jurisdictions were asked to identify challenges they have encountered in implementing the priorities identified in the 2006 Countywide Pedestrian Plan. The most commonly cited implementation challenges by far were insufficient funding and staff time and right-of-way constraints (see Figure 2.21 below).

Figure 2.21 | Implementation challenges encountered by local jurisdictions



- Perhaps not surprisingly, every jurisdiction (except Dublin) cited inadequate funding for projects as a major challenge.
- Also not surprisingly, given budget cuts at the local level, the following five jurisdictions identified inadequate staff time, and lack of staff resources in general, as major obstacles to implementation: Oakland, San Leandro, Hayward, Newark and Pleasanton.
- Significant right-of-way challenges were reported by San Leandro, Fremont, Pleasanton and Dublin.
- Additionally, Oakland suggested the need for better coordination with resurfacing projects; Pleasanton—which is dealing with projects adjacent to waterways—mentioned lack of interagency coordination as a significant challenge; and San Leandro, Hayward and Newark cited lack of community or jurisdictional support as minor challenges.

3 | EVALUATION OF PLANS, POLICIES AND PRACTICES

Introduction

Over the past decade, transportation policy in Alameda County has become more supportive of walking. All jurisdictions in the county, as well as transportation agencies at the county, regional, state and federal levels, now have plans or policies that promote nonmotorized transportation. At the same time, a number of emerging policy areas—including complete streets, climate action, smart growth and active transportation—are giving further policy support to walking.

The purpose of this chapter is to review the key plans, policies and practices at the local, county, regional, state and federal levels that affect walking in Alameda County. The review covers the most relevant planning documents, policy efforts and agency practices, as well as institutional issues identified by the local jurisdictions. This chapter summarizes the plans, policies and practices, and evaluates them with an eye toward how they promote or hinder walking. It discusses practical challenges encountered by agencies in implementing their plans, policies and projects, and suggests ways to overcome those challenges. Because the policy context surrounding nonmotorized transportation has changed substantially since 2006—when the first Countywide Pedestrian Plan was adopted—special attention is paid to relevant policy areas that have emerged or advanced in importance in the past six years.

> A number of emerging policy areas—including complete streets, climate action, smart growth and active transportation—are giving further policy support to walking.

Ultimately, the Countywide Pedestrian Plan will be adopted by Alameda CTC and implemented in collaboration with jurisdictions and other public agencies, non-profits and advocacy groups in the county. Now that Alameda CTC has merged the transportation planning, coordination, technical assistance and funding functions of the CMA and ACTIA, there are opportunities to maximize the agency's impact on walking. For this reason, the suggestions in this chapter focus on how Alameda CTC can promote nonmotorized transportation and assist other agencies to do the same; emphasis is placed on assisting local jurisdictions, which are responsible for implementing most pedestrian capital projects. The suggestions in this chapter were evaluated and those that are implementable in the near future were developed into specific recommendations and implementable actions in the plan's "Next Steps" chapter.

Emerging policy areas

The policy context surrounding nonmotorized transportation has changed substantially in the few years since 2006. This section reviews four policy areas that have emerged or advanced in importance in recent years: (i) complete streets; (ii) climate action; (iii) smart growth, including Priority Development Areas (PDAs) and Growth Opportunity Areas (GOAs); and (iv) active transportation. These efforts are still new enough that they are either still in the developmental stages or have just begun being implemented, making it difficult to evaluate their impact on the ground. However, as explained below, they all will likely contribute significantly to improving the policy landscape for walking in coming years. Emerging state and regional policies provide opportunities to find ways to balance the county's requirements to reduce traffic congestion while making progress on walking improvements to create a transportation system that serves all modes.

Complete streets

"Complete streets" describes roadways that are planned, designed, operated and maintained for safe and convenient access by all users—including pedestrians, bicyclists and transit riders—and in ways that are appropriate to the function and context of the facility. "Routine accommodation" is a related concept that has similar meaning, but has been replaced by the term complete streets in most contexts. It is the practice of considering the needs of pedestrians and bicyclists habitually in the planning, design, funding and construction of transportation projects.

According to the National Complete Streets Coalition (www.completestreets.org), more than 200 cities, counties, states and federal agencies have adopted complete streets policies, almost all of them in the past five years. Because these policies are so recent, it is difficult to assess their impact or effectiveness. None of the 15 local jurisdictions in Alameda County have stand-alone policies on complete streets, though several mention the concept in their local pedestrian and/or bicycle master plans, or general plans.

California Complete Streets Act of 2008

In future years, all jurisdictions will have to incorporate complete streets into their planning. Assembly Bill 1358, the California Complete Streets Act of 2008, requires "that the legislative body of a city or county, upon any substantive revision of the circulation element of the general plan, modify the circulation element to plan for a balanced, multimodal transportation network that meets the needs of all users [including] motorists, pedestrians, bicyclists, children, persons with disabilities, seniors, movers of commercial goods, and users of public transportation…." This provision of the law went into effect on January 1, 2011. The law also directs the Governor's Office of Planning and Research to amend its guidelines for the development of circulation elements so as to assist cities and counties in meeting the above requirement.

> "Complete streets" describes roadways that are planned, designed, operated and maintained for safe and convenient access by all users and in ways that are appropriate to the function and context of the facility.

AB 1358 can be expected to result in a new generation of circulation elements and a surge in complete streets policies and ordinances around the state as general plans are updated over time, beginning in early 2011. Fremont is the only local jurisdiction in Alameda County to have updated its circulation element since the act took effect. In addition, the general plans of some of the other jurisdictions already address complete streets, directly or indirectly, and may be compliant with the new law. MTC has recently established a deadline for all local jurisdictions in the Bay Area to be compliant with the state Complete Streets Act by late 2014, in order to be eligible for MTC funding.

MTC Complete Streets Policy

In 2006, the Metropolitan Transportation Commission (MTC) adopted Resolution Number 3765, now referred to as the MTC Complete Streets Policy, outlining a policy that projects funded all or in part with regional funds "shall consider the accommodation of bicycle and pedestrian facilities, as described in Caltrans Deputy Directive 64" (see below) in the full project cost. The policy requires project-sponsoring agencies—including Alameda CTC and

local jurisdictions—to submit a completed checklist evaluating pedestrian (and bicycle) facility needs as part of the planning and design of each transportation project submitted for funding to MTC.

The checklist "is intended for use on projects at their earliest conception or design phase so that any pedestrian or bicycle consideration can be included in the project budget." The checklist also serves to bring the project designer's attention to the needs of pedestrians, and to inform the public on how well projects accommodate walking. MTC's funding decisions are not contingent on how the checklists are completed.

MTC's policy also requires congestion management agencies (CMAs), such as Alameda CTC, to forward all submitted project checklists to their bicycle and pedestrian advisory committees (BPACs) for review. There are several ways in which Alameda CTC could consider improving its compliance with this requirement, as listed below.

- **MTC complete streets policy and checklist:** www.mtc.ca.gov/planning/bicyclespedestrians/routine_accommodations.htm

Suggestions

- Encourage local agencies to submit completed checklists as much in advance of project decisions as possible; submitting checklists to the BPACs with ample time to allow for more thorough review and comment, and for project sponsors to respond adequately.
- Investigate feasibility of tracking checklists and projects on line to streamline time and efficiency.
- Conduct field reviews to confirm that pedestrian accommodations were constructed as indicated in the project checklists.

In May 2012, MTC established the OneBayArea Grant (OBAG) with Resolution Number 4035, which includes a requirement that all local jurisdictions adopt a complete streets policy resolution by January 31, 2013, or have a general plan that complies with the state Complete Streets Act of 2008, in order to receive state and federal funds in the next funding cycle. For future funding cycles, local jurisdictions must also comply with the state's complete streets general plan requirement by October 2014, to be eligible for funds.

Alameda CTC Complete Streets Policy

In 2006, Alameda CTC adopted MTC's Routine Accommodation policy (Resolution 3765; see below) when it adopted the previous Countywide Bicycle Plan, which incorporated the resolution. The policy was also adopted into the agency's Congestion Management Program (CMP). Alameda CTC currently considers pedestrians when it develops a transportation project that could impact walking negatively. However, this approach may not be consistent for all projects. Additionally, even recommended accommodations may not appear in a final project for several reasons, including limited funding and conflicts with the facility design standards of Caltrans or local agencies.

Alameda CTC intends to pursue the adoption of a comprehensive internal agency complete streets policy, which would integrate the idea of complete streets into agency practices. In early 2012, Alameda CTC updated all of its agreements with local agencies for their local sales tax pass-through and vehicle registration fee funding, and included a requirement for local jurisdictions to adopt a complete streets policy by June 30, 2013. The agency is working to support local jurisdictions in their development and implementation of complete streets policies that meet its, and MTC's new, requirements.

Caltrans' Complete Streets Policy

In 2001, the California Department of Transportation (Caltrans) adopted Deputy Directive 64 (DD-64), Accommodating Nonmotorized Travel, which established a routine accommodation policy for the department. A revised directive adopted in 2008 as

DD-64-R1, entitled Complete Streets—Integrating the Transportation System, significantly strengthened the policy beyond just "considering" the needs of pedestrians and bicyclists. Among the responsibilities that Caltrans assigned to itself under the revised directive are:

- Ensure pedestrian, bicycle and transit interests are appropriately represented on interdisciplinary planning and project delivery development teams.
- Ensure pedestrian, bicycle and transit user needs are addressed and deficiencies identified during system and corridor planning, project initiation, scoping, and programming.
- Ensure incorporation of pedestrian, bicycle and transit travel elements in all plans and studies.
- Promote land uses that encourage pedestrian, bicycle and transit travel.
- Research, develop, and implement multimodal performance measures.

After adoption of this policy, it was noted that more guidance was needed on which roadway projects to review for impacts on bicyclists and pedestrians, how to review them, at what stage of project development and, most importantly, how to provide for bicyclists and pedestrians, especially if local or countywide plans do not identify nonmotorized transportation priorities in the area. Caltrans' design guidance documents—for example, its Highway Design Manual—did not universally coincide with the department's complete streets policy.

In part to address these issues, Caltrans adopted the Complete Streets Implementation Action Plan in 2010. The plan sets forth actions under seven categories to be completed by various Caltrans districts and divisions within certain timelines to institutionalize complete streets concepts and considerations within the department. The action categories include updating departmental plans, policies and manuals; raising awareness; increasing opportunities for training; conducting research projects; and actions related to funding and project selection. As one of its implementation actions, Caltrans updated the Highway Design Manual in large part to incorporate multi-modal design standards.

- **Deputy Directive 64-R1:** http://www.dot.ca.gov/hq/tpp/offices/ocp/complete_streets_files/dd_64_r1_signed.pdf
- **Caltrans' Complete Streets Implementation Action Plan:** http://www.dot.ca.gov/hq/tpp/offices/ocp/complete_streets_files/CompleteStreets_IP03-10-10.pdf

Suggestions

- Educate local jurisdictions on the relevance of Caltrans' Complete Streets Implementation Action Plan to local streets and roads, and on its relationship to the Highway Design Manual (discussed in a later section).
- Alameda CTC could work with local jurisdictions to develop a list of Caltrans highway overcrossings, undercrossings and at-grade crossings that might benefit from improvements for pedestrians. This could help Caltrans identify opportunities to accommodate nonmotorized transportation.

Climate action

The past five years has seen an expansion of legislative and planning efforts in California to reduce emissions of greenhouse gases (GHGs) in order to mitigate climate change. Assembly Bill 32, the California Global Warming Solutions Act of 2006, aims to reduce the state's GHG emissions to 1990 levels by 2020 and to 80 percent below 1990 levels by 2050. Meanwhile, Senate Bill 375, passed into law in 2008, is the first in the nation that will attempt to control GHG emissions by directly linking land use to transportation. The law required the state's Air Resources Board (ARB) to develop regional targets for reductions in GHG emissions from passenger vehicles for 2020 and 2035 as a way of supporting the targets in AB32.

> The past five years has seen an expansion of legislative and planning efforts in California to reduce emissions of greenhouse gases in order to mitigate climate change.

The GHG emission reduction targets adopted in 2010 by ARB for the Bay Area are 7% per capita by 2020 and 15% per capita for 2035, relative to 2005 levels. Each of the 18 metropolitan planning organizations in California—including the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG)—have prepared a sustainable communities strategy (SCS) for meeting the emission reduction targets in its region through transportation and land use actions that reduce the number of vehicle

miles traveled. In the Bay Area, this strategy is called the "Jobs-Housing Connection Strategy." It is expected to take several years before AB 32 and SB 375 begin to transform Alameda County's transportation or land use patterns. The main way in which these laws are expected to support walking is through implementation of the Bay Area's long-term Regional Transportation Plan (RTP), a 28-year planning document. As a part of the broader SCS, the RTP (and therefore the Countywide Transportation Plan, CWTP) were designed to meet the GHG emission reduction targets. The RTP and CWTP are discussed later in this chapter.

- **Website for the Bay Area's SCS:** http://www.onebayarea.org

Table 3.1 | Local climate action plans

Jurisdiction	*Year of adoption*	*Webpage*
North Planning Area		
Alameda (city)	2008	http://www.cityofalamedaca.gov/getdoc.cfm?id=24
Albany	2010	http://www.albanyca.org/index.aspx?page=256
Berkeley	2009	http://www.cityofberkeley.info/climate
Emeryville	2008	http://www.ci.emeryville.ca.us/index.aspx?nid=338
Oakland	In progress	http://www2.oaklandnet.com/Government/o/PWA/s/SO/OAK025294
Piedmont	2010	http://www.ci.piedmont.ca.us/climate.shtml
Central Planning Area		
Alameda County (uninc.)	In progress	http://www.acgov.org/sustain/next/plan.htm
Hayward	2009	http://www.ci.hayward.ca.us/green-hayward/climate-action-plan
San Leandro	2009	http://www.sanleandro.org/depts/cd/plan/default.asp
South Planning Area		
Fremont	In progress	http://www.fremont.gov/index.aspx?NID=432
Newark	2010	http://www.newark.org/residents/going-green
Union City	2010	http://www.union-city.ca.us/green_city/Climate%20Action%20Plan.html
East Planning Area		
Dublin	2010	http://www.ci.dublin.ca.us/index.aspx?NID=665
Livermore	2010	http://www.cityoflivermore.net/citygov/cd/planning/cap/default.asp
Pleasanton	2012	http://www.ci.pleasanton.ca.us/pdf/FinalCAP2-1-12.pdf

At the local level, every jurisdiction in Alameda County has adopted or is in the process of adopting a climate action plan or similar document (see Table 3.1). Also, many jurisdictions have established a climate action program to implement their plan. All of the plans that are available in final or draft form propose pedestrian facilities and programs among their strategies to meet their climate action goals. Due to the recent adoption of the plans (the first one was adopted in February 2008), it is too early to evaluate their impact or effectiveness to date. The extent to which local climate action plans will result in the implementation of pedestrian projects depends on many factors, including funding availability, political will and the GHG reduction potential of nonmotorized transportation projects compared to that of other projects. A major potential roadblock is the need for additional research on the GHG reduction benefits of walking, including cost-benefit analyses, the relative cost-effectiveness of different nonmotorized transportation strategies, and comparisons of such strategies against other types of projects.

Suggestion

- Provide technical assistance to help local jurisdictions implement their climate action plans and evaluate their effectiveness.

Priority Development Areas and Growth Opportunity Areas

Priority Development Areas (PDAs) are areas within existing communities that have been identified by local jurisdictions and approved by ABAG as most appropriate for infill development. The objective of PDAs is to create more housing, jobs, retail and services in pedestrian-friendly environments served by transit. According to ABAG, PDAs could accommodate as much as half of the Bay Area's projected housing growth through the year 2035. For these reasons, PDAs could result in a significant increase in the number of walking trips in Alameda County.

> The objective of PDAs is to create more housing, jobs, retail and services in pedestrian-friendly environments served by transit.

PDAs are eligible for extra regional and state funding for planning and capital projects if they create more housing, jobs, retail and services in pedestrian-friendly environments served by transit. As of early 2012, there were a total of 42 PDAs designated in 14 of the 15 jurisdictions in Alameda County; they are listed below. Approximately two fifths of the PDAs contain bus hubs, and all BART stations in the county, except North Berkeley, are located in a PDA.

- **Priority Development Area Showcase (FOCUS):** http://www.bayareavision.org/pda
- **Alameda County PDAs:** http://www.alamedactc.org/app_pages/view/8495

Growth opportunity areas (GOAs) are areas where local jurisdictions expect new growth to occur. Development in PDAs is either dependent on or more likely to occur with funding and other support from regional agencies such as MTC and ABAG. Development in GOAs, on the other hand, is expected to occur regardless of regional policies and resources.

Table 3.2 | PDAs and GOAs in Alameda County

All are PDAs unless indicated otherwise in parentheses

Alameda County (unincorporated): Urban Unincorporated Area, Castro Valley BART, East 14th Street and Mission Boulevard Mixed Use Corridor, Hesperian Boulevard, Meekland Avenue Corridor
Alameda (city): Alameda Naval Air Station, Northern Waterfront
Albany: San Pablo Avenue/Solano Avenue Mixed Use Neighborhood
Berkeley: Downtown, San Pablo Avenue, South Shattuck, University Avenue, Adeline Street, Telegraph Avenue
Dublin: Downtown Specific Plan Area, Town Center, Transit Center/Dublin Crossing
Emeryville: Mixed Use Core
Fremont: Centerville, City Center, Irvington, Ardenwood Business Park (GOA), Fremont Boulevard & Warm Springs Boulevard Corridor (GOA), Fremont Boulevard Decoto Road Crossing (GOA), Warm Springs (GOA)
Hayward: The Cannery, Downtown, South Hayward BART Station, Carlos Bee Quarry (GOA), Mission Boulevard Corridor
Livermore: Downtown, East Side PDA, Isabel Avenue/BART Station Planning Area
Newark: Dumbarton Transit Area, Old Town, Cedar Boulevard Transit (GOA), Civic Center Re-Use Transit (GOA)
Oakland: Coliseum BART Station Area, Downtown and Jack London Square, Eastmont Town Center, Fruitvale/Dimond Areas, MacArthur Transit Village, West Oakland, TOD Corridors
Pleasanton: Hacienda
San Leandro: Downtown, East 14th Street, Bay Fair BART Transit Village
Union City: Intermodal Station District, Mission Boulevard (GOA), Old Alvarado(GOA)

In 2004, ACCMA (one of Alameda CTC's predecessors), approved goals to encourage the connection between transportation and land use in Alameda County. These goals, which were included in a set of "goals and characteristics" of Transit-Oriented

Development, are to: (i) promote infill transit-oriented and walkable communities and compact development, as appropriate, and support the development of multi-family housing, mixed-use development and alternative transportation adjacent to transit centers; (ii) strengthen transit use and alternative modes of transportation, and increase connectivity between them; and, (iii) improve and maintain existing infrastructure and support future investments that promote smart growth, including access improvements to transit. In support of these goals, Alameda CTC administers a Transit-Oriented Development Technical Assistance Program (TOD TAP), which helps project sponsors overcome barriers to TOD implementation.

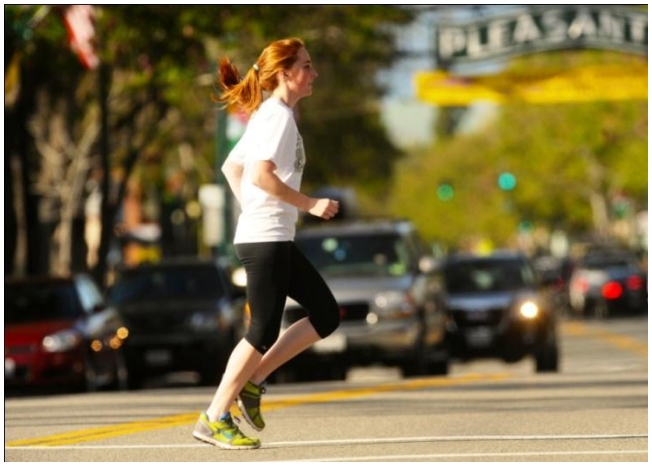
Suggestions

- Alameda CTC could strengthen its smart growth efforts by providing technical assistance, design guidelines, and resources to local jurisdictions on the planning and design of pedestrian-friendly developments (reduced travel speeds, for example, should be considered in areas where walking is especially encouraged).
- More ambitiously, Alameda CTC could condition some of the funding it provides to local jurisdictions on the achievement of land use-related objectives. As an example of this, Contra Costa's Measure J, the county's half-cent sales tax for transportation, requires that local jurisdictions comply with the county's Growth Management Program (GMP) to be eligible for funding under two of Measure J's programs. Among the requirements of the GMP is that each jurisdiction "incorporate policies and standards into its development approval process that support transit, bicycle and pedestrian access in new developments." To help local jurisdictions comply with this requirement, the Contra Costa Countywide Bicycle and Pedestrian Plan references and provides links to a number of design guidelines and similar resources.
- Encourage infill-appropriate areas not located within PDAs to build compact, pedestrian- friendly developments.
- Encourage local jurisdictions to promote the U.S. Green Building Council's "LEED for Neighborhood Development" certification among developers.

Active transportation

"Active transportation" is a relatively new term encompassing walking, bicycling and access to transit, which places emphasis on the health, environmental and other benefits of these forms of travel, while also stressing that walking and bicycling serve utilitarian, not just recreational, purposes. The concept has been advanced by the growing recognition that multi-use trails serve in part as transportation facilities. Important regional trail and open space plans such as the Bay Trail Plan, the East Bay Regional Park District's Master Plan and the San Francisco Bay Conservation and Development Commission's Bay Plan acknowledge and support the dual recreation/transportation function of multi-use trails throughout the Bay Area.

Alameda CTC administers a number of projects and programs in support of its active transportation effort and is seeking funding for others. Two examples of current efforts are a countywide safe routes to schools program and an initiative to build the East Bay Greenway and complete other countywide trails. As well, Alameda CTC was a partner in the national Active Transportation Campaign, created to support a program to provide large investments in walking and bicycling that would shift people from driving to walking, biking and transit.



