



# City of San Mateo

## Citywide Pedestrian Master Plan

*Adopted April 16, 2012*







# **City of San Mateo**

## **Citywide Pedestrian Master Plan**

Adopted April 16, 2012



FEHR  PEERS



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## Executive Summary

The City of San Mateo recognizes the value of walking and has developed this Citywide Pedestrian Master Plan to improve the pedestrian environment and to establish itself as a more walkable, livable, and healthy city.

This Executive Summary highlights the Plan's goals and priority projects intended to help the City of San Mateo realize those goals.

Walking is fundamental: it is not just how we move around but also is a primary form of exercise and social activity. Whether taking transit, walking the dog, or heading to the front door after parking the car (to one's work, the grocery store, post office, etc.), nearly everyone is a pedestrian for some portion of their day.

This Plan provides a broad vision, strategies, and actions for improving the pedestrian environment in San Mateo. The six goals of this plan are listed on the left side of this page. This Plan's recommendations are built on and consistent City goals and policies for increasing the number of people who walk in San Mateo.

This Citywide Pedestrian Master Plan is a blueprint for the City to improve the pedestrian environment, secure funds dedicated to pedestrian safety and livable communities, and increase the number of walking trips.

## Priority Programmatic Projects

The priority projects identified in this plan include programs as well as infrastructure improvements. These programmatic improvements are broad and cannot be evaluated using the same strategy or criteria as engineering projects. Based on their importance in supporting the pedestrian network infrastructure improvements, the following studies and programs are included in the priority, near-term project list:

- A. Bay to Transit Path Feasibility Study
- B. Downtown Lead Pedestrian Interval Study
- C. 3<sup>rd</sup> Ave and Norfolk Street Intersection Improvement Study
- D. Safe Routes to School Program
- E. Suggested Routes to School Maps
- F. Encouraging Seniors Program
- G. Flexible Zone Parklet Pilot Program
- H. Parking Enforcement
- I. Annual Pedestrian Counts and Surveys



### *Goal 1: Mobility*

*Increase and improve pedestrian access to employment centers, transit, community destinations and recreation across the City of San Mateo for all ages and abilities.*

### *Goal 2: Safety*

*Improve pedestrian safety through the design and maintenance of sidewalks, streets, intersections, and other roadway improvements such as signage and lighting, and landscaping; as well as best practice programs to enhance and improve the overall pedestrian safety.*

### *Goal 3: Infrastructure and Support Facilities*

*Maintain and improve the quality, operation and integrity of the pedestrian network infrastructure that allows for convenient and direct connections throughout San Mateo.*

### *Goal 4: Programs*

*Increase awareness of the value of pedestrian travel for commute and non-commute trips through encouragement, education, enforcement and evaluation programs that support walking.*

### *Goal 5: Equity*

*Improve pedestrian accessibility for all residents through equity in public engagement, service delivery and capital investments.*

### *Goal 6: Implementation*

*Implement the Pedestrian Plan over the next 20 years.*



## Priority Infrastructure Projects

The priority infrastructure improvements were developed to improve pedestrian mobility and increase safety in an equitable manner. This Plan has over 100 priority projects that are intended for near-term implementation within 1-5 years.

These projects are the highest scoring projects. The project evaluation criteria was developed to measure how strongly a project meets this Plan's goals including access to schools, senior facilities, transit, and community centers.

A number of the priority projects are pedestrian scaled lighting along long corridors and are estimated to cost \$56.9 million. These projects may be part of corridor improvements and may be considered for longer-term implementation. The cost estimate sum excluding these pedestrian scale lighting projects is approximately \$1,406,300.

Figure ES-1: Priority Projects

Improvement Type	No. of Improvements	Cost Estimate
Advance stop bars	2	\$1,000
Crosswalk: High-Visibility	34	\$142,800
Crosswalk: School Zone	2	\$9,600
Curb Extension	4	\$250,000
Curb Extension with Stop Bar	4	\$226,800
Directional curb ramp	1	\$4,000
In-pavement flashers	2	\$150,000
Leading pedestrian interval	4	\$14,000
Midblock Crossing	2	\$4,800
Midblock Crossing with In-Pavement Flashers	1	\$154,800
Pedestrian Countdown Signals	1	\$8,000
Pedestrian Refuge	3	\$270,000
Pedestrian Scale Lighting	23	\$55,459,600
Planting Strip	1	\$6,000
Sidewalk Installation	2	\$77,300
Signage	1	\$300
Signal Timing	15	\$72,000
Striping	3	\$14,900
<b>Total</b>		<b>\$56,865,900</b>
<b>Total without Pedestrian Scale Lighting</b>		<b>\$1,406,300</b>

# 1. Introduction

Walking is fundamental to our existence: it is not just how we move around but also is a primary form of exercise and social activity. Whether taking transit, walking the dog, or heading to the front door after parking the car (to one's work, the grocery store, post office, etc.), nearly everyone is a pedestrian for some portion of their day.

Over the last decades, however, it is clear that fewer people walk on a regular basis. Due to the way most cities and towns have grown, with sprawling land use patterns assisted by large freeways and automobile-oriented roads, the ability of most people to safely and comfortably walk has diminished. As a result there is more air pollution, more traffic congestion on neighborhood streets, more health care issues and costs associated with a lack of physical activity, and a sense that driving is the “only” option available to many individuals. Further impacts of driving and its related infrastructure on wildlife habitat, water quality, and climate change are also by now well documented and well understood by researchers and scientists.

Current planning and policy efforts throughout the U.S., San Francisco Bay Area, and in the City of San Mateo seek to reverse the trend away from walking. Despite being the least expensive form of travel, decision-makers are increasingly aware that to get more people on foot requires proactive efforts to build and maintain high-quality infrastructure, provide comprehensive planning, and commit to long-term funding. To reestablish walking as a viable everyday option also demands working with community members and neighbors to build a shared vision for how to accommodate growth and identify what is most achievable in the short-, medium-, and long-terms.

Studies have shown that these efforts are also good for a community's economic and social stability. Highly walkable downtowns, employment centers and community-serving nodes help reduce the need for new streets and improvements and are essential to the long-term ability to attract jobs and preserve existing single-family neighborhoods. Such locations also encourage more affordable new development and/or greater community benefits as more space can be devoted to people rather than (storing) cars. Lastly, walkable communities are inclusive communities; seniors, children, and the mobility-impaired have greater access to services and are able to lead more independent, productive lives. Several benefits of walking are discussed in greater detail in Section 1.4 of this Chapter.



*The Public Works Department's mission is to operate, maintain, and improve San Mateo's infrastructure.*

## 1.1. Purpose of the Plan



*Downtown San Mateo*

The City of San Mateo recognizes the value of walking and has developed the Citywide Pedestrian Master Plan to establish itself as a more walkable, livable, and healthy city. The Citywide Pedestrian Master Plan is one of a spectrum of plans with varying scopes the City has developed to guide its land use and transportation development. The General Plan guides future development citywide and sets a foundation for master and specific plans to follow. Master Plans, such as this Citywide Pedestrian Master Plan, are focused on a particular planning initiative that influences a large area of the City. Specific Plans provide guidelines for the distribution and location of land use. Capital Improvement Plans identify capital projects for the City to construct within the next five years.

This Citywide Pedestrian Master Plan provides a broad vision, strategies, and actions for improving the pedestrian environment in San Mateo. This Plan's recommendations are built on and consistent with local and regional goals and policies for increasing the number of people who walk in San Mateo. These goals include specific recommendations for streets, sidewalks and multi-use paths and also include policies to make San Mateo more sustainable by reducing the City's carbon footprint.

While walking is the least expensive transportation mode, building and maintaining a high quality pedestrian infrastructure requires comprehensive planning and long term funding. The recommendations in this Plan will help the City reach goals adopted in the General Plan as well as the Sustainable Initiatives Plan by creating an environment and programs that support walking for transportation and recreation, encourage fewer trips by car, and support active lifestyles.

The City is expected to add over 17,000 new residents in the next two decades. While San Mateo is actively pursuing infill development that will accommodate this forecasted growth, infill development alone will not encourage walking. Approximately 29 percent of those surveyed for this Plan indicate they drive for trips under one mile. Trips within this range, made by car, are a prime target of this Plan. The survey also reveals there are obstacles in San Mateo that prevent walking from being more convenient.

This Citywide Pedestrian Master Plan will be a blueprint for the City to improve the pedestrian environment, secure funds dedicated to pedestrian safety and livable communities, and increase the number of walking trips.



## 1.2. Citywide Pedestrian Master Plan Process

The City of San Mateo initiated the process to develop this plan in November 2010 through its Public Works Department. To fully engage the City and residents, the City hosted two public workshops, conducted a survey, and presented to numerous city commissions and committees to seek input and to inform the community of the project status and recommendations.

Public outreach included two public workshops and a community survey. The first public workshop was held in January 2011 to gather community input on existing walking conditions, challenges, and opportunities for improvement. The community survey was circulated at this time as well. The survey was distributed to community members in order to identify challenges for and barriers to walking. Over 475 responses were collected. The second community meeting will be held in September 2011. The purpose of the second workshop is to share the Draft Pedestrian Plan, including proposed improvements and programs for public review.

Presentations were also made to at the following city commissions and committees to inform the community of the project status and recommendations:

- City Council on October 4, 2011; April 16, 2012 (Adoption)
- Park and Recreation Commission on December 1, 2010
- Downtown San Mateo Association on January 6, 2011; October 6, 2011
- Planning Commission on January 11, 2011; September 13, 2011; October 11, 2011; March 13, 2012
- Public Works Commission on September 14, 2011; October 12, 2011; March 14, 2012
- Senior Center on March 4, 2011; September 16, 2011
- Senior Citizen Commission on November 16, 2010; November 15, 2011
- San Mateo United Homeowners Association on March 17, 2011; September 15, 2011
- Sierra Club on September 20, 2011

## 1.3. Citywide Pedestrian Master Plan Goals Summary

The Citywide Pedestrian Master Plan process included development of goals, objectives, and policies that direct the way the public improvements are made, where resources are allocated, and how

### Initial Public Outreach

Senior Citizen Commission  
November 16, 2010  
Park and Rec Commission  
December 1, 2010  
Downtown SM Association  
January 6, 2011  
Planning Commission  
January 11, 2011

### Public Workshop #1 Jan 27, 2011

Senior Center, SM United HOA  
March 4 & 17, 2011

### Draft Plan Sept 2011

### Public Workshop #2 Sept 29, 2011

### Public Review

Planning Commission  
Public Works Commission  
SM United HOA  
Senior Center  
Sierra Club  
September 13-20, 2011  
Ped MP Workshop #2  
October 4, 2011  
Downtown SM Assoc.  
October 6, 2011  
Planning Commission  
Public Works Commission  
October 11 & 12, 2011  
Senior Citizen Commission  
November 15, 2011

### Public Review of Final Plan

City Council  
November 21, 2011  
Planning Commission  
March 13, 2012  
Public Works Commission  
March 14, 2012  
City Council (Adoption)  
April 16, 2012

*Citywide Pedestrian Master Plan  
Process*

programs are operated. This section presents a summary of the Plan's vision and goals.

### **Goal 1: Mobility**

**Increase and improve pedestrian access to employment centers, transit, community destinations and recreation across the City of San Mateo for all ages and abilities.**

The term mobility describes the state of being in motion. Pedestrian mobility, as used in this Plan, describes the ability for people to walk to their destinations. This Plan supports the Sustainable Initiatives Plan and seeks to increase the mode share of bicycle and pedestrian travel to 30% for trips one mile or less by 2020. This Plan also seeks to eliminate barriers to pedestrian travel, work with transit providers to provide accessible transit, and provide the framework to regularly evaluate pedestrian activity levels, facilities and programs.

### **Goal 2: Safety**

**Improve pedestrian safety through the design and maintenance of sidewalks, streets, intersections, and other roadway improvements such as signage and lighting, and landscaping; as well as best practice programs to enhance and improve the overall pedestrian safety.**

Safety is a concern for current and potential pedestrians and can be a determining factor in the decision whether or not to walk.

This Plan seeks to reduce the number of pedestrian related collisions, injuries and fatalities by 50 percent from 2010 levels by 2020. To reach this goal, the City will annually review pedestrian complaints and collisions and implement ongoing improvements at intersections and throughout the pedestrian network.

### **Goal 3: Infrastructure and Support Facilities**

**Maintain and improve the quality, operation and integrity of the pedestrian network infrastructure that allows for convenient and direct connections throughout San Mateo.**

Community outreach conducted for this Plan identified a need for sidewalks free of obstructions, signal timing that allows for a longer crossing time in certain locations, enhanced pedestrian crossings on multi-lane streets, improved connections with Downtown, and a number of other infrastructure and facility needs.

This Plan supports the incorporation of pedestrian facilities and amenities into private and public projects and provides support for maintained walkways that are clean, safe and that encourage use.

#### **Goal 4: Programs**

**Increase awareness of the value of pedestrian travel for commute and non-commute trips through encouragement, education, enforcement and evaluation programs that support walking.**

Encouragement, education, enforcement, and evaluation programs complement engineering improvements. Improvements to and continued support of existing education, enforcement and evaluation programs is critical to increasing the number of pedestrian trips and safety.

This Plan seeks to establish and enhance pedestrian related programs that will enable and encourage more walking trips.

#### **Goal 5: Equity**

**Improve pedestrian accessibility for all residents through equity in public engagement, service delivery and capital investments.**

Walking is the most broadly accessible form of transportation and recreation. Accessibility and economics are inherently tied to equitable transportation solutions, which includes pedestrian travel. The City has a commitment to address issues of race and social justice in the design and implementation of pedestrian projects.

Through implementation of this Plan, the City will assist neighborhoods that desire to improve pedestrian access to, from, and within their neighborhood.

#### **Goal 6: Implementation**

**Implement the Pedestrian Plan over the next 20 years.**

The City is committed to improving the pedestrian network.

The City will seek local, state, and federal funding to implement the projects identified in the Plan. The City intends to incorporate pedestrian projects into the City's Capital Improvement Program (CIP) that will create a walkable environment in San Mateo and support the City's Sustainable Initiatives Plan. The Plan also calls for development of requirements and incentives for private property owners to incorporate pedestrian features into new projects.

## 1.4. Benefits of Walking

The benefits of walking are numerous and include traffic and air quality benefits, increased quality of life, improved public health, and economic benefits.

### 1.4.1. Why Walking is Important

Walking is important to San Mateo due to its potential for addressing several interrelated challenges including traffic, air quality, creating a sense of community, and public health. Non-motorized transportation infrastructure can also provide economic benefits to the community. By planning a city that is more walkable, San Mateo can affect all of these elements and can collectively influence existing and future quality of life.

### 1.4.2. Traffic and Air Quality

Each time residents in the San Mateo choose to walk, vehicles are removed from the road. As San Mateo becomes more inviting to pedestrians, increasing numbers of work, school, shopping, and recreational trips can be made on foot. Cumulatively, this pattern may reduce traffic in some areas and improve air quality. Measuring environmental improvements by reduction in greenhouse gases allow easy measurement and tracking of real benefits. The measurement of potential environmental benefits of San Mateo's pedestrian network is outlined Table 1-2.

### 1.4.3. Quality of Life Benefits

Fostering conditions where walking is accepted and encouraged increases a community's livability. In areas where people walk, there are more opportunities for chance meetings than where people generally travel by vehicle. While walking, people have greater opportunities to talk and interact on a more human level. Pedestrian activity provides more "eyes on the street" or people looking out for one another. All of these quality of life benefits can enhance San Mateo's sense of place and livability.

### 1.4.4. Public Health

Walking can improve public health through an increase in physical activity. In recent years, public health professionals and urban planners have become increasingly aware that the impacts of vehicles on public health extend far beyond asthma and other respiratory conditions caused by air pollution. Dependency on vehicles has also decreased the amount of peoples' physical activity.

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Brisk walking ( $\geq 3.5$  mph) has been shown to reduce body fat, lower blood pressure, increase high-density lipoprotein, and even reduce risks of bone fracture.

*Dunton, G., et al. 2006. Perceived Barriers to Walking for Physical Activity, Preventing Chronic Disease.*

---

Public health professionals now partner with transportation planners in identifying the low levels of physical activity resulting from communities designed primarily for vehicles. Although diet and genetic predisposition contribute to these conditions, physical inactivity is now widely understood to play a significant role in chronic diseases in the US, including coronary obesity, heart disease, stroke and diabetes.<sup>1</sup> Improving non-motorized transportation facilities may help alleviate these disorders. As **Figure 1-1** shows, there is a direct link between inactivity and obesity. In comparison to listed European countries and Canada, the US has a higher rate of obesity and a lower percent of walking, bicycling, and public transportation use.

In response to these trends, the public health profession advocates for walkable neighborhoods as an effective way to encourage active lifestyles. As San Mateo and its neighborhoods become more walkable, the population will have more opportunities to exercise and potentially decrease related chronic disease.

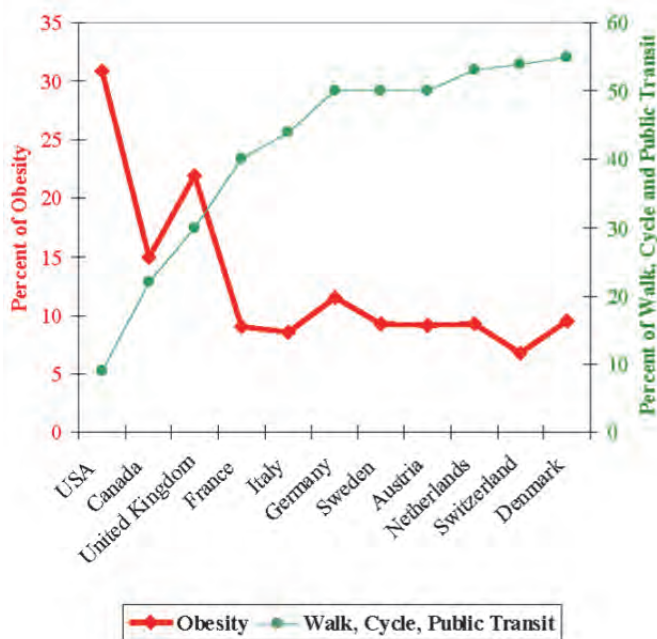


Figure 1-1: Transportation and Obesity Rates<sup>1</sup>

<sup>1</sup> McKenna, M.T., Taylor, W.R., Marks, J.S., & Koplan, J.P., "Current issues and challenges in chronic disease and control" in *Chronic Disease Epidemiology and Control*, 2nd edition, American Public Health Assn. , 1988.

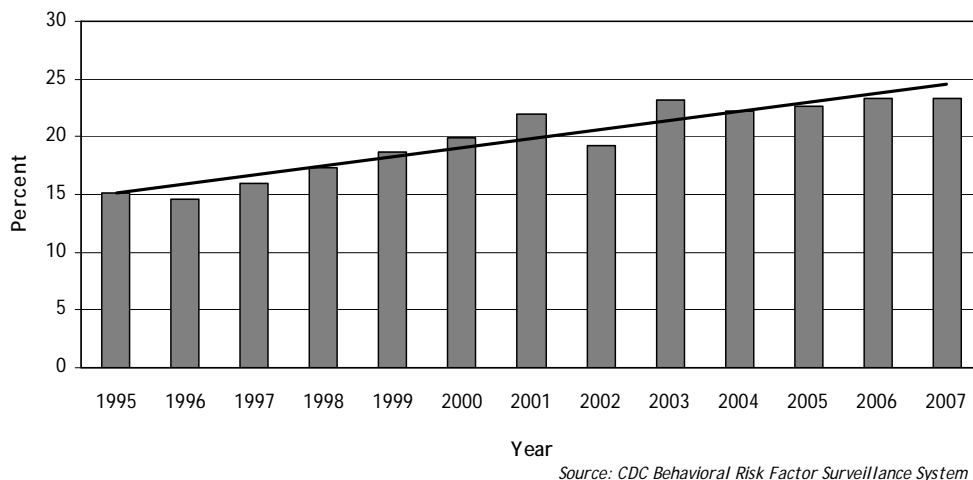


Figure 1-2: Annual Obesity in California by Body Mass Index

Physical inactivity can lead to the growing trend of obesity. As Figure 1-2 shows, in California obesity or body mass index (weight in kilograms divided by height in meters squared, abbreviated to BMI) has been rising for the last twelve years. Obesity can lead to chronic diseases such as heart disease and diabetes. By providing a pedestrian-friendly environment, more people may stay fit by walking and help reverse these health trends.

In addition to individual health benefits, physical activity provides fiscal rewards to the entire community by reducing health care costs and lost days of work. A report prepared for the Centers for Disease Control and Prevention found that the annual per capita cost of building and maintaining trails was \$209.28 per person, whereas the per capita annual direct medical benefit of using the trail was \$564.41 per person. This indicates that every \$1 spent on building non-motorized transportation facilities returns \$2.94 in medical benefits.<sup>2</sup>

#### 1.4.5. Economic Benefits

With the fluctuating expense of gasoline, walking can be a more economically efficient mode of transportation than driving a vehicle for residents in the area. According to 2004 data from AAA estimates and US Census surveys, ownership of one motor vehicle accounts for more than 18 percent of a typical household's income.<sup>3</sup> By encouraging walking, residents will save money on gas, car maintenance, and repairs. Residents may likely spend monies saved through walking

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A 1999 study by the Urban Land Institute of four new pedestrian-friendly communities determined that homebuyers were willing to pay a \$20,000 premium for homes in walkable communities.

*Eppli, M. & Tu, C. 1999. "Valuing the New Urbanism. The Impact of the New Urbanism on Prices of Single Family Homes." Urban Land Institute.*

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<sup>2</sup> Wang, Macera, Scudder-Soucie, Schmid, Pratt, and Buchner. 2005. A Cost-Benefit Analysis of Physical Activity Using Bike/Pedestrian Trails. *Health Promotion Practice* 6(2) 174-179.

<sup>3</sup> [www.walkinginfo.org/why/benefits\\_economic.cfm](http://www.walkinginfo.org/why/benefits_economic.cfm)

elsewhere in the local economy. For example, one study found that households in automobile-dependent communities devote 50 percent more to transportation (more than \$8,500 annually) than households in communities with more accessible land use and more multi-modal transportation systems (less than \$5,500 annually).<sup>4</sup>

There are many precedents showing economic benefits to improving the environment for walking in residential and commercial districts. A shopping center or office complex may become more economically competitive if walking conditions improve. As an example, a \$4.5 million investment in streetscape and pedestrian improvements on School Street in Lodi, California, as well as economic development incentives, are credited with attracting 60 new businesses, decreasing the vacancy rate from 18 percent to 6 percent and increasing downtown sales tax revenue by 30 percent.<sup>5</sup> Retail areas often subsidize vehicle parking on the assumption that customers need to drive to make large purchases. However, retail districts worldwide, such as the SoHo neighborhood in Manhattan, have realized commercial gains by increasing pedestrian space and reducing space dedicated to vehicles.<sup>6</sup> One study of consumer expenditures in British towns found higher weekly expenditures by consumers who travel by walking than those who drive or ride transit to downtown shopping districts (see Table 1-1).<sup>7</sup>

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*A \$4.5 million investment in streetscape and pedestrian improvements on School Street in Lodi, California, as well as economic development incentives, are credited with attracting 60 new businesses, decreasing the vacancy rate from 18 percent to 6 percent and increasing downtown sales tax revenue by 30 percent.<sup>1</sup>*

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Table 1-1: Consumer Expenditure by Mode

Mode	Weekly Expenditures
Bus	£63
Car	£64
On foot	£91
Train/tube	£46
Other (taxi, cycle)	£56
<i>Source: Accent Marketing and Research</i>	

Additionally, building local pride and regional recognition for San Mateo's non-motorized infrastructure can attract tourism, conferences and other special events that will in turn enhance San Mateo's

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<sup>4</sup> Victoria Transport Policy Institute. Economic Value of Walkability. February 1, 2011. [www.vtpi.org/walkability.pdf](http://www.vtpi.org/walkability.pdf)

<sup>5</sup> Local Government Commission for the California Department of Health Services. The Economic Benefits of Walkable Communities.

<sup>6</sup> [www.transalt.org/files/newsroom/reports/soho\\_curbing\\_cars.pdf](http://www.transalt.org/files/newsroom/reports/soho_curbing_cars.pdf)

<sup>7</sup> <http://www.vtpi.org/walkability.pdf>

economy. For example, tourists coming to Vermont to walk and bicycle in the scenic and compact, pedestrian-friendly town centers have generated an economic benefit. In 1992, an estimated 32,500 visiting cyclists spent \$13.1 million in Vermont.<sup>8</sup>

#### **1.4.6. Future Usage and Benefits**

Alta has developed a walking model that estimates usage and benefits. This is the first model of its type to be based on empirical data. Table 1-2 quantifies the estimated reduction in vehicle miles traveled and estimated reduction in air pollutants in San Mateo following implementation of pedestrian improvements presented in this Plan.