As a result of this campaign, in 2010 the Active Community Transportation Act was introduced in the House of Representatives to create a $2 billion program as part of the next federal transportation bill. The program was intended to provide grants of $25 million to $75 million to dozens of communities nationwide for projects and programs that would

increase walking and bicycling. To position itself to compete for funding, Alameda County developed an Active Transportation Plan detailing how a possible $50 million in new funding could make a substantial impact on walking and bicycling in the county. The plan established three priorities: promote access to transit; connect communities with urban greenways; and develop promotional and educational campaigns to encourage walking and bicycling. The goals from the Active Transportation Plan were incorporated into this plan's goals (see "Vision and Goals" chapter). After a new Congress was elected in the fall 2010, the Active Community Transportation Act was not re-introduced, making it very unlikely that this program will be included in the next federal transportation bill.

Suggestion

- Alameda CTC could develop guidelines for conducting "health impact assessments" of its large-scale transportation plans and projects. These assessments, analogous to environmental impact assessments, would evaluate impacts on conditions related to public health and to walking such as injuries and fatalities, air pollutant exposure and premature mortality, greenhouse gas emissions, and traffic-related noise and stress.

Transportation plans

Local pedestrian master plans

Because they have authority over most land within their boundaries, local jurisdictions plan, design and construct the majority of pedestrian capital projects. In Alameda County, these jurisdictions include 14 cities and the County, which administers the unincorporated areas. All 15 jurisdictions support nonmotorized transportation through the goals and policies of the circulation element of their general plan. In addition, many of the jurisdictions have prepared pedestrian master plans to provide more specificity to the information in their circulation element related to nonmotorized transportation. Some of the jurisdictions have stand-alone pedestrian plans while others have combined pedestrian/bicycle plans.

Table 3.3 below summarizes the local pedestrian (and/or bicycle) plans in Alameda County, as indicated by the year in which the plan was, or is expected to be, adopted. All jurisdictions except Dublin, Hayward, Livermore and Piedmont have an adopted or in-progress pedestrian plan (either stand-alone or combined). The final section of this chapter, further below, outlines the most common challenges encountered by local jurisdictions in implementing their pedestrian plans and, more generally, in improving the environment for users of nonmotorized transportation.

Alameda Countywide Transportation Plan and Transportation Expenditure Plan

The Countywide Transportation Plan (CWTP) is a long-range policy document that guides decisions and articulates the vision for the County's transportation system. It sets policies, guides decision-making and, perhaps most importantly, establishes priorities for capital projects and programs, and strategic initiatives. The CWTP was last updated in 2012, slightly ahead of the Countywide Pedestrian and Bicycle Plan updates; this latest CWTP has a horizon year of 2040.

The updated CWTP provided the foundation for a Transportation Expenditure Plan (TEP) outlining nearly $7.8 billion in transportation projects that would be implemented over the next 30 years if the County's existing half-cent sales tax for transportation is augmented and extended in November 2012 by the voters. Under the TEP, over 8% of net revenue from the sales tax would be dedicated to pedestrian and bicycle projects and programs. The TEP would fund, or contribute towards funding:

- Completion and maintenance of the three major trails in Alameda County—the Iron Horse Trail, Bay Trail and East Bay Greenway—and of local connectors and access routes.
- Direct, "pass-through" funding to the local jurisdictions, based on their share of population, for pedestrian and bicycle projects and programs. Emphasis will be on completing high-priority projects in local pedestrian and bicycle master plans but the jurisdictions will be expected to also implement projects from the Countywide Pedestrian and Bicycle Plans.

Table 3.3 | Local pedestrian and bicycle plans (with year of adoption)

Jurisdiction	*Bicycle plan*	*Pedestrian plan*
North planning area		
Alameda (city)	2010	2009
Albany	2012*	
Berkeley	2005	2010
Emeryville	2012*	
Oakland	2007	2002
Piedmont	--	--
Central planning area		
Alameda County (uninc. areas)	2012*	
Hayward	2007	--
San Leandro	2010*	
South planning area		
Fremont	2012	2007
Newark	Expected in 2012*	
Union City	2006*	
East planning area		
Dublin	2007	--
Livermore	2001	--
Pleasanton	2010*	
Total (adopted + underway)	**13 + 1**	**10 + 1**

* Combined bicycle and pedestrian plan

- Competitive grants to local jurisdictions and other eligible agencies for such purposes as implementing projects in the Countywide Pedestrian and Bicycle Plans and in community-based transportation plans; trail maintenance; and projects that improve walking and bicycling access to schools. The funds will also be used to hire a countywide pedestrian and bicycle coordinator.
- In addition, pedestrian projects would be funded through two other TEP programs: local streets and roads, and sustainable transportation and land use linkages.

▶ **Alameda Countywide Transportation Plan:** http://www.alamedactc.org/app_pages/view/795

Regional Transportation Plan

Just as the Countywide Transportation Plan incorporates the priorities of local jurisdictions, the Regional Transportation Plan (RTP) incorporates priority projects and programs from the nine counties that make up the Bay Area, and establishes the funding priorities for the region. MTC is in the process of updating the RTP, which will have a horizon year of 2040. The updated RTP will be different from previous versions in that the new plan will incorporate a Sustainable Communities Strategy (SCS) for the Bay Area. The SCS is a state-mandated effort to meet GHG emission reduction targets through transportation and land use actions that reduce the number of vehicle miles traveled.

The SCS/RTP adopted 15 performance targets against which to evaluate various long-range transportation and land use scenarios. Three of these targets especially concern walking. They are: (i) Reduce by 50% the number of injuries and fatalities from all collisions; (ii) Increase the average daily time walking or biking per person for transportation by 70%; and (iii) Increase the non-auto mode share by 26%. The preferred scenario was approved in May 2012, and the final SCS/RTP is due for adoption in April 2013.

- **Website for the Bay Area's SCS:** http://www.onebayarea.org

Community-based transportation plans

In 2002, MTC launched its Community-Based Transportation Planning program. The goal of the program is to engage low-income Bay Area communities in identifying barriers to mobility, and evaluating options and setting priorities to overcome these barriers. Community-based transportation plans (CBTPs) are developed through a collaborative planning process that involves residents, community- and faith-based organizations, local agencies, transit operators, county congestion management agencies and MTC. A CBTP contains a demographic analysis of the area; a list of prioritized transportation gaps and barriers; strategies or solutions to address identified gaps; and a list of potential funding sources for implementation. Five CBTPs have been completed in Alameda County: West Alameda (city), Central and East Oakland, South and West Berkeley, Central Alameda and West Oakland.

> The goal of MTC's Community-Based Transportation Planning program is to engage low-income Bay Area communities in identifying barriers to mobility, and evaluating options and setting priorities to overcome these barriers.

Given the broad goal of CBTPs to improve mobility for low-income, senior, youth and disabled populations, transit and paratransit have been a strong emphasis of these plans. In addition, each of the Alameda County CBTPs contains recommended nonmotorized transportation projects and programs. These plans are typically focused on access to transit and key community facilities. For example, the South and West Berkeley CBTP recommended access improvements to the Ashby BART station and improved pedestrian crossings near senior centers. As for all transportation projects, implementation of the CBTPs contends with limited funding. Implementing these projects also requires coordination among several parties, such as jurisdictions and transit operators, which creates additional challenges to completing projects.

- **MTC's Community-Based Transportation Planning program:** http://www.mtc.ca.gov/planning/cbtp

Suggestion

- Alameda CTC should support implementation of the pedestrian projects in the CBTPs by incorporating them into the priorities of this plan.

Other policies and practices

Congestion Management Program, deficiency plans and countywide transportation model

State law requires that congestion management agencies develop and update a Congestion Management Program (CMP) for monitoring and improving the designated transportation network. In Alameda County, Alameda CTC prepares the CMP for a network of 232 miles of freeways, highways and arterials. The CMP legislation requires a certain minimum level-of-service on all CMP routes.

In addition to monitoring and guiding improvements for the countywide roadway network, the Alameda County CMP encourages the use of travel demand management (TDM) strategies (including pedestrian-related programs). TDM strategies are intended to support mobility, improve air quality and meet land use and economic objectives in the CMP. Local jurisdictions are responsible for adopting site design guidelines that will improve pedestrian, bicycle and transit access, and for implementing capital improvements to reduce traffic congestion and vehicle emissions. Alameda CTC monitors their compliance with these requirements.

Alameda CTC requires local jurisdictions to prepare deficiency plans for segments of the CMP roadway network that do not meet adopted level-of-service (LOS) standards. Deficiency plans provide an opportunity to analyze the causes of congestion and identify alternative solutions to restore LOS. As part of the deficiency plans, local governments may include and prioritize system-wide and non-capital strategies for relieving congestion, including public transit and nonmotorized transportation improvements, and travel demand management measures.

Despite this flexibility, meeting the CMP LOS requirements can be challenging as the need to reduce traffic congestion may not always easily accommodate other transportation modes (where the right-of-way is constrained) and mitigation measures designed for drivers can degrade conditions for pedestrians when only localized improvements are made.

In this context, a new option was added to the 2011 CMP update to allow local jurisdictions to develop area-wide deficiency plans. The goal is to allow an analysis of, and improvements to, system-wide LOS involving all modes, for a larger geographic area. This will provide added flexibility to address all modes in the LOS performance.

Suggestions

- Investigate developing and applying a multi-modal approach to measuring or addressing LOS that meets consistent objectives, and could be tailored to apply to different areas of the county.
- Encourage and support improved long-term coordination between transportation and land use decisions by local jurisdictions along CMP routes.
- Review and develop options for harmonizing policies for infill development areas, or Priority Development Areas, and the CMP requirements.
- Overlay the CMP network on the vision pedestrian system to determine overlapping segments where TDM strategies, pedestrian projects, and system-wide and non-capital strategies could be prioritized for maintaining LOS standards.

Alameda CTC maintains a countywide transportation demand model to determine future demand for transportation facilities and services. The model is used to analyze the impacts of development projects on the transportation system. The model inputs are based on socio-demographic data supplied by ABAG at the census tract level, which are then disaggregated to the finer "traffic analysis zones" by Alameda CTC with review by local jurisdictions. In addition to vehicle trips, Alameda CTC's model can estimate total pedestrian and bicycle trips in a given area. Recently, MTC has developed a more comprehensive travel demand model that estimates multi-modal trips, including pedestrian (and bicycle) trips.

Suggestions

- When the Alameda Countywide travel demand model is next updated, it could be modified to enhance the prediction of future pedestrian trips. This feature would help identify and prioritize areas and corridors where nonmotorized transportation improvements are most needed.
- As an alternative, Alameda CTC could consider developing a simple and less expensive spreadsheet sketch model of pedestrian demand forecasting.
- As an approach to developing a better internal understanding of the countywide travel demand model's and LOS standard's impacts on pedestrian projects, Alameda CTC could lead, in collaboration with a local jurisdiction, a road diet study, or other study, possibly along a CMP network segment. The goal would be to develop specific recommendations to improve the model and LOS standards.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires that project-sponsoring public agencies

evaluate and disclose the potential environmental impacts of their development projects. Due to requirements to mitigate traffic congestion and address air quality, CEQA sometimes results in the degradation of conditions for pedestrians when roadway changes are made to improve automobile level of service (LOS). An example of a mitigation measure to reduce auto traffic impacts could be to widen intersections or add traffic lanes. These measures could reduce traffic congestion while making streets less pedestrian-friendly. With its focus on reducing auto traffic congestion by preserving capacity for cars, CEQA can also make it hard to implement higher-density, infill and other types of smart growth developments, as well as removal of car travel lanes to allow room for pedestrian facilities, such as wider sidewalks and traffic calming measures.

To resolve some of the LOS-related issues, a number of jurisdictions have adopted flexible automobile LOS standards. San Jose and Yuba City, for example, accept a lower LOS in their downtown; the City of Chico allows a lower LOS in built-out areas served by transit; and Sacramento County allows lower LOS inside its "urban services boundary." For its residential streets, Pleasanton uses a "quality of life LOS," which considers the amount of cut-through auto traffic, traffic speeds, peak-hour and average daily traffic volumes, ease of crossing the street and the ease of exiting driveways.

Due to requirements to mitigate automobile traffic congestion and address air quality, CEQA sometimes results in the degradation of conditions for pedestrians when roadway changes are made to improve automobile level of service.

The Governor's Office of Planning and Research, in 2009, revised the CEQA guidelines in several ways that lessen, though they do not eliminate, the law's bias toward reducing traffic congestion:

- The old guidelines asked if the project caused an increase in auto traffic compared to existing traffic; the new guidelines ask if the project conflicts with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the entire circulation system.
- Instead of asking if the project exceeds a LOS established by the county congestion management agency, the new guidelines ask if the project conflicts with an "applicable congestion management program, including but not limited to LOS and travel demand measures, or other standards."
- The new guidelines no longer consider inadequate parking capacity as a potential impact.

Lastly, the process to obtain CEQA clearance can be lengthy and expensive, which adds to the cost of a proposed project. Implementation of San Francisco's bicycle plan, for example, was frozen for four years, until mid-2010, when opponents sued over the project's CEQA review. The result has been uncertainty among local jurisdictions about the level of environmental clearance needed for bicycle (and pedestrian) plans. This uncertainty might discourage some jurisdictions from pursuing robust or controversial nonmotorized transportation projects so as to avoid a burdensome CEQA scenario.

Suggestions

- Alameda CTC could help local jurisdictions overcome CEQA-related obstacles to the implementation of pedestrian projects by providing technical assistance and/or countywide best practices on:
- The level of environmental review recommended for different types of pedestrian plans and projects.
- Alternatives to automobile LOS thresholds.
- Trip-generation methodologies appropriate for smart growth development projects.
- Ways to streamline the CEQA review process or even to exempt some projects outright.
- Thresholds of significance for pedestrian projects.
- Although most CEQA-related policies would need to be adopted by local jurisdictions, by developing these tools, best practices and guidelines, Alameda CTC can assist local jurisdictions with defining how CEQA can be implemented without degrading, and possibly even improving, the pedestrian environment.

Highway Design Manual

The Highway Design Manual (HDM), developed by Caltrans, establishes both mandatory and advisory standards for the design of state highways in

California. The manual's many sections address all aspects of roadway design, including geometries, intersections and interchanges, pavement, drainage and noise abatement.

Because the manual is concerned with state routes—which primarily serve drivers—it overlooks many issues related to the design of pedestrian facilities and of complete streets. As a result, its standards and guidelines are not always appropriate for local streets and roads, especially those where walking is encouraged. Nevertheless, many local jurisdictions follow the HDM when designing their roadways. This could be because local-agency staff do not realize that they may deviate from the HDM (except for the bikeway and trail design guidance in Chapter 1000) or are not familiar with alternative roadway design manuals.

- **Highway Design Manual:** http://www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm

Suggestions

- Alameda CTC could develop design guidance for local streets and roads or promote existing alternative design standards and guidelines.
- Work with Caltrans to educate local-agency staff on opportunities to deviate from the HDM for the design of local roadways.
- Educate local jurisdictions on the relevance of the HDM to local streets and roads and on its relationship to Caltrans' Complete Streets Implementation Action Plan (discussed in an earlier section).

California Manual on Uniform Traffic Control Devices

The Manual on Uniform Traffic Control Devices (MUTCD) is a document published by the Federal Highway Administration specifying standards for the design, installation and use of traffic signs, signals and road-surface markings. The MUTCD was last updated in December 2009. California uses its own version of the manual, which conforms substantially to the federal MUTCD. Caltrans updated the California MUTCD to incorporate the 2009 federal MUTCD in January 2012.

The new California MUTCD incorporated a number of improvements related to pedestrian signage and markings. Some of the more significant changes to the manual are listed below.

- Reduced recommended walking speed for calculating pedestrian clearance time from 4 feet per second to 3.5 feet per second, with some exceptions.
- Required new countdown signals for most new pedestrian signals.
- Included allowable variations of "Yield Here to Pedestrians."
- Added pedestrian hybrid beacon (also known as a HAWK signal) as allowable device.
- Provided new guidelines on marking medians for ADA access.
- Provided new guidance on pedestrian pushbutton location.
- Required warning school signs to be fluorescent yellow-green.
- Included a new combined pedestrian/bicycle warning sign.

- **Federal Manual on Uniform Traffic Control Devices:** http://mutcd.fhwa.dot.gov/pdfs/2009/pdf_index.htm
- **California Manual on Uniform Traffic Control Devices:** http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/ca_mutcd2012.htm

Suggestion

- Alameda CTC could work with the local jurisdictions to promote the development of new infrastructure designs not included in the California MUTCD, by supporting local experimentation with new devices and infrastructure, modeled on the federal program. This could include financial incentives and technical assistance. Alameda CTC could begin the process by identifying, and focusing on, the types of issues that are not being addressed well with current infrastructure options.

Issues identified by local jurisdictions

As mentioned earlier, most pedestrian capital projects in Alameda County, and many support programs, are implemented by the 15 local jurisdictions (the County

and 14 cities). With this in mind, the questionnaire administered to local agencies as part of the data-gathering effort to update the Countywide Pedestrian and Bicycle Plans asked staff to identify the challenges they most commonly encounter in implementing projects and, more generally, in improving the environment for users of nonmotorized transportation. The three implementation challenges most commonly cited as a "major obstacle" were: (i) inadequate funding (mentioned as a major obstacle by eight jurisdictions); (ii) shortage or absence of trained staff (mentioned by five); and, (iii) conflicts with other public agencies (also mentioned by five). At the October 2010 meeting of the Alameda County Bicycle and Pedestrian Plans Working Group, attended by representatives from agencies throughout the county, members were asked to elaborate on each of the three obstacles. Below is a summary of this discussion and some suggested ways to address the obstacles.

> The three challenges most commonly cited as a "major obstacle" to the implementation of pedestrian facilities were inadequate funding, shortage or absence of trained staff, and conflicts with other public agencies.

Inadequate funding

A lack of funding for staffing and for implementation of capital projects and programs is inhibiting the development of walking improvements. Funding is especially limited now due to budgetary cutbacks at public agencies. Many projects for nonmotorized transportation in capital improvement programs are unfunded or only partially funded. Jurisdictions with dedicated pedestrian planners need funding for engineering staff to design funded projects (in other words, to make them "construction ready"). Jurisdictions that do not have dedicated staff also tend to lack funding for capital projects because they do not have the staff resources to apply for grant funds. All jurisdictions lack adequate funding to maintain their pedestrian facilities. This has a ripple effect, discouraging agencies from constructing new facilities so as not to add to their maintenance burden.

As a funding agency, Alameda CTC is committed to helping local jurisdictions obtain funds for pedestrian projects. Key reasons why Alameda CTC developed this plan include advocating for increased funding, prioritizing projects so as to invest its funds more effectively and positioning projects to compete more strongly for other sources of funding.

Suggestion

- Create a countywide fund for local maintenance needs for nonmotorized transportation facilities, as has been done in Marin County.

Shortage or absence of trained staff

Only two jurisdictions represented in the discussion—Berkeley and Oakland—have full-time pedestrian or bicycle staff. In all other jurisdictions, these duties are assumed by planners or engineers with many other responsibilities, some of which might be a higher priority. In jurisdictions where the pedestrian or bicycle coordinator is a planner, design and project management staff is in short supply; where the coordinator duties are held by an engineer, long-range planning and grant-writing can be bottlenecks. Some grant opportunities require extensive staff time to prepare applications; this is onerous for all jurisdictions but makes it especially difficult for smaller agencies to compete for funding.

Often there are insufficient staff resources to deliver funded projects. Project grants above approximately $1 million tend to justify the hiring of staff for implementation but smaller grants generally do not. Even when funds are available, many local jurisdictions are unable to hire staff or even interns, due to hiring freezes or budget concerns. At the same time, hiring and managing consultants is time-consuming for staff.

Suggestions

- Identify flexible funding that may be used for staffing rather than for projects.
- Provide training and other technical assistance on nonmotorized transportation to engineering staff as a way to compensate for the shortage of dedicated pedestrian planners.
- For large-scale, multi-jurisdictional projects, Alameda CTC could be the project lead, as it has done for some capital highway and corridor projects and for the East Bay Greenway.

Conflicts with other public agencies

In some areas, a jurisdiction's best opportunities for new pedestrian facilities are on rights-of-way—such as canals, creeks, highways and railroad corridors—controlled by other agencies. However, such projects tend to be much more challenging to implement than projects on property owned or controlled by the jurisdiction. This is usually because of limited staff resources to deal with multiple responsible agencies (which reinforces the previously mentioned concern of a shortage or absence of trained staff). As a result, some good project opportunities tend not to be prioritized or even pursued. In particular, projects that need federal environmental clearance require specially trained staff, which many agencies do not have, or consultants; either way, the requirements increase a project's complexity and costs.

Suggestions

- Provide training or other technical assistance to local-agency staff on inter-agency coordination.
- In addition to being the project lead for large-scale multi-jurisdictional projects (mentioned above), Alameda CTC could serve as an inter-agency facilitator or moderator for smaller-scale projects.
- Work with local Caltrans staff to pro-actively improve walking (and bicycling) conditions along Caltrans at-grade highways.

4 | VISION AND GOALS

Walking in Alameda County in 2040

Alameda County will be a community that inspires people of all ages and abilities to walk for everyday transportation, recreation and health. A system of safe, attractive and widely accessible walking routes and districts will be created by interconnected pedestrian networks, strong connections to transit and pedestrian-friendly development patterns.

The vision for 2040

The vision statement (above) is an ambitious yet achievable description of what walking in Alameda County could be like roughly 30 years from now, in 2040, if the Pedestrian Plan is successfully implemented. The 2006 vision statement was brief and incorporated the desire for safe, attractive, accessible and connected facilities and pedestrian districts, and the importance to walkability of public transit and land use patterns. The updated vision statement slightly revises the 2006 vision statement for clarity and succinctness. Attaining the vision will require a strong and sustained commitment of finances and resources by not only Alameda CTC but also other agencies, advocates and local jurisdictions in the county.