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<sup>8</sup> Local Government Commission Center for Livable Communities. The Economic Benefits of Walkable Communities.  
[http://www.lgc.org/freepub/docs/community\\_design/focus/walk\\_to\\_money.pdf](http://www.lgc.org/freepub/docs/community_design/focus/walk_to_money.pdf)



Table 1-2: San Mateo Future (Year 2030) Pedestrian Activity and Benefits

Data	Source and Assumptions	
Future Commuting Statistics		
Future study area population	119,800	2030 General Plan (based on ABAG 2007 projections)
Future employed population	48,512	Based on 2030 General Plan number of employed residents (Assumes 4.7% (2010 data) of employed residents work at home)
Future walk-to-work mode share	4.8%	Based on increase from previous mode split due to improvements in the pedestrian network
Future number of walk-to-work commuters	2,323	(employed persons) * (walking mode share)
Future work-at-home mode share	4.8%	Same as 2006-2008 ACS mode split
Future number of work-at-home walk commuters	1,161	Assumes 50% of population working at home makes at least one daily walking trip.
Future transit-to-work mode share	1.0%	Based on increase from previous mode split due to improvements in the pedestrian network
Future transit pedestrian commuters	412	Assumes 85% of transit riders access transit by foot.
Future school children, ages 6-14 (grades K-8)	19,553	Same as 2006-2008 ACS mode split
Future school children walking mode share	29.0%	Portland Safer Routes to School Survey, 2007
Future school children walk commuters	5,670	(school children pop.)* (walking mode share)
Future number of college students in study area	7,098	Same as 2006-2008 ACS population proportion
Future estimated college walking mode share	60.0%	National Bicycling & Walking Study, FHWA, Case Study No. 1, 1995.
Future college walking commuters	4,259	(college student pop.) * (walking mode share)
Future total number of walk commuters	13,826	(walk-to-work trips) + (school trips) + (college trips) + (utilitarian trips)
Future total daily walking trips	27,652	Total walk commuters x 2 (for round trips)
Other utilitarian and discretionary trips		
Ratio of "other" trips to commute trips	2.73	National Household Transportation Survey, 2001
Estimated non-commute trips	75,490	
2030 Estimated Daily Pedestrian Trips:	103,142	
Existing Vehicle Trips and Miles Reduction		
Reduced Vehicle Trips per Weekday	8,959	Assumes 73% of walking trips replace vehicle trips for adults/college students and 53% for school children
Reduced Vehicle Trips per Year	2,338,274	Reduced number of weekday vehicle trips multiplied by 261 (weekdays in a year)
Reduced Vehicle Miles per Weekday	10,433	Assumes average round trip travel length of 1.2 miles for adults/college students and 0.5 mile for schoolchildren
Reduced Vehicle Miles per Year	2,723,016	Reduced number of weekday vehicle miles multiplied by 261 (weekdays in a year)
Existing Air Quality Benefits		
Reduced PM10 (tons/weekday)	192	Daily mileage reduction multiplied by 0.0184 tons per reduced mile
Reduced NOX (tons/weekday)	5,204	Daily mileage reduction multiplied by 0.4988 tons per reduced mile
Reduced ROG (tons/weekday)	757	Daily mileage reduction multiplied by 0.0726 tons per reduced mile
Reduced CO2 (lb/weekday)	2,141,907	Daily mileage reduction multiplied by 0.916 lb per reduced mile
Reduced PM10 (tons/year)	50,103	Yearly mileage reduction multiplied by 0.0184 tons per reduced mile
Reduced NOX (tons/year)	1,358,240	Yearly mileage reduction multiplied by 0.4988 tons per reduced mile
Reduced ROG (tons/year)	197,691	Yearly mileage reduction multiplied by 0.0726 tons per reduced mile
Reduced CO2 (lb/year)	2,494,339	Daily mileage reduction multiplied by 0.916 lb per reduced mile

## 1.5. Overview of the Plan

The San Mateo Citywide Pedestrian Master Plan contains the following chapters:

### *Chapter 1 – Introduction*

Sets the context for the Plan including purpose and structure.

### *Chapter 2 – Vision, Goals, Objectives and Policies*

Summarizes the vision, goals, objectives and policies guiding the implementation of the Plan.

### *Chapter 3 – Existing Conditions*

Presents existing pedestrian conditions, including setting, land use, and pedestrian facilities and programs in order to identify where new facilities are needed and what programs will better support pedestrian activity in San Mateo.

### *Chapter 4 – Needs Analysis*

This chapter reviews the relationship between pedestrian attractors and generators commute patterns, and collisions, and estimates potential pedestrian activity within the City. This chapter also includes a review of community outreach and input.

### *Chapter 5 – Pedestrian Network Improvements*

Presents recommended improvements, including engineering and policy improvements, and projects and studies.

### *Chapter 6 – Programmatic Improvements*

Describes proposed pedestrian encouragement, education, enforcement and evaluation programs.

### *Chapter 7 – Implementation*

Outlines a strategy, including cost estimates for projects presented in this Plan.

### *Chapter 8 – Funding*

Provides potential funding sources for implementing the Plan's projects and programs.

### *Appendix A – Pedestrian Design Guidelines*

Provides guidelines for the design of pedestrian enhancements that incorporate street design best practice guidance and enhance the safety, convenience, and mobility for pedestrians. Potential treatments include different design options for pedestrian crossings, pedestrian

amenities, and community vitality, as well as requirements for compliance with Americans with Disabilities Act (ADA).

#### *Appendix B – Survey*

Presents the Citywide Pedestrian Master Plan survey used to collect information from San Mateo residents. Respondents were asked to identify their existing travel behavior, what they see as obstacles and/or barriers to pedestrian travel, their preferred pedestrian facilities or amenities, and their most and least favorite places to walk and walking routes.

#### *Appendix C – Planning and Policy Review*

Reviews planning and policy documents relevant to the Citywide Pedestrian Master Plan. The review is organized by City, County, Regional, State, and Federal documents and policies. The review focuses on those sections and specific policies from each document that are most relevant to the Citywide Pedestrian Master Plan.

#### *Appendix D – Walking Audit Memo*

Summarizes the discussions that occurred during each of three day-long walking audits and includes the site-specific recommendations for pedestrian improvements at the locations visited. A walking audit is a walking workshop that examines a focused cluster of intersections in a neighborhood or along a corridor.

#### *Appendix E – PEDIndex Methodology*

Summarizes the indicators used to estimate walking activity.

#### *Appendix F – High Visibility Crosswalk and Pedestrian Scale Lighting Corridors*

Presents the recommended locations for high visibility crosswalks and pedestrian scale lighting locations in San Mateo.

#### *Appendix G – Summary of Recommendations*

Summarizes the recommendations contained in the plan for quick and easy reference.

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## 2. Vision, Goals, Objectives and Policies

The City of San Mateo seeks to increase walking by residents of all ages and abilities. The goals, objectives and policies of this Citywide Pedestrian Master Plan will guide the development and implementation of the City's pedestrian network and programming for years to come. They should support the City's vision and describe the most important aspects of the City's priorities.

Goals, objectives and policies direct the way the public improvements are made, where resources are allocated, and how programs are operated. The following vision, goals, objectives and policies are consistent with and support the City of San Mateo's 2030 General Plan (GP) (October 2010), the City of San Mateo Sustainable Initiatives Plan (December 2007), and San Mateo County's Strategies for Improving Food and Physical Activity in San Mateo County (Spring 2010). The vision, goals, objectives and policies address the pedestrian environment on both public and private property.

This chapter presents this Plan's goals, objective and policies.

### 2.1. Vision

*The City of San Mateo envisions a continuous pedestrian network that supports active living, provides for safe and healthy transportation, and enables people of all ages and abilities to access jobs, recreation, school, shopping and transit by foot as a part of daily life. The City of San Mateo will provide and promote pedestrian friendly environments including streets, sidewalks, and multi-use paths that are attractive, convenient, and safe for pedestrian activity.*

### 2.2. Goals, Objectives and Policies

**Goal 1: Mobility.** Increase and improve pedestrian access to employment centers, transit, community destinations and recreation across the City of San Mateo for all ages and abilities.

**Objective 1.A:** Increase the mode share of bicycle and pedestrian travel to 30% for trips one mile or less by 2020.

**Policy 1.A.1:** Accommodate the need for pedestrian mobility, accessibility and safety when planning, designing, and developing transportation improvements. Such accommodations could include:

- a. Review capital improvement projects to make sure that needs of nonmotorized travel are considered in planning, programming, design, reconstruction, retrofit, maintenance, construction, operations, and project development activities and products,
- b. Accommodate the needs of all travelers through a “complete streets” approach to designing new transportation improvements. Complete streets are roadways designed to facilitate safe, comfortable, and efficient travel for all roadway users. Accommodations include sidewalks, crosswalks, pedestrian cut-throughs, or other pedestrian improvements, and
- c. Create and implement an ADA Transition Plan that includes actions such as retrofitting street corners, crossings, and transit stops that do not meet current accessibility standards.

*Objective 1.B:* Work to eliminate barriers to pedestrian travel.

*Policy 1.B.1:* Identify opportunities to remove barriers, improve or add pedestrian crossings of US Highway 101, State Routes 82 (El Camino Real), State Route 92, the Caltrain railroad tracks, and major arterials

*Policy 1.B.2:* Identify gaps in the pedestrian facilities network and needed improvements to and within key pedestrian activity centers and community areas, and define priorities for eliminating these gaps by making needed improvements.

*Objective 1.C:* Work with transit providers to develop high quality and pedestrian accessible transit stops and stations.

*Policy 1.C.1:* Work with Caltrain and SamTrans to establish appropriate designs for transit stops and station accessways.

*Objective 1.D:* Regularly evaluate pedestrian activity levels, facilities and programs.

*Policy 1.D.1:* Develop and implement an annual evaluation program to count and survey the community on pedestrian facilities and programs.

**Goal 2: Safety.** Improve pedestrian safety through the design and maintenance of sidewalks, streets, intersections, and other roadway improvements such as signage and lighting, and landscaping; as well as best practice programs to enhance and improve the overall pedestrian safety.

*Objective 2.A:* Reduce the number of pedestrian related collisions, injuries and fatalities by 50 percent from 2010 levels by 2020.

*Policy 2.A.1:* Annually review pedestrian complaints and collisions to implement ongoing improvements at intersections and throughout the pedestrian network.

*Policy 2.A.2:* Utilize pedestrian safety and exposure modeling to track improvements to the pedestrian environment and provide data to help identify and prioritize improvement projects.

*Policy 2.A.3:* Identify opportunities to reduce pedestrian exposure by reducing crossing distances or providing facilities.

*Objective 2B:* Work to improve walking conditions at intersections with the highest rate of collisions.

*Policy 2.B.1:* Coordinate with Caltrans to provide median refuge islands on El Camino Real.

**Goal 3: Infrastructure and Support Facilities.** Maintain and improve the quality, operation and integrity of the pedestrian network infrastructure that allows for convenient and direct connections throughout San Mateo. Increase the number of high quality support facilities to complement the network and create public pedestrian environments that are attractive, functional and accessible to all people.

*Objective 3.A:* Incorporate pedestrian facilities and amenities into private and public projects.

*Policy 3.A.1:* Support and encourage local efforts to require the construction of pedestrian facilities and amenities, where warranted, as a condition of approval of new development and major redevelopment projects.

*Policy 3.A.2:* Facilitate pedestrian travel during and through public and private construction zones.

Policy 3.A.3: Establish and maintain pedestrian design guidelines that address topics such as sidewalk zones, street corners and street crossings.

*Objective 3.B:* Provide maintained walkways that are clean, safe and encourage use.

Policy 3.B.1: Provide routine maintenance of pedestrian network facilities, as funding and priorities allow. Programs to support these maintenance efforts could include:

- a. Sidewalk repair programs, including incentive to property owners to improve adjoining sidewalks beyond any required maintenance,
- b. Develop and administer a Pedestrian Service Request Form Program, and
- c. “Adopt a Trail” programs that involve volunteers for trail clean-up and other maintenance.

Policy 3.B.2 Work with property owners of vacant land adjacent to public walkways to identify and implement beautification opportunities on the vacant property, such as landscaping, fencing and/or art installations.

*Objective 3.C:* Adopt a Green Streets policy that facilitates environmentally sensitive design of the public right of way.

**Goal 4: Programs.** Increase awareness of the value of pedestrian travel for commute and non-commute trips through encouragement, education, enforcement and evaluation programs that support walking.

*Objective 4.A:* Establish and enhance safe routes to schools that will enable and encourage more students to walk to school.

Policy 4.A.1: Identify and develop education and encouragement projects working with the school community through the Safe Routes to School program. This program could include:

- a. Identify Capital Improvement Programs (CIPs), working with the school community,
- b. Apply for Safe Routes to School state funding and other grants to construct and implement educational and encouragement programs and capital improvements, and



- c. Development and distribution of maps that identify the most appropriate routes for children to walk to school.

*Objective 4.B:* Establish and enhance a safe routes for seniors program that will enable more seniors to walk to services, access transit and complete other walking trips safely and conveniently.

Policy 4.B.1: Work with the senior community to identify and address barriers to increased walking and transit use.

Policy 4.B.2: Identify and develop education and encouragement programs working with seniors through the safe routes for seniors program. This program could include:

- a. Identify Capital Improvement Programs (CIPs) working with the senior community, prioritizing access to key senior origin and destination points, and
- b. Develop senior pedestrian mobility and safety training working through senior centers and senior organizations.

*Objective 4.C:* Introduce and promote education, encouragement and outreach for pedestrian programs.

Policy 4.C.1: Support programs that encourage and promote pedestrian travel. These programs could include:

- a. Creation of a social marketing campaign to promote the benefits of active lifestyles, active transportation, walking, focusing on the role of walking in promoting health and lowering obesity,
- b. Development and implementation of effective safety programs for adults and youths to educate drivers and pedestrians as to their rights and responsibilities, and
- c. Inform interested agencies and organizations about available education materials and assistance such as those programs administered by the National Safe Routes to School Partnership.

*Objective 4.D:* Establish a Safe Routes to Transit program that will facilitate walking and biking to transit.

Policy 4.D.1: Identify and implement Safe Routes to Transit projects.

**Goal 5: Equity.** Improve pedestrian accessibility for all residents through equity in public engagement, service delivery and capital investments.

*Objective 5.A:* Assist neighborhoods that desire to improve pedestrian access to, from, and within their neighborhood.

*Policy 5.A.1:* Develop a residential partnership program that enables neighborhoods to identify, prioritize and move forward with pedestrian access improvements.

*Objective 5.B:* Identify low-income and transit dependent communities that require pedestrian access to, from and within their neighborhood.

*Policy 5.B.1:* Implement pedestrian projects providing access to local services, schools and transit identified in the North San Mateo Community-Based Transportation Plan.

*Policy 5.B.2:* Improve pedestrian access to facilities that serve low-income and transit dependent community members.

**Goal 6: Implementation.** Implement the Pedestrian Plan over the next 20 years.

*Objective 6.A:* Determine funding needs for expanding and improving pedestrian facilities and programs, and seek funding for those needs.

*Policy 6.A.1:* Develop and update a 20-year Financial Plan on a five year basis.

*Policy 6.A.2:* Apply for local, State, and Federal grants for major pedestrian projects and programs, including Safe Routes to School and Safe Routes to Transit.

*Policy 6.A.3:* Develop requirements and incentives for private property owners to incorporate pedestrian features into new projects.

*Policy 6.A.4:* Explore partnerships with private and public organizations (e.g., the County of San Mateo Health Department) to fund incentive programs and events that encourage walking.

*Objective 6.B:* Incorporate pedestrian projects into the City's Capital Improvement Program (CIP) that will create a walkable environment in San Mateo and support the City's Sustainable Initiatives Plan.

Policy 6.B.1: Prioritize the top ten Pedestrian Plan projects for inclusion in the CIP.

Policy 6.B.2: Identify dedicated pedestrian project funding by 2017.

*Objective 6.C:* Ensure pedestrian transportation is coordinated within the City and externally.

Policy 6.C.1: Designate a City Pedestrian-Bicycle Coordinator responsible for coordinating pedestrian and bicycle transportation within the City and externally. The Pedestrian-Bicycle Coordinator will be a regular participant at the City's Development Review Board and have the authority to comment on private and public development projects as it relates to implementation of the Pedestrian and Bicycle Master Plans' visions, goals, objectives and policies.

*Objective 6.D:* Review the Pedestrian Plan recommendations at regular intervals to ensure it reflects the most current priorities, need and opportunities.

Policy 6.D.1: Update the Citywide Pedestrian Master Plan every five years to identify new facility improvements and programmatic opportunities as the pedestrian network develops, assess their feasibility, gauge public support, identify funding sources and develop implementation strategies.

Policy 6.D.2: Conduct an in-depth update to the Citywide Pedestrian Master Plan in 2020 to evaluate progress as measured by the successful completion of this Plan's Objectives, identify new facility improvements and programmatic opportunities, assess their feasibility, gauge public support, identify funding sources and develop implementation strategies.

## 2.3. Performance Measures

Performance measures monitor the progress made towards achieving the goals of this Pedestrian Master plan. The measures outlined below should be reviewed and updated on a regular basis. The performance measures include target dates. The 2017 targets assume a five year time frame from Plan adoption and a reasonable expectation of ability to meet the measure. The 2020 targets are those identified in this Plan and have not been changed for consistency purposes.

Goal	Performance Measure
<b>Goal 1: Mobility.</b>  Increase and improve pedestrian access to employment centers, transit, community destinations and recreation across the City of San Mateo for all ages and abilities.	Measure 1. A: Increase the mode share of bicycle and pedestrian travel to 30% for trips one mile or less by 2020.  Measure 1.B: Develop and implement an annual evaluation program to count and survey the community on pedestrian facilities and programs by 2017.
<b>Goal 2: Safety.</b>  Improve pedestrian safety through the design and maintenance of sidewalks, streets, intersections, and other roadway improvements such as signage and lighting, and landscaping; as well as best practice programs to enhance and improve the overall pedestrian safety.	Measure 2.A: Reduce the number of pedestrian related collisions, injuries and fatalities by 50 percent from 2010 levels by 2020.
<b>Goal 3: Infrastructure and Support Facilities.</b>  Maintain and improve the quality, operation and integrity of the pedestrian network infrastructure that allows for convenient and direct connections throughout San Mateo. Increase the number of high quality support facilities to complement the network and create public pedestrian environments that are attractive, functional and accessible to all people.	Measure 3.A: Provide routine maintenance of pedestrian network facilities, as funding and priorities allow.  Measure 3.B: Develop and administer a Pedestrian Service Request Form Program by 2017.
<b>Goal 4: Programs.</b>  Increase awareness of the value of pedestrian travel for commute and non-commute trips through encouragement, education, enforcement and evaluation programs that support walking.	Measure 4.A: Establish a Safe Routes to School Program by 2017.  Measure 4.B: Establish an Encouraging Seniors Program by 2017.
<b>Goal 5: Equity.</b>  Improve pedestrian accessibility for all residents through equity in public engagement, service delivery and capital investments.	Measure 5. A: Implement pedestrian projects providing access to local services, schools and transit identified in the North Central San Mateo Community-Based Transportation Plan by 2017.
<b>Goal 6: Implementation.</b>  Implement the Pedestrian Plan over the next 20 years.	Measure 6.A: Implement this Plan's priority projects by 2017.  Measure 6.B: Identify dedicated pedestrian project funding by 2017.

### 3. Existing Conditions

San Mateo is a walkable city. As identified in the General Plan, San Mateo generally has a good distribution of jobs, school, shopping and recreational facilities within walking distance of residential neighborhoods. The City has also implemented programs to support walking. This chapter presents existing pedestrian conditions, including setting and land use as well as pedestrian facilities and programs, in order to identify where new facilities are needed and what programs will better support pedestrian activity in San Mateo.

#### 3.1. Setting and Land Use

Much of San Mateo’s pedestrian network can be traced back to the City’s early development patterns, which grew outward from the railroad station in Downtown and along El Camino Real. Today, San Mateo is one of the largest cities on the San Francisco peninsula, located between Burlingame, Foster City, Belmont, and Hillsborough. The City has a vibrant mix of land uses (Figure 3-1). Retail, office, institutional, and recreational land uses, and transit stops serve as destinations for pedestrian trips. Retail is largely concentrated at the Hillsdale and Bridgepointe Shopping Centers, along El Camino Real, and in Downtown. Offices are primarily located in office parks along the State Route 92 corridor, with additional office uses in Downtown.

Single family residential homes account for approximately 34 percent of the City’s land area while 14 percent is occupied by multi-family buildings. Many new developments contain mixed-use buildings or combine residential and non-residential buildings close to each other.

Recreational facilities are located throughout the City, with larger facilities located along the waterfront, the Lagoon, and at Sugarloaf Mountain Open Space. Residences east of Highway 101 have the best pedestrian access to recreational facilities. The northwest and southwest areas of the City have the poorest pedestrian access to recreational facilities.

Population growth has been moderate since the 1970’s and is expected to continue to grow steadily. The 2010 census identifies the City population at 97,207 (2010). The Association of Bay Area Governments estimates the City will grow to 114,100 (2020) and to 119,800 (2030). San Mateo is actively pursuing infill development opportunities near mass transit to accommodate much of the forecasted population growth.

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Increasing sidewalk coverage from a ratio of 0.57 (the equivalent of sidewalk coverage on both sides of 30% of all streets) to 1.4 (coverage on both sides of 70% of all streets) could reduce vehicle travel 3.4% and carbon emissions 4.9%.

*Lawrence D. Frank, et al. 2011. An Assessment of Urban Form and Pedestrian and Transit Improvements as an Integrated GHG Reduction Strategy. Washington State Department of Transportation.*

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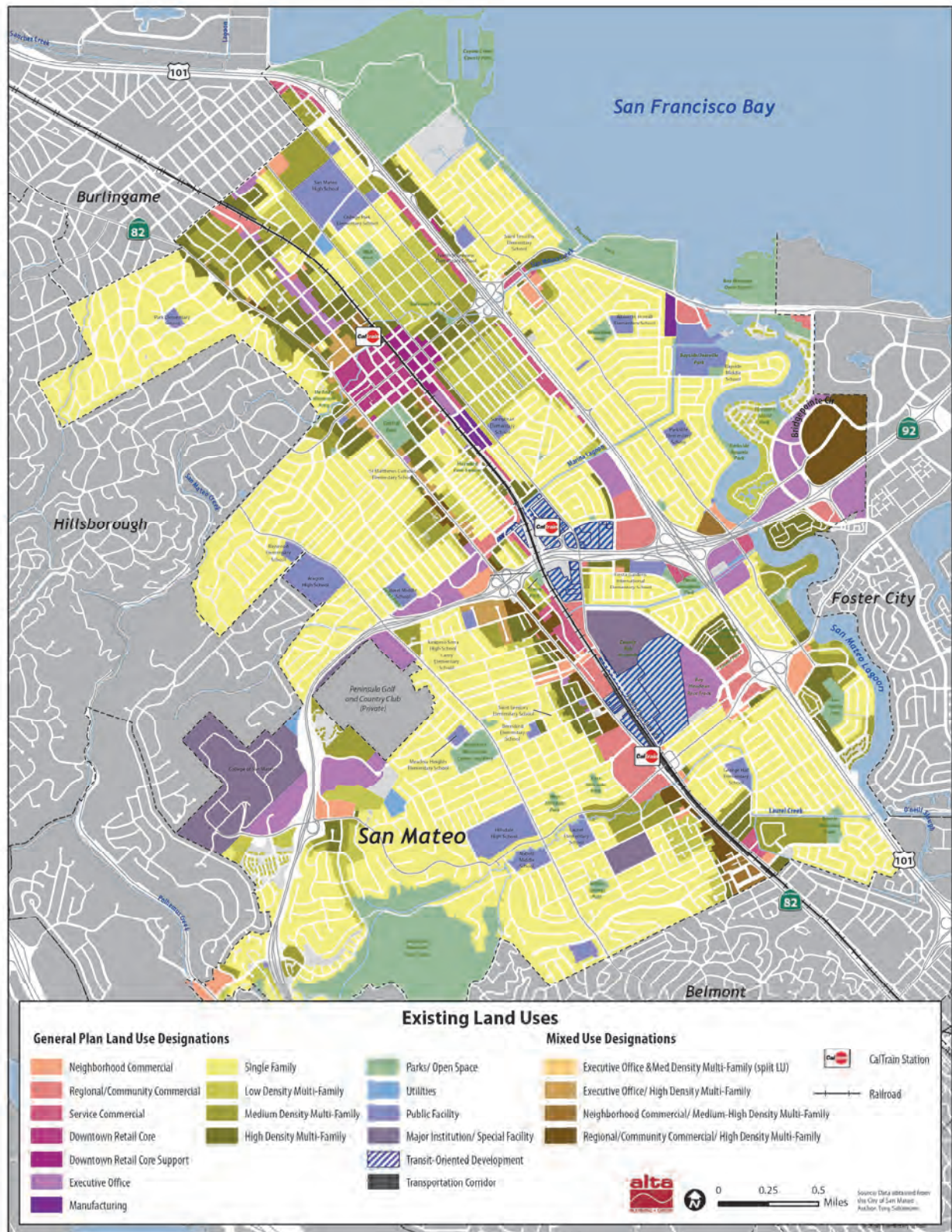


Figure 3-1: Existing Land Uses

### 3.2. Multi-Modal Connections

Approximately 8.4 percent of San Mateo residents use public transit. Two agencies operate most public transportation services within the City: Caltrain and SamTrans. AC Transit operates one route in San Mateo. On average, 3,300 people board Caltrain each weekday in San Mateo. Though there are no counts of the number of riders who walk to the San Mateo Caltrain stations, it is a local and regional goal to improve pedestrian access to Caltrain. SamTrans operates bus routes throughout the City. Bus stop locations are shown on **Figure 3-6**.