Goals and strategies

This chapter also defines a set of five goals and more than 40 strategies to guide the actions and decisions of Alameda CTC in implementing the plan and, more generally, in supporting walking in the county. The goals are broad statements of purpose meant to support realization of the vision. They provide guidance to Alameda CTC and set the overall directions on the general areas in which the agency should concentrate its efforts related to walking.

Under each goal is a set of more specific and detailed strategies that should enable Alameda CTC, and the county, to attain that goal. The strategies serve as the basis for countywide funding priorities and specific actions, or "next steps," developed later, in the chapters on countywide priorities and implementation; as such, they are the bridge between the general goals and implementable actions.

Together, the goals and strategies generally define the roles and responsibilities of Alameda CTC—and, to a lesser extent, of other agencies and organizations—in implementing the Pedestrian Plan. This plan also

establishes five performance measures that will be used to monitor progress toward attaining the plan goals. The performance measures are discussed in the "Next Steps" chapter.

This plan update builds on the goals and strategies from the 2006 plan, which were developed with significant participation from a working group and several Alameda CTC committees. In summary, the seven 2006 goals were to, (1) increase the number and percentage of walking trips; (2) improve pedestrian safety and security; (3) improve pedestrian infrastructure; (4) make key destinations accessible to pedestrians; (5) support planning and research on walking; (6) inform and train public-agency staff and officials on pedestrian issues; and, (7) maximize funding for pedestrian projects, programs and plans. In general, Alameda CTC's pedestrian-related decisions and priorities since 2006 have been guided by these broad, overarching goals.

> This chapter also defines a set of five goals and more than 40 strategies to guide the actions and decisions of Alameda CTC in implementing the plan and, more generally, in supporting walking in the county.

The former goals were used as a starting point, and reviewed closely for validity, relevance and applicability in the context of this plan update, in particular against background information gathered for the "Existing Conditions" and "Evaluation of Plans, Policies and Practices" chapters. The seven goals from the 2006 plan were consolidated into a more manageable set of five; also, they were revised to ensure, to the extent practicable, that they can be monitored. In the process, overlapping strategies were combined and collapsed. The goals and strategies were updated to reflect recent policy changes discussed in the "Evaluation of Plans, Policies and Practices" chapter affecting the practice of pedestrian planning. These policy changes include recent efforts to promote active transportation and public health, and to address climate change.

As mentioned earlier, the goals and strategies define Alameda CTC's roles and responsibilities in implementing the Pedestrian Plan. Alameda CTC influences walking in the county in many ways: though funding decisions for all transportation projects, by allocating funds for pedestrian projects, via policy decisions, by providing technical assistance and also by coordinating the efforts of local jurisdictions. Nevertheless, Alameda CTC relies heavily on the cooperation of other agencies—especially Caltrans, the County, the cities and various special districts—to accomplish the goals and strategies outlined here. It is these agencies, rather than Alameda CTC, that are primarily responsible for planning, designing and constructing pedestrian facilities and for carrying out support programs. For this reason, the goals and strategies in the Pedestrian Plan are meant to support those adopted by other relevant agencies and are not limited to areas over which Alameda CTC has jurisdiction. This approach recognizes that other agencies play a critical role in implementing the Pedestrian Plan and achieving its vision.

The goals, listed below, are organized into five thematic areas. The goals mirror those in the updated Countywide Bicycle Plan, as appropriate, as a way to stress the complementarity and synergies between the two plans.

Goal areas

1. Infrastructure and design
2. Safety, education and enforcement
3. Encouragement and promotion
4. Planning
5. Funding and implementation

❶ Infrastructure and design

Create and maintain a safe, convenient, well-designed and inter-connected pedestrian system, with an emphasis on routes that serve transit and other major activity centers and destinations.

1.1 Focus countywide funding on pedestrian improvements that provide access to key destinations including transit, downtowns, commercial areas, colleges and universities, regional parks, healthcare facilities and other community services, particularly in higher-density, transit-oriented areas.

1.2 Support the design and construction of pedestrian infrastructure that serves a broad

range of travel purposes, income levels, abilities and ages, including school-aged children, seniors and people with disabilities.

1.3 Focus funding for pedestrian infrastructure on those improvements that are most effective at increasing walking.

1.4 Provide funding and technical assistance to local jurisdictions for the implementation of pedestrian projects of countywide significance that create continuous facilities and eliminate major physical barriers or impediments.

1.5 Collaborate with and promote coordination among Caltrans and local agencies to implement pedestrian infrastructure of countywide significance.

1.6 Promote a network of multi-use urban pathways by supporting construction of the East Bay Greenway and completion of the San Francisco Bay Trail, the Iron Horse Trail and other paved inter-jurisdictional trails that connect and serve populated areas.

1.7 Encourage and support the construction of "complete streets" throughout Alameda County that incorporate best practices in pedestrian design and minimize conflicts between pedestrians and other travel modes.

1.8 Encourage local jurisdictions to adopt policies, guidelines, standards and regulations that result in pedestrian-friendly communities, and, where applicable, transit-oriented land use development; and provide them with technical assistance and resources to do so.

1.9 Support local agency compliance with provisions related to public access of the Americans with Disabilities Act, Manual on Uniform Traffic Control Devices and other relevant guidance documents.

1.10 Promote collaboration between local jurisdictions and transit operators to improve walking routes to stations and stops, and provide funding for such projects.

1.11 Support improving the state of the practice of pedestrian infrastructure design so that all transportation facilities are well-designed and standardized, as appropriate, including by encouraging local agencies to develop and follow pedestrian design guidelines and amend local ordinances as appropriate to reflect them.

1.12 Support local jurisdictions in testing and installing innovative design treatments that tackle walking safety and convenience issues not addressed in standard guidelines.

1.13 Continue to provide training programs, resources, and technical tools for city and county staff on pedestrian planning and engineering best practices.

❷ Safety, education and enforcement

Improve pedestrian safety and security through engineering, education and enforcement, with the aim of reducing the number of pedestrian injuries and fatalities, even as the number of people walking increases.

2.1 Collect and analyze data on traffic collisions involving pedestrians to determine trends, rates, hot spots and impacted communities, and use this information to guide planning and funding decisions to focus on areas and communities with the greatest need.

2.2 Provide funding for intersection enhancements, traffic calming, improved lighting and other pedestrian safety and

security projects that address deficiencies in those locations with the highest collision rates and security issues.

2.3 Provide technical assistance and other tools to local jurisdictions for selecting priority areas for pedestrian safety and security improvements, and planning and designing safer streets and facilities.

2.4 Support and encourage efforts by state, County and local agencies to adopt and enforce laws that aim to protect pedestrians from collisions with motor vehicles.

2.5 Support the delivery of effective pedestrian safety education programs for a variety of audiences, including seniors, drivers and bicyclists.

2.6 Support the expansion of the countywide Safe Routes to Schools program to every elementary and middle school in the county and to high schools, and encourage local school districts and jurisdictions to implement projects, activities and events that promote walking to school among both students and staff.

2.7 Create a countywide campaign targeted to increase walking by seniors that coordinates and expands on the many existing local walking clubs, safety programs and travel trainings for seniors.

❸ Encouragement and promotion

Support programs that encourage people to walk for everyday transportation and health, including as a way to replace car trips, with the aim of raising the number and percentage of trips made by walking.

3.1 Work with all levels of public agencies, non-profits and advocacy groups to implement effective encouragement programs that promote walking as a safe and convenient form of transportation among a broad range of potential users, including seniors and people with disabilities.

3.2 Enhance public awareness of the health benefits of walking and of walking as a physically active form of transportation and an environmentally sustainable transportation option that can help Alameda County and its jurisdictions meet their greenhouse gas reduction goals.

3.3 Provide funding through grants for informational and promotional materials such as walking maps and trip-planning services.

3.4 Promote the integration of walking into broader countywide transportation demand management programs and serve as a resource to employers on promotional information and resources related to walking to work.

❹ Planning

Integrate pedestrian needs into transportation planning activities, and support local planning efforts to encourage and increase walking.

4.1 Ensure that all local jurisdictions have a current pedestrian master plan by providing adequate countywide funding.

4.2 Incorporate pedestrian needs into Alameda CTC plans, studies, and projects, as appropriate, and move toward using transportation models that are sensitive to walking demand and to the supply of pedestrian infrastructure and programs.

4.3 Adopt and implement a Complete Streets policy, and encourage and support local jurisdictions to do so as well.

4.4 Educate elected and appointed officials about the importance and benefits of creating walkable communities, and the opportunities and constraints for doing so.

4.5 Encourage all local jurisdictions to designate a pedestrian coordinator or primary contact, and to establish a pedestrian advisory committee or provide other meaningful opportunities for public input on pedestrian issues.

4.6 Continue to serve as a forum for local agencies and other stakeholders—including through the Pedestrian and Bicycle Working Group—to plan multi-jurisdictional projects and countywide programs and to share information about pedestrian-related issues of mutual concern.

4.7 Support and fund research into pedestrian planning, and project and program implementation when it has a direct benefit for Alameda County.

4.8 Continue to collect and analyze data on pedestrian trips and travel behavior, and encourage other public agencies, special districts and transit agencies to do so as well.

4.9 Provide technical assistance to help local jurisdictions address impacts of construction projects on pedestrian facilities, including planning for detours.

4.10 Advocate for state and federal legislation that would improve and support walking in Alameda County.

4.11 Update this plan approximately every four years to ensure that current pedestrian priorities are incorporated into the Countywide and Regional Transportation Plans.

4.12 Between plan updates, make technical amendments to the plan as needed to incorporate revisions to the capital project and program priorities.

❺ Funding and implementation

Maximize the capacity for implementation of pedestrian projects, programs and plans.

5.1 Continue to work on securing maximum funding for pedestrian projects and programs from countywide, regional, state and federal sources and also on attracting funding from private and non-traditional sources.

5.2 Provide timely information to local jurisdictions on funding opportunities for pedestrian projects and provide assistance to these jurisdictions, as appropriate, in submitting applications for project funding.

5.3 Identify and secure additional sustainable funding streams for the maintenance of pedestrian infrastructure, including by collaborating with local agencies and others, and by using countywide funds, as feasible.

5.4 Develop and maintain a prioritized list of diverse pedestrian projects and programs throughout the county to position Alameda County to maximize funding opportunities as they arise.

5.5 Support, encourage and advocate for sufficient funding and staffing to implement this plan.

5.6 Consider the priorities of this plan when making funding decisions for all funds that come through Alameda CTC.

5 | COUNTYWIDE PRIORITIES

Introduction

The previous chapters evaluated existing conditions and the key plans, policies and practices at all levels of government that affect walking in Alameda County, and set out a vision and goals for the Countywide Pedestrian Plan. Based on this vision-setting and analysis, this chapter defines three types of pedestrian improvements that will help Alameda CTC implement the plan's vision and goals. These three types are: (i) capital projects, (ii) programs and (iii) plans.

> Since Alameda CTC is a countywide agency, the focus of this chapter is on projects and programs considered to be of countywide importance.

When it comes to transportation improvements—including for pedestrians—needs typically far exceed the financial, staffing and other resources to implement them. This requires that needs be considered carefully and that improvements be prioritized thoughtfully. This chapter defines a "vision system" of capital projects, unconstrained by potentially available resources, but also outlines a subset "priority system" for prioritizing Alameda CTC's limited funds for pedestrian improvements. Lastly, this chapter establishes priorities among pedestrian-oriented programs and plans.

Since Alameda CTC is a countywide agency, the focus is on pedestrian projects and programs (and plans, to a lesser extent) considered to be of countywide importance. Also, since this is a plan adopted by Alameda CTC, the focus is on those actions and decisions that the agency can take to advance walking. Given its primary role as a funding agency, Alameda CTC can support the development and delivery of pedestrian projects, programs and plans mainly through funding. It can also do so through staffing support, technical assistance and related planning, coordination and implementation efforts.

Capital projects

Capital projects, or infrastructure, form the physical framework that enables and encourages people to walk. Infrastructure for pedestrians includes sidewalks and multi-use paths, most obviously, but also curb cuts; crosswalks; undercrossings and overcrossings of roads, waterways and rail tracks; pedestrian signals; traffic calming devices; and streetscape improvements. To be usable and safe, this infrastructure must also be well-maintained.

This chapter identifies a vision system and a priority system of pedestrian improvements. The vision system, if built in conjunction with local pedestrian

projects, would achieve the plan's vision and goals. The list of infrastructure projects that make up the vision system are, as the system's name implies, unconstrained by potentially available funds.

The priority system, on the other hand, is a subset of areas, corridors and projects from the vision system that are most significant from a countywide perspective and that are anticipated to be most effective at achieving the goals of this plan. The priority system is meant to help guide and focus Alameda CTC's limited funds for pedestrian improvements expected over the 28-year life of the plan.

Vision system

Cyclists and drivers are able to use extensive roadway and trail networks to travel between cities throughout the county. Pedestrians, on the other hand, do not typically travel between cities on a sidewalk or path. Instead, walking is generally clustered around local areas and pedestrians are connected by public transit to other parts of a city, a neighboring community and the entire county. This perspective has informed the five categories of areas and projects considered to be of countywide significance under the vision system. They are: (1) access to transit, (2) access within central business districts, (3) access to activity centers, (4) inter-jurisdictional trails and, (5) access to communities of concern.

The 2006 Pedestrian Plan established the concept of areas of countywide significance and included three categories of capital projects: public transit, activity centers and inter-jurisdictional trails. Besides several refinements of these three categories, the only significant change from the 2006 plan is the inclusion of communities of concern as a new category of capital projects.

> The five categories of countywide significance are access to transit, access within central business districts, access to activity centers, inter-jurisdictional trails and access to communities of concern.

Maintenance of pedestrian facilities under all system categories is also considered part of the vision system. Well-maintained facilities are more likely to encourage people to walk and they protect the public's investment in infrastructure. Maintenance includes such varied activities as replacement of walkway surfaces; repairs to signs, signals, gates and fences; and repainting of striping and stencils.

The updated vision system consists of 2,799 miles of facilities. This figure includes 2,540 miles of streets and 260 miles of off-street trails (of which 211 miles is multi-use paths and 49 miles is sidewalk facilities; see Table 5.1). It is estimated that approximately 20% of the mileage has been built and is being maintained by local agencies, while 80% is still to be constructed or upgraded to current design standards.

The vision system appears to provide access to a large majority of Priority Development Areas (PDAs) or Growth Opportunity Areas (GOAs; see "Evaluation of Plans, Policies and Practices" chapter) in Alameda County. From a simple "eyeballing" of the maps, it appears that almost all of the PDA/GOA areas in the county are completely within the pedestrian vision system areas.

The vision system is shown in Figures 5.1–5.4, on the following pages. The maps show key transit stations and lines, central business districts, activity centers, inter-jurisdictional trails and the boundaries of MTC's communities of concern but not specific access routes (the maps also do not reflect maintenance projects, which are part of the vision system). It should be noted that, while the maps are a primary guide for determining funding eligibility, some deviations from the map are allowable, assuming that the project meets the definition of countywide significance as described in this chapter and by other funding criteria.

Table 5.1: Vision system mileage

Numbers are rounded to the nearest mile and may not add up due to rounding

	Streets	*Trails*		*Total*
		Multi-use paths	*Side-walks*	
North County	**1,143**	**72**	**21**	**1,236**
Alameda (city)	114	14	7	135
Albany	35	5	0	40
Berkeley	198	12	0	210
Emeryville	23	5	1	29
Oakland	764	36	13	813
Piedmont	9	0	0	9
Central County	**482**	**38**	**1**	**522**
Alameda County (unincorporated)	120	3	0	120
Hayward	268	25	1	294
San Leandro	94	10	1	105
South County	**570**	**67**	**27**	**664**
Fremont	388	51	15	455
Newark	23	4	9	36
Union City	158	11	3	173
East County	**344**	**34**	**0**	**378**
Alameda County (unincorporated)	12	4	0	16
Dublin	60	6	0	66
Livermore	157	11	0	168
Pleasanton	116	12	0	128
Total	*2,540*	*211*	*49*	*2,799*

It is understood that, as this plan is implemented over time, specific multi-use trail alignments may need to be adjusted to reflect local plans and changing conditions more closely. In particular the alignments of the unbuilt sections of the Bay Trail and East Bay Greenway may change, due to available right-of-way constraints. The Bay Trail alignments shown on the map were either adopted by the Bay Trail Project or the agency has the intention to adopt the alignment in the near future, except in one case noted on the map.