While the City cannot directly improve pedestrian accommodations within station areas, it can improve access to and from transit stops and recommend accommodations to transit agencies. The following sections describe transit in San Mateo.

#### 3.2.1. Caltrain

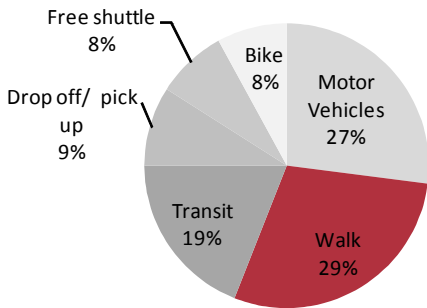
Caltrain carried nearly 12 million riders system-wide in 2008. In 2010, with a decrease in service and the tough economic environment, ridership decreased for the first time since 2004. System-wide, 36,778 people board Caltrain each weekday. System-wide data (**Figure 3-2**) shows that approximately 29 percent of passengers walk and 19 percent of passengers use transit to get to Caltrain stations.

As **Table 3-1** shows, an average of 3,344 people board Caltrain each weekday at one of three Caltrain stations within San Mateo: Downtown, Hayward Park, and Hillsdale.

The percentage of people who walk to Caltrain stations in San Mateo varies from the percentage of people who walk to Caltrain stations system-wide. In San Mateo, the largest group of Caltrain passengers drive to the stations and park their cars.<sup>9</sup> Improvement to San Mateo Caltrain stations, including parking lot expansion and improved bus access, are considered a key element in increasing local transit usage.

Pedestrian facilities within Caltrain stations typically include sidewalks, crosswalks, stairs, and/or ramps. Every train has one wheelchair accessible car that can accommodate two wheelchairs. Many trains have an onboard wheelchair lift, but the newer cars must use the mobile wheelchair lift or the accessible ramp. Both platforms at the San Mateo and Hillsdale Caltrain Stations are wheelchair accessible.

Due to the fact that Caltrain is predominantly at-grade, pedestrian



**Figure 3-2: Caltrain System-Wide Station Access by Mode**

**Table 3-1: Average Caltrain Ridership (San Mateo)**

Station	Average Weekday Ridership
Hillsdale	1,835
San Mateo	1,282
Hayward Park	227
<b>Total</b>	<b>3,344</b>

<sup>9</sup> City of San Mateo General Plan, 2010

circulation is impeded where crossings do not exist. Most track crossings exist in the northern section of the City and in Downtown San Mateo. Only four crossings are located along the approximately three-mile stretch south of 9<sup>th</sup> Avenue to the Belmont border: the SR 92, 25<sup>th</sup> Avenue, Hillsdale Boulevard, and the Laurie Meadows Drive/42<sup>nd</sup> Avenue crossings. All Caltrain track crossings in San Mateo include pedestrian guard arms.

Caltrain's policy emphasizes walking over transit, biking, and auto use.<sup>10</sup> Access strategies that support Caltrain's goal of increasing the percentage of people who walk to Caltrain stations include real-time information, signage/wayfinding, lighting, universal design (i.e., ADA-compliance), pedestrian/bicycle crossing signal priority, inviting public spaces, and traffic calming.

The Hillsdale Caltrain Station is the most heavily used station in San Mateo and provides access to several major destination points: Hillsdale Shopping Center, Bay Meadows Phase II Specific Plan transit-oriented development, and the San Mateo County Events Center. The Hillsdale Station Area Plan (adopted by the City Council on April 18, 2011) proposes new at-grade and grade-separated pedestrian crossings between the Hillsdale Caltrain Station and surrounding residential and commercial development. The San Mateo Rail Corridor Transit-Oriented Development Plan proposes new streets north and south of the Relocated Hillsdale Caltrain Station. The new streets would include grade-separated Caltrain track crossings and at-grade improvements, including sidewalks, street trees and/or planter strips, and crossing improvements.

### **3.2.2. SamTrans**

SamTrans carried 15.2 million passengers throughout San Mateo County in 2008. Several SamTrans routes operate in San Mateo with major transfer points located at the Downtown San Mateo Caltrain Station and at the Hillsdale Caltrain Station/Hillsdale Shopping Center. Most local routes travel through the midsection of the City, extending in a north/south direction on arterials such as El Camino Real, Alameda de las Pulgas, Delaware Street, and Norfolk Street. Service is also provided on Hillsdale Boulevard, Highway 92, Parrott Drive, and Polhemus Road to the outlying east/west regions. While most areas of the City are located within a quarter mile of bus routes, designated bus stops are less accessible. It is SamTrans' policy to restrict passenger boarding and stopping to designated bus stops.

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<sup>10</sup> 2010 Comprehensive Access Program Policy Statement, Caltrain, May 2010



SamTrans does not currently require benches or shelters at their bus stops and few San Mateo stops include bus shelters. SamTrans has prepared a Draft Bus Stop Guidebook (September 2010) with recommendations on bus stop and shelter placement. This Guidebook is in draft form and the recommendations presented here are subject to change. The Draft Guidebook states that selected bus stops may be provided with one or more passenger amenities based on the level of ridership and the stop location. Common amenities include shelters, benches, and trash receptacles. Shelter locations are chosen based on passenger boardings, typical climate and other localized conditions. It has been SamTrans practice that, absent other factors, installing a shelter is considered at stops that have 250 or more boardings on an average weekday. For those stops where average daily boardings do not warrant a bus shelter, but where some level of amenity is justified, a free standing bench may be placed.

Local and express service is generally provided until 7 p.m., resulting in a lack of night bus service for several areas of the City. Late night service is provided on El Camino Real and Delaware Street. An express line along US Highway 101 operates daily into San Francisco during the morning and evening commute times. Local bus service to the train stations is also limited to standard commuter times, allowing little schedule flexibility in bus/train transfer outside of standard commute times.

Walking is the primary mode in getting to and from SamTrans: 70 percent of passengers walk to their bus stop and 62 percent walk from their stop to their final destination.<sup>11</sup>

### 3.2.3. Paratransit

San Mateo is served by two paratransit services: SamTrans' Redi-Wheels and the Peninsula Jewish Community Center's Get Up & Go program as well as private taxi service. Redi-Wheels serves San Mateo County, east of Highway 280, plus the towns of Woodside and Portola Valley. Redi-Wheels transports approximately 1,000 customers daily on 83 buses, vans, and sedans supported by supplemental taxi service.<sup>12</sup> All of SamTrans' buses are ADA-accessible and many persons with disabilities use the regular fixed-route bus service.

People who are unable to use fixed-route transit for some or all of their trips may be eligible for paratransit. Redi-Wheels operates seven days



*SamTrans' Redi-Wheels provides paratransit service to San Mateo and the surrounding areas.*

*Source: [www.samtrans.com](http://www.samtrans.com)*

<sup>11</sup> 2009 SamTrans Rider Survey: Systemwide On-Board Bus Survey Summary Report

<sup>12</sup> Facts and Figures, SamTrans, April 2009

a week, including holidays, from 5:30 a.m. to midnight and up to 24 hours in some areas. In San Mateo, 24 hour service operates along El Camino Real. Non-ADA service operates from 8:00 a.m. to 6:00 p.m., Monday through Saturday, excluding SamTrans holidays. Redi-Wheels is available for any purpose as long as the trip is within the service area. Trips must be prearranged.

The Get Up & Go Transportation Service is available to older adults no longer driving. The service operates on Mondays, Tuesdays, and Fridays, for medical, shopping, and personal appointments in San Mateo County. Paratransit users must register with the Peninsula Jewish Community Center before service is needed.<sup>13</sup>

### 3.2.4. Shuttles

Free commuter shuttles are available at the Hayward Park and Hillsdale Caltrain Stations. These commuter shuttles are funded through grants<sup>14</sup> and employer participation. The shuttle service operates during commute hours between transit stations and major employment areas. Shuttles operating in San Mateo include:

- The Bridgepointe Shuttle operates between the Hillsdale Caltrain Station and the Bridgepointe business area.
- The Norfolk Area Shuttle operates between the Hayward Park Caltrain Station, office buildings southeast of the Station, and the residential areas of Lakeshore and Fiesta Gardens.
- The Belmont Hillsdale Shuttle runs along Pacific Boulevard/Old County Road and El Camino Real between the Hillsdale and Belmont Caltrain Stations.
- The Campus Drive Area Shuttle operates between the Hillsdale Caltrain Station and the Campus Drive office development.
- The Foster City-Lincoln Centre Caltrain Shuttle runs between the Hillsdale Caltrain Station and businesses in the Lincoln Centre Area in North Foster City.
- The Mariners' Island Area Shuttle operates from the Hillsdale Caltrain Station, serving a business park off Saratoga Drive before continuing to serve participating businesses in Foster City near SR-92.

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<sup>13</sup> <http://www.pjcc.org/learn/older/getupandgo.html>

<sup>14</sup> Operating grants funded by the Bay Area Air Quality Management District (BAAQMD), County/City Association of Governments (C/CAG), San Mateo County Transportation Agency (SMCTA) and either San Mateo or Foster City

- The Oracle Shuttle operates between the Hillsdale and San Carlos Caltrain Stations and Oracle office buildings.
- Foster City's Connections Shuttle operates between most areas of Foster City and the Hillsdale Caltrain Station<sup>15</sup>.

### 3.3. Existing Pedestrian Facilities and Programs

Pedestrian-friendly cities demonstrate achievements in five categories, often referred to as the Five Es. The Five Es are:

- Engineering
- Encouragement
- Education
- Enforcement
- Evaluation

Engineering relates to infrastructure, such as paths, sidewalks, crosswalks, signage, and maintenance. The other Four Es relate to programs. Production of walking or hiking maps and programs to celebrate outdoor health encourage people to walk. Education programs improve safety and awareness. Programs that enforce legal and respectful driving and walking make pedestrians feel more secure. Evaluation programs provide a method for monitoring improvements and informing future investments. All Five Es work together to enhance the pedestrian experience in San Mateo. Analysis of San Mateo's existing facilities and programs within the framework of the Five Es is one way to assess the City's pedestrian-friendly status.

### 3.4. Engineering

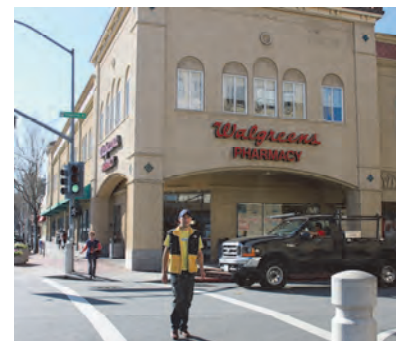
The City's pedestrian facilities include sidewalks, paths, crosswalks, curb ramps, traffic signals, and signage, and the maintenance needed to keep these facilities in good working order. Sidewalks create a space for pedestrian activity separated from motor vehicle traffic. Sidewalks often accommodate a number of activities and can be divided into one or several zones, based on the activities that occur along the sidewalk. Paths separate pedestrians from motor vehicle traffic; however, pedestrians may have to share the path with bicyclists and other non-motorized users. Crosswalks serve as a legal extension of the sidewalk across a roadway, and curb ramps provide a transition between the raised sidewalk and the crosswalk for persons using mobility



*Class I path at Seal Point Park*



*Downtown Sidewalk*



*Downtown Crosswalk*

<sup>15</sup> <http://www.caltrain.com/schedules/Shuttles.html>

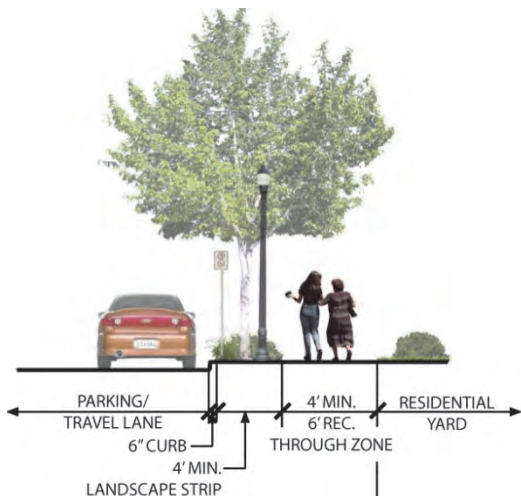


Figure 3-3: Sidewalk Zones in Residential Areas

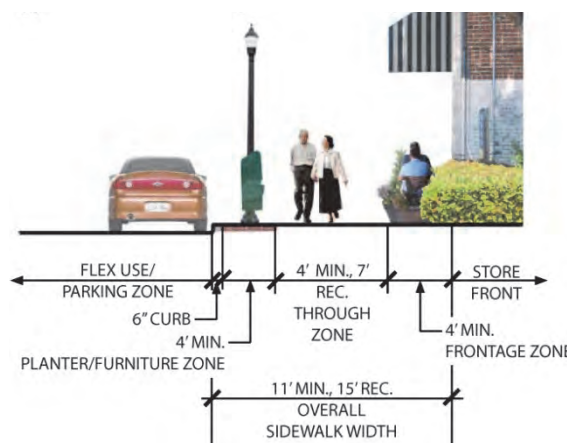


Figure 3-4: Sidewalk Zones in Commercial Areas

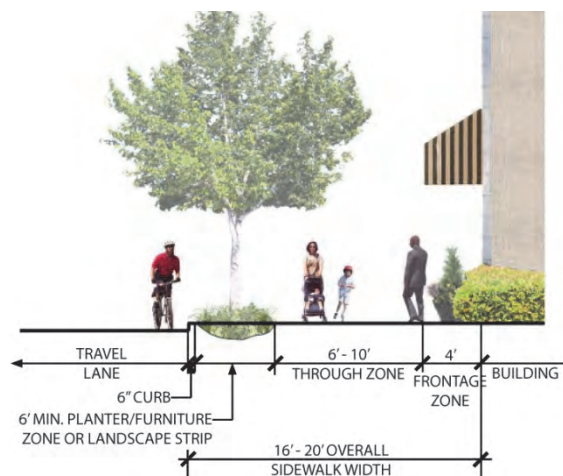


Figure 3-5: Sidewalk Zones in Mixed Use Areas

assistance devices. Traffic controls regulate vehicular and pedestrian crossing movements. Signage directs pedestrians to key destinations and helps manage user groups along multi-use pathways. These elements should form a safe, connected network to encourage people to walk. The following sections present a summary description of existing pedestrian facilities in San Mateo.

### 3.4.1. Sidewalks

San Mateo has an extensive network of sidewalks. There are approximately 360 miles of sidewalks along collector, neighborhood, and local streets within the City. Sidewalks consist of one or several zones. The zones are named for the primary activity that occurs in the zone. Sidewalk zones in residential areas (Figure 3-3) typically include a landscape strip and a through zone. Sidewalks in commercial and retail areas (Figure 3-4) usually include a flex use/parking zone, planter/furniture zone, through zone, and frontage zone. Sidewalks in mixed use areas (Figure 3-5) often include a planter/furniture zone or landscape strip, through zone, and frontage zone.

The width and condition of sidewalks vary throughout the City. Most sidewalk through zones in San Mateo are between 4 and 5 feet wide; however, widths range from 1 foot to 19.5 feet. The American with Disabilities Act requires a minimum 4 foot wide sidewalk. Sidewalks in the downtown area are generally 7.5 feet in width.

Figure 3-6 presents many elements of the existing pedestrian network.

Sidewalks in the City include either vertical or rolled curbs. Rolled curbs are mountable, allowing vehicles to encroach onto the sidewalk, which can be advantageous for emergency vehicle maneuverability. However, rolled curbs also make it easy for cars to park atop the curb face, potentially obstructing pedestrian movement along an adjoining sidewalk. Rolled curbs exist primarily within single-family neighborhoods as shown in purple on Figure 3-7.



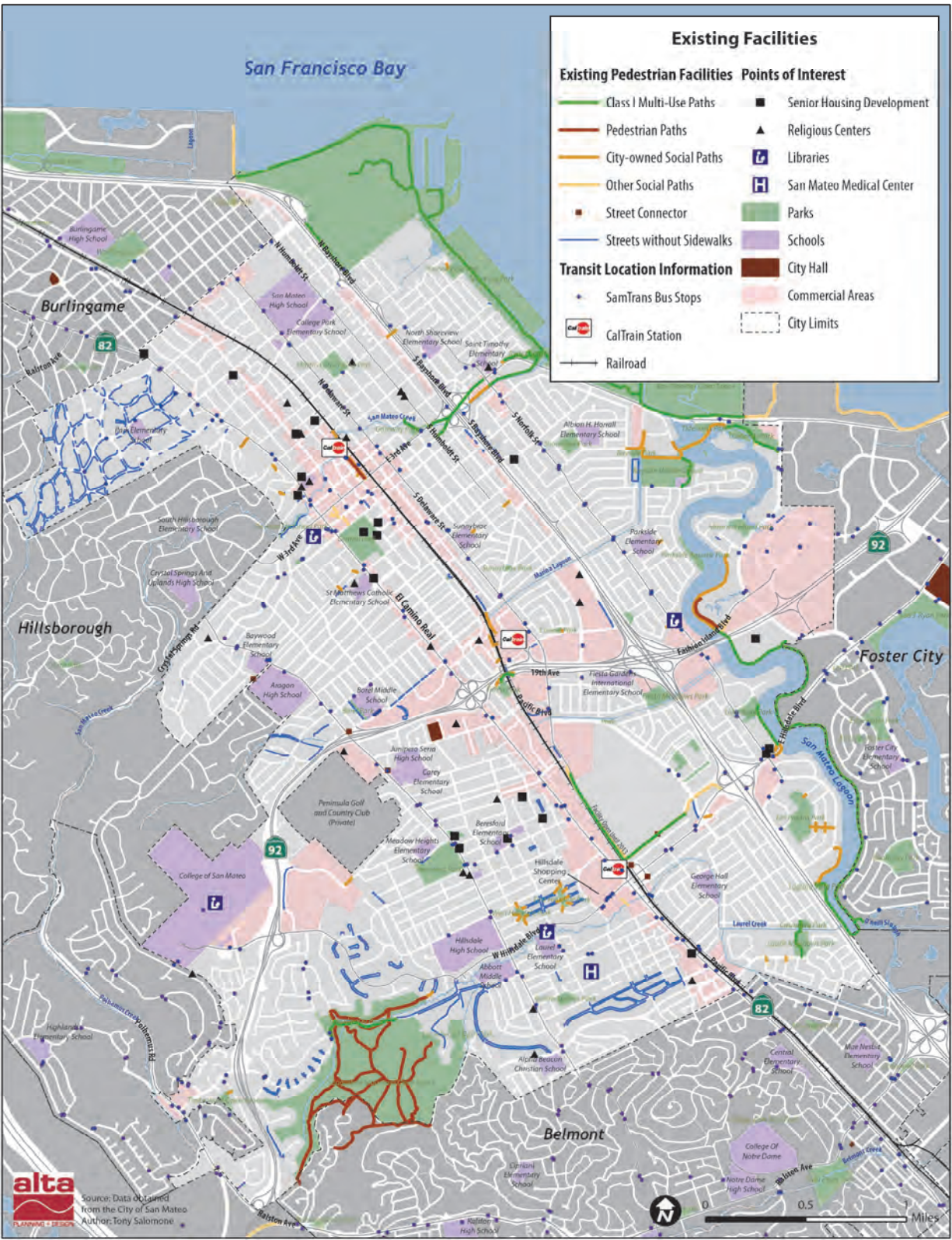


Figure 3-6: Existing Pedestrian Facilities





In an effort to develop a reasonable and cost effective sidewalk repair program, the Public Works Department launched a citywide sidewalk condition assessment project, which was completed in December 2006. This project was designed to inspect a 10 percent representative sample of the City's 360 miles of sidewalk existing at the time of the project. Based on the assessment, it is estimated that approximately 640,000 square feet of sidewalk (0.64 percent of all sidewalks) and 79,000 linear feet of curb and gutter are in need of repair citywide. Typical problems that warrant repair include cracks, uplift, and separation or some combination of these. The estimated repair needs translate to citywide costs of approximately \$5.2 million for sidewalk repair and \$4.7 million for curb and gutter repair.<sup>16</sup> In 2009, The City Council approved a 15-year Sidewalk Repair Program to help manage the ongoing need for inspections and repairs. The Sidewalk Repair Program directs City staff to inspect and identify potential tripping hazards along sidewalks including areas with a three-quarters (3/4) inch or greater vertical separation.

### 3.4.2. Curb Extensions

As defined by the Pedestrian and Bicycle Information Center,<sup>17</sup> curb extensions (also referred to as bulb-outs or neckdowns) extend the sidewalk or curb line out into the parking lane, reducing the effective street width (Figure 3-8). Curb extensions improve pedestrian crossings by reducing the pedestrian crossing distance, visually and physically narrowing the roadway, improving the ability of pedestrians and motorists to see each other, and reducing the time that pedestrians are in the street. Curb extensions placed at an intersection also prevent motorists from parking in or too close to a crosswalk or from blocking a curb ramp. Curb extensions should not extend into travel lanes or bicycle lanes. Downtown San Mateo includes a number of curb extensions at street intersections and at mid-block locations.

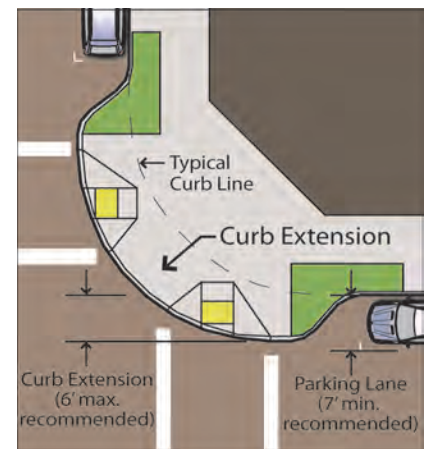


Figure 3-8: Curb Extension

<sup>16</sup> Reflects 2007 dollars

<sup>17</sup> [www.walkinginfo.org/engineering/crossings-enhancements.cfm#curb-extensions](http://www.walkinginfo.org/engineering/crossings-enhancements.cfm#curb-extensions)



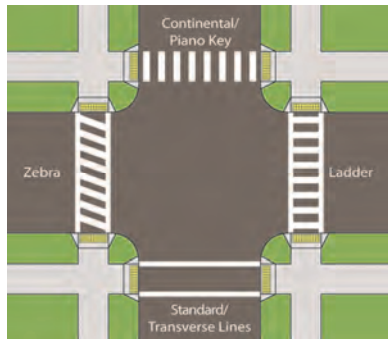


Figure 3-9: Existing Crosswalk Types in San Mateo

### 3.4.3. Crosswalks

Crosswalks are a legal extension of the sidewalk and provide guidance for pedestrians who are crossing roadways by defining and delineating their path-of-travel. Crosswalks are not required to be marked. However, crosswalk markings alert motorists of a pedestrian crossing point. Marked crosswalks exist throughout the City, typically at intersections along arterial and collector streets. Most marked crosswalks are standard (also called transverse) crosswalks consisting of two parallel white lines marked on the pavement (see Figure 3-9). Others crosswalk styles are ladder, continental, or zebra style.

At some marked crosswalks, the City has installed additional treatments, such as distinct paving materials and/or in-pavement flashers. Distinct paving material, such as pavers or colored concrete, further differentiates the crossing zone from the remainder of the street. Examples of marked crosswalks with distinct paving materials include the crosswalks on Park Place, at the Park Place/Saratoga Avenue intersection, and in Downtown.

In-pavement flashers are a series of amber or white lights embedded in the pavement parallel to a marked crosswalk. The lights are activated either passively by pedestrians passing through or waiting in a detection area, or actively, by push-buttons. The lights alert motorists that a pedestrian is or is planning to cross the street at the crosswalk. Eight marked crosswalks in the City include in-pavement flashers. These crosswalks are located at mid-block locations and do not include other traffic controls, such as a traffic signal or stop sign.