Figure 5.1 | Pedestrian vision system—North planning area

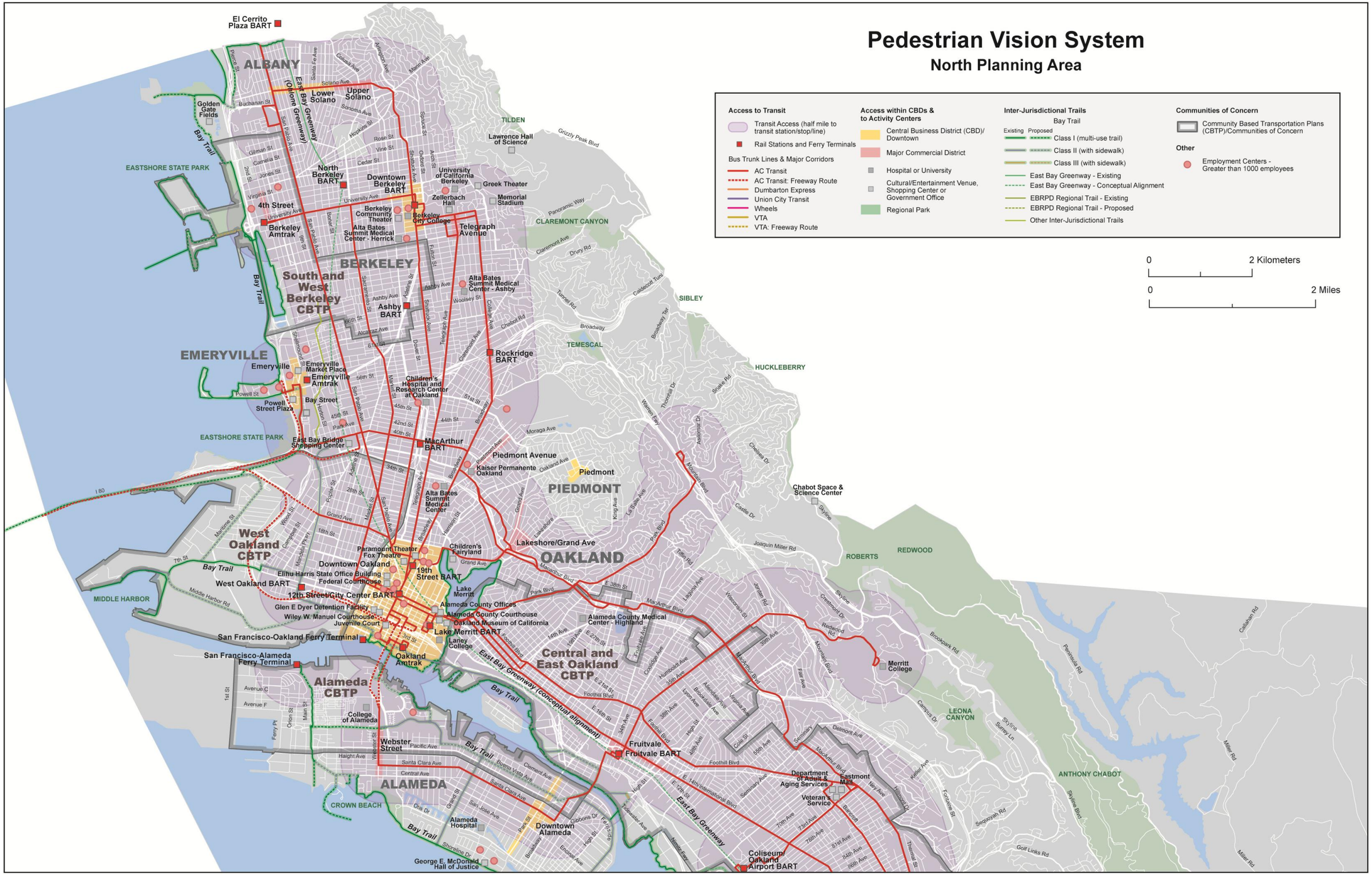


Figure 5.2 | Pedestrian vision system—Central planning area

Figure 5.3 | Pedestrian vision system—South planning area

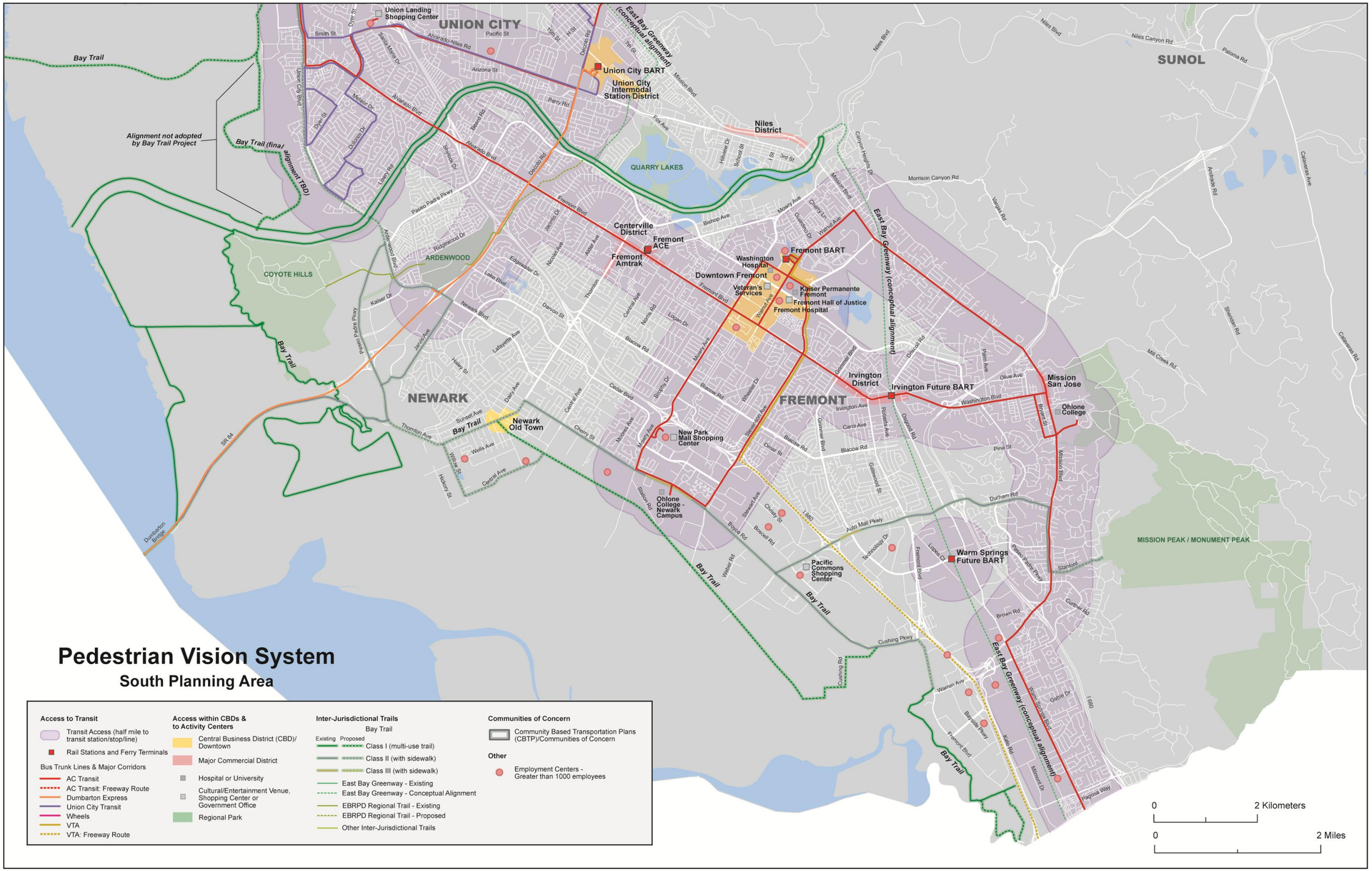
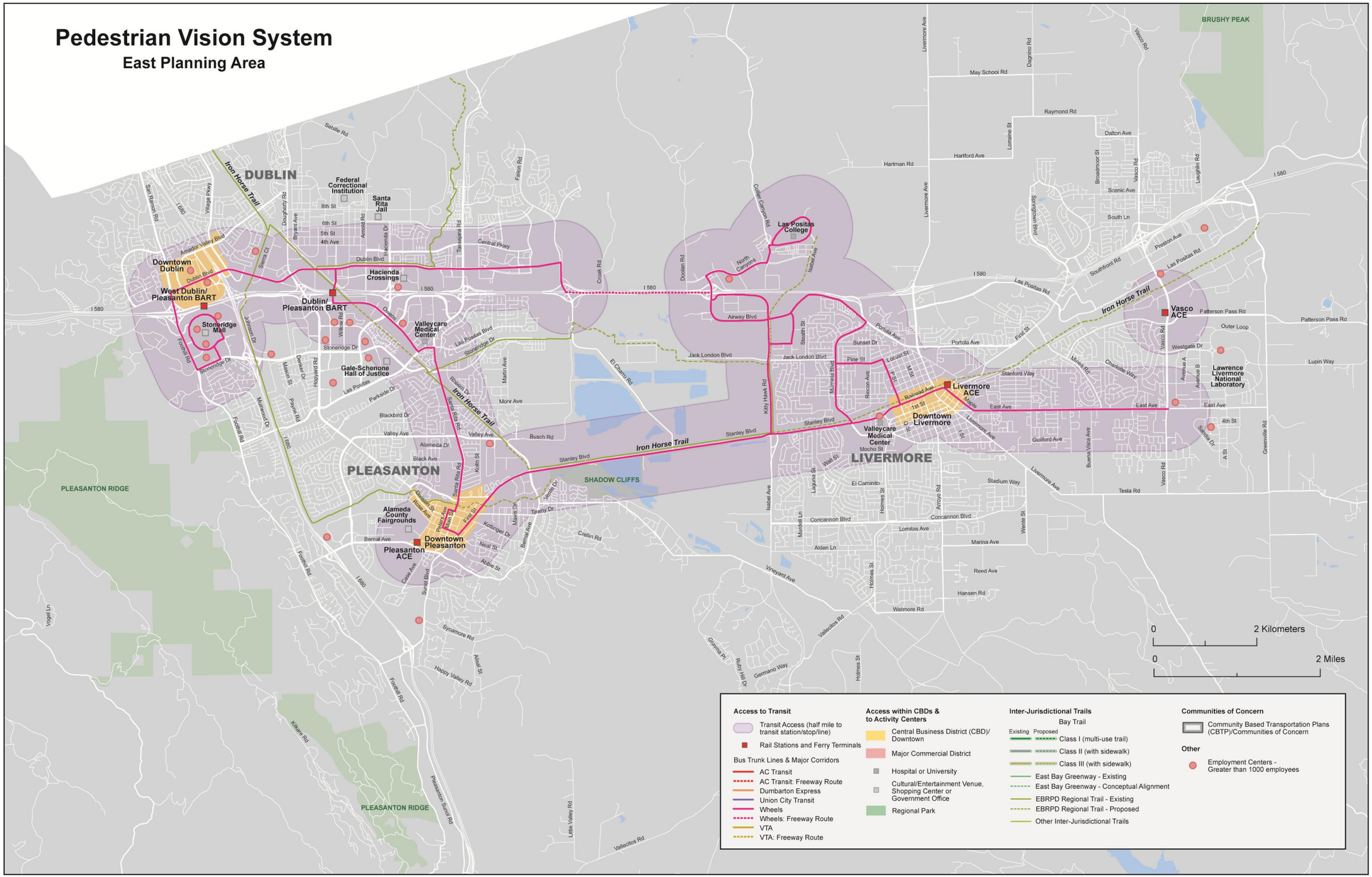


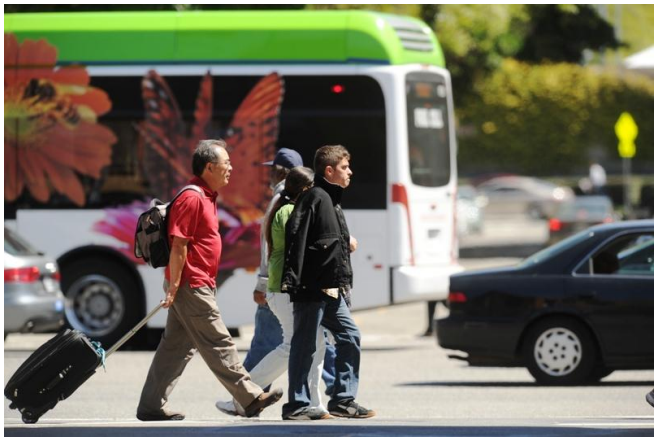
Figure 5.4 | Pedestrian vision system—East planning area



The sections below provide background on the five vision categories and define the elements, components and envisioned improvements that make up each category.

1. Access to transit

This category aims to improve walk access to and at rail stations, ferry terminals and major bus corridors throughout Alameda County. The ability to safely and easily walk to public transit is an essential part of creating a walkable county. By walking to transit, pedestrians can travel far beyond their typical range to reach a variety of key destinations. Safe and convenient walk access to transit, while important for all, is critical for people with disabilities, those who prefer to travel without a car, and those who have no choice. Moreover, public transit is a fundamental part of the county's multi-modal transportation network, and is therefore a funding priority for the county, as well as the region. Improving walk access to transit can reinforce these investments by increasing transit ridership.



Definition

The vision system includes safe and continuous walk access to transit within a half mile of the major transit stops and stations in Alameda County. These are defined as:

- All 34 rail stations and ferry terminals in (or near) Alameda County, plus the Oakland International Airport (see Table 5.2).
- All stops along bus trunk lines (generally those with the highest ridership and most frequent service), as defined by individual transit operators, plus those along other major bus corridors that provide fuller transit coverage of the county, connections to the colleges in county or connections to neighboring counties (see Table 5.3).

The half-mile distance was chosen as being the typical outer walking range for most pedestrians to access transit service, based on research. See Appendix R, "Transit Facilities of Countywide Significance," for lists of transit stations, stops and lines that meet these definitions and criteria.

Table 5.2: Transit stations and terminals

BART	20
AC Transit	15
Altamont Commuter Express	4
Amtrak/Capitol Corridor	6
Dumbarton Express	1
Ferry	3
LAVTA	7
Union City Transit	1
Total	***57***

Table 5.3: Bus trunk lines and major corridors

AC Transit	18
Dumbarton Express	1
LAVTA	3
Union City Transit	2
VTA	1
Total	***25***

2. Access within central business districts

Central business districts (CBDs) have countywide significance because they are often destinations for people from a variety of cities in the county and beyond. CBDs concentrate a range of functions and activities—including retail, commercial and sometime residential—within easy walking distance of each other. In this plan, CBDs are defined as either the downtown or the key commercial district of each jurisdiction. Often they are located within, or are themselves, a PDA.

Definition

The vision system includes improved pedestrian safety and access within the 16 CBDs listed below. To the extent feasible in each jurisdiction, the downtown or key commercial districts was selected to be close to major transit service or within a PDA.

- The downtowns of the nine cities that have such areas, as defined by a general plan or other local plan. These cities are Alameda, Berkeley, Dublin, Fremont, Hayward, Livermore, Pleasanton, Oakland and San Leandro.
- One key commercial district, or "downtown equivalent," in each of the county's five other cities and two in the unincorporated areas. These districts are: Lower Solano (Albany); Emeryville's "core" area (as defined by the City General Plan); Newark's Old Town PDA; central Piedmont, near City Hall; Union City's Intermodal Station District PDA; the Castro Valley CBD; and San Lorenzo Village Center.

3. Access to activity centers

Alameda County has a large number of popular or important destinations that attract people from throughout the county, and beyond. For this reason, it is important to provide for safe, convenient and continuous walking access to those locations. This category is focused on improving access between activity centers and nearby transit stations and stops, since pedestrians reaching the activity centers "on foot" from other parts of the county will arrive by transit.

Definition

The vision system encompasses improved pedestrian safety and access between the entrance to an activity center and the bus stops, rail stations and ferry terminals with countywide significance (as defined above under "Access to Transit") within an eighth of a mile of the center's entrance. If there is no transit with countywide significance nearby, then the access improvements will be between the activity center and the most heavily used bus stop within the same distance. The six types of activity centers in the vision system are:

- Major shopping centers and major commercial districts (MCDs). MCDs are defined by a general plan or other local plan, and are collections of mainly retail and service establishments in a multi-block area. Shopping centers include those that attract visitors from throughout Alameda County.
- Colleges and universities with enrollment over 3,000
- Major hospitals and medical centers
- Major cultural and entertainment venues
- County, state and federal government offices with significant numbers of visitors from throughout Alameda County
- Regional parks, including regional preserves, recreation areas and shorelines, that are adjacent to or within populated areas

See Appendix S, "Activity Centers," for lists of activity centers that meet the above definitions and criteria. The one-eighth mile distance reflects the assumption that a majority of Alameda County's activity centers are located close to transit.

Table 5.4: Activity centers

Shopping centers/major commercial districts	22
Colleges and universities	10
Hospitals	16
Cultural and entertainment venues	16
Government offices	22
Regional parks	27
Total	*113*

4. Inter-jurisdictional trails

Trails enable and encourage people to walk for transportation, as well as health and recreation. The purpose of this category is to ensure that Alameda County has a system of major trails that connects jurisdictions to each other and to neighboring counties, and that also provides access to major destinations and attractions, such as the bayfront. The trails consist, for the most part but not exclusively, of paved multi-paths whose use is shared with bicyclists.

Definition

The vision system includes the three major trails in the county and other inter-jurisdictional trails that link populated areas, as summarized below:

- The East Bay Greenway, a new proposed trail broadly envisioned to extend from Albany to Fremont, roughly following the BART line and the Union Pacific Railroad right of way. This encompasses the existing Ohlone Greenway in Albany and Berkeley, and the former Santa Fe Railroad right-of-way/West Street in Berkeley.
- The entire Bay Trail system, including the spine, connector and spur alignments (which connect the spine to the waterfront), as adopted by the Bay Trail Project.
- The Iron Horse Trail, from the Dublin/Contra Costa County line to Livermore's eastern city limit at Greenville Road
- Other East Bay Regional Park District and local trails that link populated areas and provide connections to major destinations or attractions; these include the Emeryville Greenway (connecting Berkeley and Emeryville) and the Jack London/Arroyo Mocho trail (connecting Livermore and Pleasanton)
- Connectors between major trails that are inter-jurisdictional, and that were developed through a local planning process (these are not mapped or identified because they are still schematic)
- Intersection improvements where the above trails cross roadways

A list of the trails that are part of the vision system is included in Appendix T, "Inter-jurisdictional Trails."

5. Access to communities of concern

To help serve the transportation needs of low-income communities, MTC has identified several "communities of concern" throughout the Bay Area, including in Alameda County (see "Existing Conditions" and "Evaluation of Plans, Policies and Practices" chapters). These communities have large concentrations of low-income populations with inadequate access to transportation. This category has been included in the vision system to address that deficiency and, more generally, to improve walking conditions in the communities of concern.

Alameda CTC has developed community-based transportation plans (CBTPs) for five communities of concern identified in Alameda County. These are West and South Berkeley; City of Alameda (including Alameda Point and central and eastern Alameda); West Oakland; Central and East Oakland; and Central Alameda County, which includes Ashland/Cherryland and South Hayward. While the CBTPs document the need for numerous transportation improvements including pedestrian and transit enhancements, they are generally area-wide needs and not specific to one location or project. To help implement the CBTPs and improve walking conditions in the communities of concern, this category is included in the vision system, and has been focused on those aspects with the highest countywide significance, as described below.

Definition

The vision system encompasses improving pedestrian access to transit in the five communities of concern within a quarter mile of all local bus transit stops that offer service to major transit stations and stops and CBDs. This approach will help address the deficiencies in transit and job access in communities of concern. The quarter mile distance was chosen as a standard walking range for most pedestrians to access bus transit service, based on research.

> Alameda CTC has developed community-based transportation plans for five communities of concern identified in Alameda County.

The CBTPs are scheduled to be updated pending the availability of funding and access to 2010 Census data. The vision system will be amended to account for updated areas and boundaries of the communities of concern, as these become available.

Priority system

Unlike the 2006 Pedestrian Plan, this plan establishes a priority system within the larger vision system. The priority system is a subset of the vision system that, for reasons described below, are considered more important for purposes of encouraging walking and improving safety. The purpose of the priority system is to focus Alameda CTC's funding efforts over the next several years—until the Pedestrian Plan is updated again—on those improvements that are anticipated to be most effective at accomplishing the goals of the plan.

The priority system encompasses four of the five categories in the vision system—all but access to activity centers—but is more focused. Below is the definition of each category and the rationale for its inclusion in the priority system. (Due to its qualitative nature, the priority system has not been mapped, nor have mileages been calculated.) For several categories, there is also a description for how projects will broadly be prioritized for discretionary countywide funds. The prioritization of specific capital projects will take place during each grant funding cycle, using evaluation criteria to be adopted for that funding cycle, consistent with the priorities established in this plan. Those criteria will provide further detail to the definitions below, as needed, and will include additional criteria such as safety and demand. Non-priority projects that are on the vision system will still be eligible for countywide discretionary funding but will not rank as highly.

> The priority system is a subset of the vision system that, for a variety of reasons, is considered more important for purposes of encouraging walking and improving safety.

In general, capital projects should focus on infrastructure that improves pedestrian safety, convenience and access, rather than on streetscape improvements for beautification and other amenities. (Appendix U, taken from the 2006 Pedestrian Plan, provides a general assessment of the effectiveness of various types of pedestrian improvements; it will be updated before the next funding cycle to reflect current research and new types of infrastructure) All capital projects should be designed to address the mobility needs of people with disabilities and paratransit users, particularly for accessing transit.

1. Access to transit

Definition

The priority system includes improvements that provide safe and continuous pedestrian access radiating outward for a half mile from transit stations or stops of countywide significance (as defined in the vision system). Projects closer, and providing a direct and continuous connection, to the transit hub will be given higher priority than those farther out.

Rationale

More continuous and closer-in walk access to transit has been prioritized for several reasons: transit hubs are more likely to be located in PDAs, which are a focus of countywide and regional planning; continuous access is more valuable than disjointed facilities; and the number of people walking to transit becomes more concentrated nearer to the transit station or stop.

2. Access within CBDs

Definition

The priority system for access within CBDs is identical to the vision system: it includes improved pedestrian safety and access within the 16 downtowns and key commercial districts identified in the vision system.

Rationale

There are several reasons why all CBDs are included in the priority system: they tend to be in PDAs, which are a focus of countywide and regional planning; they have concentrated pedestrian activity; and they serve large numbers of people, including from multiple jurisdictions.

3. Inter-jurisdictional trails

Definition

The priority system includes the portions of the three major countywide trails that are within the populated areas of the county. This includes the entire East Bay Greenway; the full Iron Horse Trail, east to Greenville Road; and for the Bay Trail, the complete spine and the connectors, but not the spurs.

Rationale

The three trails mentioned above have been prioritized for several reasons: they provide (or will provide, when complete) transportation, recreation and health benefits; they are inter-county or even regional in scope; and they serve, or will serve, large numbers of people in the county and different types of users.

4. Access to communities of concern

Definition

The priority system includes improving pedestrian access to transit in the five communities of concern within a quarter mile of all local bus transit stops that offer service to major transit stations or stops and CBDs. Projects closer, and providing a direct and continuous connection, to the local transit station/stop will be given higher priority than those further out.

Rationale

MTC's communities of concern have been prioritized because these areas have large concentrations of low-income and historically underserved people, who tend to have low rates of car ownership, inadequate access to transportation services and facilities (including walkways) and lagging health and social indicators.

Programs

While capital projects are critical for increasing walking, creating a thriving pedestrian culture in Alameda County will require initiatives that promote walking, increase safety and convenience, and provide other programmatic support for walking. The 2006 Countywide Pedestrian Plan included 10 programs of "countywide significance;" most of them have been implemented to some extent or are underway.

The current plan includes 11 priority programs grouped into three categories: (i) encouragement and promotion; (ii) safety, education and enforcement; and (iii) technical support and information sharing (see table below). The programs were drawn from the 2006Pedestrian Plan, from programs that are currently supported or being implemented by Alameda CTC and from programs that have proven to be especially successful elsewhere. All programs are countywide in nature or provide a model transferrable throughout Alameda County.

Potential programs for inclusion were assessed for their consistency with the plan's goals (see the "Vision and Goals chapter), especially for their potential to increase the number of walking trips and reduce pedestrian collisions. When available, empirical data was reviewed for existing or similar programs; however, for a number of programs only very limited or no data was available. Using professional judgment, programs were given a relative rating—in comparison to other programs—of high, medium or low. The priority programs included in this plan consist of those that were found to have a high or medium effectiveness as well as programs for which no effectiveness data was available but which directly address important plan goals and strategies.

> While capital projects are critical for increasing walking, creating a thriving pedestrian culture in Alameda County will require initiatives that promote walking, increase safety and convenience, and provide other support for walking.

The programs are focused on those for which Alameda CTC could have a role—either through grant funding, implementing the program directly, or managing it using consultants—and therefore the project descriptions that follow are focused on what Alameda CTC could do. At the same time, many programs will be implemented by, or in partnership with, other organizations, agencies, and groups. Additionally, locally implemented programs will also contribute toward the goals of this plan, but are not listed here. It should be noted that Alameda CTC has considered developing a broad transportation demand

management (TDM) program[2], which could incorporate some of the programs included in this plan.

Below is a table summarizing the priority pedestrian programs (the order in which they are listed is not an indication of priority among programs). The summary table is followed by a list of the plan strategies from the "Vision and Goals" chapter that are addressed by the recommended programs, and by a detailed description of each program. The summary table includes the following information for each program:

- Whether or not the program was included in the 2006 Countywide Pedestrian Plan.
- Whether or not the program has been implemented or is underway (some programs that are shown to be implemented or underway have been only partly developed, and will require additional effort to meet the objective of the program).
- The relative effectiveness—medium or high—of each program (the program descriptions provide effectiveness information if available)
- The program's timeframe (near-term programs will start in 2012 or are continuing efforts; medium-term programs are planned to start in 2016; most programs are scheduled to last through 2040).
- The role(s) that Alameda CTC will play in program implementation; the agency will play one or more of three roles: provide funding, primarily through competitive grants; use its staff to implement the program; or provide technical or logistical support but hire a consultant to implement the program.
- The plan strategy or strategies that the program addresses or supports.
- Whether or not the program is also included in the updated Countywide Bicycle Plan.

[2] TDM programs use a variety of policies and strategies to reduce solo driving

Table 5.5 | Priority programs (order of listing does not indicate priority)

	In 2006 Countywide Pedestrian Plan	*Implemented or underway*	*Effectiveness (H=high; M=medium; n/a=not available)*	*Timeframe (N=near; M=medium)*	*Alameda CTC role (F=funding; S=staffing; M=manage consultants)*	*Strategy(ies) addressed*	*Also in 2012 Countywide Bicycle Plan*
Encouragement and promotion							
1. Countywide walking promotion		✓	n/a	N	F, S, M	3.1	
2. Individualized travel marketing	✓	✓	M/H	N	F	3.1	✓
3. Programs in community-based transportation plans		✓	n/a	N	F	2.5, 3.1	✓
Safety, education and enforcement							
4. Safe routes to schools	✓	✓	H	N	F, M	2.6	✓
5. Safe routes for seniors	✓**	✓	H	N	F, S, M	3.1	
6. Multi-modal traffic school	✓	✓	M/H	N	F, S	2.4, 2.5	✓
7. Countywide safety advertising campaign	✓		n/a	N	S, M	2.5	✓
Technical support and information sharing							
8. Technical tools and assistance	✓	✓	n/a	N	S, M	1.8	✓
9. Agency staff training and information sharing	✓	✓	n/a	N	S	2.3,4.6	✓
10. Multi-agency project coordination		✓	n/a	M	F, S, M	1.5	✓
11. Collaborative research		✓	n/a	M	F, S	4.7	✓

** Organized walks

Table 5.6 | Strategies addressed by the priority programs

Infrastructure and design	
1.5	Collaborate with and promote coordination among Caltrans and local agencies to implement pedestrian infrastructure of countywide significance.
1.8	Encourage local jurisdictions to adopt policies, guidelines, standards and regulations that result in pedestrian-friendly communities, and, where applicable, transit-oriented land use development; and provide them with technical assistance and resources to do so.
Safety, education and enforcement	
2.3	Provide technical assistance and other tools to local jurisdictions for selecting priority areas for pedestrian safety and security improvements, and planning and designing safer streets and facilities.
2.4	Support and encourage efforts by state, County and local agencies to adopt and enforce laws that aim to protect pedestrians from collisions with motor vehicles.
2.5	Support the delivery of effective pedestrian safety education programs for a variety of audiences, including seniors, drivers and bicyclists.

2.6	Support the expansion of the countywide Safe Routes to Schools program to every elementary and middle school in the county and to high schools, and encourage local school districts and jurisdictions to implement projects, activities and events that promote walking to school among both students and staff.
2.7	Create a countywide campaign targeted to increase walking by seniors that coordinates and expands on the many existing local walking clubs, safety programs and travel trainings for seniors.
Encouragement and promotion	
3.1	Work with all levels of public agencies, non-profits and advocacy groups to implement effective encouragement programs that promote walking as a safe and convenient form of transportation among a broad range of potential users, including seniors and people with disabilities.
Planning	
4.6	Continue to serve as a forum for local agencies and other stakeholders—including through the Pedestrian and Bicycle Working Group—to plan multi-jurisdictional projects and countywide programs and to share information about pedestrian-related issues of mutual concern.
4.7	Support and fund research into pedestrian planning, project and program implementation when it has a direct benefit for Alameda County.

Encouragement and promotion

1. Countywide walking promotion

Walking promotion campaigns provide information, challenges, contests and other opportunities to motivate people to walk for health, recreation and transportation. Effective promotion messages can be distributed through print, television, radio, online and social media. Alameda CTC's "Step into Life!" program, for example, provides web and print resources about walking in the county, such as regular locally organized walks and upcoming walking events.

Open Streets, also known as "Sunday Streets," are festivals that temporarily close streets to car traffic so people can use the entire roadway for walking, bicycling, skating and similar activities. These events are another venue for promoting walking, and also build community, provide recreational opportunities, and can boost local economies by bringing in more foot traffic. A local example is Oaklavia, which took place in downtown Oakland in June 2010.

Alameda CTC will continue existing promotional efforts, and explore options for supporting Open Streets and other efforts such as publicizing a month of locally organized walks around the county, a walk-to-transit promotion and the development of walking maps. The agency could provide grants to agencies and groups that develop promotional projects or activities and assist with common branding and publicity of activities that reach multiple jurisdictions. Alameda CTC will seek out opportunities to partner with local jurisdictions, non-profit organizations and public-health representatives on messaging and other aspects of program implementation. Also, the agency will integrate promotional activities into any future TDM program it establishes, as appropriate.

2. Individualized travel marketing

Individualized travel marketing offers residents targeted information about alternatives to driving alone. A local example is TravelChoice, a program funded in part by Alameda CTC, which conducted tailored, neighborhood-specific marketing campaigns in the cities of Oakland, Alameda and Berkeley. This type of program is thought to have medium to high effectiveness, as long it is maintained over the long term: a study of the original TravelChoice program (launched in the City of Alameda in 2006) revealed drastic changes in participants' travel choices, including 34 percent, 1 percent and 183% increases in transit, walking and bicycling respectively[3].

A newer program called TravelChoice New Residents was launched in 2011, also with some Alameda CTC

[3] http://transformca.org/files/travelchoice-alameda-presentation.pdf

funding, to target residents as they move into communities near public transit. Individualized travel marketing will continue to be eligible for Alameda CTC grant funding in the short term, to pilot these types of programs, assuming they are shown to be effective in the long run. Due to the high cost of implementing the programs comprehensively throughout the county, the long term goal is for the programs to be funded by developers or other entities.

3. Programs in community-based transportation plans

The purpose of Community Based Transportation Plans (CBTPs) is to identify and address the mobility and access gaps of low-income communities. CBTPs have been developed for five communities in Alameda County: West and South Berkeley, City of Alameda (including Alameda Point and central and eastern Alameda), West Oakland, Central and East Oakland, and Central Alameda County, which includes Ashland/Cherryland and South Hayward. The plans propose only one walking-related program: expansion of the county's Safe Routes to Schools program, which is included as a recommended program in this plan. This program is included to address walking-related strategies added to future updates to the CBTPs. The main mechanism for Alameda CTC to implement any such programs is likely to be grant funding. Also, as a way to further address the transportation inequities of these communities, other countywide pedestrian programs included in this plan should be inclusive of communities covered by the CBTPs.

Safety, education and enforcement

4. Safe routes to schools

Safe Routes to Schools (SR2S) refers to a variety of strategies aimed at promoting bicycling and walking to school, and improving traffic safety around schools through education, encouragement, enforcement, and engineering for capital projects. SR2S establishes healthy habits among school children and improves the safety of this vulnerable population. Because a unified countywide program is more effective and efficient than a multitude of uncoordinated local programs, Alameda CTC has allocated funding since 2007 for an Alameda County SR2S Partnership, targeting elementary and middle schools countywide. The program is thought to be highly effective, as it increased walking and travel by non-single-family vehicles such as carpools to school by 10% countywide during the 2008-09 school year.[4] The program is now established in 100 schools and is being expanded to high schools. Alameda CTC will continue supporting the program, with the long-term goal of expanding it to all schools in the county that wish to participate. Other program elements may include continuing to provide funding for capital projects(which Alameda CTC began to do in 2011), establishing a crossing-guard program for local jurisdictions (similar to the successful program in Marin County) and providing technical assistance to help local jurisdictions prioritize their SR2S capital projects, such as by creating maps that show the areas of greatest need.

5. Safe routes for seniors

Walking programs for seniors are important because seniors are not only a growing demographic in Alameda County but also a vulnerable population. In 2009, Alameda CTC funded a senior walk club program for the Tri-City area (Fremont, Newark and Union City), designed to teach walking safety skills and encourage walking for transportation; by mid-2011, the program had completed 14 multi-week sessions, with five ongoing walking clubs in place. Alameda CTC has also funded a pilot "travel training" program for the Tri-City area, which since February 2008 has conducted 29 workshops on using transit and pedestrian safety[5].

[4] TransForm, Safe Routes to School Partnership Evaluation Report, School year 2008-09.

[5] Phone call with Shawn Fong, City of Fremont, September 1, 2011.

These efforts, and others similar ones around the county, are the start of a comprehensive countywide Safe Routes for Seniors program which would encourage seniors to walk, bike and access transit safely. The program could include creating walking clubs and offering organized walks, travel training, pedestrian safety classes, walking audits, outreach and promotion, a minor bicycling component, and technical assistance to help local jurisdictions prioritize capital projects that benefit seniors. Based on the experience of a six-year-old Safe Routes for Seniors Program run by Transportation Alternatives (a New York City non-profit organization), this program is considered highly effective. That program worked with senior citizens from selected neighborhoods to understand obstacles to walking and advocate for physical improvements and policy changes to improve conditions. It engaged over 2,000 seniors, resulted in 65 improvements in two underserved neighborhoods, increased walkability for over 26,000 seniors, and led to the adoption of a Safe Routes for Seniors program by the New York City Department of Transportation and the New York State Department of Transportation[6].

> Walking programs for seniors are important because seniors are not only a growing demographic in Alameda County but also a vulnerable population.

6. Multi-modal traffic school

Traffic school classes are a key venue for disseminating information on pedestrian safety and traffic laws to a large audience, many of whom may not be aware of the importance of safe walking and driving or of pedestrians' and motorists' rights and responsibilities under the California Vehicle Code. Alameda CTC will advocate for the incorporation of pedestrian (and bicycle) topics in all traffic school programs for motorist violators and driver education classes, and support research and efforts to improve the effectiveness of traffic school in imparting knowledge and changing driver attitudes. Lobbying efforts will need to be conducted at the state level since the course curriculum and content for traffic school and driver education is established by the California Department of Motor Vehicles (DMV). The need for safety education among drivers is supported by the fact that they were considered at fault in 59% of pedestrian-related collisions in Alameda County between 2003 and 2008[7].

7. Countywide safety advertising campaign

Pedestrian (and bicycle) safety campaigns use a variety of advertising media to deliver messages that encourage safe and legal walking, bicycling and driving. Campaign messages are typically tailored to address specific, documented safety issues, often at the local level. More than a dozen agencies in the Bay Area have implemented comprehensive pedestrian and bicycle safety campaigns, often using the "Street Smarts" program, consisting of billboards, brochures, press releases, radio spots and other channels to teach people of all ages to become safer pedestrians and bicyclists and to increase motorists' awareness of pedestrians and bicyclists. This recommended program is to establish a countywide safety campaign aimed at promoting road safety among motorists, pedestrians, bicyclists and bus drivers. The campaign could start in one jurisdiction or planning area and expand to others over time; also, it could work with local police departments and advocacy organizations to provide direct intervention—such as random checkpoints on roads and multi-use paths—to provide safety information to all users.

Technical support and information sharing

8. Technical tools and assistance

Technical tools such as guidelines, best practices, analytics and online resources can help public agencies develop and implement well-designed, effective pedestrian (and bicycle) infrastructure and programs. With that in mind, Alameda CTC published a "Toolkit for Improving Walkability in Alameda County" in 2006 as a companion to the pedestrian plan, and updated it in 2009. Alameda CTC should continue to update the walkability toolkit, and develop, and disseminate among local jurisdictions, technical tools and technical assistance that supports local jurisdictions in improving walking and its safety in the county. Local jurisdiction planning and engineering staff must also have time to dedicate to

[6] www.transalt.org/files/newsroom/reports/2009/Safe_Routes_for_Seniors.pdf

[7] Statewide Integrated Traffic Records System (SWITRS).

putting these tools into action, Alameda CTC will work with local jurisdictions on finding ways that staff can be trained on the new resources, perhaps by using technical assistance.

Tools could include design guidelines and best practices based on local examples; a model Complete Streets policy; a how-to-guide for developing and delivering promotional events; a multi-modal level-of-service model; best practices on and guidelines for pedestrian wayfinding signage; mapping applications; and a standardized method for reporting hazards and pedestrian access impediments. In terms of technical assistance, Alameda CTC could help local jurisdictions prepare grant applications; provide specialized design assistance for capital projects and traffic-engineering solutions; assist with implementing Complete Streets policies; and design and support the installation of wayfinding signs.

9. Agency staff training and information sharing

Training sessions on pedestrian (and bicycle) planning—in the form of webinars, short conferences, on-site classes and speaker series—help educate staff at local agencies about standards, best practices and innovations. In this realm, Alameda CTC has provided free access to a monthly webinar presented by the Association of Pedestrian and Bicycle Professionals; hosted a half-day pedestrian and bicycle conference; and in 2007 started the Pedestrian Bicycle Working Group (PBWG), a group of local agency and advocacy staff that meets up to four times a year to share information and give input to Alameda CTC on its programs and projects. Alameda CTC should continue these efforts and continue to fund a pedestrian/bicycle coordinator to implement the program. This program could also include establishing a new speaker series featuring pedestrian and bicycle experts to address timely topics such as the implementation of Complete Streets, liability concerns and innovative treatments.

> Alameda County's colleges and universities present opportunities for collaborating on pedestrian (and bicycle) research relevant to the goals of this plan.

10. Multi-agency project coordination

Many pedestrian (and bicycle) capital improvements require the cooperation or permission of multiple agencies. These include projects that cross or fall within the rights-of-way of Caltrans, park districts or water agencies, and projects that run through several jurisdictions. This added step in the process of realizing planned facilities takes valuable local staff time, compared to projects on purely local rights-of-way, and an ability to negotiate often unfamiliar bureaucracies. For multi-jurisdictional projects, there may be no clear lead agency. These barriers can keep such projects from moving to the top of local priority lists, regardless of their value or relative importance.

Alameda CTC has, on a case-by-case basis, brought in consultant services to collaborate with Caltrans or local agencies to manage the development of a project. The decision to manage a project is typically related to whether Alameda CTC has an allocated funding source for the project, a direct mandate to implement the project, or management that can improve project delivery. For example, Alameda CTC is leading implementation of the East Bay Greenway project, which will extend across multiple jurisdictions. Alameda CTC should continue to coordinate or help coordinate multi-agency capital pedestrian (and bicycle) projects on a limited basis, taking on new projects as feasible.

11. Collaborative research

Alameda County's colleges and universities present opportunities for collaborating on pedestrian (and bicycle) research relevant to the goals of this plan. Alameda CTC partnered with the UC Berkeley Traffic Safety Center (now called "SafeTREC"), for example, on the development of a model to predict pedestrian volumes at intersections. Alameda CTC should continue to devote staff time and provide grant funding to local institutions to support locally relevant pedestrian research, as feasible. This program can help address gaps in research, particularly relating to collision rates and risk, mode choice, and demand and volume modeling.

Plans

Pedestrian master plans are important tools in helping local jurisdictions prioritize efforts to improve walking conditions. Long-range planning can ensure that critical, and feasible, improvements are implemented sooner; this is especially useful with regard to capital projects, which can be costly and both technically and

politically complex. At the countywide level, local master plans are significant because the identification and implementation of local pedestrian projects is critical to meeting the vision of this countywide plan, and also the information they include feeds into a well-informed and effective countywide pedestrian plan. For these reasons, Strategy 4.1 is included in the "Vision and Goals" chapter: "Ensure that all local jurisdictions have a current pedestrian master plan by providing adequate countywide funding."

In 2006, only eight of 15 local jurisdictions in Alameda County had adopted a pedestrian or combined pedestrian/bicycle plan or were in the process of preparing one. Five years later, in 2011, that number had increased to 11 of 15 (see Table 3.3 in the previous chapter), or approximately three quarters of all local jurisdictions. Apart from local jurisdictions, other public agencies in Alameda County have developed pedestrian plans or conducted planning efforts with substantial pedestrian components. Such initiatives include the University of California at Berkeley's New Century Plan, which includes a set of "Pedestrian Campus" strategic goals; and numerous local, countywide and regional trail plans.

Alameda CTC considers the following two types of pedestrian planning efforts to be priorities for countywide funding:

- Pedestrian master plans or combined pedestrian/bicycle master plans developed by any of the 15 local jurisdictions in the county.
- Plans developed by other agencies or public institutions that feature walking for transportation as a key, central component and that will generate pedestrian-oriented policies, prioritized project lists and program recommendations in areas identified as being of countywide significance in this plan.

6 | COSTS AND REVENUE

The "Countywide Priorities" chapter describes the vision and priority systems of pedestrian facilities and the walking-related programs that are needed to meet the plan vision and goals. This chapter focuses on what it will cost to implement these countywide priorities, and what resources are available. It has five main sections:

- Detailed estimated costs to construct the pedestrian vision system
- Estimated costs to maintain the system
- Estimated costs to implement the walking programs
- Estimated costs to develop and update local pedestrian master plans
- Expected revenue for pedestrian projects and programs over the life of the plan

As detailed in the pages that follow (and summarized in Table 6.1), the estimated cost to build and maintain the pedestrian vision system, to deliver the plan's programs and to prepare local master plans is approximately $2.4 billion.

Table 6.1 | Summary of costs and revenue, 2012–2040

In millions; rounded to nearest $100,000

Costs*	**$ 2,397.8**
• Construction of capital projects	$ 1,718.5
• Maintenance of capital projects	$ 598.1
• Programs implementation	$ 75.9
• Local master plans	$ 5.4
Revenue	**$ 495.7**
Funding gap (costs minus revenue)	**$ 1,902.1**

* Includes some shared costs with the Countywide Bicycle Plan, as shown in Table 6.2.

In the next 28 years, Alameda County jurisdictions and agencies can expect approximately $500 million to implement these projects, programs and plans of countywide significance.

A key purpose of estimating costs and revenue is to determine the funding gap for implementing the plan. The difference between estimated costs and projected revenue for projects in the Pedestrian Plan —the funding gap—is approximately $1.9 billion. Put another way, the projected revenue for countywide projects is only 21% of the estimated costs. Changing

any of the assumptions that form the basis of the cost and revenue calculations will change the figures somewhat. However, it will not change the fact that the cost to deliver the pedestrian projects, programs and plans of countywide significance greatly exceeds projected revenue.

> The difference between estimated costs and projected revenue for projects in the Pedestrian Plan is approximately $1.9 billion.

To begin to address this funding gap, the "Countywide Priorities" chapter identifies the priority pedestrian system, which further focused the vision categories and project types for funding in the next four years, before this plan is again updated. Alameda CTC, through its planning and funding processes, will also need to prioritize potential projects and programs through future grant funding cycles, using the grant evaluation criteria, so that the most critical needs are funded first. Besides administering the existing countywide funding sources, it is equally important for Alameda CTC and local agencies to seek additional sources of revenue to address the funding gap in order for this plan to be fully implemented. By highlighting the gap between costs and revenues for pedestrian improvements and programs, this document can serve as a valuable advocacy tool for bringing much-needed attention and resources to the state of walking in Alameda County.

All costs and revenues are given in 2012 dollars. In cases where the available costs and revenue amounts were from earlier years, they have been escalated to 2012 using the Bureau of Labor Statistics' inflation index for the Bay Area[8]. Note that the costs and revenues in this chapter are not directly comparable to those in the Countywide Transportation Plan, which were estimated in 2013 escalated dollars.

Comparison to 2006 Pedestrian Plan

The total cost to implement this plan is about two and a half times higher than the cost reported in the 2006 Pedestrian Plan, while the projected revenue has more than doubled. (An explanation of the difference in revenues between the first plan and this update is included in the revenue section.) As for the increase in costs, inflation and the expansion of the plan life from 25 to 28 years are in small part responsible, but the more significant reasons are the following:

- For construction costs, which almost doubled, the expansion of the pedestrian vision system to include one central business district (CBD) per jurisdiction, and the addition of the communities of concern category. In addition, the improved cost estimate to implement the three major countywide trails helped to increase the inter-jurisdictional trail costs by a factor of close to seven.
- The 2006 Plan did not include any cost estimates for maintenance, which totals $598 million in this plan.
- Program costs increased by a factor of 10, with the addition of many more programs and the inclusion of the full program costs (including setup and ongoing), especially for large programs like Safe Routes to Schools.
- The costs for the local master plans doubled, due to assuming more frequent plan updates, to meet new Alameda CTC requirements for up-to-date plans.

Shared Countywide Pedestrian and Bicycle Plan costs

Because the Pedestrian and Bicycle Plans were updated in tandem, the cost and revenue estimates for both plans were developed at the same time using consistent assumptions. While most of the estimates were calculated as plan-specific figures, both plans include some of the same multi-use trails (including the East Bay Greenway, Bay Trail and Iron Horse Trail), and the full construction and maintenance costs of approximately $633 million for these trails was included in each individual plan. Table 6.2 below shows how these costs can be split evenly between the two plans, for a total non-duplicating cost of roughly $2.7 billion to implement both plans. When viewed together, the combined revenue expected to be available to implement the Bicycle and Pedestrian Plans is $820 million. The funding gap for both plans is therefore roughly $1.9 billion; the combined projected revenue is estimated to cover 30% of the estimated total combined costs.

[8] At the time this chapter's figures were estimated, the inflation index provided values up to 2010; the index value for 2011 and for 2012 was assumed to be the same as for 2010.

Table 6.2 | Combined Bicycle and Pedestrian Plans non-duplicating costs and revenue, 2012–2040

In millions; rounded to nearest $100,000

	Bicycle Plan	*Pedestrian Plan*	*Total (non-duplicating) costs*
Costs	**$ 626.7**	**$ 2,081.3**	**$ 2,708.0**
Construction of capital projects	$ 424.9	$ 1,459.3	$ 1,884.2
• Shared costs for multi-use trails	$ 259.1	$ 259.1	$ 518.2
• Remaining Plan construction costs	$ 165.8	$ 1,200.2	$ 1,366.0
Maintenance of capital projects	$ 124.8	$ 540.6	$ 665.5
• Shared costs for multi-use trails	$ 57.4	$ 57.4	$ 114.9
• Remaining Plan maintenance costs	$ 67.4	$ 483.2	$ 550.6
Programs implementation	$ 71.6	$ 75.9	$ 147.5
Local master plans	$ 5.4	$ 5.4	$ 10.8
Revenue	**$ 324.3**	**$ 495.7**	**$ 820.0**
Funding gap between costs and revenue	***$ 302.4***	***$ 1,585.6***	***$ 1,888.0***

Costs: Construction of capital projects

This section provides estimates of the cost to complete the full pedestrian vision system. The objective was to develop a single cost figure for each category of vision projects, rather than individual cost estimates for specific projects. The total estimated cost to construct the roughly 2,200 miles of unbuilt pedestrian facilities in the vision system is approximately $1.7 billion over 28 years, or $61.4 million annually. The cost is broken down by improvements for each of the following five countywide vision categories (see Table 6.3 below):

1. Access to Transit

- **Major bus corridors:** Improvements both along the corridors and within a half mile walking distance of the corridor
- **Rail and ferry stations:** Improvements to walking access to BART, ACE, and Capitol Corridor stations; and to Alameda/Oakland ferry terminals

2. Access within Central Business Districts

Improvements to walking access within central business districts (CBDs)

3. Access to Activity Centers

Improvements in access to major activity centers

4. Inter-jurisdictional trails

Completing the three major countywide trails (Bay Trail, Iron Horse Trail and East Bay Greenway) and the other trails in the vision system, and improvements to on-street (i.e. sidewalk) facilities where no off-street trails are currently feasible

5. Communities of concern

Improvements in communities of concern that enhance access to local transit serving major transit stations and stops, and providing access to CBDs

Table 6.3 | Construction costs

2012 dollars, in millions; rounded to nearest $100,000

Vision category and sub-category	*Unbuilt mileage**	*Cost***	*% of total cost*
1. Access to transit			
• Major bus corridors	1,196	$ 559.3	33%
On corridors	*138*	*$ 220.7*	
Half-mile access to corridors	*1,058*	*$ 338.6*	
• Rail and ferry stations	272	$ 317.1	18%
At stations	*25*	*$ 158.7*	
Half-mile access to stations	*248*	*$ 158.4*	
2. Access within CBDs	**83**	**$ 264.4**	**15%**
3. Access to major activity centers	**23**	**$ 3.6**	**0.2%**
4. Inter-jurisdictional trails***	**108**	**$ 529.8**	**31%**
• Major countywide trails	82	$ 508.3	
• Other countywide trails	8	$ 9.9	
• Sidewalk trail facilities	18	$ 11.6	
5. Communities of concern	**552**	**$ 44.1**	**3%**
Total	**2,233**	**$ 1,718.5**	**100%**

* Because many of the vision categories overlap with each other, to the extent feasible the overlapping mileages have been subtracted from the unbuilt mileages of each category, as described in the detailed cost estimate assumptions in Appendix W. Therefore, the numbers shown here do not reflect the entire mileages for each individual vision category.