State law requires marked pedestrian crosswalks located in a roadway contiguous to a school building or school grounds to be yellow. Additionally, a marked pedestrian crosswalk located within 600 feet (and in some circumstances up to 2,800 feet) from a school building or school grounds may be yellow.<sup>18</sup> The City has prepared an inventory of marked crosswalks which identifies the crosswalk location, type, color, ownership, and whether or not it is in a school district. In San Mateo, the majority of crosswalks (approximately 73 percent) located within 600 feet of a school are yellow.

<sup>18</sup> CA MUTCD Part 7, 2010

### 3.4.4. Refuge Islands

Refuge islands (also known as crossing islands, center or median islands, and pedestrian islands) are raised islands placed in the center of the street at intersections or midblock to help protect crossing pedestrians from motor vehicles (see Figure 3-10). Refuge islands allow pedestrians to negotiate one direction of traffic at a time, and they enable them to stop partway across the street and wait for an adequate gap in traffic before crossing the second half of the street. Refuge islands have been demonstrated to significantly decrease the percentage of pedestrian involved crashes. The factors contributing to pedestrian safety include reduced conflicts, reduced vehicle speeds approaching the island (the approach can be designed to force a greater slowing of cars, depending on how dramatic the curvature is), greater attention called to the existence of a pedestrian crossing, opportunities for additional signs in the middle of the road, and reduced time in the roadway (referred to as “exposure time”) for pedestrians. San Mateo has a number of refuge islands; however, there is currently no City design standard.

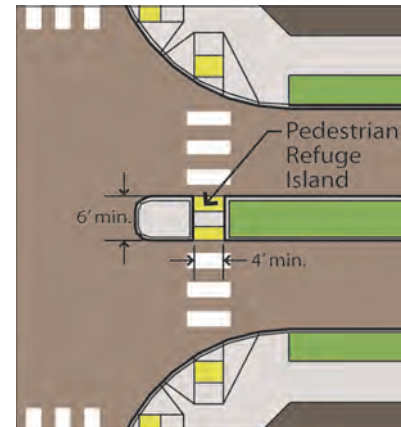


Figure 3-10: Refuge Island

### 3.4.5. Curb Ramps

Curb ramps ease the transition between a sidewalk and street by creating a “bridge” between the curb height and ground level. Curb ramps provide street and sidewalk access to pedestrians using wheelchairs and strollers. The current standards require curb ramps wherever an accessible route crosses a curb.<sup>19</sup> Curb ramp types at street corners in San Mateo include diagonal and perpendicular ramps (see Figure 3-11). Perpendicular ramps are preferable because they direct pedestrians to the correct alignment of the crosswalk. Where feasible, curb ramps on opposite sides of the street or road should align. Curb ramps are required to include detectable warnings or raised truncated domes to provide directional and hazard warning information to pedestrians who are visually impaired. The City installs new curb ramps whenever roadways are resurfaced or reconstructed and upon request (as funding allows). The City recently inventoried the location, condition, and ADA-accessibility of curb ramps within the City limits. As of January 2011, this data is complete. The available data shows that intersections with sidewalks typically have between one and three curb ramps, however data does not show whether the

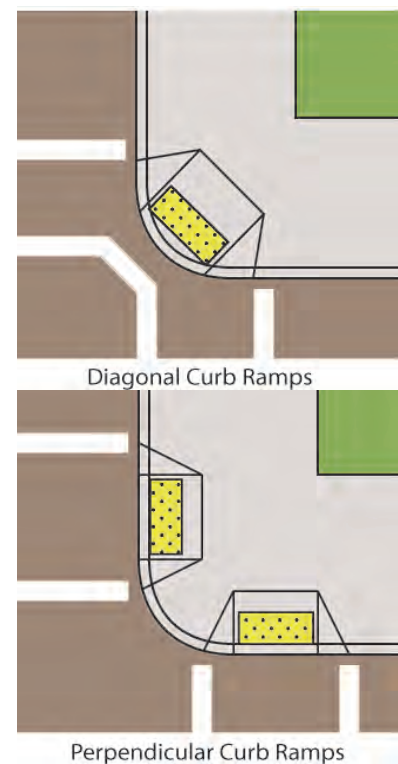


Figure 3-11: Existing Curb Ramp Types in San Mateo

<sup>19</sup> Per ADAAG (Americans with Disabilities Act Assessability Guidelines), an accessible route is a continuous unobstructed path connecting all accessible elements and spaces of a building or facility, including parking access aisles, curb ramps, crosswalks at vehicular ways, walks, ramps, and lifts.



*Pathways (also referred to as Class I Multi-Use Paths) provide a completely separated right-of-way for the exclusive use of pedestrians and bicyclists*

ramps are diagonal or perpendicular. All recently upgraded curb ramps have raised truncated domes.

### 3.4.6. Pathways

The City currently includes 11.67 miles of multi-use pathways. Most pathways are located along the San Francisco Bay, the Lagoon, or within parks and are oriented in a north-south direction. **Figure 3-6** shows the location and extent of multi-use pathways within the City. **Table 3-2** presents the existing pathway lengths and their start and end locations within the City. The City does not own or manage all of the pathways listed in **Table 3-2**; however, City of San Mateo residents do use these facilities.

Table 3-2: Pathways

Name	Start	End	Length (mi)
Existing Class I Multi-Use Pathways			
Sugarloaf Mountain Path	Laurelwood Dr	De Anza Blvd	0.45
Marina Lagoon Path	Highway 92	Shoal Drive	0.51
Coyote Pt	Coyote Point Dr	Shoreview Path	0.45
Shoreview Path	Airport Blvd	City Limit	3.57
Bayside Park Path	Kehoe Ave	Anchor Rd	0.50
N Bayshore Blvd	Coyote Point Dr	E Poplar Ave	0.32
Shoreline Parks Paths	J Hart Clinton Dr	Norfolk Dr	0.26
Fathom Dr	Anchor Rd	Mariners Island Blvd	0.31
E 3rd Ave	Hwy 101	S Norfolk St	0.24
Shoreline Park Paths	Ryder St	Shoreview Path	0.14
Vista Del Mar	Shoal Dr	Windward Wy	0.99
Bayshore Freeway	Kimberly Way	Port Royal Ave	0.44
Laurie Meadows Park	Laurie Meadows Dr	Casanova Dr	0.20
Marina	Lakeshore Recreation Center and Park	E Hillsdale Blvd	0.23
Shoreline Bayfront Path	Lagoon	Marina Lagoon	0.48
16th Caltrain	Railroad Ave	Hayward Park Caltrain Station	0.11
Sawyer Camp Trail	Crystal Springs Reservoir (South)	Crystal Springs Reservoir (North)	0.66
Lagoon	O'Neill Slough	Vista Del Mar	1.93
Bay Meadows	Saratoga Dr	Franklin Dr	0.39
<b>Existing Pathway Total</b>			<b>12.18</b>

### 3.4.7. Signing

Three types of signage that enhance the pedestrian environment are regulatory, warning, and wayfinding signs.

#### Regulatory and Warning

The California Manual on Uniform Traffic Control Devices (CA MUTCD) outlines the requirements for a variety of sign types, including:

- Regulatory (e.g., stop, yield, speed limit, pedestrian crosswalk, no parking, sidewalk closed ahead)
- Warning (e.g., pedestrian crossing, school advance warning, school plaque, playground, senior citizen facility, stop ahead)

Regulatory signs inform road users of selected traffic laws or regulations and indicate the applicability of the legal requirements (see Figure 3-12). Warning signs alert road users to conditions that might call for a reduction of speed or an action in the interest of safety and efficient traffic operations. Pedestrian facilities, such as crossings and walkways in school areas, are often accompanied by a combination of regulatory and warning signs (see Figure 3-13). Multi-use paths require regulatory signs to help manage different user groups. The City has installed CA MUTCD standard signs regulation and warning signs throughout the city.

In addition to standard MUTCD signage, some cities design and produce their own signage. One example is the Seattle Department of Transportation's warning sign that states "Drive Carefully Think of the Impact You Could Make." Another example of city-designed signage is wayfinding signage.

#### Wayfinding

Wayfinding signage can help pedestrians locate transit, recreational, commercial and/or other key destinations by posting the distance to the destination and the direction to travel. Examples include Redwood City's wayfinding signage in Downtown. San Mateo does not currently have a pedestrian wayfinding signage program.



Figure 3-12: CA MUTCD Regulatory Signs

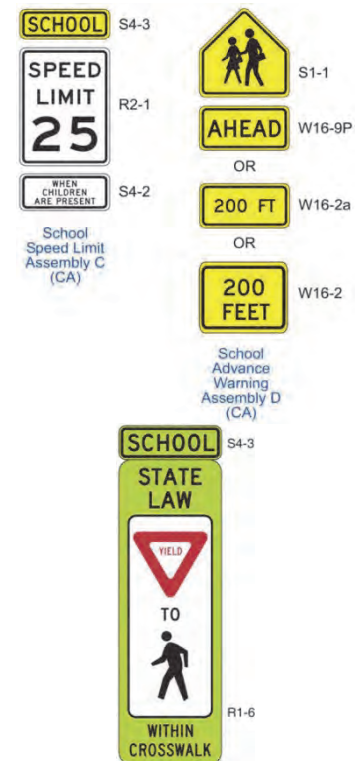
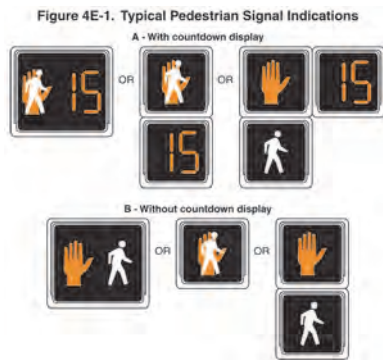


Figure 3-13: CA MUTCD School Area Signs



Source: 2009 MUTCD (National)

Figure 3-14: Pedestrian Signal Indications

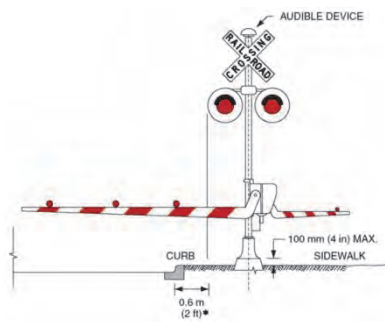


Figure 3-15: Pedestrian Guard Arms

### 3.4.8. Traffic Signals

Pedestrian movement at major intersections is controlled by a variety of signal technologies, including pedestrian signal heads. Pedestrian signal heads<sup>20</sup> are typically installed at signalized intersections with high pedestrian crossing volumes and at school crossings. In San Mateo, the pedestrian crossing phase of any signal include pedestrian signal indications as shown in Figure 3-14.

Intersections in San Mateo include two to several traffic signals, depending on the roadway geometries. All signalized intersections in the City of San Mateo have pedestrian countdown signal heads. Typically, pedestrians trigger the pedestrian phase of signal by pressing a pedestrian push button. Most traffic signals (approximately 90 percent) include one or two pedestrian push buttons.

Traffic signals in San Mateo employ standard signal timing of four feet per second;<sup>21</sup> however, the City does adjust signal timing for slower walking rates, such as for young children, disabled, or elderly pedestrians based on need.

### 3.4.9. Pedestrian Guard Arms

At-grade railroad tracks, such as Caltrain tracks, can be hazardous for pedestrians to cross. Improvements that alert pedestrians to the presence of an oncoming train include pedestrian guard arms (see Figure 3-15). A pedestrian guard arm is an arm attached to a pole that blocks the sidewalk when a train is crossing, similar to arms that cross travel lanes to stop vehicles approaching at-grade crossings. All Caltrain track crossings in San Mateo include pedestrian guard arms.

### 3.4.10. Lighting

Lighting of the public right-of-way includes street or roadway lighting and pedestrian lighting. Street or roadway lighting, such as street lights, is primarily designed for the safety and comfort of motorists. Street lighting typically illuminates intersections and designated crosswalks; however, the illumination of adjacent sidewalks and walkways is often a separate consideration. Pedestrian lighting is a design factor that improves visibility at night and contributes to the “feel” of a place. Pedestrian lighting typically includes shorter lights

<sup>20</sup> A signal head is an assembly of one or more signal faces together with the associated signal housings. A pedestrian signal head is a signal head, which contains the symbols WALKING PERSON (symbolizing WALK) and UPRAISED HAND (symbolizing DONT WALK), that is installed to direct pedestrian traffic at a traffic control signal.

<sup>21</sup> Signal timing refers to the amount of time allocated for the display of a signal indication (CA MUTCD 2010).

directly above pedestrian walkways, accent lighting that illuminates features on or near a building façade, in-pavement lights, catenary or hanging lights, and interior lighting that spills outward from buildings. Combined, street and pedestrian lighting increase visibility of pedestrians for motor vehicles at night, promote perceived personal security for pedestrians, illuminate potential hazards, and can help create a vibrant and inviting streetscape.

The City has inventoried the over 6,500 street lights in the City, including location, pole type, voltage, and wattage. Public Works staff evaluate infrastructure, including lighting, on a monthly and as needed basis.

### **3.4.11. Pedestrian-Related Requirements for Development Proposals**

Citywide requirements for pedestrian facilities and pedestrian-oriented design are contained in the City's General Plan and Municipal Code. The City has developed design guidelines for commercial areas that include pedestrian-oriented design (e.g., locating windows along ground floor street facades) and pedestrian facilities. These guidelines are summarized in the Urban Design Element of the General Plan. The City's Art in Public Spaces municipal code chapter (Chapter 23.60) establishes a requirement that new commercial and multi-family residential projects valued at three million dollars or more provide for publicly visible art.

The City of San Mateo has also adopted design guidelines for development proposals that are located within Specific Plan or Master Plan areas including: the Downtown Area Plan; Hillsdale Station Area Plan; Bay Meadows Specific Plan Amendment; El Camino Real Master Plan; Mariner's Island Specific Plan; and the San Mateo Rail Corridor Transit-Oriented Development Plan. Specific pedestrian-related design criteria and standards for these areas are contained in the various documents.

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Houses with the above-average levels of walkability (as measured by walkscore.com) command a premium of \$4,000 to \$34,000 over houses with just average levels of walkability.

*Joseph Cortright. 2009. "Walking the Walk." CEO's for Cities.*

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### **3.4.12. Maintenance**

#### **Pathway Sweeping**

The City sweeps the Monte Diablo pedestrian overcrossing at a minimum of once per week and aims to sweep the Third Avenue Class I path over US 101 at the same frequency. The City maintains the Shoreline bike path, the bike path from Mariner's Boulevard to Anchor Road, and the path along the water from Lakeshore Park to Hillsdale





*Sidewalk repair is coordinated through the City's Sidewalk Repair Program*  
Source: [www.cityofsanmateo.org](http://www.cityofsanmateo.org)

Boulevard. The City does not sweep these areas, but trims and sprays to control vegetation.

### **Sidewalk Repair**

The City's 15-year Sidewalk Repair Program helps manage the ongoing need for sidewalk inspections and repairs. Under this program, property owners are financially and legally responsible for maintaining the sidewalk fronting their property in accordance with the City of San Mateo Municipal Code Chapter 17.24. Each year, the City inspects a different priority neighborhood and identifies damaged sidewalks. Neighborhood priority is based on the number of trees, number of tree-related problems, and time since past repairs. The City's inspection is followed up with a notice letting property owners know the repair options, the estimated cost and the legal ramifications of non-compliance. A reimbursement program is available to property owners that meet low, very low, and extremely low income requirements.<sup>22</sup> The City maintains sidewalks not directly fronting residential property and within those areas excluded from the program: Community Development Block Grant (CDBG)<sup>23</sup> areas and Downtown Areas. The City inspects the Downtown retail area and CDBG areas annually and makes necessary repairs using parking revenue and CDBG funds, respectively.

## **3.5. Encouragement**

San Mateo residents benefit from encouragement programs administered or funded by numerous organizations, including the Peninsula Traffic Congestion Relief Alliance (Alliance), City/County Association of Governments (C/CAG), San Mateo County Transportation Authority (SMCTA), Metropolitan Transportation Commission, the Bay Area Air Quality Management District, the California Office of Traffic and Safety, the County of San Mateo, and the City of San Mateo. Together, these programs establish the current setting for encouragement in San Mateo.

### **3.5.1. Transportation Demand Management**

The Peninsula Traffic Congestion Relief Alliance (Alliance) is the transportation demand management agency for San Mateo County and funded by the City/County Association of Governments, San Mateo

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<sup>22</sup> City of San Mateo Sidewalk Repair Program, 2008

<sup>23</sup> CDBG areas include Central San Mateo, WestShore, and two additional areas as shown on the City of San Mateo Sidewalk Repair Program – Target Areas (15-Year Plan) Map, which is available online at [www.cityofsanmateo.org/DocumentView.aspx?DID=7862](http://www.cityofsanmateo.org/DocumentView.aspx?DID=7862)

County Transportation Authority, Metropolitan Transportation Commission and the Bay Area Air Quality Management District. The Alliance administers a range of programs that work to reduce the number of single-occupancy drivers and commuters, including a step-by-step guide to commute planning and a bike and pedestrian safety program.<sup>24</sup> Through the bike and pedestrian safety program, participants can learn about walking as a safe, stress-relieving commute mode and traffic laws for pedestrians.

### 3.5.2. San Mateo County Fall Prevention Task Force

Developed in 2003, the San Mateo County Fall Prevention Task Force is comprised of more than 25 community provider agencies, hospitals, nonprofit organizations, and senior centers, including Mills-Peninsula Health Services which has a facility in San Mateo. The mission of the San Mateo County Fall Prevention Task Force is to decrease falls among older adults through advocacy, resource development, and community education. Resources include a booklet and exercise videos on fall prevention and training courses for persons working with older adults in physical activity programs.

### 3.5.3. Streets Alive San Mateo County

Streets Alive in San Mateo County is building on the global open streets movement. In April 2010, cities across San Mateo County opened streets and highlighted public places such as parks, plazas, and trails as a way to promote healthy outdoor activity for a healthy future. The City of San Mateo was a partner for the 2010 and 2011 events. The 2011 event was held on 5<sup>th</sup> Avenue between Laurel Avenue and El Camino Real and included yoga, hopscotch and jump rope activities.

### 3.5.4. San Mateo Acting Responsibly Together (SMART)

SMART is a citywide public outreach campaign encouraging businesses, schools and individuals to engage in behavior that reduces their carbon footprint. The City provides a website where participants can pledge to reduce their carbon footprint, calculate that reduction, and print or email flyers encouraging others to do so. Interested parties can request a SMART speaker to present at school and community groups about climate change and sustainable lifestyle choices, including walking.<sup>25</sup>



*Streets Alive San Mateo County is an annual event promoting healthy outdoor activity*  
Source: [www.streetsalivesmc.org](http://www.streetsalivesmc.org)

<sup>24</sup> For more information visit [www.commute.org](http://www.commute.org)

<sup>25</sup> [www.ci.sanmateo.ca.us/index.aspx?NID=1536](http://www.ci.sanmateo.ca.us/index.aspx?NID=1536)





*Patrons enjoying San Mateo's annual  
Downtown Wine Walk  
Source: [www.winewalk.org](http://www.winewalk.org)*



*Walking school bus*

### **3.5.5. Downtown San Mateo Wine Walk**

From 1984 to 2009, the Downtown San Mateo Association, a non-profit organization representing more than 800 businesses in Downtown San Mateo, hosted the Downtown San Mateo Wine Walk. This event is no longer a regular occurrence. The Wine Walk showcased Downtown's unique character and its shops, restaurants, and businesses. Visitors purchased a wine glass and tasting tickets and visit businesses sampling wines and hors d'oeuvres. Funds from the event were used to provide free holiday activities. The event attracted people from throughout the Bay Area.

### **3.5.6. International Walk to School Day**

International Walk to School Day promotes walking as a means to enhance the health of kids, improve air quality and the environment, and create safer routes for walking and biking. Beresford Elementary School created four walking bus routes to celebrate International Walk to School Day in October 2010. A walking school bus is a group of children walking to school with one or more adults. Baywood Elementary School held an extravaganza with a D.J. and snacks for its student walkers.

## **3.6. Education**

### **3.6.1. Bike/Pedestrian Safety Workshops**

The Alliance offers employers the opportunity to hold free one-hour bike and pedestrian safety workshops at their business. Employees learn about bicycling and walking as a safe, stress-relieving commute mode and traffic laws for bicyclists and pedestrians.

## **3.7. Enforcement**

### **3.7.1. Traffic Regulation**

The Police Department is responsible for enforcing the California Vehicle Code; including ticketing for red light violations, jaywalking, and other activities that potentially impact pedestrian safety. In addition to vehicular patrols, the Police Department deploys up to two bicycle patrol officers in the Downtown area on an as needed basis. Police bicycle patrols increase the mobility of officers in dense areas. The Police Department does not conduct pedestrian stings due to concerns for officer safety.

The City of San Mateo introduced the Red Light Photo Enforcement program in 2005 to address red light violations at intersections with the highest collision rates. There are three cameras in the City of San

Mateo. The cameras are located at the following intersections: the Hillsdale Boulevard/Saratoga Drive, Hillsdale Boulevard/Norfolk Street, and 4th Avenue/Humboldt Street intersections.

### 3.7.2. Speed Feedback Signs

Speed feedback signs display the speed of passing motor vehicles, with the intent that speeding motorists will slow down if they are aware of their speed. The Police Department operates two mobile speed feedback signs, which are deployed in response to resident complaints about speeding.

## 3.8. Evaluation

Evaluation programs measure and evaluate the impact of projects, policies and programs. Typical evaluation programs range from a simple year over year comparison of US Census Journey to Work data to pedestrian counts and community surveys. Pedestrian counts and community surveys act as methods to evaluate not only the impacts of specific pedestrian improvement projects but can also function as way to measure progress towards reaching City goals such as increased pedestrian travel for trips one mile or less.

The City of San Mateo does not currently have pedestrian-related evaluation programs however, establishing a methodology for pedestrian counts has been part of this Master Plan process. To establish a benchmark for existing pedestrian activity, the City conducted pedestrian counts at nine intersections in September 2010. The count results are presented in Table 3-3. This and future count efforts can be used as a bench mark to evaluate projects, policies, and programs.

Table 3-3: Existing Pedestrian Activity at Major Intersections

<b>Intersection</b>	<b>Weekday Counts Totals (2 Hours)</b>	<b>Weekend Counts Totals (2 Hours)</b>
3rd & Delaware	203	180
3rd & Dartmouth	106	153
3rd Ave Bridge	70	75
Parkside & Alameda	42	102
4th & El Camino Real	229	355
Alameda & Hillsdale	114	47
Delaware & Concar	71	77
5th & Grant	69	60
3rd & El Camino Real	144	272
<b>Total</b>	<b>1048</b>	<b>1321</b>

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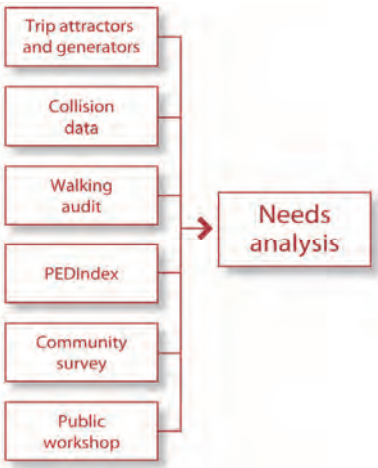


## 4. Needs Analysis

This needs analysis examines where pedestrian improvements are needed in San Mateo. The examination begins with a review of trip attractors and generators to identify where pedestrians are likely to walk to and from. How people access these destinations, whether on foot, by car, by bike or with transit, and typical travel time are then reviewed to understand the current and potential rates of walking. Pedestrian collision locations and rates, a walking audit, and PEDIndex are also reviewed to understand locations likely in need of pedestrian related improvements. The needs analysis concludes with a summary of community input gathered from a community survey and a workshop.

### 4.1. Pedestrian Attractors and Generators

Walking can be a viable means of transportation if schools, employment centers, shopping centers, and parks are accessible by walkways. These pedestrian “attractors” and “generators” are examined below and are used to identify potential recommended pedestrian facilities. Pedestrian attractors are land uses such as retail centers, schools, transit, major employers, senior centers, community centers, medical facilities, parks and the San Mateo County Event Center that attract pedestrians from the surrounding area. Pedestrian generators are land uses, such as senior housing developments, that bring new pedestrians to live in a given area. Figure 4-1 presents San Mateo’s pedestrian attractors and generators.



*Qualitative data and community input help to identify pedestrian needs in San Mateo.*





#### 4.1.1. Retail Centers

Retail centers are always among the highest pedestrian trip generators in any community. San Mateo's retail centers are served by a combination of transit and centralized parking facilities that include structured parking, and on street surface parking. The result is highly concentrated pedestrian flows in some areas. The areas include Downtown, Hillsdale, Bridgepointe and neighborhood retail centers.