** Numbers may not add up due to rounding.

*** Some of these costs can be shared with the Countywide Bicycle Plan (see Table 6.4).

Although this plan includes the capital (and maintenance) costs for pedestrian projects as stand-alone projects, many of these improvements could also be built into a jurisdiction's overall street and streetscape maintenance program or combined with other new capital projects, per a complete streets policy approach. In addition, shared construction costs can be expected between combined bicycle and pedestrian projects, namely for inter-jurisdictional trails. The impact of these shared costs is addressed in Table 6.4.

Shared construction costs with Countywide Bicycle Plan

Some duplication exists between the Countywide Pedestrian Plan capital costs and those included in the Countywide Bicycle Plan, namely for constructing the multi-use trails. Table 6.4 below identifies that there is $518.2 million in shared capital costs for multi-use trails: $508.3 million for the three major countywide trails and $9.9 million for the other trails that are in both plans. When combining the costs of the two plans, these shared costs should be split equally between the plans, as shown.

Table 6.4 | Combined Pedestrian and Bicycle Plans construction costs

2012 dollars, in millions; rounded to nearest $100,000*

	Bicycle Plan	*Pedestrian Plan*	*Total (non-duplicating) costs*
Class I (multi-use path)	**$ 310.9**	**$ 259.1**	**$ 570.0**
• *Major countywide trails (81.5 miles)*	*$ 254.2*	*$ 254.2*	*$ 508.3*
• *Other trails in both plans (8.2 miles)*	*$ 4.9*	*$ 4.9*	*$ 9.9*
• *Trails only in Bicycle Plan (43.1 miles)*	*$ 51.8*	*$ --*	*$ 51.8*
Remaining Plan construction costs	$ 114.0	$ 1,200.2	$ 1,314.2
Total non-duplicating Bicycle and Ped Plans costs	**$ 424.9**	**$ 1,459.3**	**$ 1,884.2**

* Numbers may not add up due to rounding.

Cost estimating methodology

This plan uses a new, simplified method of calculating the cost of the pedestrian vision system as compared to the 2006 Countywide Plan. While the 2006 Plan looked at specific types of infrastructure and their frequency of use for each "area of countywide significance" (called "vision category" in this plan), in this plan all of the capital cost estimates, except for the construction of multi-use trails (which were based on detailed cost estimates and other assumptions), are based on an average cost per mile of a real-world project.

A "typical" pedestrian project designed to serve a central business district (CBD) was identified, and its per mile cost was calculated. A project was selected that includes improvements comparable to what is envisioned in the vision categories, i.e. the improvements are more focused on access and safety, and less on business frontage improvements and streetscape amenities, which might be found in a gateway-type project. The "typical" project has existing sidewalks on both sides of the street and consists of the following elements over the course of one mile: landscaped corner bulbs and extension of medians at seven intersections; new traffic signals at two intersections; upgraded traffic signals at four intersections; two lighted mid-block crossings and mid-block bulb-outs with trees; pedestrian-scale lighting spaced at 100-foot intervals; slurry sealing and restriping. The cost of such a project is estimated to be $3.2 million per mile, including design costs, based on the cost of a similar project on Military West, a street in Benicia, California. This project was selected after unsuccessfully searching within Alameda County for a recently constructed project with readily available cost data, that also met the objectives described above. Although this project is not in Alameda County, it is similar to an "average" downtown street in the county. Also, even though this project is not within a downtown, it provides access to a downtown and the scale of improvements are considered appropriate for a typical downtown street.

This "typical" project for a downtown or central business district (CBD) street was used as the starting point for calculating the per mile cost for the other vision categories. For each of the five vision categories, a percentage of this typical pedestrian project cost was used, varying with the expected pedestrian usage, or volumes (see Table 6.4 below). Generally, the higher the number of expected pedestrians, the higher the intensity of the improvements needed. Further rationale for these percentages is included in the descriptions below for each category cost. Although the typical project includes the very specific infrastructure types and amounts listed above, it is understood that each project within a vision category will be designed for its context and is not likely to include these exact elements.

Interestingly, with this new methodology approach, the per mile costs are in the same general range as those used in the 2006 Countywide Pedestrian Plan, except in several cases where the older costs were deemed to be too low.

Further, for all vision categories except inter-jurisdictional trails, it was assumed that 20% of the needed pedestrian improvements are existing (or "built") and 80% are unbuilt (i.e. still need to be constructed). This assumption was developed since there is no countywide inventory of all pedestrian facilities included in this plans' vision system, so there is no way to know which parts of the system are built and which still need to be constructed. This assumption was made based on professional judgment of what a reasonable split might be. It is thought to be a conservative estimate. The next plan update will attempt to refine this estimating assumption. For inter-jurisdictional trails, it is known that 43% of the multi-use trail mileage is unbuilt.

Table 6.5 | Pedestrian vision category per mile costs

Vision Category	*Percent of typical ($3.2M/ mile)**	*Cost/mile*
1. Access to transit		
• Major bus corridors		
On corridors	50%	$ 1,600,000
Half mile access to corridors	10%	$ 320,000
• Rail and ferry stations		
At stations	200%	$ 6,400,000
Half mile access to stations	20%	$ 640,000
2. Access within CBDs	100%	$ 3,200,000
3. Access to major activity centers	5%	$ 160,000
4. Inter-jurisdictional trails (sidewalk trail facilities only)	20%	$ 640,000
5. Communities of concern	10%	$ 320,000

* Percentages are based on the relative level of intensity of pedestrian use, based on staff and consultants' professional judgment. In most cases, they are in line with the costs used in the 2006 Pedestrian Plan. Generally, the higher the pedestrian volumes, the higher the percentage.

Below, and in Appendix W, are the detailed cost estimates for the five pedestrian vision categories and the additional assumptions used to arrive at these estimates. The estimates serve as a "ballpark" guide to expected costs. This level of cost information is useful as a sketch-level planning tool for comparing the cost of improvements across the vision categories, and for estimating the total cost to implement the capital projects in the plan. It should not, however, be used to make decisions about specific project costs, since these are broad-brush approximations that, in most cases, do not account for all project conditions. More specific project costs will be developed by the local agencies when projects are submitted for funding.

Costs by vision category

Access to transit

Major bus corridors

As described in the "Countywide Priorities" chapter, this vision category includes pedestrian improvements both along the major bus corridors and within the half-mile walking distance of the corridor bus stops. Corridor and half mile access to corridor improvements are intended to include elements that improve safety, access and convenience for people walking to the bus stop; these could include a broad range of street crossing and streetscape improvements. Improvements along the bus corridor, where presumably more people are walking, are assumed to be of a higher intensity than the improvements on the routes leading to the corridor. Accordingly, the per mile cost used for corridor improvements is estimated at $1.6 million, or 50 percent of the typical pedestrian project, while the half mile access improvements are calculated at $320,000 per mile, or 10% of the ideal project (see Table 6.4). The cost estimates developed for this category are not meant to include amenities at bus stops, such as shelters and benches, or trash cans and decorative lighting. These transit stop amenities, while important, are considered to be transit-related (as opposed to purely pedestrian) improvements, and therefore would be included in transit planning cost estimates. Table 6.6 shows the cost of improvements to major bus corridors using these methodologies and assumptions. The cost calculations are further described in Appendix W.

Table 6.6 | Major bus corridors capital costs

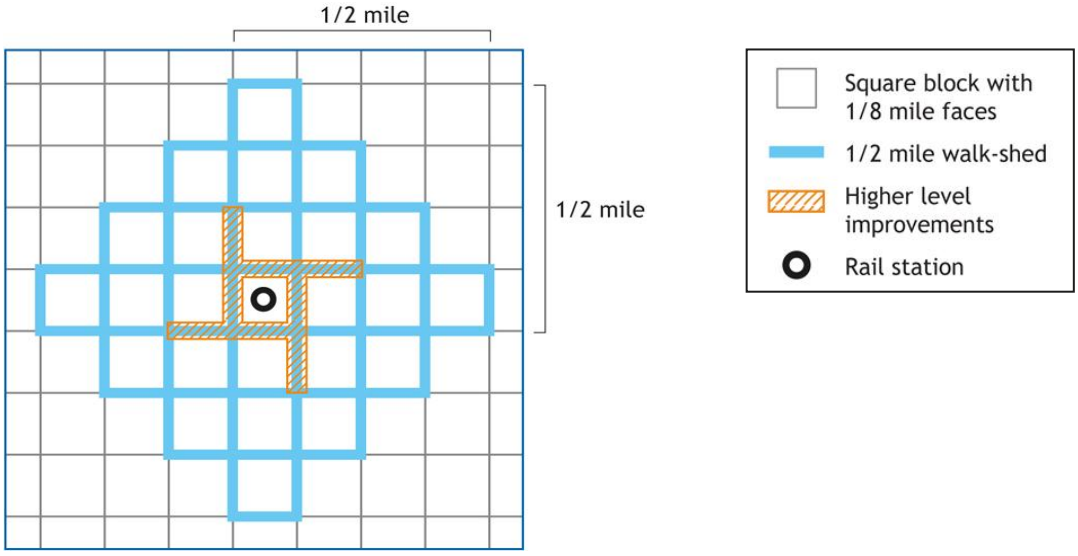
	Unbuilt miles	*Total cost (in millions)*
On corridors	138	$ 220.7
Half mile access to corridors	1,058	$ 338.6
Total	**1,196**	**$ 559.3**

Rail and ferry stations

Like pedestrian bus access, access improvements to rail and ferry stations also include two levels of improvements in two distinct areas: the immediate station area and the streets within a half mile that lead to the station area. The types of improvements, similar to those for access to bus corridors, are intended to include elements that improve safety, access and convenience for people walking to the rail stations and ferry terminals; these could include a broad range of street crossing and streetscape improvements.

The immediate station area (called "at station") is targeted for the most intensive level of improvements and is made up of the block faces immediately surrounding the station, plus one block length in each of the four cardinal directions, as shown in Figure 6.1.

Figure 6.1 | Walk access to rail stations



The "at station" area, due to the high number of pedestrians accessing rail transit (and to a lesser degree ferries), combined with the focus in both this plan and the Countywide Transportation Plan on improving transit and increasing ridership, is intended to have the highest level of pedestrian improvements in this plan, at $6.4 million per mile, or 200% of the typical pedestrian project cost per mile. The remaining streets within a half mile walking distance to the station (from all directions) are calculated to have a lesser level of improvements—$640,000 per mile, or 20% of the typical pedestrian project costs per mile—since the area is further from the station and there are expected to be relatively fewer pedestrians served than in the immediate station area.

There are total number of 33 rail stations and ferry terminals in Alameda County, and the average cost per station, for all access improvements, is $9.6 million. Table 6.7 shows the cost of improvements to rail and ferry stations using these methodologies and assumptions. The cost calculations are further described in Appendix W.

Table 6.7 | Rail and ferry stations capital costs

	Unbuilt miles	*Total cost (in millions)*
At station	25	$ 158.7
Half mile access to station	248	$ 158.4
Total	**272**	**$ 317.1**

Access within Central Business Districts

This vision category includes making pedestrian safety and access improvements within the 16 Central Business Districts (CBDs) identified in the "Countywide Priorities" chapter. The types of improvements are intended to include a broad range of street crossing and streetscape improvements that would encourage walking. Since the typical pedestrian project cost per mile is roughly based on a downtown, the per mile cost for CBD access improvements is estimated at $3.2 million, or 100% of the typical pedestrian project cost. The total cost of $264.4 million is based on 83 unbuilt miles, calculated by taking 80 percent (the assumed unbuilt percentage) of the mileage within the boundaries of each CBD area. The cost calculations are further detailed in Appendix W.

Access to activity centers

This vision category is focused on improving the connection between the 113 major activity centers identified in the "Countywide Priorities" chapter and nearby transit stations and stops. The types of improvements are intended to include crosswalk and sidewalk improvements that create safe and continuous access. The per mile cost for access to activity center improvements is estimated at $160,000, or 5% of the typical pedestrian project cost, since the volume of pedestrians in these areas is expected to be low relative to the other vision categories.

The total vision category cost of $3.6 million is based on 23 unbuilt miles, which was calculated by multiplying the total number of activity centers by a 1/8-mile link to each of the two closest transit stops and stations, and multiplying by 80 percent to obtain the unbuilt miles. The average cost per activity center is therefore $32,000 to make improvements to the existing infrastructure. The cost calculations are further described in Appendix W.

Inter-jurisdictional trails

This vision category includes completing the ten inter-jurisdictional trails identified in the "Countywide Priorities" chapter, and any needed intersection improvements along the trails. It includes completing the three major countywide trails (Bay Trail, Iron Horse Trail, and East Bay Greenway) and seven other inter-jurisdictional trails, which total 108 unbuilt miles (see Table 6.8).

The planned inter-jurisdictional trails in the pedestrian vision system were divided into three types and cost estimates were developed as detailed below. Table 6.8 shows the costs of capital improvements to the inter-jurisdictional trails using these methodologies and assumptions. (Note that the two categories of Class I multi-use trail facilities are also included in the Countywide Bicycle Plan capital cost calculations, since these trails also serve bicyclists. See Table 6.4 for an explanation of how these costs can be shared between the two plans.)

Major countywide trails (Bay Trail, Iron Horse Trail and East Bay Greenway)

The total cost is based on an Alameda CTC estimate to complete these three trails, developed using the available feasibility studies and in consultation with local agencies and other applicable staff.

Seven remaining trails

The cost is based on the consultants' per mile estimate for Class I multi-use pathways, based on recent local cost estimates and cost estimates for similar projects in local bicycle plans.

Sidewalk facilities for the inter-jurisdictional trails

This category is for facilities that will be built where there is no near-term ability to build a Class I multi-use path, and therefore the trail facility will be a combination of a sidewalk (for pedestrians) and a bicycle lane or bicycle route (for bicyclists). The cost is based on $640,000 per mile, which is 20% of the typical pedestrian project cost per mile, and is intended for improvements that will make these facilities visible and safe to use.

Table 6.8 | Inter-jurisdictional trails capital costs

	Unbuilt mileage	*Cost per mile (in millions)*	*Total cost (in millions)*
Major Countywide Trails: East Bay Greenway, Bay Trail, Iron Horse Trail	82	N/A*	$ 508.3
Seven remaining trails	8	$ 1.2	$ 9.9
Sidewalk facilities	18	$ 0.64	$ 11.6
Total	**108**		**$ 529.8**

* Facility-specific cost estimates were available, so per mile cost assumptions were not needed.

Communities of concern

This vision category includes improving pedestrian safety and access to transit within the five communities of concern identified in the "Countywide Priorities" chapter. The improvements are intended to enhance pedestrian access within a quarter mile of those local transit stops in communities of concern that serve major transit stations and stops, and the CBDs. The types of improvements are intended to include crosswalk and sidewalk improvements that create safe and continuous access. The per mile cost for communities of concern improvements is estimated at $320,000, or 10% of the typical pedestrian project cost, the same level as that used for the half mile access to bus corridors category. The total cost of $44.1 million is based on 552 total unbuilt miles. This mileage was calculated by taking one quarter of all of the roadway miles within the five communities of concern as an estimate of those streets that serve local transit, and then multiplying it by 80 percent, for the assumed unbuilt portion. The cost calculations are further described in Appendix W.

Costs: Maintenance of capital projects

Maintenance of pedestrian infrastructure is critical for a usable and safe pedestrian system. Over time, it will also keep total jurisdictional costs lower, since delaying, or not performing, maintenance can result in claims to local jurisdictions, which are expensive. This section provides estimates of the cost to maintain the pedestrian facilities in the vision system. (The 2006 Pedestrian Plan did not include a cost estimate for maintenance.) The total estimated maintenance cost for pedestrian facilities of countywide significance over the 28 year life of the plan is approximately $600 million, or $21 million annually. The cost is broken down in Table 6.9 below for the facilities within each of the five countywide vision categories.

Just like constructing capital projects, the maintenance of pedestrian facilities need not be stand-alone projects; they can also be built into overall street maintenance costs, per a complete streets policy approach.

Maintenance costs were estimated separately for built and unbuilt facilities for each vision category, for the full 28 year life of the plan. For all vision categories except multi-use trails, maintenance costs are calculated at 2% annually of the total cost to construct the facilities. Although essential for creating a safe and comfortable walking environment, the cost of maintaining basic sidewalk infrastructure is not included in this plan, as these costs have not been included in the construction costs, since it is assumed that sidewalks are already in place. As noted in the capital costs section, it was assumed that 20% of the pedestrian facilities are constructed, and 80% are unconstructed. Further details of the cost assumptions are provided in Appendix Y.

Table 6.9 | Maintenance costs, 2012–2040

In millions; rounded to nearest $100,000*

	Built		*Unbuilt*		*Total maintenance cost*	*Percent of total cost*
Vision category	*mileage***	*cost*	*mileage***	*cost*		
1. Access to transit						**57%**
• Major bus corridors	299	$ 78.3	1,196	$139.8	$ 218.1	36%
On corridors	*34*	*$ 30.9*	*138*	*$ 55.2*	*$ 86.1*	
Half mile access to corridors	*265*	*$ 47.4*	*1,058*	*$ 84.7*	*$ 132.1*	
• Rail and ferry stations	68	$ 44.4	272	$ 79.3	$ 123.7	21%
At stations	*6*	*$ 22.2*	*25*	*$ 39.7*	*$ 61.9*	
Half mile access to stations	*62*	*$ 22.2*	*248*	*$ 39.6*	*$ 61.8*	
2. Access within CBDs	**21**	**$ 37.0**	**83**	**$ 66.1**	**$ 103.1**	**17%**
3. Access to major activity centers	**6**	**$ 0.5**	**23**	**$ 0.9**	**$ 1.4**	**0.2%**
4. Inter-jurisdictional trails	**152**	**$103.0**	**108**	**$ 31.5**	**$ 134.5**	**22%**
• Major countywide trails	105	$ 75.1	82	$ 26.0	$ 101.1	
• Other countywide trails	16	$ 11.2	8	$ 2.6	$ 13.8	
• Sidewalk trail facilities	31	$ 16.7	18	$ 2.9	$ 19.6	
5. Communities of concern	**138**	**$ 6.2**	**552**	**$ 11.0**	**$ 17.2**	**3%**
Total	**683**	**$269.4**	**2,233**	**$328.7**	**$ 598.1**	**100%**

* Numbers may not add up due to rounding.

** Because many of the vision categories overlap with each other, to the extent feasible, the overlapping mileages have been subtracted from the total (built and unbuilt) miles, as described in the detailed cost estimate assumptions in Appendix W. Therefore, the mileages shown here do not reflect the entire mileages for each individual vision category.

Shared maintenance costs with the Countywide Bicycle Plan

As for the capital costs, some of the maintenance costs are shared with those included in the Countywide Bicycle Plan. Table 6.10 below identifies that there is approximately $115 million in shared maintenance costs for multi-use trails: $101.1 million for the three major countywide trails and $13.8 million for the other trails that are in both plans. When combining the costs of the two plans, these overlapping costs should be split equally between the two plans.

Table 6.10 | Combined Pedestrian and Bicycle Plans maintenance costs

2012 dollars, in millions; rounded to nearest $100,000*

	Bicycle Plan	*Pedestrian Plan*	*Total (non-duplicating) costs*
Class I (multi-use path)	$ 94.3	$ 57.4	$ 151.7
• *Major countywide trails (186.7 miles)*	*$ 50.5*	*$ 50.5*	*$ 101.1*
• *Other trails in both plans (23.9 miles)*	*$ 6.9*	*$ 6.9*	*$ 13.8*
• *Trails only in Bicycle Plan (75.5 miles)*	*$ 36.9*	*$ --*	*$ 36.9*
Remaining Plan maintenance costs	$ 30.5	$ 483.2	$ 513.7
Total non-duplicating Bicycle and Ped Plan costs	**$ 124.8**	**$ 540.6**	**$ 665.5**

* Numbers may not add up due to rounding

Costs: Programs

The "Countywide Priorities" chapter describes 11 pedestrian-related programs that will support implementation of the Pedestrian Plan goals and Alameda CTC's role for each program, either through monetary contributions (in the form of grants to local jurisdictions and organizations or by hiring consultants) or by dedicating Alameda CTC staff time. The total estimated cost to implement the programs through the year 2040 is approximately $75.9 million (see Table 6.11 below). Of this total amount, Alameda CTC will likely contribute some funding through its discretionary grant programs, but other funding sources will also be necessary to fully implement the programs. For programs that are also included in the Bicycle Plan, half the cost has been assigned to that plan and half to the Pedestrian Plan with two exceptions (the multi-modal traffic school program and the community-based transportation plans), as described in detail in Appendix AA. The combined (non-duplicating) total cost to implement the programs in both the Countywide Pedestrian and Bicycle Plans is $147.5 million.

The program costs presented here have three components: (i) start-up costs, for new programs or program elements, (ii) annual operating costs and (iii) costs to operate programs over their lifetime (typically 28 years but shorter for certain programs and program elements, depending on the implementation timeframe identified for each program in the "Countywide Priorities" chapter). Detailed cost estimates are based on past costs of ongoing programs, costs of similar programs elsewhere in the country and other estimates and assumptions described for each program in Appendix AA.

In addition to direct costs, implementation of the programs will require the time of Alameda CTC staff and in-house consultants to develop and implement the programs. These costs have not been included in the program cost estimates. Since 2003, Alameda CTC has had a countywide bicycle and pedestrian coordinator, as required in the 2000 transportation sales tax measure. The agency's current overall bicycle and pedestrian staffing level is approximately one full-time equivalent (FTE) (an FTE consists of 2,080 work hours in a year, or 40 hours a week for 52 weeks). Implementing the additional programs recommended in this plan (and the Bicycle Plan) will require additional staff resources, the level of which will need to be determined as the programs are further scoped and initiated.

Table 6.11 | Program costs*, 2012-2040
2012 dollars; rounded to nearest $1,000

	Start-up	*Operating, annually*	*Yrs***	*Operating, life-time*	*Total cost (including bicycling portion of program)*	*Ped Plan (only) costs*
Promotion						
1. Countywide walking promotion	$ 8,000	$ 28,000	28	$ 784,000	$ 792,000	$ 792,000
2. Individualized travel marketing	$ 480,000	$ 300,000	3	$ 900,000	$ 1,380,000	$ 690,000***
3. Programs in community-based transportation plans (CBTPs)	$ --	Varies	Var.	$ 2,126,000	$ 2,126,000	$ --^
Safety						
4. Safe routes to schools	$ 110,000	$ 4,301,000	24/ 28	$ 116,744,000	$ 116,854,000	$58,427,000***
5. Safe routes for seniors	$ 100,000	$ 471,000	28	$ 13,183,000	$ 13,283,000	$ 13,283,000
6. Multi-modal traffic school	$ 80,000	$ 16,000	24	$ 384,000	$ 464,000	$ --^^
7. Countywide safety campaign	$ 100,000	$ 150,000	24	$ 3,600,000	$ 3,700,000	$1,850,000***
Technical support & info sharing						
8. Technical tools and assistance	$ --	$ 55,000	28	$ 1,540,000	$ 1,540,000	$ 770,000***
9. Staff training and information sharing	$ --	$ --	28	$ --	$ --	$ --^^^
10. Multi-agency project coordination	$ --	$ --	24	$ --	$ --	$ --^^^
11. Collaborative research	$ --	$ 7,000	24	$ 168,000	$ 168,000	$ 84,000***
Total for Pedestrian Plan	**$ 878,000**	**$5,328,000**				**$ 75,896,000**

* The order of this list of programs does not denote any priority. Also, the costs do not include costs for Alameda CTC staff or in-house consultants.
** The number of years shown reflects the timeframe for each program, as described in the "Countywide Priorities" chapter.
*** Costs split equally with the Bicycle Plan.
^ The CBTPs include a wide variety of programs, many of which are included under other program categories (e.g. Safe Routes to Schools). Currently the CBTP's do not include any stand-alone pedestrian programs, but future CBTP's will likely include them.
^^ Costs for the pedestrian portion of this program are only for staffing, which are not included in this table.
^^^ Costs to implement this program are primarily for Alameda CTC staffing, which is not included in overall program costs.

Costs: Plans

One of the goals of the Pedestrian Plan is to ensure that all jurisdictions in Alameda County have an adopted, up-to-date local pedestrian master plan. In 2012, 11 out of the 15 jurisdictions had an adopted stand-alone pedestrian plan or combined pedestrian/bicycle plan, or were in the process of developing one (see "Countywide Priorities" chapter). The estimated cost of preparing and updating local pedestrian master plans through 2040 is $5.4 million, as shown in Table 6.12.

Table 6.12 | Plan development and update costs, 2012–2040

2012 dollars; rounded to nearest $500

Type of plan	*Costs*
Small jurisdictions (under 50,000 population)	$ 790,000
Medium-size jurisdictions (50,000 to 100,000 population)	$ 1,088,000
Large jurisdictions (100,000 to 250,000 population)	$ 1,962,000
Very large jurisdictions (over 250,000 population)	$ 1,250,000
Other non-local agencies (to be determined)	$ 350,000
Total	**$ 5,440,000**

- **"Small" jurisdictions** in Alameda County are Albany, Dublin, Emeryville, Newark and Piedmont
- **"Medium" jurisdictions** are Alameda (city), Livermore, Pleasanton, San Leandro and Union City
- **"Large" jurisdictions** are Alameda County (for the unincorporated areas), Berkeley, Fremont and Hayward
- Oakland is the only **"very large" jurisdiction** in Alameda County
- **Other non-local agencies** will be determined, but could include AC Transit and UC Berkeley

In arriving at these estimated costs, the assumption was made that plans would be updated every five years (to comply with Measure B local pass-through funding requirements). For local jurisdictions with combined pedestrian/bicycle plans, half of the cost of the new plan or plan update was included in this estimate; the other half is included in the Countywide Bicycle Plan cost estimates. Additional assumptions, and costs by local jurisdiction, are listed in Appendix BB.

Revenue

Through 2040, an estimated $495.7 million in revenue is expected to be available to implement the pedestrian projects and programs contained in this plan for Alameda County (see Table 6.13 below and Appendix CC). This estimate considers potential revenue from the most likely funding sources at the federal, state and regional levels and Alameda CTC. The funding sources are divided into two broad categories: (i) those with funds dedicated to pedestrian (and bicycle) projects in Alameda County and, (ii) sources under which pedestrian projects in Alameda County would have to compete for grants against similar projects elsewhere or against non-pedestrian projects. The revenue estimate assumes that existing funding sources will continue through the life of the Pedestrian Plan. This is a reasonable assumption because funding sources tend to continue once they are established and proven, and because when sources do cease to exist, new ones serving similar purposes often appear to take their place.

The estimate does not include local funding sources (for example, general funds, traffic impact fees, or property owner and developer contributions) or non-traditional sources (such as public health agencies) because these are difficult to project and would be much less reliable for planning purposes than the conventional sources included here. The estimate also does not include one-time, special-purpose infusions of funds like the federal government's stimulus act of 2009. Some level of funding from unanticipated sources is likely during the life of the Pedestrian Plan but is impossible to estimate.

While the plan costs are broken down by capital projects, maintenance, programs, and master plans, there is no way to know how much revenue will be available for each of these categories. Some funding sources, including Measure B, are extremely flexible and can be used for many types of activities, but others are more limited. Therefore, some project

categories may receive relatively more funding than others.

The revenue estimates summarized in Table 6.13 and Appendix CC are based for the most part on historic levels of actual funds received for pedestrian projects from ongoing programs and on a number of other estimates and assumptions described in detail for each funding source in Appendix DD.

All revenue estimates are in 2012 dollars, and have not been escalated. (This is in contrast to the estimates in the Countywide Transportation Plan and the Transportation Expenditure Plan, which are in year-of-expenditure and 2042 escalated dollars, respectively.) It should be remembered that the revenue estimates given here are best guesses. Actual revenue will likely differ from the projections for a number of reasons. These include the eventual funding availability from the federal and state governments, grant applications submitted by Alameda County jurisdictions, and the success rate under competitive funding sources of these applications.

As with costs, the development of estimated revenue was coordinated with the estimate for the Bicycle Plan. This was done to prevent double-counting of projected revenue and to allow the revenue projections in the two plans to be summed to arrive at the total projected revenue for non-motorized transportation (see Appendix CC for a table showing anticipated revenue for both plans).

Table 6.13 | Projected revenue for countywide projects, programs and plans

2012 dollars in millions; rounded to nearest $100,000

Dedicated pedestrian/bicycle sources in Alameda County	
Measure B/TEP - Bicycle/pedestrian safety; local pass-through	$ 63.6
Measure B/TEP - Bicycle/pedestrian safety; countywide discretionary	$ 56.2
Measure B/TEP - Bicycle/pedestrian safety; major regional trails	$ 83.1
Measure B/TEP - Local streets & roads pass-through	$ 69.2
MTC - Safe Routes to School	$ 7.5
Transportation Development Act (TDA) Article 3	$ 10.5
Vehicle Registration Fee - Bicycle/pedestrian grants	$ 7.1
Competitive sources	
OneBayArea Grant program	$ 89.2
MTC – Climate change initiatives	$ 1.4
MTC – PDA planning grants	$ 3.5
Safe Routes to Transit (SR2T)	$ 8.4
Safe Routes to School (SRTS) – Federal	$ 11.8
Safe Routes to School (SR2S) – State	$ 12.0
TFCA – Regional Fund	$ 0.0
TFCA – County Program Manager Fund	$ 0.4
Lifeline Transportation Program	$ 38.6
Transportation Planning grant program	$ 0.7
Bay Trail Grant Program	$ 3.1
Bicycle Transportation Account	$ 2.5
Recreational Trails Program (RTP) – non-motorized	$ 5.6
Office of Traffic Safety	$ 3.7
STIP/Transportation Enhancements (TE)	$ 15.3
Highway Safety Improvement Program	$ 2.3
Total projected revenue for Pedestrian Plan	**$ 495.7**

For sources that can fund both bicycle and pedestrian projects, professional judgment and/or historical information was used to determine the percentage of funds that would be assigned to the Pedestrian Plan or the Bicycle Plan, depending on the purpose of the project. The main area of overlap for the two plans is for funding for multi-use pathways. As explained in the detailed revenue estimates in Appendix DD, half of projected revenue for multi-use pathways has been assigned to the Pedestrian Plan and half to the Bicycle Plan. The assumption is that, in general, multi-use pathways are of equal benefit to walkers and bicyclists.

Revenue projections were calculated first for all pedestrian projects (both local and countywide) in Alameda County. The total estimated revenue amount through 2040 for all pedestrian projects and programs (both local and countywide) is approximately $685.5 million, or $24.5 million annually (see Appendix CC for details by funding source). The amounts were then separated into those that are only locally-serving (applicants for grant funding are typically local jurisdictions, so funds are often used for projects of local, and not necessarily countywide, importance), and for countywide pedestrian projects included in this plan's vision system. This means that of the sources analyzed, it is assumed that $189.8 million would be spent on projects that are solely local and $495.7 would be spent on countywide projects.

Comparison to 2006 Plan

The 2006 Countywide Pedestrian Plan projected that approximately $194 million (in 2012 dollars) would be available for pedestrian projects included in the Plan in the 25 years through 2030, or $7.8 million annually. This plan projects $17.7 million annually, or more than doubling from 2006. There are several reasons for this increase in estimated annual revenue, of which the most significant are:

- This plan projects much higher revenue from Measure B (see the following section for descriptions of funding sources), since it assumes a one cent sales tax would begin to be collected in 2013, and continue through 2040, unlike the 2006 Plan which assumed the current half-cent sales tax would end in 2022.
- The 2006 plan did not include any revenue from the local streets and roads pass-through funding under Measure B for pedestrian projects.
- The 2006 plan did not include projected revenue from a number of MTC-administered funding sources for surface transportation; in this plan, such revenue is accounted for under the OneBayArea Grant program.
- This plan includes several sources that did not exist in 2006, including the Vehicle Registration Fee and the federal Safe Routes to School grant program.

Moreover, the 2006 plan projected that approximately $242 million (in 2012 dollars) would be available for all pedestrian projects in Alameda County (both local and countywide priorities) in the 25 years through 2030, or $9.7 million annually. Comparing revenue projections from the 2006 plan with actual revenue received for all pedestrian projects since then is difficult because the 2006 plan did not include all funding sources, as noted above, and because information about revenue received from some sources is not readily available. Nevertheless, it is instructive to note that in the five-year period from 2006 to 2010, Alameda County jurisdictions and public agencies received approximately $12.6 million annually for local and countywide pedestrian projects, an amount slightly greater than that projected in 2006. For comparison, this plan projects $24.5 million in annual revenue for all pedestrian projects (local and countywide combined), an amount double the annual average received over the previous five years.

Potential funding sources

Below are brief descriptions of the 23 potential funding sources considered in this plan (listed previously in Table 6.13). Appendix DD contains detailed estimates of the projected revenue from each of these sources, including the assumptions used to arrive at the estimates.

Dedicated pedestrian/bicycle sources in Alameda County

Measure B/Transportation Expenditure Plan – Bicycle/pedestrian category

The 2000 Measure B reauthorized Alameda County's half-cent transportation sales tax through 2022, and dedicated 5% of tax revenues to be spent on

pedestrian and bicycle improvements. This plan makes the same assumption as the 2012 Alameda Countywide Transportation Plan (CWTP), namely that the sales tax will be reauthorized in November 2012 at a higher one-cent level and that the tax will not expire, generating a total of $5,540 million in revenue through 2040. (Note that this revenue amount does not match those in the proposed Transportation Expenditure Plan (TEP) or the CWTP, since those amounts are given in 2042 and 2013 escalated dollars, respectively, while the totals in this plan are in 2012 dollars.)

The TEP, which guides the sales tax expenditures, assigns 8% of the net tax revenue to pedestrian and bicycle improvements. This is divided as follows:

- **Local pass-through:** 3%will be returned to the local jurisdictions, based on population, for spending on local priorities.
- **Countywide discretionary:** 2%will be allocated to Alameda CTC for projects and programs of a countywide nature.
- **Major regional trails:** 3%will be dedicated to implementing the three major regional trails.

Measure B/Transportation Expenditure Plan – Local streets and roads pass-through

Under the TEP (described above), 20% of net revenues are passed through to Alameda County's local jurisdictions to fund local streets and roads priorities. The TEP requires that a minimum of 15% of these funds must be spent on project elements directly benefitting pedestrians and bicyclists, which is 3% of the total sales tax revenue.

MTC – Safe Routes to School (SR2S)

For both capital projects and programs that facilitate reduction in vehicular travel to and from schools. Each county in the Bay Area is allocated a specific amount based on student population.

Transportation Development Act (TDA) Article 3

California's Transportation Development Act (TDA) imposes a quarter-cent tax on retail sales for transportation purposes. Tax revenues are returned to the county of origin and distributed to the cities and the county government on a population basis. Under Article 3 of the act, 2% of each entity's TDA allocation is set aside for pedestrian and bicycle facilities, safety programs and planning.

Vehicle Registration Fee – Bicycle/pedestrian grants

Fee approved by Alameda County voters as part of Measure F in November 2010, with collections begun in May 2011. The fee is anticipated to generate about $10.2 million per year in net revenue. Under the measure, 5% of the net fee revenue is required to be spent on pedestrian and bicycle improvements, as a competitive grant program.

Competitive sources

OneBayArea Grant program

Through its proposed OneBayArea Grant program, MTC intends to better integrate the region's transportation investments with its land use and housing policies. During the program's initial four years (2013–2016), 40% of the federal surface-transportation funds for the Bay Area, or $320 million, will be distributed to the county congestion management agencies (CMAs, including Alameda CTC) as "block grants." These grants give the CMAs broad discretion to spend funds in ways that address their transportation priorities, including Transportation for Livable Communities, local streets and roads preservation, bicycle and pedestrian improvements, transportation planning and outreach, and Safe Routes to Schools. However, for all counties except those in the North Bay, at least 70% of funds are required to be spent on projects in, or connecting to, Priority Development Areas. Of the $320 million total, approximately $63 million will be distributed to Alameda County in the first four year funding cycle.

MTC – Climate change initiatives

This regional program, administered by MTC, is intended for projects that support the implementation of strategies identified in Plan Bay Area to achieve the required CO2 emissions reductions per SB375 and federal criteria pollutant reductions. These could include projects to encourage walking.

MTC – Priority Development Area (PDA) Planning Grants

This regional program, administered by MTC, is part of the overall "PDA Activities" funding category. It will support local jurisdictions in planning for PDAs in areas such as promoting alternative modes of travel to the single occupancy vehicle (such as walking), parking management, and providing housing, jobs, intensified land use.

Safe Routes to Transit (SR2T)

Program administered by TransForm and the East Bay Bicycle Coalition that provides grant funds to local jurisdictions and special districts for planning and capital projects that improve walking and bicycling access to regional transit stations.

Safe Routes to School (SRTS) – Federal

One of two separate Safe Routes to School grant programs administered by Caltrans (see also below). It provides funding for grants to state, local and regional agencies among others for projects and programs that improve walking and bicycling access within two miles of a grade school or middle school.

Safe Routes to School (SR2S) – State

One of two separate Safe Routes to School grant programs administered by Caltrans (see also above). It provides funding grants to cities and counties for capital projects that improve walking and bicycling access near schools serving children in grades K–12.

Transportation Fund for Clean Air (TFCA)

The TFCA is a grant program of the Bay Area Air Quality Management District that funds projects to reduce air pollution from motor vehicles. It consists of two sub-programs: the Regional Fund and the County Program Manager Fund. The Regional Fund receives about 60% of TFCA revenues and is administered directly by the Air District. The remaining 40% is returned through the County Program Manager Fund to the CMAs for allocation. The TFCA funds a wide range of bicycle facilities and, less frequently, pedestrian projects.

Lifeline Transportation Program

Alameda CTC administered program, using MTC funding, for transportation projects and programs—including for walking and bicycling—that address the mobility and access needs of low-income communities throughout the Bay Area.

Transportation Planning grant program

Caltrans-administered program to fund a variety of transportation planning activities, including community-based transportation plans, transit plans, and projects and programs that address environmental justice concerns. The total amount, and even the availability, of grants vary from year to year.

Bay Trail grant program

The San Francisco Bay Trail Project—a non-profit organization administered by ABAG—provides funding grants to local governments, special districts and nonprofit organizations to plan, design, construct and improve segments of the Bay Trail alignment. The amount, and even the availability, of grants vary from year to year, depending on whether the Bay Trail Project has secured a source of funds for the program.

Bicycle Transportation Account

Caltrans-administered program that provides funding to cities and counties for projects that improve the safety and convenience of bicycle commuting. Some projects funded under the program—multi-use paths, for example—have benefits for pedestrians or include pedestrian elements or components.

Recreational Trails Program (RTP) – Non-motorized

Grant program administered by the California Department of Parks and Recreation to fund recreational trails and trails-related projects.

Office of Traffic Safety

For traffic safety education, awareness and enforcement programs aimed at drivers, pedestrians and bicyclists of all ages.

STIP/Transportation Enhancements (TE)

Federal funds provided by the state as grants, and programmed by Alameda CTC for projects that enhance the compatibility of transportation facilities with their surroundings, including for pedestrian and bicycle facilities and safety and educational activities.

Highway Safety Improvement Program

Caltrans-administered grant program for infrastructure projects that reduce traffic fatalities and serious injuries, including those that enhance safety for pedestrians and bicyclists.

7 | NEXT STEPS

Overview

The "Countywide Priorities" chapter identifies the capital projects, programs and planning efforts needed through the year 2040 to make walking in Alameda County safer, more convenient and more enjoyable. As a funding and planning agency, with responsibility for allocating several dedicated pedestrian (and bicycle) funding sources, Alameda CTC can play a key role in making the vision and goals of this plan a reality.

This chapter describes the implementation actions that Alameda CTC will undertake in the first five years of the plan's life (2013–2017) to begin to make the plan a reality in the near term and to set the stage for implementing the plan's medium- and long-term efforts. The focus is on a five year timeframe because this plan will be updated within the next four to five years, allowing these action steps to be re-evaluated and adjusted, as needed. The chapter concludes by outlining the eight performance measures that will be used to monitor progress toward attaining the goals of the Countywide Pedestrian Plan.

Alameda CTC will have primary responsibility for implementing the actions—some of which are already underway—and also for gauging progress on the performance measures. For many of the implementation actions, Alameda CTC will need to partner with local jurisdictions, other public agencies, and/or organizations to accomplish them. These partners, who are listed after each implementation action, are key to successfully achieving not just the actions, but the full vision of the plan itself. Ultimately, implementation of the actions is dependent on identifying and securing funding that will support the projects and programs recommended here.

The Pedestrian Plan contains 16 implementation actions, summarized in Table 7.1. They fall into three categories:

- **Funding,** through which Alameda CTC will either provide funds, in the form of grants, to local agencies to help them implement portions of the priority pedestrian system, or will expend funds itself at the countywide level to implement the countywide priorities.
- **Technical tools and assistance,** through which Alameda CTC will facilitate implementation of the Pedestrian Plan by providing technical tools and assistance to local agencies.
- **Countywide initiatives,** which will be new or a continuation of ongoing Alameda CTC efforts with an intended impact not only at the local level but also countywide.

Table 7.1 | Implementation actions

Time period is plan adoption to next plan update.
See text for complete description of each action and a list of sub-actions; note that implementation of most actions is dependent on funding and resource availability.
Shading indicates when the action takes place.
For actions with multiple phases, darker shading indicates when feasibility studies or strategic planning would take place.
For the four countywide programs (implementation action #10), darker shading indicates when the strategic planning would be conducted, and lighter shading indicates continuation of programs, most of which are already underway.
O = Ongoing; FC = coordinated with a funding cycle.