**Downtown San Mateo** is the City's historic retail center. The area is comprised of several blocks and features restaurants, boutique retail, and entertainment uses, including a movie theater. The Central Park and Recreation Center is also located in Downtown San Mateo. Downtown is home to a farmers market May through October. All streets within Downtown include sidewalk facilities of varying widths. Other pedestrian amenities include countdown pedestrian signal heads at traffic intersections, crosswalks, street trees, and street furniture.

**Hillsdale Shopping Center** is a large indoor shopping mall located west of the Hillsdale Caltrain Station. The center features three anchor stores, plus 130 specialty stores and restaurants and 5,800 parking spaces. The shopping center is accessible from sidewalks on Hillsdale Boulevard, 31<sup>st</sup> Avenue, and El Camino Real.

**Bridgepointe Shopping Center** is a regional retail, dining, office, hotel, and residential center located at Mariner's Island, just west of Foster City. Bridgepointe also includes an ice skating rink, which offers public skating and youth hockey and skating programs. Sidewalks on Bridgepointe Parkway, Bridgepointe Circle, Armada Way, and Trader Lane provide pedestrian access to the Bridgepointe Shopping Center.

Merchants in smaller neighborhood retail centers such as 20<sup>th</sup> Avenue, 25<sup>th</sup> Avenue, 37<sup>th</sup> Avenue, 41<sup>st</sup> Avenue and Norfolk Street are also a valuable resource and destination for pedestrians. For example, the 25<sup>th</sup> Avenue retail area is a traditional shopping street with grocery stores, a pharmacy, post office, and many restaurants serving resident needs.

Retail centers need facilities to accommodate higher pedestrian activity. These include marked crosswalks, pedestrian countdown signals, and curb ramps as well as pedestrian scaled lighting and wayfinding signs.

#### 4.1.2. Schools

Over 22,000 students are enrolled at schools in San Mateo, representing a large population of potential pedestrians. Approximately half of these students attend kindergarten through high

school at San Mateo schools that are located within neighborhoods and attract pedestrians. Half of these students are enrolled at the College of San Mateo, which hosts the San Mateo Farmers' Market on Wednesdays and Saturdays, an event that draws pedestrians from the surrounding neighborhoods. Table 4-1 lists the schools in San Mateo and their enrollment.

Table 4-1: San Mateo School Enrollment (2010)

School	Enrollment
Abbott Middle School	752
Aragon High School	1,670
Baywood Elementary	509
Beresford Elementary	238
Borel Middle School	953
Carey Elementary	238
College of San Mateo	11,000
College Park Elementary	265
Fiesta Gardens International School	447
George Hall Elementary	433
Highlands Elementary	451
Hillsdale High School	1,171
Horrall Elementary	437
Junipero Serra High School	162
Laurel Elementary	417
Meadow Heights Elementary	313
North Shoreview Montessori	311
Park School	452
Parkside Elementary	420
San Mateo High School	1,396
San Mateo Park Elementary	485
Sunnybrae Elementary	470
<b>Total Enrollment</b>	<b>23,009</b>

As part of the public survey conducted for this Plan, respondents were asked if they take a child to school and, if they do, how do they get there. Of those survey respondents who take a child to school, 19 percent walk, 28 percent drive to school then home, and 50 percent drive to school then another location. Most College of San Mateo students drive or take transit to the college, because of the hilly topography.

Pavement markings, such as crosswalks, have definite and important functions in a proper scheme of school area traffic control. As stated in

the previous chapter, State law requires a marked pedestrian crosswalk located in a roadway contiguous to a school building or school grounds to be yellow. A marked pedestrian crosswalk located within 600 feet from a school building or school grounds may be yellow. The majority of crosswalks (approximately 73 percent) located within 600 feet of a school are yellow.

#### **4.1.3. Mixed-Use Neighborhoods**

San Mateo has mixed-use neighborhoods at some locations throughout the City. These land use patterns tend to increase pedestrian activity by placing origins and destinations within closer proximity to each other than in large single-use neighborhoods. Mixed-use developments exist near downtown San Mateo and are planned at Bay Meadows and the Delaware Street/Concar Drive areas. Other areas are zoned for mixed-use development but will require time to build out.

#### **4.1.4. Transit**

Transit opportunities in San Mateo include Caltrain and SamTrans. Most areas of the City are located within a quarter mile of bus routes; however, designated bus stops are not frequent and therefore less accessible. As discussed in the previous chapter, 70 percent of passengers walk to their bus stop and 62 percent walk from their stop to their final destination.

#### **4.1.5. Major Employers**

San Mateo's top ten employers employ more than 11,000 people. These employees constitute a large number of potential pedestrians. The location of the top ten employers is shown in **Figure 4-1** and in **Table 4-2**. Many of the top ten employers are located in an office park context offering limited pedestrian access. No data on employees walking to these major employers is available; however, existing land use and infrastructure near the major employers does not create an inviting walking environment. In order to address this infrastructure barrier, pedestrian improvements should be implemented by improving access with pedestrian friendly elements including wide sidewalks, pedestrian scaled lighting and landscaping separation where feasible.



Table 4-2: Top 10 Employers (2010)

Employer	Address	Employees
Franklin Templeton Group	1 Franklin Pkwy and 960 Park Pl	5,900
San Mateo Medical Center	222 W 39th Ave	1,400
Hillsdale Shopping Center (Macy's, Sears and Nordstrom)	115 Hillsdale Mall	1,100
City of San Mateo	330 W. 20 <sup>th</sup> Avenue	695
Campus Drive Businesses (Net Suite Inc. and Terarecon Inc.)	2955 Campus Dr #100 and #325	630
California Casualty Group	1900 Alameda De Las Pulgas	500
Salesforce.com	900 Concar Dr	400
Success Factors Inc	1500 Fashion Island Blvd # 300	350
YMCA	1877 S. Grant St	300
San Mateo County Psychological	225 37 <sup>th</sup> Ave #125	285
<b>Total</b>		<b>11,560</b>

Source: City of San Mateo

Walking is the only exercise in which the rate of participation does not decline in the middle and later years. In a national survey, the highest percentage of regular walkers for any group (39.4%) was found among men 65 years of age and older.

*President's Council on Physical Fitness and Sports.*  
[www.alleghenycounty.us/hr/walkfacts.aspx](http://www.alleghenycounty.us/hr/walkfacts.aspx)

#### 4.1.6. Senior Housing Developments and Senior Centers

It is anticipated that by 2017, over 35 percent of San Mateo's population will be age 50 or over. Seniors have a clear need for safe pedestrian environments that are designed with consideration of their rates of movement, sight, and reaction time. The City's *Aging Well, San Mateo* (2009) report found that the likelihood of being no longer able to drive increases with age. Maintaining mobility, especially for those who can't drive is and will be an important goal in the coming years. The distribution of adults aged 55 and older by census tract is shown in **Figure 4-2**. The highest distribution of adults aged 55 and older is in central and southwestern San Mateo. People who live at a distance from or without adequate pedestrian facilities to shopping areas or the main public transportation corridors may find themselves isolated when they stop driving.

Senior centers in the City of San Mateo include the City of San Mateo Senior Center, the Martin Luther King Center, and Self-Help for the Elderly. The San Mateo Senior Center, located at 2645 Alameda De Las Pulgas, serves meals and hosts activities including yoga classes, seminars, bingo, billiards, and mahjong. The Martin Luther King Center is located at 725 Monte Diablo and also serves meals and hosts activities. Self-Help for the Elderly, located in Central Park, offers a variety of services (such as employment training, a wellness program, and homecare and hospice) and hosts social and cultural events.

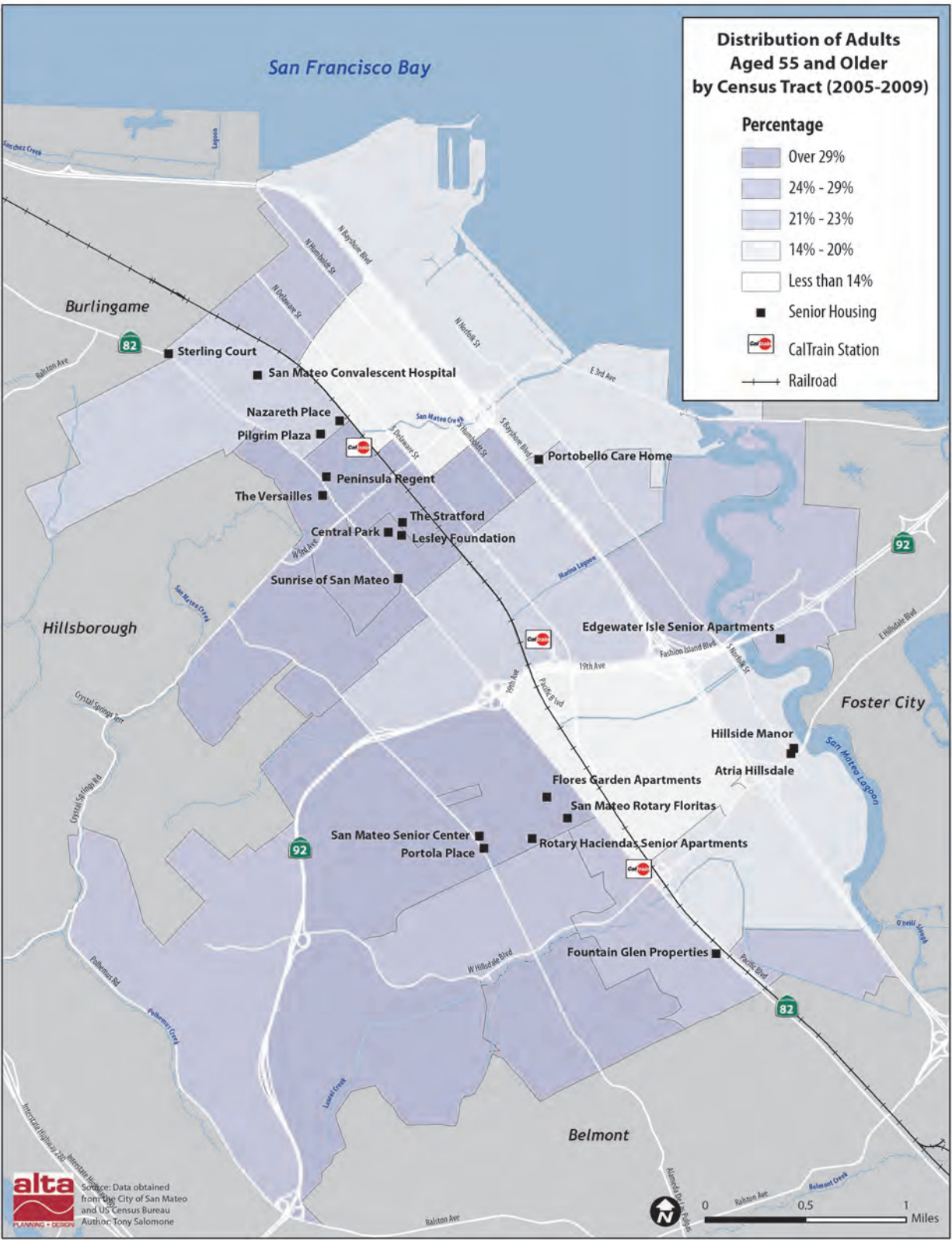


Figure 4-2: Distribution of Adults Aged 55 and Older by Census Tract (2005-2009)

#### **4.1.7. Medical Facilities**

The San Mateo Medical Center is a 509-bed public hospital and clinic system. It offers a range of services from pediatrics and senior care to radiology and financial assistance. The Main Campus is located at 222 West 39th Avenue. The Center is located a few blocks from the Hillsdale Shopping Center and El Camino Real where many SamTrans buses stop. It is also within walking distance to the Caltrain Hillsdale Station. Pedestrians access the Medical Center along Edison Street. This street has narrow crosswalks, missing curb ramps and rolled curbs where vehicles often park partially on the sidewalk impeding pedestrian activity. Another pedestrian access corridor is along 39<sup>th</sup> Avenue. The City is in the process of installing curb ramps in many locations between the Medical Center and El Camino Real. Visitors accessing by transit from the bus stop on the eastern side of El Camino Real must cross five lanes of traffic at an uncontrolled crosswalk.

Mills Health Center, located at 100 South San Mateo Drive, provides a wide range of outpatient services, including surgery, rehabilitation and diagnostics. The Mills Health Center, in Downtown, is within walking distance to many SamTrans stops including those on El Camino Real. It is also near the Downtown Caltrain Station. San Mateo Drive at 2<sup>nd</sup> Avenue is a wide intersection in an area with a high number of pedestrian related collisions. Additionally, the western sidewalk along San Mateo Drive between 2<sup>nd</sup> Avenue and the driveway entrance to the health center is immediately adjacent to a sharp drop in grade.

#### **4.1.8. Parks and Community Centers**

San Mateo has a variety of park facilities including playgrounds, ball fields, courts, and picnic areas that serve as recreational destinations for the community. These outdoor amenities attract individuals, families, local residents and tourists. San Mateo's larger park destinations are described below.

**Sugarloaf Mountain** is a 227-acre open space parkland adjacent to Laurelwood Park in the southwest corner of the City. The park features several hiking trails. Trailheads are located off of Glendora Drive, Shasta Drive and Laurelwood Drive.

**Coyote Point Recreation Area** is a 600-acre San Mateo County park located on the border of Burlingame and San Mateo. The park provides opportunities for picnicking, swimming, fishing, bicycling, sailing, and hiking, as well as several playgrounds. There are a number of pathways in the park that connect the various park areas. CuriOdyssey (formerly referred to as the Coyote Point Museum for Environmental Education),

an environmental science center, is located within the park. The park can be accessed by multi-use paths along the shoreline and North Bayshore Boulevard.

**Central Park and Recreation Center** is a 16-acre park located in Downtown San Mateo. The park is a central city landmark and includes lighted tennis courts, playground, baseball field, Japanese Tea Garden, and Mini Train for children. The recreation center offers community classes and rental space. The park can be accessed via sidewalks along El Camino Real and 5<sup>th</sup>, 9<sup>th</sup>, and Laurel Avenues.

**Shoreline Park** is one of the newest parks in San Mateo. It totals over 140 acres and is comprised of two parts: Ryder Park and Seal Point Park. Ryder Park includes a water theme park, play areas, outdoor classroom, and a barbeque and picnic area. Seal Point Park features a 3-acre off-leash dog park and several walking and bicycling paths. The park can be accessed by the 3<sup>rd</sup> Avenue Class I multi-use path and the San Francisco Bay Trail.

**Beresford Recreation Center and Park** is an 18.5-acre park located on Alameda de las Pulgas between Dolores Street and 28<sup>th</sup> Avenue. Beresford Park is known for its many amenities, including one of two San Mateo skateboard plazas, the Gary Yates lighted bocce ball complex, a fully enclosed tot playground, and tennis and basketball courts. Community garden plots and the San Mateo Garden Center are also located in the park. Activities offered at Beresford Recreation Center include preschool activities, after school care, and youth and adult classes. The park is accessible via sidewalks along Alameda de las Pulgas, 28<sup>th</sup> Avenue, and Parkside and Parkview Ways.

**Bay Meadows Community Park** is currently in the planning stages. This 12-acre community park will be located adjacent to Saratoga Drive between the San Mateo County Event Center property and the proposed 28<sup>th</sup> Avenue extension. Once completed, the park will be accessible via sidewalks along Saratoga Drive.

The **Martin Luther King Community Center (MLK Center)** is located at 725 Monte Diablo Avenue, adjacent to Martin Luther King Jr. Park. The MLK Center hosts youth activities including the San Mateo Police Activities League, drop-in basketball, and several dance and fitness classes. The swim center has two pools open from Memorial Day through mid-August. During the winter holidays, Candyland brings generations of families to MLK Center for a holiday stroll through Licorice Forest and Gum Drop Mountain.

### 4.1.9. San Mateo County Event Center

The County Event Center is host to a variety of events, including the San Mateo County Fair and the Maker Fair. The Event Center also hosts other consumer and trade events, meetings, festivals, corporate events, and sporting events. The 48-acre event facility is located at 1346 Saratoga Drive and is accessed by pedestrians via the main entrance at Delaware and 25th, or the side entrance on Saratoga.

## 4.2. Commuter Travel

Monitoring the number persons walking to work in the City provides a way to track the success of pedestrian facilities. This Plan presents US Census Journey to Work data from the United State Census Bureau's 2008 American Community Survey. As pedestrian facilities are built and education and encouragement programs implemented, Journey to Work data can be revisited to monitor changes in walking rates. The percentage of San Mateo residents that walk to work is about 3.6 percent, which is slightly higher than the state and national rates of 2.8 percent. Table 4-3 lists the mode choices of San Mateo, California and the United States.

Table 4-3: Journey to Work Data

Mode	San Mateo	California	United States
Drive Alone	69.8%	72.7%	75.5%
Carpool	9.8%	11.9%	10.7%
Public Transit	8.4%	5.3%	5.0%
Worked from Home	4.7%	4.8%	4.1%
Walked	3.6%	2.8%	2.8%
Other	2.5%	1.5%	1.3%
Bicycle	1.1%	1.0%	0.5%

Source: U.S. Census Bureau, 2008 American Community Survey

Review of travel time to work is important in estimating the potential number of persons walking to work. Generally, a driving commute time of 9 minutes or less is equivalent to a 30 minute walking commute, assuming flat topography and light to moderate traffic. Based on a variety of factors, communities nationwide have demonstrated that it is possible for San Mateo to shift a portion of the 13.4 percent of the 9 minute or less vehicular commuters to walking. Table 4-4 compares average San Mateo commute times with California and the United States.

Table 4-4: Travel Time to Work

Travel Time	San Mateo	California	United States
Less than 9 minutes	13.4%	11.6%	14.3%
10 to 14 minutes	15.6%	13.7%	14.4%
15 to 29 minutes	35.6%	35.7%	36.1%
30 to 44 minutes	21.5%	21.1%	19.6%
45 minutes or more	13.8%	17.9%	15.5%

Source: U.S. Census Bureau, 2009 American Community Survey

### 4.3. Collision Analysis

Safety is a major concern for current and potential pedestrians and can be a determining factor in the decision whether or not to walk. This section reviews collision data from the Statewide Integrated Traffic Report System (SWITRS) to identify the risk to pedestrians in collisions involving a motor vehicle, where collisions frequently occur, and where roadway design improvements are needed.

According to SWITRS, approximately 7 percent of all collisions (i.e., 376 of 5,732 collisions) in San Mateo from 2001 through 2009 involved pedestrians. Though this is a relatively small percentage of the total collisions, collisions that involved pedestrians often resulted in a pedestrian injury. Pedestrians made up 50 percent of all traffic deaths (see Figure 4-3) and 11 percent of all traffic injuries (see Figure 4-5) in San Mateo in the eight-year period. Between 2001 and 2009, the number of pedestrian-related collisions per year range from a low of 33 in 2009 to a high of 57 in 2003.

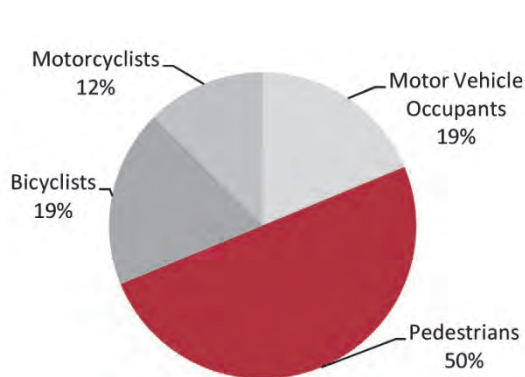


Figure 4-3: Traffic Fatalities (2001-2009)

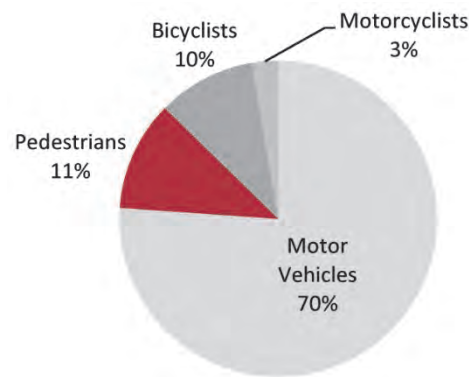


Figure 4-4: Traffic Injuries (2001-2009)

Table 4-5 presents the number of pedestrian collisions in San Mateo from 2001 to 2009 and Figure 4-6 and Figure 4-7 map these collisions. The data tells us that pedestrians are significantly more vulnerable in collisions than motor vehicle occupants, bicyclists, and motorcyclists. Studies show that the likelihood of a pedestrian fatality in a pedestrian/vehicular collision increases as the traveling speed of the motor vehicle increases (Figure 4-5).<sup>26</sup> Targeting improvements along high speed roadways will be an important factor to reduce the number of pedestrian fatalities in San Mateo.

Table 4-5: Pedestrian Related Collisions by Year and Injury Category

Year	Property Damage Only	Injured	Killed	Total
2001	0	40	0	40
2002	1	35	0	36
2003	0	57	0	57
2004	0	41	1	42
2005	1	34	0	35
2006	2	41	2	45
2007	0	37	0	37
2008	0	48	3	51
2009	1	30	2	33
<b>Total</b>	<b>5</b>	<b>363</b>	<b>8</b>	<b>376</b>

Source: 2000-2009 Statewide Integrated Traffic Report System

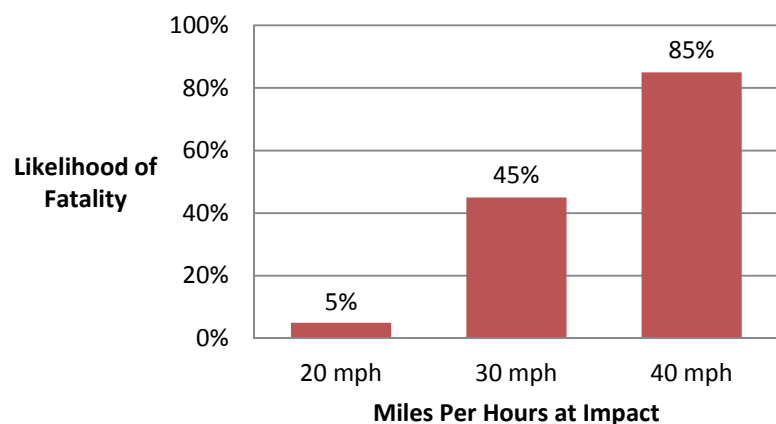


Figure 4-5: Pedestrian Fatalities Based on Speed of Vehicle

<sup>26</sup> "Killing Speed and Saving Lives," U.K. Department of Transportation, London, 1987.



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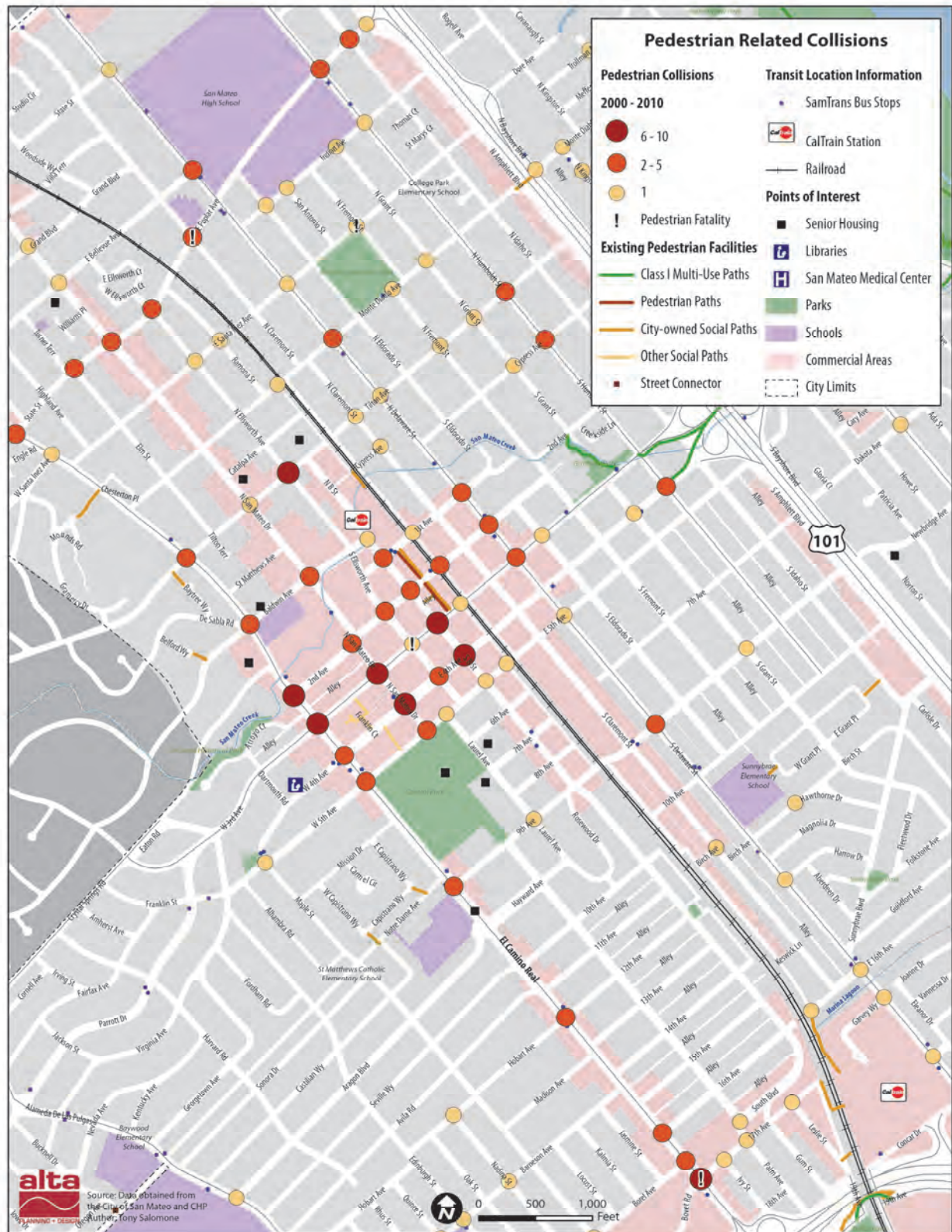


Figure 4-7: Pedestrian Related Collisions (Downtown San Mateo Detail)

Between 2001 and 2009, the City of San Mateo experienced an average of 0.46 pedestrian-automobile collisions per 1,000 population per year. This is higher than the average for San Mateo County of 0.37 pedestrian-automobile collisions per 1,000 population per year.