	2013	2014	2015	2016	2017
Funding					
1. Implement the Countywide Pedestrian Plan by continuing to dedicate funding and staff time to the plan priorities, and integrating the priorities into the agency's activities	O/ FC	O	O/ FC	O	O/ FC
2. Fund and provide technical assistance for the development and updating of local pedestrian master plans	FC		FC		FC
3. Coordinate transportation funding with land use decisions that support and enhance walking			O	O	O
4. Conduct research on, and develop resources for, best practices for funding sidewalk maintenance					
Technical tools and assistance					
5. Develop resources to support local jurisdictions in adopting and implementing Complete Streets policies		O	O	O	O
6. Offer regular trainings and information-sharing forums for local-agency staff on best practices in pedestrian infrastructure and programs	O	O	O	O	O
7. Develop a local best practices resource and other tools that encourage jurisdictions to use pedestrian-friendly design standards	O	O	O	O	O
8. Offer technical assistance to local jurisdictions on complex pedestrian design projects			O	O	O
9. Develop tools and provide technical assistance to help local jurisdictions overcome CEQA-related obstacles	O	O	O	O	O
Countywide initiatives					
10. Develop and implement a strategy to address how to improve and grow (as feasible) four near-term priority countywide programs:					
• Safe Routes to Schools program		O	O	O	O
• Countywide pedestrian safety advertising campaign			O	O	O
• Countywide Safe Routes for Seniors program	O	O		O	O
• Countywide walking promotion program	O	O	O		O
11. Develop and adopt an internal Complete Streets policy					
12. Determine options for modifying the countywide travel demand model to make it more sensitive to walking, and implement the best feasible option					
13. Determine options for revising the Congestion Management Program to enhance pedestrian safety and access, and implement the best feasible option					
14. Work with the County Public Health Department to consider pedestrian data and needs in the development and implementation of health and transportation programs		O	O	O	O
15. Monitor, evaluate and report on progress annually on implementation of the Countywide Pedestrian Plan		O	O	O	O
16. Conduct research to inform future plan updates and countywide pedestrian planning					

Below is a description of the 16 implementation actions, and 61 sub-actions, needed to advance the Pedestrian Plan over the next five years. In many cases, a year or multiple years are listed for when the specific actions will take place; in cases where they are not listed, the action is ongoing.

Funding

1. Implement the Countywide Pedestrian Plan by continuing to dedicate funding and staff time to the plan priorities, and integrating the priorities into the agency's activities

Implementation of the Pedestrian Plan will require adequate funding and staff time to achieve the project, program and planning priorities outlined in the "Countywide Priorities" chapter. Specific actions include:

1.1 Use this plan to guide the agency's pedestrian program and funding priorities.
1.2 In each funding cycle for all of the funding sources administered by the agency, consider funding the plan priorities (as applicable), using this plan as a guide.
1.3 Continue to have a countywide bicycle and pedestrian coordinator and/or team.
1.4 Advocate for additional and/or new funding to support the plan priorities at the county, regional, state and federal levels.
1.5 Annually review the plan's implementation actions to ensure that they are incorporated into the agency's work plan and to monitor progress made. [2013–2016]
1.6 Implement grant funding cycles for pedestrian (and bicycle) projects and programs every two years, or as discretionary funding is available. [2013, 2015 and 2017]

Partners: N/A

2. Fund and provide technical assistance for the development and updating of local pedestrian master plans

The 2006 Pedestrian Plan prioritized the development of local pedestrian master plans. Since then, transportation sales tax funds have helped fund plans, or plan updates, for the cities of Alameda, Albany, Berkeley, Newark, Fremont and Pleasanton. Specific actions include:

2.1 Continue to fund local master plans so that jurisdictions without an adopted plan can develop one, and the 11 local jurisdictions and also other public agencies (such as AC Transit and UC Berkeley) with plans can keep them up to date. [Grant funding cycles are anticipated in 2013, 2015 and 2017.]
2.2 Develop a toolkit of technical resources to assist agencies in developing and updating their plans, such as best practices, to ensure that plans are effective, and, to the extent feasible, comparable to each other. [2013–2014]

Partners: Local jurisdictions

3. Coordinate transportation funding with land use decisions that support and enhance walking

Alameda CTC will pursue steps that link the transportation funding it allocates to land use decisions that support walking. Specific actions include:

3.1 Develop and implement a Priority Development Area (PDA) Investment and Growth Strategy and PDA Strategic Plan that identifies "ready" PDAs and transportation projects within them, including developing cost estimates, incorporating complete communities and streets concepts and policies, and developing Transit-Oriented Design Guidelines. [2013–2014]
3.2 Develop a countywide Community-Based Transportation Program, including updating the existing Community-Based Transportation Plans (CBTPs), incorporating new Communities of Concern areas as defined by MTC, identifying high priority projects (including pedestrian projects) and cost estimates, and an implementation strategy. [2013–2014]
3.3 Conduct a feasibility study to design a program that integrates land use and transportation supported by financial incentives, similar to Santa Clara Valley Transportation Authority's "Community Design & Transportation" program, and identify a tracking method. [2014]
3.4 Investigate other ways to maximize the coordination of transportation funding with land

use decisions to support and enhance walking. [2015–2016]

Partners: Local jurisdictions and transit agencies

4. Conduct research on, and develop resources for, best practices for funding sidewalk maintenance

The funding needs related to improving and maintaining sidewalks throughout Alameda County are much greater than the likely future resources available. To assist in bridging this funding gap, specific actions include:

4.1 Conduct research on sidewalk maintenance in Alameda County by surveying local jurisdictions on how sidewalk maintenance is currently funded and comparing these funding mechanisms to those used for roadway maintenance. [2015]
4.2 Develop best practices and recommendations for funding the maintenance of sidewalks, including suggesting possible new funding sources. [2016]

Partners: Local jurisdictions

Technical tools and assistance

5. Develop resources to support local jurisdictions in adopting and implementing Complete Streets policies

Alameda CTC will support the implementation of Complete Streets in the county by providing resources to local jurisdictions to develop, adopt and implement successful local Complete Streets policies that are compliant with both Alameda CTC and MTC requirements. These policies will encourage local jurisdictions to incorporate non-motorized (and transit) users' needs into their broader transportation projects. (Concurrently, Alameda CTC will develop an internal Complete Streets policy; see implementation action #11.)

5.1 Develop a package of recommended technical assistance and resources that support complete streets in the county. [2012–2013]
5.2 Implement the recommended complete streets resources. [2012–2017]
5.3 Assist local jurisdictions with updating the circulation element of their general plans in compliance with Assembly Bill 1358, the "California Complete Streets Act of 2008," by 2014, to be in compliance with the MTC policy requirement. [2013–2014]

Partners: Local jurisdictions, transit agencies, freight interests, business groups, non-profits, and all other roadway stakeholders and users

6. Offer regular trainings and information-sharing forums for local-agency staff on best practices in pedestrian infrastructure and programs

Training sessions on pedestrian (and bicycle) planning and engineering, and opportunities to share information between agencies, will help to spread best practices throughout the county. Specific actions include:

6.1 Continue to provide free access to a monthly webinar presented by the Association of Pedestrian and Bicycle Professionals, and consider expanding the reach of this program to those not located near the Alameda CTC offices.
6.2 Host additional webinars on topics of interest, as they are made available.
6.3 Host half-day educational forums on best practices in pedestrian and bicycle infrastructure and programs, at least every other year. [2013, 2015, 2017]
6.4 Re-convene the Pedestrian Bicycle Working Group (PBWG), a group of local agency and advocacy staff that meets up to four times a year to share information, learn about best practices, and give input to Alameda CTC on its programs and projects.
6.5 Establish a quarterly speaker series featuring pedestrian and bicycle experts to address timely topics such as the implementation of Complete Streets, liability concerns, innovative infrastructure treatments, and CEQA-related obstacles.

Partners: Local jurisdictions, transit agencies, park districts, public health department, advocacy groups, consultants, and non-profits

7. Develop a local best practices resource and other tools that encourage jurisdictions to use pedestrian-friendly design standards

Alameda CTC will provide technical tools and resources to local jurisdictions on the planning and design of pedestrian (and bicycle) facilities. Specific actions include:

7.1 Develop a local best practices resource that includes engineering-level detail for both basic and innovative infrastructure in use in Alameda County, as a way to share and spread best practices throughout the county, and to reduce the need for local agencies to re-invent the wheel. Information about programs, such as signage or enforcement, could also be included. The resource will be developed with input from local agencies, and could be print or web-based. [2013–2014]

7.2 Disseminate information about best practices and innovative design guidelines as they become available, and work with local jurisdictions to determine which are the most useful and should be highlighted.

7.3 Update the "Toolkit for Improving Walkabilty in Alameda County," last published in 2009. At the same time (or earlier), consider developing Pedestrian Design Guidelines and Best Practices to be used by local jurisdictions as a resource for designing all pedestrian projects in Alameda County, including those funded by Alameda CTC. [2014]

7.4 Once the above tools have been established, select a new tool to develop each year, via input from local jurisdictions (see list of possible tools in the "Countywide Priorities" chapter under "Technical Tools and Assistance" program). [2015–2017]

7.5 Support local jurisdictions in testing and implementing innovative infrastructure, as feasible.

7.6 Via information-sharing forums, such as the PBWG, develop a better countywide understanding of the limitations of the Highway Design Manual being used for the design of local streets, and the alternative design standards available for facilities.

Partners: Local jurisdictions

8. Offer technical assistance to local jurisdictions on complex pedestrian design projects

Many local jurisdictions lack staff that are skilled, or have time to acquire skills, in the latest best practices for pedestrian design. To address this need, Alameda CTC will provide technical assistance to local jurisdictions on the design of challenging pedestrian (and bicycle) facilities. Specific action includes:

8.1 Research and develop the best method of offering technical assistance that is simple for local jurisdictions to use and feasible for Alameda CTC to operate. This could be done by expanding Alameda CTC's current Transit-Oriented Development Technical Assistance program (TOD TAP) to include pedestrian (and bicycle) projects. [2013–2014]

Partners: Local jurisdictions

9. Develop tools and provide technical assistance to help local jurisdictions overcome CEQA-related obstacles

"Environmental clearance" of projects under the California Environmental Quality Act (CEQA) often creates conflicts with the implementation of pedestrian (and bicycle) facilities and of pedestrian- and bicycle-friendly developments, and can result in the degradation of the environment for non-motorized users. An example is the widening of intersections to mitigate impacts to the intersection's level-of-service (LOS), which can result in improvements to auto travel, but have negative impacts on other modes. Specific actions include:

9.1 Provide technical assistance to local jurisdictions to develop alternative CEQA policies, guidelines and standards to overcome, or at least lessen, some of the obstacles noted above. This may be done by developing a CEQA mitigation toolkit based on the best practices and resources developed in previous implementation actions. [2013–2016]

9.2 Provide trainings and speaker sessions (via implementation action #6 above) for local jurisdictions that address relevant topics, such as expanding LOS standards to include multi-modal measures; the appropriate level of environmental review for different types of pedestrian (and bicycle) plans and projects; trip-generation

methodologies appropriate for smart growth developments; and significance thresholds for transportation impacts.

Partners: Local jurisdictions

Countywide initiatives

10. Develop and implement a strategy to address how to improve and grow (as feasible) four near-term priority countywide programs

In addition to continuing to implement, or starting, the nine "near-term" pedestrian programs identified in the "Countywide Priorities" chapter, Alameda CTC will focus on four of the larger-scale promotional and safety programs identified in that chapter. In order to realize the full long-term vision of each of these programs, as identified in the "Vision and Goals" and "Countywide Priorities" chapters, each program will be evaluated and a strategy will be created for ways to improve and expand (as feasible) the programs over the short and long term. In order to manage this task, the timeframe for strategy development (as shown in brackets after each program) is staggered and, as appropriate, matched to upcoming opportunities for funding.

10.1 **Safe routes to schools (SR2S) program.** Approximately 100 schools had established SR2S programs in 2012. This plan's long-term goal is to have a program in every school in the county (see Strategy 2.6 in the "Vision and Goals" chapter). [2013]

10.2 **Countywide pedestrian safety advertising campaign.** This is a new program that will create a countywide safety campaign aimed at promoting road safety among motorists, pedestrians, bicyclists and bus drivers. [2014]

10.3 **Countywide Safe Routes for Seniors program.** Many walking clubs and programs for seniors already exist around the county. The goal is to create a comprehensive countywide program that encourages seniors to walk, bike and access transit safely (see Strategy 2.7 in the "Vision and Goals" chapter). [2015]

10.4 **Countywide walking promotion program.** The agency will develop new strategies to promote walking for health, recreation and transportation. [2016]

Additional specific actions include:

10.5 Work with local jurisdictions to grow the above programs even further by developing and offering an easy-to-administer option for jurisdictions to contribute local funding toward countywide programs to expand the programs in their jurisdiction. [2013–2014]

Partners: Local jurisdictions, non-profits, public health department, school administrations and parent volunteers, and law enforcement

11. Develop and adopt an internal Complete Streets policy

In addition to supporting the development of Complete Streets by local jurisdictions (see implementation action #5), Alameda CTC will develop its own internal policy.

11.1 Alameda CTC will develop an internal Complete Streets policy that addresses the wide variety of activities that the agency performs, including capital projects development, fund programming, and countywide planning, tools and resources. This will ensure that capital projects implemented and/or funded by the agency provide safe and convenient access to all users, including pedestrians, as appropriate and feasible for each project. [2013]

Partners: Local jurisdictions and transit agencies

12. Determine options for modifying the countywide travel demand model to make it more sensitive to walking, and implement the best feasible option

In 2012, Alameda CTC will begin to update its countywide travel demand model, allowing the opportunity to enhance its ability to forecast pedestrian (and bicycle) trips and to increase its sensitivity to walking. One outcome of this change would be to help to identify and prioritize areas and corridors where non-motorized transportation improvements are most needed. Specific actions include:

12.1 As part of the model update—which will, among other things, align the model with the 2010 Census, update the model years to 2010 and 2040, and incorporate the Sustainable

Communities Strategy—evaluate options for modifying the model to make it more sensitive to walking trips, and select the best feasible option. Implement the selected option. [2012–2015]

12.2 Consider leading a study, in collaboration with a local jurisdiction, of a road diet (possibly along a CMP network segment) to better understand the impacts to non-motorized transportation of using the model. Based on such a study, further recommendations could be developed to improve the model and the application of LOS standards. [2013–2015]

Partners: Local jurisdictions

13. Determine options for revising the Congestion Management Program to enhance pedestrian safety and access, and implement the best feasible option

Alameda CTC develops the county's Congestion Management Program (CMP), which aims to monitor and maintain LOS standards on the designated CMP network and identify the impacts to the regionally significant roadways (the Metropolitan Transportation System). The next update to the CMP, anticipated to begin in 2012, will include integrating the 2010 Highway Capacity Model (HCM), which includes determining how to incorporate the new HCM bicycling and walking LOS into the CMP. It will also incorporate the new HCM into the CMP LOS and Land Use element. Specific actions include:

13.1 During the update to the CMP, explore the options for revising the CMP to improve pedestrian safety and access, and implement the best feasible option. As one option, consider using minimum safety and access standards for pedestrians and bicyclists, rather than multi-modal LOS, which may not provide direct guidance on future improvements. [2012–2013]

13.2 Update the CMP guidelines to better define how to develop Areawide Deficiency Plans to address deficiencies on the CMP network, which will allow walking (and bicycling) improvements to more easily be incorporated into projects, or at a minimum, not pit the implementation of pedestrian and bicycle projects against auto projects to improve LOS. [2013–2016]

13.3 Conduct a feasibility study to explore implementing an impact analysis measure that supports alternative modes, such as San Francisco's Automobile Trip Generated (ATG) measure, instead of using LOS methodologies that primarily address auto impacts. [2012–2015]

13.4 Create maps of the areas of overlap between the CMP and the countywide pedestrian vision system. This analysis will reveal the areas and routes on which to focus efforts to improve the CMP process from a pedestrian (and bicycle) safety and access perspective. [2013]

Partners: Local jurisdictions and transit agencies

14. Work with the County Public Health Department to consider pedestrian data and needs in the development and implementation of health and transportation programs

The 2006 Pedestrian Plan called for raising "awareness of the nexus between walking and public health." In particular, the plan mentioned "increasing opportunities to link programs and projects that promote alternative transportation for environmental reasons with those that encourage walking to improve health." Linking efforts that encourage walking for transportation with those that support walking for health broadens the audience of each type of program and expands the potential funding resources available for each. Specific actions include:

14.1 Identify specific pedestrian (and bicycle) data and social marketing efforts on which to partner with the Alameda County Public Health Department (PHD) to further the goals of this plan. [2013]

14.2 Continue to work collaboratively with the PHD on the intersection of public health and walking.

Partners: Public health departments

15. Monitor, evaluate and report on progress annually on implementation of the Countywide Pedestrian Plan

Alameda CTC will monitor implementation of the Pedestrian Plan annually. Specific actions include:

15.1 Monitor the status of the plan's eight performance measures included in this chapter, and report on them in the Alameda CTC's

annual Performance Report. In future years, the results of these and all other performance measures, as reflected in the Performance Report, will be used by Alameda CTC to set priorities in the agency's Capital Improvement Program.

15.2 Annually review the plan's implementation actions to ensure that they are incorporated into the agency's work plan and to monitor progress made (this action is also reported under implementation action #1). Create a public report with this data, to be posted on the agency's website. [2013–2016]

15.3 Create and update a Geographic Information System (GIS) database to track completion of the pedestrian facilities in this plan's vision system. Work with local jurisdictions to update this database annually. [2013 and onward]

15.4 Continue the annual pedestrian (and bicycle) count program, as a way to gauge the effectiveness of new facilities and programs at encouraging walking.

15.5 Update the Pedestrian Plan every four to five years, coordinating with the updates of the Countywide Transportation Plan and of the Countywide Bicycle Plan. [2016]

Partners: Local jurisdictions

16. Conduct research to inform future plan updates and countywide pedestrian planning

There are several research efforts that were beyond the scope of this Pedestrian Plan update but that would be useful to conduct either in advance of, or during, the next plan update. To inform the future plan update and to improve countywide planning, Alameda CTC will conduct the following research and studies, pending the availability of funds:

Before next plan update [2013–2016]

16.1 **Performance targets:** Work with local jurisdictions and other stakeholders to research and, as feasible and appropriate to a countywide agency, develop comprehensive and meaningful quantitative targets for walking in Alameda County. Also, consider establishing a future vehicle miles traveled target and using the countywide travel demand model to determine what actions are needed today to achieve the goal. [2013–2014]

16.2 **Data collection:** Assess the benefits and disadvantages of Alameda CTC collecting its own walking data, rather than relying on outside sources of data, in order to have more timely information for reporting on performance measures, and possibly targets, and for use in the next plan update. [2013–2014]

16.3 **Collision analysis:** Conduct a detailed countywide collision analysis, which can help guide future plan and funding priorities, as well as the direction and focus of the countywide pedestrian safety advertising campaign. [2013–2014]

16.4 **Caltrans-owned facilities:** Work with local jurisdictions, Caltrans and other agencies, as appropriate, to develop a list of interchanges, overcrossings, undercrossings and at-grade crossings of Caltrans highways and roadways on which pedestrian (and bicycle) access could be improved, and consider prioritizing the list and working with Caltrans to identify funding for the highest priority projects. This list would be shared with Caltrans, and other agencies, as appropriate, to help them identify opportunities to better accommodate non-motorized users. [2014–2015]

16.5 **Typical project costs:** Work with local agencies to refine typical construction and maintenance costs for pedestrian capital projects. These cost assumptions could be used for estimating project costs not only in the Countywide Pedestrian Plan update but also in local master plans. [2015–2016]

16.6 **Countywide and local BPACs:** Evaluate the staffing, funding, administration, composition and performance of the countywide and local BPACs for strengths, weaknesses and opportunities to improve their effectiveness. [2015–2016]

During next plan update [2017]

The following tasks were specifically identified during the development of this plan update, but were not able to be resolved. This list is not meant to include everything that should be addressed in the next plan update, but rather is meant to ensure that those tasks that were raised during the plan development process are not lost.

16.7 **Walking rates:** Develop case studies of how other cities and counties around the nation have managed to increase walking rates, and develop best practices and recommended policies both for internal use and for local jurisdictions.

16.8 **Central business districts and major commercial districts:** Review and standardize the definition of central business districts (CBDs) and major commercial districts (MCDs), as used in the "Countywide Priorities" chapter, and determine their distribution throughout the county for planning purposes under the updated Pedestrian Plan.

16.9 **Rail transit access costs:** Develop separate costs for high ridership rail stations, such as many BART stations, and low ridership rail stations, such as some Amtrak stations, so that cost estimates are more accurate.

16.10 **Major capital projects:** Identify the major capital projects needed along the pedestrian vision system, including over- and under-crossings, and pedestrian bridges, to assist in estimating the full costs of the Pedestrian Plan and prioritizing projects.

16.11 **Facilities needing major repair and/or upgrades:** Work with local jurisdictions to develop an inventory of countywide pedestrian facilities in the vision system that are considered "built" but still are in need of repair or upgrades in order to be considered "completed," and also the estimated costs to improve them.

Performance measures

In addition to undertaking the implementation actions described above, Alameda CTC will monitor progress on implementing the Pedestrian Plan. The plan establishes eight performance measures that will be used to gauge progress toward attaining the goals outlined in the "Vision and Goals" chapter. The performance measures—including the sources of information to be used for each—are:

1. Number of completed countywide pedestrian projects

   Source(s): Alameda CTC and local jurisdictions

2. Percentage of all trips and commute trips made by walking

   Source(s): The Metropolitan Transportation Commission's Bay Area Travel Survey, the U.S. Census Bureau's American Community Survey and BART's Station Profile Studies

3. Number of pedestrian injuries and fatalities

   Source(s): The California Highway Patrol's Statewide Integrated Traffic Records System, or SWITRS

4. Number of pedestrians in countywide pedestrian counts

   Source(s): Pedestrian counts conducted by Alameda CTC, and also by MTC as part of a regional count program, and by local jurisdictions

5. Number of local jurisdictions with up-to-date pedestrian master plans

   Source(s): Local jurisdictions

6. Dedicated countywide funds (amount or percentage) for pedestrian projects and programs

   Source(s): Alameda CTC pedestrian/bicycle funding sources

7. Number of schools with Safe Routes to Schools (SR2S) programs

   Source(s): Alameda CTC and SR2S consultant

8. Number of community members participating in countywide promotional and/or educational programs

   Source(s): Alameda CTC and program administrators

As new data sources are developed, or become readily available, additional performance measures will be considered. These could include the percentage of all Alameda CTC funding dedicated to pedestrian projects and programs, and all pedestrian funding received from federal, state and regional sources in the county. Furthermore, this chapter outlines a future action to explore developing performance targets (see implementation action 16.1), at which point additional performance measures will be considered.

In addition, the following walking-related performance measures are included in the Countywide Transportation Plan, and will also be reported on annually:

- **Alternative modes:** Percentage of trips made by non-automobile modes
- **Safety:** Annual projected injury and fatality crashes
- **Physical activity:** Total daily hours spent walking or biking