The California Office of Traffic Safety provides collision rankings every year based number of collisions and city population size. The City of San Mateo often ranks high as the greatest number of pedestrian involved collisions by population. Table 4-6 presents San Mateo's collision ranking, focusing on pedestrian collisions ages 15 and under and 65 and over. The table shows San Mateo's 2005-2009 ranking among cities with populations between 50,001 and 100,000. A higher ranking number indicates more collisions. The table shows the City of San Mateo often has more collisions than cities of similar size. Prior to 2009, the City ranked very high for collisions involving pedestrians over 65 and relatively high for collisions involving pedestrians under 15.

Table 4-6: Office of Traffic Safety Collision Rankings

Type of Collision	2005	2006	2007	2008	2009
Pedestrians Under 15	46 <sup>th</sup> of 100	32 <sup>nd</sup> of 103	27 <sup>th</sup> of 106	29 <sup>th</sup> of 103	64 <sup>th</sup> of 104
Pedestrians Over 65	25 <sup>th</sup> of 100	11 <sup>th</sup> of 103	2 <sup>nd</sup> of 106	4 <sup>th</sup> of 103	43 <sup>rd</sup> of 104
Total Pedestrians	23 <sup>rd</sup> of 100	11 <sup>th</sup> of 103	25 <sup>th</sup> of 106	6 <sup>th</sup> of 103	62 <sup>nd</sup> of 104

A higher ranking number indicates more collisions.

Source: California Office of Traffic Safety

Analysis shows that the number of collisions per month varies throughout the year with higher collision rates occurring during the winter months (generally October through March). The data also reveals a higher number of collisions on weekdays than on weekends. Approximately 15 to 17 percent of collisions occur on a given weekday, while 8 to 12 percent of collisions occur on a weekend day. No factors are found to correlate with this trend. Table 4-7 shows that the number of pedestrian-related collisions varies by the time of day. The time period between 2:00 PM and 6:00 PM experiences the highest number of pedestrian-related collisions. Most pedestrian-related collisions occurred in clear weather (74 percent) or cloudy conditions (21 percent); some occurred in rainy conditions (5 percent).

Table 4-7: Number of Pedestrian-Related Collisions by Time of Day

Time of Day	Number of Collisions
6:00 - 10:00 AM	75
10:00 AM - 2:00 PM	80
2:00 - 6:00 PM	122
6:00 - 10:00 PM	87
10:00 PM - 6:00 AM	12

Source: 2000-2009 Statewide Integrated Traffic Report System

Figure 4-8 presents the number of pedestrian related collision victims by age group. The age groups most commonly involved in collisions were in the 21-30 year old age group, followed by the 11-20 year old age group. Additionally nearly 40 percent were under the age of 20 or over the age of 60. This indicates the most vulnerable users, youth and seniors are disproportionately involved in collisions.

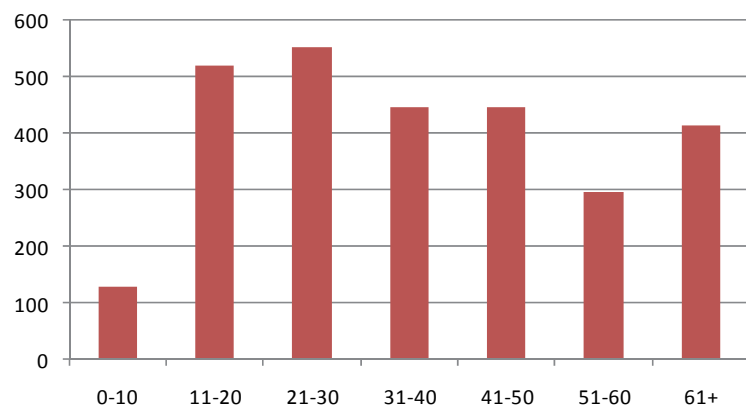


Figure 4-8: Pedestrian Related Collisions by Victim Age Group

Fast-moving vehicle traffic reduces the comfort of pedestrians and the likelihood of surviving a collision if one occurs. Figure 4-10 illustrates the rapid increase in the likelihood of pedestrian death that occurs as vehicle speeds increase, and shows how older pedestrians are particularly vulnerable. Overall, pedestrians age 65 and older are more than 5 times as likely to die in crashes than pedestrian's age 14 or less. The likelihood of death increases steadily for age groups in between.

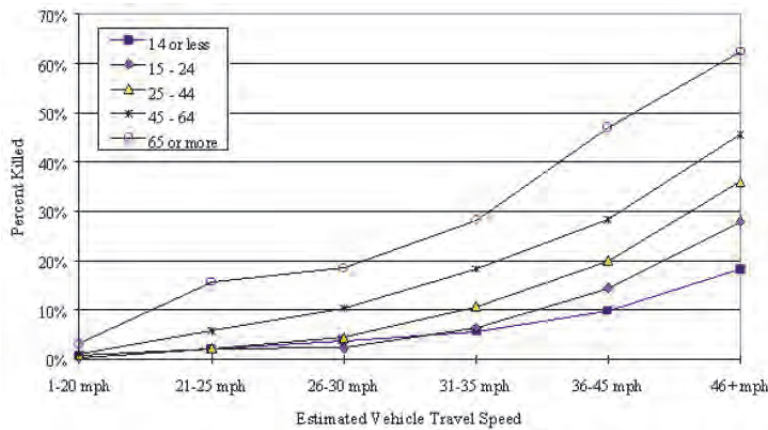


Figure 4-9: Fatal Injury Rates by Vehicle Speed by Pedestrian Age

Source: Preusser Research Group, 1999. Literature Review on Vehicle Travel Speeds and Pedestrian Injuries. National Highway Traffic Study Administration. Data are from Florida, 1993-1996; pedestrians in single vehicle crashes.

Identification of the most common pedestrian related violations and their locations informs the City of possible engineering or education needs. A specific re-occurring violation can be the result of unclear traffic controls or roadways not designed for pedestrian use. It can also be the result of pedestrians not aware of or complying with the “rules of the road.” Table 4-8 lists the top 10 most common traffic violations resulting in pedestrian related collisions for San Mateo and lists the party at fault.

Table 4-8: Party at Fault in Pedestrian Related Collisions

Violation	Driver at Fault	Pedestrian at Fault	Fault Unreported	Total
Automobile Right of Way (Violation)	3	0	1	4
Driving Under the Influence of Alcohol or Drug	4	0	0	4
Improper Passing	3	0	1	4
Improper Turning	9	0	1	10
Pedestrian Right of Way (Violation of)	143	1	33	177
Pedestrian Violation	2	102	1	105
Traffic Signals and Signs	4	0	2	6
Unsafe Speed	13	0	1	14
Unsafe Starting or Backing	16	0	6	22
Wrong Side of Road	1	0	1	2
Other/Unknown	9	5	18	32
<b>Total</b>	<b>207</b>	<b>108</b>	<b>65</b>	<b>380</b>

Source: 2000-2009 Statewide Integrated Traffic Report System

The most common traffic violation cited in vehicle-pedestrian collisions is encroachment within the pedestrian right-of-way. This data supports the pedestrian action data (Table 4-9), which state that the highest number of collisions occur within marked intersection crosswalks and indicates a need to improve the crossing environment. Other common pedestrian actions include crossing a roadway at a location either outside or without a marked crosswalk and walking within the road or along the roadway shoulder. This indicates a need for pedestrian and driver education as well as infrastructure improvements at high collision intersections.

The second most common infringement are pedestrian violations. These violations may indicate that pedestrians do not know the rules of the road or choose not to follow them. Other frequent driver violations include unsafe starting and backing, unsafe speed, and improper turning.

Table 4-9: Pedestrian Action During Collision

Pedestrian Action	Collisions
Crossing in Crosswalk at Intersection*	207
Crossing Not in Crosswalk**	85
In Road, Including Shoulder	47
Not in Road	19
Crossing in Crosswalk Not at Intersection	9
Approaching/Leaving School Bus	1

\*Assumes marked crosswalk

\*\*Approximately 80 percent of these collisions did not occur at an intersection

Source: 2000-2009 Statewide Integrated Traffic Report System

This analysis of pedestrian violations will inform the Plan’s recommendations. Approximately half (54 percent) of pedestrian related collisions are the fault of the driver, while 28 percent are at the fault of the pedestrian and 17 percent of collisions do not report the party at fault (Figure 4-10). These violations identify the need for motorist and pedestrian education, outreach and direct and logical pedestrian crossings on busy roadways.

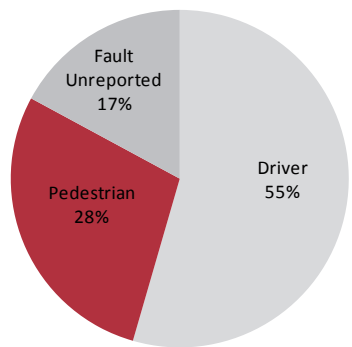


Figure 4-10: Pedestrian Related Collisions Party at Fault Summary

Table 4-10 the locations with the most collisions, including the party at fault and the collision type. The vast majority of collisions occurred in the Downtown area near 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> Avenues and along El Camino Real. High concentrations of collisions also occurred along Delaware Street, East Poplar Avenue, West Hillside Boulevard, 1<sup>st</sup> Street, 5<sup>th</sup> Street, and Alameda de les Pulgas. In general, the collision locations are along popular pedestrian routes, provide logical and direct connections, and are near attractor or popular destinations.



Table 4-10: Top Collision Locations by Collision Type and Party at Fault

Location/ Party at Fault	Not Stated	Crossing in Crosswalk at Intersection	Crossing in Crosswalk not at Intersection	Crossing Not in Crosswalk	In Road, Including Shoulder	Not in Road	Total
<b>4th Avenue and B Street</b>							
Motorist	-	5	1	1	-	-	7
Bicycle	-	-	-	-	-	1	1
Not Stated	1	-	-	-	-	-	1
<b>3rd Avenue and El Camino Real</b>							
Motorist	-	4	-	-	-	-	4
Not Stated	-	2	-	-	-	-	2
<b>25th Avenue and El Camino Real</b>							
Motorist	-	1	-	-	-	-	1
Pedestrian	-	2	-	-	-	-	2
Bicycle	-	-	-	-	1	-	1
Not Stated	-	2	-	-	-	-	2
<b>Edison Street and Hillsdale Boulevard</b>							
Motorist	-	4	1	-	-	-	5
Pedestrian	-	-	1	-	-	-	1
Not Stated	-	1	-	-	-	-	1
<b>5th Avenue and El Camino Real</b>							
Motorist	-	3	-	1	-	-	4
Pedestrian	-	1	-	-	-	-	1
Not Stated	-	1	-	-	-	-	1
<b>31st Avenue and El Camino Real</b>							
Motorist	-	-	-	-	1	-	1
Pedestrian	-	-	-	4	1	-	5
<b>37th Avenue and El Camino Real</b>							
Motorist	-	2	-	-	-	-	2
Pedestrian	-	1	-	2	-	-	3
Not Stated	-	-	-	-	1	-	1
<b>Ellsworth Avenue and Tilton Avenue</b>							
Motorist	-	5	-	-	-	-	5
Pedestrian	-	-	-	1	-	-	1
<b>Total</b>	<b>1</b>	<b>34</b>	<b>3</b>	<b>9</b>	<b>4</b>	<b>1</b>	<b>52</b>

Source: 2000-2009 Statewide Integrated Traffic Report System



Figure 4-11 presents the vehicle movement preceding the collision with the pedestrian. While the majority of movements were vehicles proceeding straight, left turning vehicles and other unsafe turning movements were the second most common. This suggests a need for better pedestrian visibility as well as driver education.

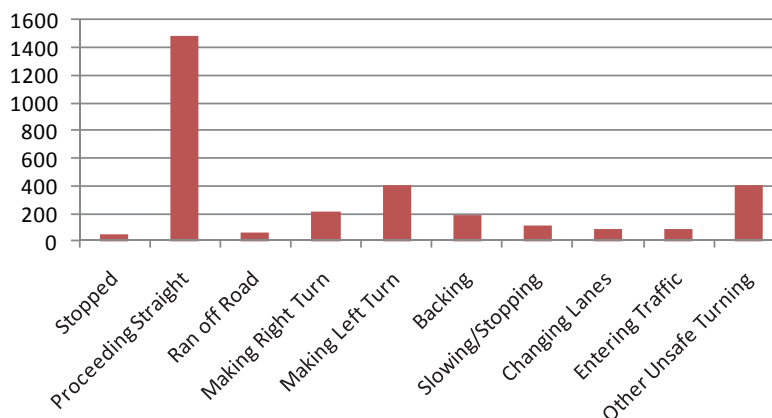


Figure 4-11: Movement Preceding Collision

Studies show that marked crosswalks at uncontrolled locations have a higher frequency of pedestrian collisions than unmarked crosswalks at uncontrolled locations on roadways with more than two travel lanes.<sup>27</sup> This indicates striping a crosswalk may not improve conditions for the pedestrian.

Based on an analysis of City GIS data, there are 1,200 marked crosswalks. Approximately 185 crosswalks do not have associated traffic controls such as a traffic signal or stop signs. US Department of Transportation Federal Highway Administration (FHWA) recommendations for installing marked crosswalks and other pedestrian improvements at uncontrolled locations vary depending on the vehicle average daily traffic (ADT),<sup>28</sup> roadway type (number of travel lanes and median type), and speed limit. Additional field work and analysis are needed to identify the locations of marked, uncontrolled crosswalks within the City and determine whether these crossings are consistent with current FHWA and MUTCD guidelines as well as best practices. Table 4-11 identifies the location of several marked, uncontrolled crosswalks.

<sup>27</sup> Zegeer, C., Stewart, J., and Huang, H. Safety Effects of Marked vs. Unmarked Crosswalks at Uncontrolled Locations. Report No.FHWA-RD-01-142, Federal Highway Administration, McLean, VA, May 2001.

<sup>28</sup> ADT is the average number of vehicles two-way passing a specific point in a 24-hour period, normally measured throughout a year.

Possible improvements could include a signal warrant analysis or installation of pedestrian beacons.

Table 4-11: Select Crosswalks Without Traffic Controls

Uncontrolled Crosswalk Locations	Crossing Location Type
El Camino Real at 39th Avenue	Intersection
El Camino Real at 22 <sup>nd</sup> Avenue	Intersection
W. Hillsdale Blvd between Hacienda St and Edison St	Midblock
W. Hillsdale Blvd and Scenic Wy	Intersection

## 4.4. Walking Audits

Stakeholders and City staff participated in three day-long walking audits on March 8, 9, and 10, 2011. A walking audit is a walking workshop that examines a focused cluster of intersections in a neighborhood or along a corridor, typically in areas near activity centers like schools, or in major pedestrian nodes like downtown areas. Walking audits are typically conducted as an initial step to improve the pedestrian environment within a selected area. They are a means to observing and learning how to “see through the eyes of the pedestrian.”

During the walking audits, participants observed positive practices and issues and noted opportunity areas. The participants observed how motorists behave around pedestrians and overall general pedestrian behavior, especially at intersections (for example, where pedestrians cross at unmarked locations to avoid certain intersections). Participants discussed potential recommendations to address pedestrian safety concerns at specific locations along the route.

The walking audits followed each of three walking routes:

- Route 1: Hillsdale Station Area. Edison Street, West 39th Avenue, El Camino Real, and Hillsdale Boulevard
- Route 2: Downtown. El Camino Real, Tilton Avenue, B Street, West 4th Avenue
- Route 3: North Central. Monte Diablo Avenue, Delaware Street, East 3rd Avenue, Fremont Street

These routes were selected because they represent areas of the City with higher numbers of pedestrian-involved collisions over the last 10 years and also allowed the participants to focus on prototypical pedestrian conditions around the City. Appendix D summarizes the discussions that occurred during each walking audit and includes the site-specific recommendations that the participant group identified.

Recommendations vary based on site-specific characteristics and needs including observed motorist and pedestrian behavior, site geometries (e.g., number of travel lanes, presence of turn pockets and bicycle lanes), traffic volumes, traffic controls, sightlines, adjacent land use access, and transit and emergency response access. The recommendations include improvements such as pedestrian hybrid beacons, median refuge islands, travel lane reconfiguration, curb extensions, signage, pavement markings (e.g., stop bars, high visibility crosswalks), directional curb ramps, and pedestrian-scale lighting.

## **4.5. Community Identified Needs**

The public outreach process for the Citywide Pedestrian Master Plan included a community workshop, a community survey, and presentations at public meetings (see Section 4.5.3). The goal of these efforts was to gather information on resident and employee travel patterns in the City and opinions and suggestions on opportunities, challenges, and potential facilities and programs from a large and diverse population of San Mateo residents. The purpose of the survey was to help inform the development of pedestrian facilities and programs as well as to serve as a benchmark for travel patterns.

### **4.5.1. Community Workshops**

The City held a community workshop at the San Mateo Main Library on January 27, 2011 to discuss the Citywide Pedestrian Master Plan process and draft vision and goals, and receive community suggestions and comments. The sign-in sheet was completed by 33 attendees, though a headcount conducted during the workshop indicated higher attendance.

The workshop included a breakout session where attendees worked together in groups to identify pedestrian-related challenges and opportunities. Challenges included walking routes the participants would like to walk, but currently do not and the characteristics of these routes that make them undesirable. Opportunities included routes the participants regularly walk and identification of the characteristics of these routes that make them walkable. Participants identified citywide and area-specific comments for the Beresford Park, Downtown, Hayward Park, North Central, Northwest Heights, and Shoreview areas. **Figure 4-12** and **Figure 4-13** present community-identified opportunities and challenges. In addition to the breakout session, each attendee had the opportunity to complete a comment card. A summary of the citywide comments received at the workshop is provided below.

Comments regarding the overall pedestrian network included:

- Identify pedestrian accessible cores where walking currently occurs (e.g., 3<sup>rd</sup> Avenue and B Street) and remove impediments to walking. Link cores with traffic-calmed walking corridors. Link walking corridors with land uses associated with the elderly and children.
- Address major barriers such as the Caltrain tracks and freeways.
- Consider road diets on streets with excess capacity.
- Address how pedestrians and bicyclists travel; provision of dedicated bicycle facilities could encourage bicyclists to ride in bikeways and not on sidewalks.
- Ensure effective connections with existing and planned transit-oriented developments.

Comments involving specific pedestrian facilities and amenities included:

- Sidewalks with rolled curbs are often obstructed by cars.
- Consider adjusting signal-timing in certain locations to allow for a longer crossing time.
- Enhance pedestrian crossings on multi-lane streets.
- Improve connection between Downtown and Central Park.
- Incorporate parklets into Downtown.

A second community workshop was held in October 2011 to gather public input on the Draft Citywide Pedestrian Master Plan. Nine members of the public attended. Comments generally supported the findings of the Draft Plan and expressed a particular interest in the walking environment of the downtown area. The installation of parklets was an especially popular recommendation.



Figure 4-12: Community Identified Challenges and Opportunities



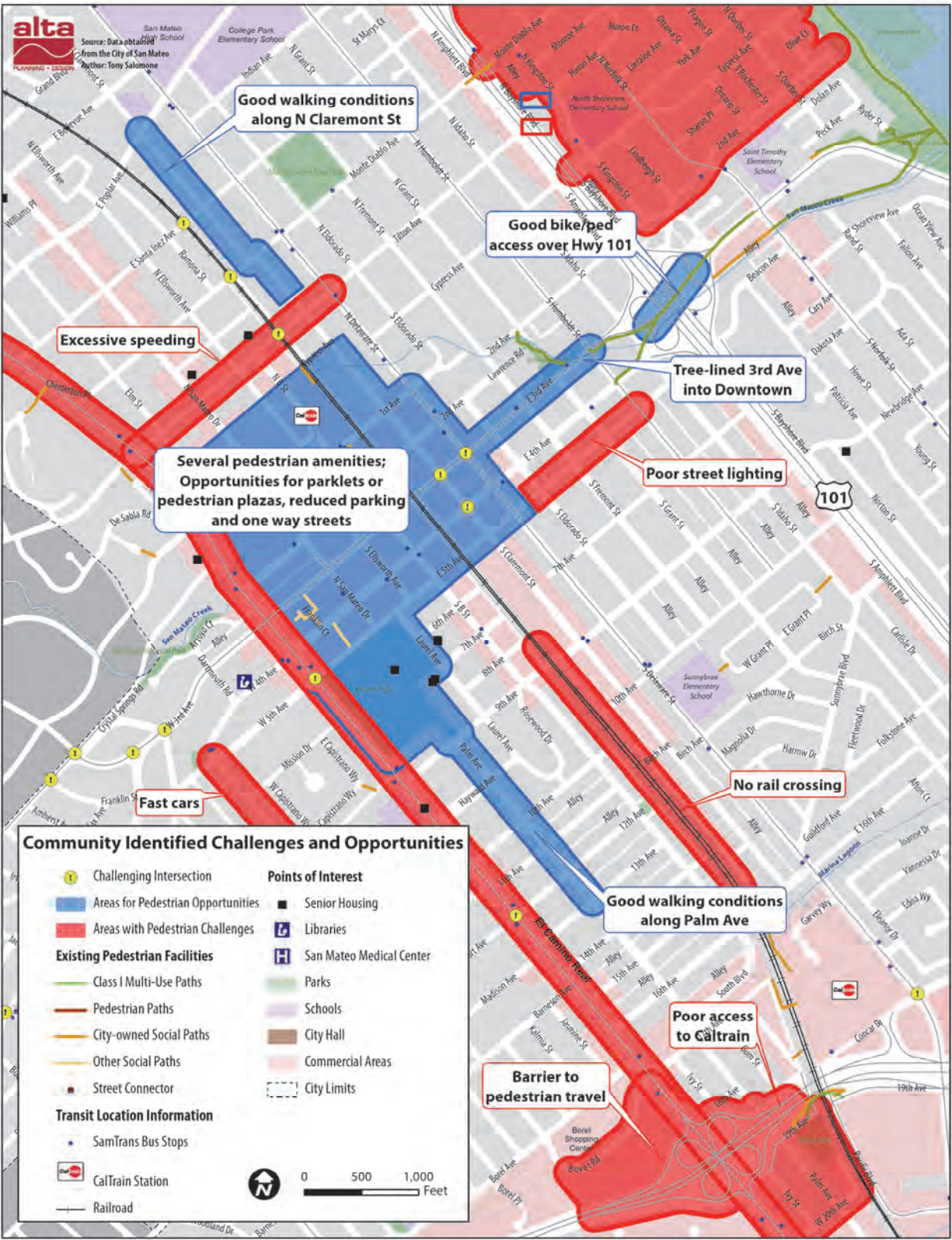


Figure 4-13: Community Identified Challenges and Opportunities (Downtown San Mateo Detail)



Comments related to programmatic needs included:

- Partner with the police department on pedestrian stings targeting drivers that fail to yield to pedestrians can help to raise awareness of the laws.
- Measure pedestrian activity, hazards, and injuries as a means to inform decisions about the location and types of recommended improvements.
- Hold events to encourage walking downtown and in Central Park.
- Provide educational programs for pedestrians and bicyclists.
- Provide education for using public transit.
- A volunteer program to help with maintenance.

#### **4.5.2. Community Survey**

##### **Approach**

The City of San Mateo's pedestrian survey was available on the project website<sup>29</sup> between January 27, 2011 and March 10, 2011. In total, the City received just over 475 responses. Local community groups were notified of the survey effort through email newsletters. These groups include:

- Interested parties list from the City of San Mateo Citywide Pedestrian Master Plan
- Interested parties list from the City of San Mateo Bicycle Master Plan
- City/County Association of Governments of San Mateo County (C/CAG) Bicycle and Pedestrian Advisory Committee (BPAC)
- Franklin Templeton San Mateo Headquarters
- San Mateo Health Center
- Vista Center for the Blind and Visually Impaired
- Burlingame Mother's Club
- SMART email distribution list
- San Mateo-Foster City Unified School District
- San Mateo County Commission on Disabilities
- City of San Mateo Employees
- San Mateo Mother's Club

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<sup>29</sup> [www.cityofsanmateo.org/index.aspx?nid=2218](http://www.cityofsanmateo.org/index.aspx?nid=2218)

In addition to the email newsletter notifications, the online survey was made available at the City's January 27, 2011 public workshop and paper copies were distributed at the San Mateo Senior Center.

## Survey Results

Overall, the results from the survey show active levels of walking in San Mateo, and overall relative satisfaction with walking conditions in San Mateo. Respondents were asked to provide information on their travel behavior, what they see as obstacles and/or barriers to pedestrian travel, their preferred pedestrian facilities or amenities, and their most and least favorite places to walk and walking routes.

## Respondent Information

The survey captured a wide range of ages among its respondents. As Figure 4-14 shows, the largest age group to respond was the 35 to 44 age group, representing over one-quarter of respondents. In addition to the 35 to 44 age group, the other large segments of respondents were between 45 to 54 and 55 to 64. Combined, these respondents made up for nearly three quarters of all surveys received. The majority of survey respondents do not have children in the home that attended school.

Most respondents were women by a ratio of approximately two female respondents for every one male respondent. Less than two percent of respondents use a mobility assistance device. The most common mobility assistive devices used are canes and walkers. Additional respondents stated use of wheelchairs and crutches.

## Travel Behavior

Survey respondents rated their travel preferences based on distance for trips less than one mile in length and trips between one and five miles in length. Figure 4-15 shows that the survey respondents are active pedestrians, frequently making trips less than one mile by foot.

The survey results show that the respondents are active walkers, and likely to be quite familiar with the pedestrian environment – especially in and around their place of residence (over two-thirds of respondents reported that their trips originate from their home or a residential location). The survey responses also suggest that a number of people are walking from home to Downtown San Mateo. Survey respondents stated that their walking trips usually end at home or a residential location (31 percent), Downtown San Mateo (25 percent), a retail area other than Downtown (14 percent), work (13 percent) or a park (9 percent).

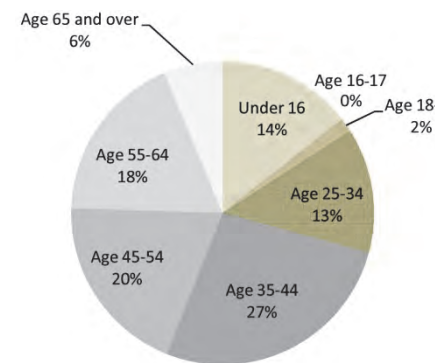


Figure 4-14: Survey Respondent Age Groups

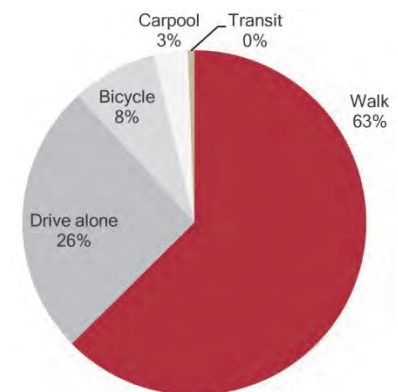


Figure 4-15: Travel Mode For Trips Under One Mile

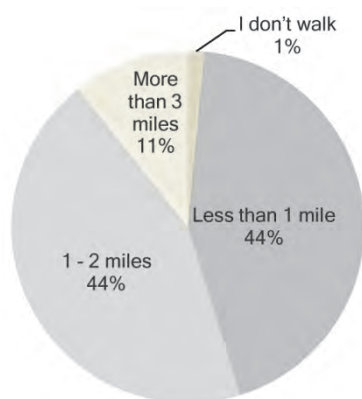


Figure 4-16: Typical Walking Trip Distance

Somewhat surprisingly, over one-quarter of the respondents reported using their car for trips less than one mile. The survey reveals that there are obstacles in San Mateo that prevent walking from being more convenient.

Figure 4-16 reinforces a commonly felt theme in pedestrian planning, in that planning for pedestrians should typically focus on trips that are less than two miles from trip origin to destination. Survey respondents indicated that almost 90 percent of trips are less than 2 miles in length. Focusing on pedestrian-related amenities within two miles of trip generators (such as, retail districts, parks, and Downtown) can provide the biggest return on investment in realizing San Mateo's goal of increasing the mode share of pedestrian and bicycle travel to 30 percent for trips one mile or less by 2020.

The survey asked respondents to rate the most important destinations for San Mateo pedestrian travel. The results of this question are displayed in Figure 4-17. Most of the respondents indicated broad support in improving pedestrian access to destinations throughout San Mateo. However, two destinations received a distinct interest amongst survey respondents: Downtown San Mateo and Parks. In exploring missing gaps in the pedestrian network and nodes of pedestrian activity, San Mateo parks and Downtown should be examined carefully for pedestrian network improvements. Recommended improvements within a two-mile radius of Downtown and parks stand to provide the greatest benefit to encouraging more pedestrian activity.

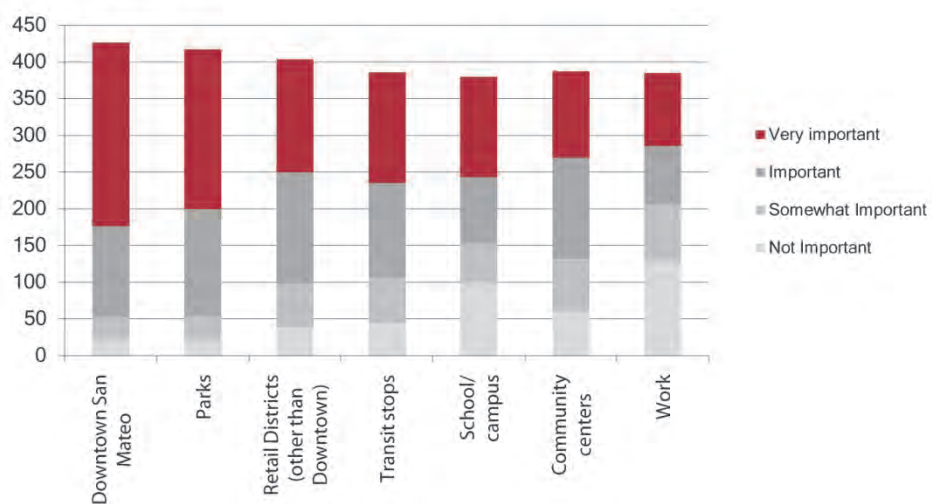


Figure 4-17: Key Pedestrian Access Areas

## Obstacles/Barriers

In addition to identifying their most important walking destinations, respondents indicated the barriers or obstacles that they face while walking in San Mateo. The potential barriers and obstacles listed in the survey and the percentage of respondents who state each barrier or obstacle prevents them from walking more are identified below:

- Not enough time (54%)
- Destinations are too far (43%)
- Bad weather (39%)
- Concerns about safety (31%)
- Insufficient lighting (18%)
- Sidewalks in poor condition (16%)
- Lack of sidewalks (15%)
- Obstructions on sidewalks (11%)
- Lack of curb ramps (9%)
- Disability/other health impairment (3%)

Many people listed variables the City cannot control, namely time constraints, weather, or that a desired destination is too far away. However, over 30 percent of respondents listed general “concerns about safety” and almost 20 percent listed “insufficient lighting” as obstacles that prevent them from walking more. These are barriers and obstacles the City can seek to remedy.

A greater understanding of obstacles and barriers San Mateo residents experience can be gleaned from their open-ended responses regarding their least favorite walking routes or places to walk. Characteristics of the respondents’ least favorite walking routes include routes (bold indicates most frequent responses):

- Along high traffic volume streets
- Along streets with higher traffic speeds
- In need of maintenance (e.g., broken or uneven surfaces)
- Without sufficient lighting
- Without continuous sidewalks
- With narrow sidewalks
- Lacking separation between the sidewalk and the street
  - With rolled curbs (versus vertical curbs)
- Lacking landscaping or street trees
- Exhibiting poor driver behavior (especially Downtown)
- Lacking curb ramps (especially for wheelchair users, persons with strollers, and children on bikes)

- Lacking pedestrian connections (requiring out-of-direction travel)

### **Preferences**

Survey respondents also ranked their preferences for facility improvements from desirable to undesirable. The potential facility improvements and the percentage of respondents are identified below (bold indicates highest preferences):

- **Lighting (57%)**
- **Crosswalks (50%)**
- **Street trees (49%)**
- **Trail/path improvements (47%)**
- **Slowing traffic (45%)**
- **Road pavement improvements (45%)**
- Pedestrian push buttons (44%)
- Other landscaping improvements (43%)
- Benches or other seating (35%)
- Wider sidewalks (33%)
- Corner curb ramps (33%)
- Route/wayfinding signage (23%)

None of the listed facilities were ranked by respondents as completely undesirable, but a few were reported as “somewhat desirable”:

- Route/Wayfinding Signs (23%)
- Benches or other Seating (18%)

All of the facility types received at least some support, showing that there is a broad level of interest, with varying opinions on which facilities would be the most valuable to the San Mateo pedestrian network. Despite the overall high level of interest for all facility improvements, lighting, crosswalks, and street trees were the favorites.

## Walking to School

Several survey questions focused on walking as it pertains to getting to school. Almost two-thirds of respondents indicated that they did not take a child to school (see Figure 4-18). Of those respondents who do take a child to school, 19 percent walk, 28 percent drive to school then home, and 50 percent drive to school then another location.

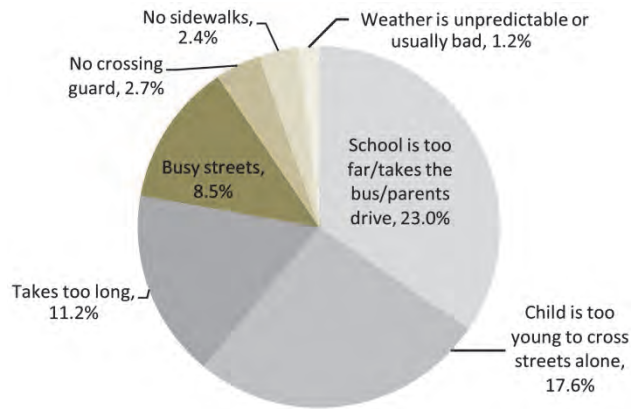


Figure 4-18: Obstacles for Children Walking to School

Over 55 percent of the respondents reported not having any children in their household - thus making the sample size limited in its ability to specifically address parent/student obstacles in walking to school. Of the obstacles that San Mateo has some influence over, the largest concern listed by respondents was “busy streets” (only 8.5 percent). For a more in-depth look at student-parent concerns regarding pedestrian safety, a more focused survey/campaign within San Mateo’s schools, such as a Safe Routes to Schools program, may be necessary.

## Community-Identified Favorite and Least Favorite Places or Routes to Walk

Survey respondents identified their favorite places and routes to walk. The most commonly identified favorite places and routes within San Mateo include:

- Downtown San Mateo
- 3rd, 4th, and 5th Avenues and B Street into Downtown San Mateo
- City and county parks: Beresford Park, Bayshore Park, Central Park, Coyote Point Park, Laurelwood Park, Ryder Park, San Mateo Park, Seal Point
- San Francisco Bay Trail



- Trails around Marina Lagoon
- Parrot Drive to Central Park
- Alameda de las Pulgas
- Palm Avenue to Central Park
- Maple Street from Hobart Avenue to 5th Avenue
- 25th Avenue
- Saratoga Drive
- Neighborhood streets (ex: Baywood, Aragon, near Bay Meadows)
- Hillsdale Mall
- Caltrain
- Bus stops
- Libraries

The least favorite places to walk or walking routes most commonly identified include:

- El Camino Real (reasons stated include high traffic volumes, fast travel speeds, lack of separation between the sidewalk and travel lanes, narrow sidewalks, obstruction along sidewalks, too many active driveways, noise, exhaust)
- Downtown San Mateo (reasons stated include narrow sidewalks, distracted drivers, right turn on red allowances, bicyclists using sidewalks)
- All Highway 101 over and undercrossings
- Neighborhoods with rolled curbs
- Central Park after dark

#### **4.5.3. Additional Public Outreach**

During preparation of the Pedestrian Master Plan, City staff presented the Plan and received comments at the following public meetings:

- City Council on October 4, 2011; April 16, 2012 (Adoption)
- Park and Recreation Commission on December 1, 2010
- Downtown San Mateo Association on January 6, 2011; October 6, 2011
- Planning Commission on January 11, 2011; September 13, 2011; October 11, 2011; March 13, 2012
- Public Works Commission on September 14, 2011; October 12, 2011; March 14, 2012
- Senior Center on March 4, 2011; September 16, 2011
- Senior Citizen Commission on November 16, 2010; November 15, 2011

- San Mateo United Homeowners Association on March 17, 2011; September 15, 2011
- Sierra Club on September 20, 2011

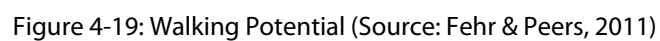
At these meetings, the City received comments from the public that have been incorporated into this Plan and encouraged meeting attendees to participate in the community survey.

## 4.6. Estimating Walking Demand

Pedestrian demand in a location can be predicted from a number of factors including densities distance to pedestrian attractors, demographics and street network type. This section applies PedINDEX, a model adapted from the Environmental Protection Agency's Smart Growth INDEX, to estimate potential walking demand in the City of San Mateo. The PedINDEX model estimates potential walking activity at the street level in order to better evaluate the location and type of future pedestrian improvements. By categorizing levels of pedestrian demand based on socio-economic and land use and other factors, the City can identify places that have the most desirable walking conditions.

Eighteen indicators, summarized in **Appendix E**, were selected to estimate potential walking activity. The indicators include specific variables identifying the density and diversity of land uses, proximity to walking destinations, transit accessibility and pedestrian supportiveness of the street network. Of these factors, 17 are consistent with variables used in the Countywide PedINDEX model that was developed for the San Mateo County Comprehensive Bicycle and Pedestrian Master Plan. One variable, Senior Residences, was added at the request of City of San Mateo staff. Each variable was assigned a score proportional to its expected relationship to walking demand. The final score is a sum of each of the 18 indicators and is a forecast of potential pedestrian activity for each street. The scores range from zero to 100, with 100 as having the highest potential for activity.

**Figure 4-19** maps the model results. Streets in purple hold the highest potential for pedestrian activity. In general the areas with the highest score are concentrated along the El Camino Real Corridor, including El Camino Real itself and many of its cross streets. The model also gives high scores along street segments located in Downtown San Mateo, including the area around the San Mateo Caltrain Station, and the area



around the Hillsdale Shopping Center. Neighborhood retail areas like those along 25<sup>th</sup> and 37<sup>th</sup> Avenues also scored high.

The areas around the San Mateo Medical Center, the San Mateo City Hall and the Bridgepointe Shopping Center also rank fairly high. These areas are retail centers and job centers within the City. Areas around schools have a moderate PedINDEX rating.

It should be noted that pedestrian activity east of Highway 101 around the Bridgepointe Shopping Center is not currently prevalent; however, the model forecasts this as a high potential activity area. The model forecasts high potential for pedestrian activity because of higher densities and mixed land uses. This illustrates the role of the model in identifying not just existing levels of demand but also areas with high potential for pedestrian demand if impediments to walking are removed.

The City model results are also consistent with the Countywide PedINDEX model, which showed higher pedestrian activity potential in downtown areas, including Downtown San Mateo, and throughout the El Camino Real Corridor.

## 4.7. Summary of Findings

This analysis for San Mateo reveals the need for both infrastructure and programmatic improvements. Infrastructure improvements such as pedestrian corridors and enhanced crossings are needed to connect attractors and generators and improve safety at high collision areas. Other infrastructure improvements include lighting and street trees to help create a more desirable pedestrian environment. Programmatic improvements such as education, outreach, and encouragement may help reduce conflict and also encourage more walking.

Pedestrian attractors and generators are generally well-served by existing sidewalks. However, gaps in the sidewalk network exist generally within residential areas in east and southeast San Mateo, near the City limits, and consist of one- to three-block long segments. Further, the width and condition of sidewalks vary throughout the City and community input implies that some sidewalks (e.g., in Downtown San Mateo) may not meet the pedestrian demand. Rolled curbs, located primarily within single-family neighborhoods allow cars to park on the sidewalk and obstruct pedestrian travel.

The need for continuous walkways and enhanced crossings to attractors is evident in the pedestrian-related collision data. The highest rates of collisions occur near attractors near Downtown and along El Camino Real. High concentrations of collisions have also

occurred along Delaware Street, East Poplar Avenue, West Hillside Boulevard, 1st Street, 5th Street, and Alameda de les Pulgas. Investment in community-preferred walkways to community destinations as well as pedestrian and motorist education and outreach is needed.

The US Census shows the pedestrian mode share in San Mateo is higher than the state and national mode share. The survey data shows though walking is a popular mode of travel for trips less than one mile in length, a significant number of people choose to drive for these shorter trips. The community survey indicated that concerns about safety and insufficient lighting are significant obstacles to walking. Traffic calming, improved pedestrian crossings, and pedestrian-scale lighting may encourage more walking.

Collision data, the public workshop, and the community survey also revealed programmatic needs. The collision analysis indicates pedestrian education and outreach for both drivers and pedestrian about rights, responsibilities and the rule of the road are needed. The City has initiated an inventory and map of pedestrian facilities such as curb ramps, crosswalks, and street lights. In addition to completing these inventories, pedestrian counts would inform decisions about the location and types of improvements needed.



## 5. Pedestrian Network Improvements

The following chapter presents recommended pedestrian network improvements identified through community input, City staff, and the Needs Analysis Chapter. The proposed improvements are intended to make walking trips more comfortable, enjoyable, and safer for pedestrians of all ages and abilities and all trip purposes.

This chapter presents the following improvement types:

- **Greenway Pedestrian Corridor Network** identifies a corridor network intended to provide a distinguished pedestrian friendly network.
- **Major Infrastructure Improvements** identify locations for sidewalk installation, paths, curb reconstruction, pedestrian scale lighting, and flexible zone parklets.
- **Intersection and Crossing Improvements** identify specific locations for focused improvements including curb ramps, curb extensions, crosswalks, and other pedestrian related improvements.
- **Zoning Code Revisions** identify changes to the zoning code intended to improve the pedestrian environment.
- **Projects and Studies** identify potential improvements for consideration and further analysis.
- **Project Sheets** presents focused improvements at specific locations.



*Greenway pedestrian corridors provide high quality pedestrian connections to residential areas, transit, recreation, and retail.*



*Crossing improvements address pedestrian safety at intersection and midblock crossings.*



*Major infrastructure improvements include pedestrian scale lighting.*



## 5.1. Greenway Pedestrian Corridor Network

Figure 5-1 presents a recommended Greenway Pedestrian Corridor Network (Greenway Network): a connected network of streets intended to improve pedestrian connections to neighborhood destinations, transit and recreational opportunities and serve high volumes of existing or expected pedestrian activity. The Greenway Network is intended to provide a distinguished pedestrian friendly network.

The network is based, in part, on the Estimating Walking Demand PedINDEX model presented in the Needs Analysis Chapter and includes corridors that have the following characteristics:

- Neighborhood shopping districts
- Transit
- Schools
- Parks and community centers
- Higher density residential development
- Libraries
- Community centers
- Senior centers or senior living facilities

### **Recommendations**

The Greenway Network is a starting point for a pedestrian priority corridor network designed to focus improvements where people are most likely to walk most often. The network should provide high quality pedestrian connections to residential areas, transit, recreation, and retail. The City should consider additional street trees, plantings, wide sidewalks, and public art on many of these corridors.

The City should prioritize pedestrian travel on this network and consider implementation of pedestrian improvements with roadway and planning projects along these corridors.

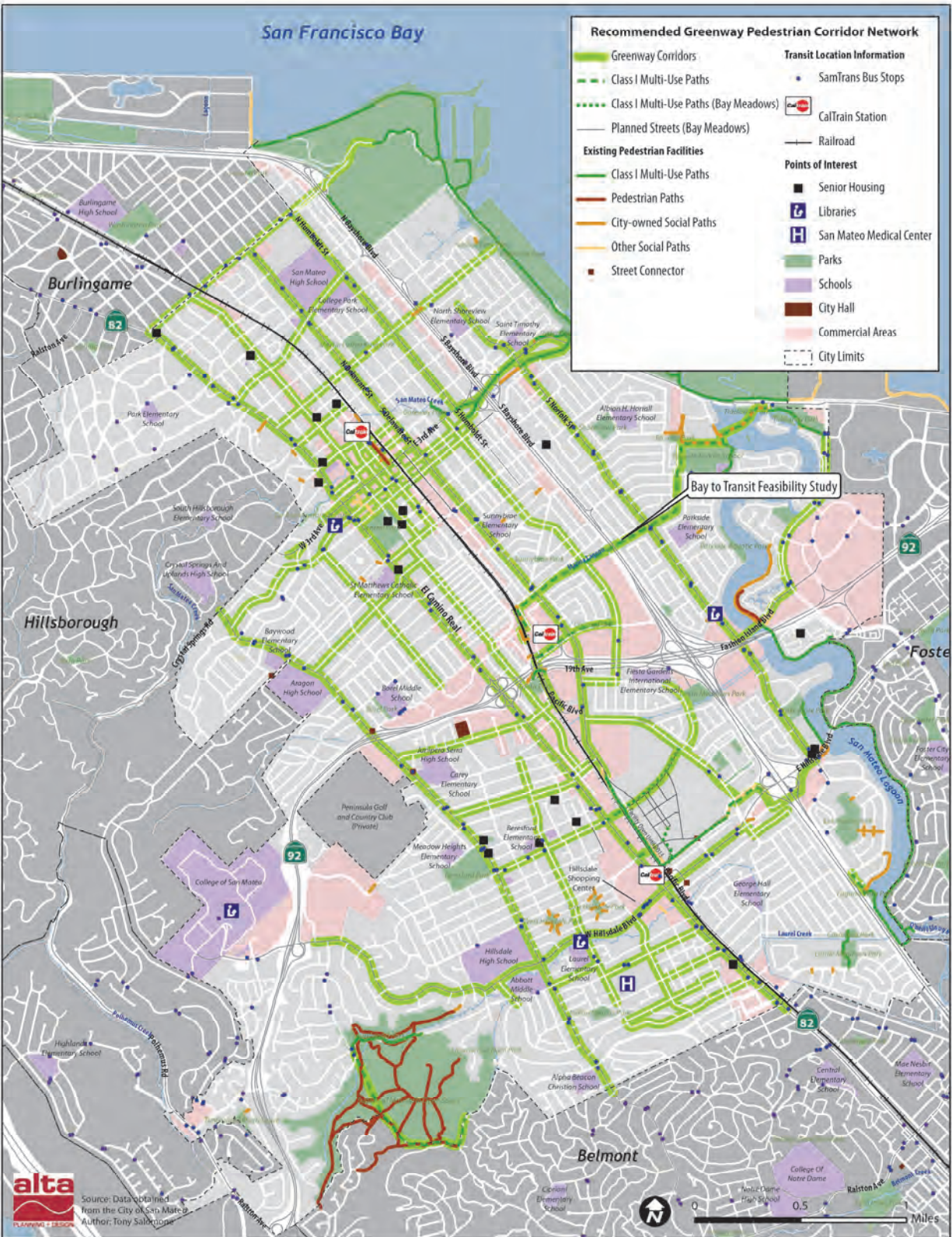


Figure 5-1: Greenway Pedestrian Corridor Network

## 5.2. Major Infrastructure Improvements

### 5.2.1. Sidewalk Standards

Standardizing streetscape design by land use can ensure that future development of public rights-of-way in San Mateo's residential, commercial, and mixed use areas meet the City's vision for vibrant, healthy pedestrian environments. With its recommended sidewalk standards, the City seeks to create places that are sensitive to the land use context, distinctive, attractive, and rich in amenities.

Chapter 3 Existing Conditions, Section 3.4.1 describes the recommended sidewalk zones for San Mateo, which include through, planter/furniture, landscape, frontage, and flex-use zones. The Pedestrian Design Guidelines (see **Appendix A**) present sidewalk types for residential, commercial, and mixed use land uses. The sidewalk zones and widths vary by land use, transportation needs, and community needs and desires.

### 5.2.2. Green Streets

Green Streets is a vision for the public realm that incorporates sustainable practices into streetscape design. While conventional street design results in stormwater runoff entering San Francisco Bay through a series of pipes and culverts, Green Street design uses pervious paving, bioswales, rain gardens and similar tools to capture and filter stormwater. The elements of green street design can be incorporated into pedestrian facilities and traffic calming treatments, increasing safety and providing a more pleasant walking environment. Green street design can also reduce the amount of runoff that enters the storm drain system, reducing polluted outflow to San Francisco Bay.

#### **Recommendation**

This Plan recommends the City of San Mateo implement green street design where feasible on projects identified in this Plan. The San Mateo Countywide Water Pollution Prevention Program published the San Mateo County Sustainable Green Streets and Parking Lot Design Guidebook (2009) and can serve as a valuable reference for the City.

[http://www.flowstobay.org/ms\\_sustainable\\_guidebook.php](http://www.flowstobay.org/ms_sustainable_guidebook.php)



*A demonstration Green Streets Project on Holly Street in San Mateo County*

*Source: San Mateo County Sustainable Green Streets and Parking Lots Design Guidebook*



### 5.2.3. Sidewalk Installation

The majority of the City street network includes sidewalks on both sides of the street; however there are a number of streets that do not have sidewalks and present gaps in the network (see Figure 3-5 in the Existing Conditions Chapter). Areas without sidewalks (sidewalk gaps) may force pedestrians to walk in the roadway which can be problematic on streets with higher traffic volumes. Sidewalk gaps also present a serious mobility issue for those who use assistive devices.

While not all streets with sidewalk gaps have a high need or demand for sidewalks, there are a number that would benefit from sidewalks. Cul-de-sac streets are not a high priority for sidewalks because there is no through traffic and they have low traffic volumes. The San Mateo Park neighborhood in the northwest area of the City does not have sidewalks but also has too little through traffic and low traffic volumes to prioritize sidewalk installation.

#### Recommendations

This Plan recommends the City prioritize sidewalk installation citywide. As a first priority, the City should install sidewalks identified in Table 5-1. The recommended streets are through streets that would benefit from separating pedestrians from vehicle traffic. While it is recommended sidewalks be installed on both sides of the identified segments, available space and parking concerns suggest installation of sidewalks may be feasible on only one side of the roadway. In addition, the City should install sidewalks with all new development projects and as requested by the community.

Table 5-1: Recommended Locations for Sidewalk Installation

Street	Start	End	Description/Need
El Camino Real (northbound)	39 <sup>th</sup> Ave	37 <sup>th</sup> Ave	Bus stop
Hacienda St	Louise Ln	31 <sup>st</sup> Ave	High traffic volume, Community identified need
Pacific Ave	19 <sup>th</sup> Ave	New Development	Transit access
41 <sup>st</sup> Ave	Hacienda St	Colegrove St	Through street
40 <sup>th</sup> Ave	Hacienda St	Beresford St	Through street

### 5.2.4. Paths

Class I Multi-Use Paths provide for pedestrian and bicycle travel on a paved right of way completely separated from streets. These facilities

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People who report having access to sidewalks are 28% more likely to be physically active.

*Brownson, R. et al. 2001.  
"Environmental Determinants of  
Physical Activity in the United  
States." American Journal of Public  
Health. 91:1.*

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are popular recreational corridors and many also serve as commuter corridors.

### **Recommendations**

The San Mateo Bicycle Master plan includes a number of recommended Class I Bicycle Paths. These facilities will also serve and enhance the pedestrian environment and are incorporated in to this Plan. Also recommended is improvement to an existing paved path to the Hayward Park Caltrain Station from 17<sup>th</sup> Avenue. Though a walk area exists, it is not easily accessible to those who use assistive devices. Additionally, it does not have pedestrian friendly supportive features including pedestrian scale lighting. Table 5-2 lists recommended paths.

Table 5-2: Recommended Locations for Pedestrian Paths

Facility Type	Location	From	To	Length (Miles)
Class I	28th Ave Extension	El Camino Real	New Delaware St	0.09
Class I	31st Ave Extension	El Camino Real	Caltrain	0.22
Class I	Bay to Transit Path Feasibility Study	17th Ave	Anchor Rd	1.82
Class I	Concar Dr	Pacific Blvd	S Grant St	0.43
Class I	Franklin Path	Pacific Boulevard	Hillsdale Boulevard	0.17
Class I	Laguna Vista Path	Los Prados	Laguna Vista	0.10
Class I	Laurel Woods/ Sugarloaf Park Path	Laurelwood Dr	Laurel Creek Rd	0.88
Pedestrian Path	Hayward Park Caltrain Station	17 <sup>th</sup> Ave	Caltrain Station	0.21
Crossing	Hillsdale Overcrossing	S. Norfolk Street	Hillsdale Boulevard	0.33
<b>Total Path Miles</b>				<b>4.25</b>

### **5.2.5. Rolled Curb to Vertical Curb**

The City of San Mateo has a number of neighborhoods with rolled curbs. Rolled curbs make it easy for cars to park on the curb face, potentially obstructing pedestrian activity along the sidewalk. Rolled curbs exist primarily within single-family neighborhoods.

Rolled curbs were noted by the community as problematic in the North Shoreview neighborhood in the northeast section of the city as well as near San Mateo Medical Center. Vehicles blocking sidewalks are a concern for all pedestrians, particularly for those who use assistive devices.

### **Recommendation**

This Plan recommends the City consider the conversion of rolled curbs to vertical curbs during roadway reconstruction projects. This

conversion shall only occur following an engineering analysis to determine if there is ample roadway width.

**5.2.6. Pedestrian Scale Lighting**

Pedestrian scale lighting is a category of lighting with frequent lampposts of lower height that illuminate the pedestrian walking area. It typically includes shorter poles, 12 to 15 feet tall, directly above pedestrian walkways. Combined, street and pedestrian lighting increase visibility of pedestrians for motor vehicles at night, promote perceived personal security for pedestrians, illuminate potential hazards, and can help create a vibrant and inviting streetscape.

The City of San Mateo has invested in pedestrian scaled lighting; however community surveys indicate a need for additional pedestrian lighting. Results from the *North Central Community Based Transportation Plan* survey as well as the survey conducted for this Plan indicate a need for lighting in North Central San Mateo and near retail, transit and other civic facilities.

**Recommendations**

This Plan recommends the City install pedestrian scale lighting along the corridors presented in Figure 5-2. A detailed table of recommended corridors is presented in Appendix F.

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For the price of one mile of four-lane urban highway, around \$50 million, hundreds of miles of bicycle and pedestrian infrastructure can be built, an investment that could complete an entire network of active transportation facilities for a mid-sized city.

*Gotschi, Thomas and Kevin Mills.  
2008. Active Transportation for America, Rails to Trails Conservancy.*

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### 5.2.7. Flexible Zone Parklet Pilot Program

Parklets are the temporary repurposing and transformation of on-street parking spaces to extend the sidewalk and create more room for pedestrian amenities or outdoor seating for adjacent restaurants and cafes. The spaces are often in the public right-of-way between the curb and travel lanes in commercial and retail areas. They occupy on-street parking spaces and excess roadway area. The parklets are intended to increase public space, enhance the pedestrian environment, and improve corridor aesthetics.

Parklets have been implemented successfully in New York City and San Francisco (Figure 5-3). The City of Oakland is in the process of developing parameters for their own program and expects implementation by 2012.



Figure 5-3: Parklet in San Francisco

Image source: [http://sfpavementtoparks.sfplanning.org/noe\\_valley\\_parklets.html](http://sfpavementtoparks.sfplanning.org/noe_valley_parklets.html)

### Recommended Parklet Locations

Parklets should be implemented only in areas that have limited public space, narrow sidewalks, or no parks. The areas should have existing conditions that will attract people to the space, such as retail and high pedestrian activity. Parklets can be sponsored and implemented by community benefit districts, storefront business owners, non-profit institutions, and community organizations.

In addition to areas that lack public space and have the potential for open space demand, the following characteristics are recommended for parklet locations:

- Streets with speed limits under 25 mph
- Streets with parking lanes
- Site is not in front of a fire hydrant or would restrict access to utility covers and valves
- Site should be a minimum of two parking spaces or equivalent

### Parklet Design Requirements

The parklet design should be an aesthetic improvement to the streetscape and be made of durable high quality materials. Other design requirements include:

- Maximum of six-foot width where there is parallel parking (angled parking areas should be considered on a case by case basis) (see Figure 5-4)
- Deck should be flush with the curb, half inch gap maximum
- Wheel stops should be placed four-feet from either end of the parklet and one-foot from the curb
- Reflective hit-posts should be placed on the street side corners
- Provide access to gutter area for cleaning
- Provide access underneath the parklet for drainage
- Outside or street side edge should be visually permeable, railing may be required
- Public seating should be strongly encouraged.

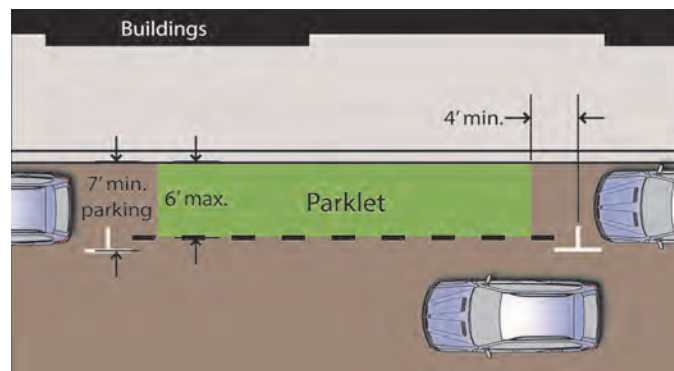


Figure 5-4: Example Parklet Plan

### Parklet Implementation Steps

San Francisco and Oakland permit parklets through an encroachment permit application process. Applicants must submit the permit application, site plans and programming, construction schedule and documented community support. Additionally, the applicant must pay for the permit, removal of any parking meters, site inspection, and annual permit renewal fees.

- Applications must also provide insurance, maintenance, and oversight over movable items. Permit holders in San Francisco must provide:
- Evidence of at least \$1 million in liability insurance (the same requirements as sidewalk café tables and chairs), naming the City as an additional insured.



- Maintenance agreement noting they will keep all plants in good health and the parklet free of debris and grime. The permit holder must also rinse out the area underneath at least once a week.
- Oversight of movable items. Movable items must be either locked down or taken inside at night.

The City of San Mateo should develop a permit process for parklets and modify its encroachment permit process to outline the steps needed to receive a permit.

### Pilot Parklet Locations

The following locations presented in Table 5-3 are recommended for pilot parklet locations. Other locations in Downtown may also be considered on a case by case basis.

Table 5-3: Recommended Locations for Pilot Parklets

Location	Description and Need
3 <sup>rd</sup> Avenue between B Street and Ellsworth Avenue	Narrow sidewalks. Limited public space. High pedestrian activity.
25 <sup>th</sup> Avenue between Flores Street and Hacienda Street	Narrow sidewalks. Limited public space. Improve corridor aesthetics.
B Street between Baldwin and 4th Street	Angled parking spaces. Limited public space. High pedestrian activity. Retail outlets that would benefit from additional space for customers.

### 5.2.8. Americans with Disabilities Act Transition Plan

Title II of the Americans with Disabilities Act (ADA) dictates that a public entity must evaluate its services, programs, policies, and practices to determine whether they are in compliance with the nondiscrimination regulations of the ADA. A public agency is required to prepare a transition plan if physical or structural modifications are required to provide access to programs or services. A transition plan is limited to evaluating physical barriers; however, an analysis of the programs and services rendered by the City is also important to determine what changes are necessary. The transition plan documents what actions the City has taken or will take to alter its facilities.

Generally, the transition plan lists existing barriers in public rights-of-way under the City's jurisdiction, and it further schedules which barriers are to be removed to provide access for individuals with disabilities to City programs.

A transition plan is required by Department of Justice regulations to address the following aspects of accessibility:

- (1) If a public entity has responsibility or authority over streets, roads, or walkways, its transition plan shall include a schedule for providing curb ramps or other sloped areas where pedestrian walks cross curbs, giving priority to walkways serving entities covered by the ADA, including State and local government offices and facilities, transportation, places of public accommodation, and employers, followed by walkways serving other areas.
- (2) The transition plan shall identify physical obstacles in the public entity's facilities that limit the accessibility of its programs or activities to individuals with disabilities;
- (3) The transition plan shall describe the methods that will be used to make the facilities accessible; and
- (4) The transition plan shall specify the schedule for taking the steps necessary to achieve compliance with the ADA and, if the time period of the transition plan is longer than one year, identify steps that will be taken during each year of the transition period.

Streets, sidewalks, and curb ramps may themselves represent a "program" of public pedestrian activities that are essential to the usage and enjoyment of the City's built environment.

***Recommendation***

The City of San Mateo has an inventory of curb ramps and installs curb ramps as part of larger roadway improvement projects. The City has initiated the process to develop an ADA Transition Plan and this Citywide Pedestrian Master Plan supports the development.

**5.2.9. Pedestrian Safety Assessment**

In 2011, the City conducted a pedestrian safety assessment in conjunction with Pedestrian Master Plan. The assessment includes a guide suggesting additional ways to improve pedestrian safety.

***Recommendation***

This Plan recommends the City support the guidelines and spot improvements in this assessment.

## 5.3. Intersection and Crossing Improvements

### 5.3.1. All Intersections

#### Curb Ramps

Curb ramps bridge the transition between a sidewalk and the street and are important for those using assistive mobility devices and those with strollers. Raised truncated domes provide a cue to visually-impaired pedestrians that they are entering a street or intersection.

The City of San Mateo has a process for prioritizing and constructing curb ramps that includes installation whenever roadways are resurfaced or reconstructed and upon request (as funding allows).

As part of the City's development of an ADA Transition Plan and its recent inventory of condition, location and ADA-accessibility of curb ramps, the City will continue to install curb ramps throughout San Mateo.

#### Recommendations

This Plan recommends the City adopt perpendicular curb ramps (Figure 5-5) as its preferred standard and install curb ramps citywide. As a first priority, perpendicular curb ramps should be installed on community identified locations and City collector and arterial streets. Priority should be given to locations near senior facilities. Although the City is not required to install truncated domes on existing curb ramps constructed prior to 2002, this Plan recommends the City install these devices on all the Greenway Corridors described in Section 5.1.

#### Curb Extensions

Curb extensions are an effective method to improve pedestrian visibility and reduce pedestrian crossing time. Curb extensions (Figure 5-6) extend the sidewalk or curb line out into the parking lane, reducing the effective street width. Despite their advantages, curb extensions can require major re-engineering of the street and can be costly. Curb extensions can only be used where there is on-street parking and they should not encroach into bicycle lanes.

The location of planned curb extensions should include a number of considerations. Curb extensions should be designed so they allow buses to complete turning movements and load and unload passengers safely. Curb extension geometry should allow mechanical street sweepers to clean transitions from the parking lane to the extended curb. Curb extensions may also require storm drainage re-engineering.

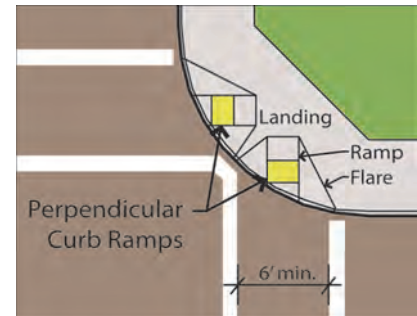


Figure 5-5: Perpendicular Curb Ramp



*Truncated domes are pads on the ramp of curb return that have raised bumps to warn pedestrians with visual impairments that they are entering the roadway. California state requirements call for 70% contrast between dome panels and adjacent concrete.*

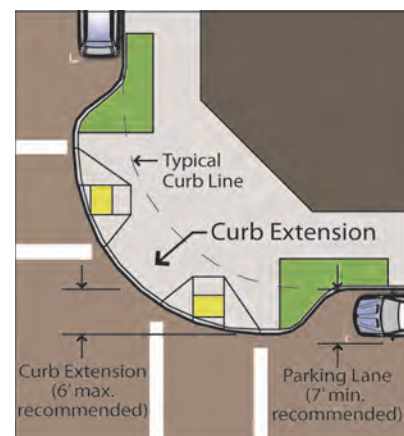


Figure 5-6: Curb Extension



**Recommendations**

This Plan recommends the City institute a policy to install curb extensions at uncontrolled marked crosswalks citywide. It is also recommended the City prioritize installation of curb extensions at the locations presented in Table 5-4. The locations were selected based on a number of factors, including pedestrian related collision history, vehicle volume, and pedestrian demand.

Table 5-4: Recommended Locations for Curb Extensions

Intersection	Corner	Number of Curb Extensions
W Hillsdale Blvd & Edison St	All	3
W 39 <sup>th</sup> Ave & Edison St	All	4
39 <sup>th</sup> Ave & El Camino Real	Northwest	1
37 <sup>th</sup> Ave & El Camino Real	Southwest	1
2 <sup>nd</sup> Ave & El Camino Real	Northeast Southeast	2
3 <sup>rd</sup> & El Camino Real	All	4
El Camino Real & Baywood Ave/Baldwin Ave	Northwest Southwest Southeast	3
N Ellsworth Ave & Tilton Ave	All	4
El Camino Real & El Cerrito/Tilton Ave	All	4
B Street & Tilton Ave	Southeast	1
B Street & Baldwin Ave/Caltrain Entrance	All	4
B St & 3 <sup>rd</sup> Ave	Southeast Southwest	2
El Camino Real & 4 <sup>th</sup> Ave	Northeast Southeast	2
San Mateo Dr & 2 <sup>nd</sup> Ave	All	4
N Delaware St & Monte Diablo Ave	All	4
N Delaware St & 1 <sup>st</sup> Ave	All	4
N Delaware St & 3 <sup>rd</sup> Ave	Southeast	1
N Fremont St & 2 <sup>nd</sup> Ave (north)	Northeast Southeast	2
N Fremont St & 2 <sup>nd</sup> Ave (south)	All	4
N Fremont St & 3 <sup>rd</sup> Ave	Northwest	1
Monte Diablo Ave & N Fremont St	North leg	1

**High Visibility Crosswalks**

There are a number of different marked crosswalk types, including continental and ladder. These are considered high visibility crosswalks because they are more noticeable to drivers. High visibility crosswalks are typically used where there is existing or anticipated high pedestrian activity, where slower pedestrians are expected, at uncontrolled crossings, and where high numbers of pedestrian related collisions have occurred.

The City currently uses both continental and ladder crosswalks for high visibility.

**Recommendations**

This Plan recommends the City adopt a single high visibility crosswalk design. This Plan recommends the continental crosswalk (Figure 5-7 and Figure 5-8) as the standard. This Plan also recommends the city prioritize installation of high visibility crosswalks at the location types listed in Table 5-5. Figure 5-9 maps the locations and a detailed table is presented in Appendix F.

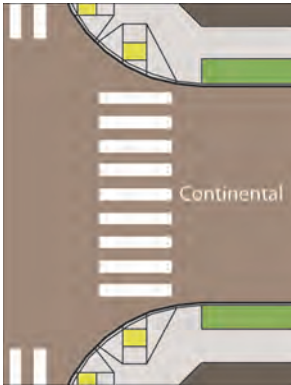


Figure 5-7: High Visibility Continental Crosswalk

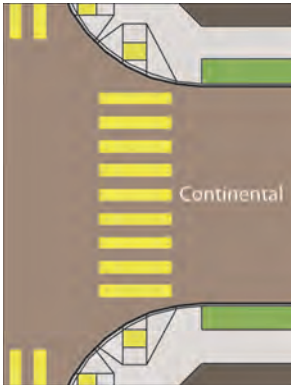


Figure 5-8: High Visibility School Area Continental Crosswalk

Table 5-5: Recommended High Visibility Crosswalk Locations

Location	Rationale
Senior living facilities and senior centers (within 1/8 <sup>th</sup> mile)	Seniors do not walk as quickly as others and high visibility crosswalks near senior living facilities and senior centers will improve senior visibility.
Retail corridors	Retail corridors are places where there is existing and anticipated high pedestrian activity. As presented in the Existing Conditions and Needs Analysis chapters, the majority of pedestrian related collisions occurred Downtown and along El Camino Real, Alameda de las Pulgas, Delaware Street, East Poplar Avenue, and West Hillsdale Boulevard. The recommended locations for high visibility crosswalks are based on the collision data.
Uncontrolled crossings	Studies show that marked crosswalks at uncontrolled locations have a higher frequency of pedestrian collisions on roadways with more than two travel lanes. <sup>30</sup> This Plan recommends all marked crosswalks at uncontrolled locations have high visibility striping.
Adjacent to school buildings and grounds	California law requires a marked crosswalk in a roadway contiguous to a school building or school grounds be yellow. This Plan recommends these crosswalks be high visibility to improve student visibility.
High pedestrian related collision areas	High numbers of pedestrian collisions in comparison to locations citywide can indicate the need for improved visibility of pedestrians among motorists.

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<sup>30</sup> Zegeer, C., Stewart, J., and Huang, H. Safety Effects of Marked vs. Unmarked Crosswalks at Uncontrolled Locations. Report No.FHWA-RD-01-142, Federal Highway Administration, McLean, VA, May 2001.

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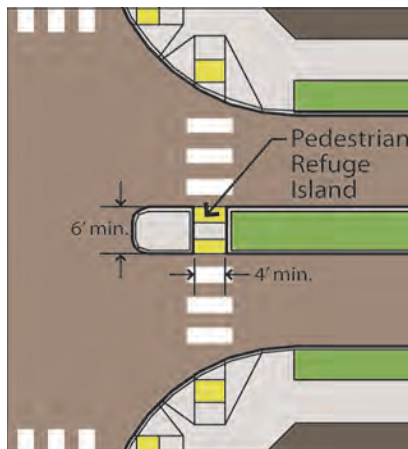


Figure 5-10: Refuge Island

### Pedestrian Refuge Island Design Standards

Pedestrian refuge islands (Figure 5-10) are raised islands in the middle of the roadway that create a protected space where people may safely pause or wait while crossing a street. Pedestrian refuge islands enable pedestrians to cross one or two lanes at a time and are especially helpful as resting areas for seniors, persons with disabilities, children, and others who may need to cross a street in more than one stage. At signalized intersections, they allow slow moving pedestrians to cross in two phases. At unsignalized locations, they enable pedestrians to negotiate vehicles from only one direction at a time. An island used for pedestrian refuge should be raised with an ADA compliant, accessible passage through for pedestrians. Raised pedestrian refuge islands can be provided in painted center medians, transit boarding islands, and corner islands.

### Recommendations

Pedestrian refuge islands should be considered:

- Along streets with high pedestrian activity
- Where crossing distances are long (60 feet or greater)
- Near and within retail areas, civic and institutional uses, schools, senior housing, and senior centers
- At unsignalized intersections serving a large number of pedestrian trips

### Minimum Dimensions

A pedestrian refuge island shall be a minimum of four feet wide and six feet long. It may be appropriate to construct a wider median to commensurate with high traffic speeds and volumes in addition to accommodating public transit and anticipated future needs.

### Pedestrian Islands versus Curb Extensions

Pedestrian refuge islands and curb extensions both improve comfort and safety for crossing pedestrians. Under certain conditions, pedestrian refuge islands may be preferable to curb extensions, or it may be preferable to use pedestrian refuge islands rather than curb extensions. Conditions where it may be preferable to use a pedestrian refuge island include:



- On roadways with multiple lanes (that is, four lanes or more) of traffic<sup>31</sup>
- Where two-way left-turn lanes are present
- Where a median would serve as important design function, such as a gateway feature
- Where there is an existing median
- Where bicycle lanes are present, but onstreet parking is not present
- Where excessively wide travel lanes or turn lanes are present

Engineering constraints, including street drainage, should also be considered when determining whether to install a refuge island or a curb extension.

This Plan recommends the City adopt a refuge island standard design. The design should meet the Caltrans standard minimums.

### 5.3.2. Controlled Intersections

#### **Audible Signals**

Audible signals emit sounds to guide visually impaired pedestrians by indicating when to cross. Different audible signals are usually used to also indicate crossing direction. Sounds are activated by the pedestrian push button. The California Manual on Uniform Traffic Control Devices (CA MUTCD) states the installation of audible signals should be based on an engineering study that considers:

- Potential demand for accessible pedestrian signals
- A request for accessible pedestrian signals
- Traffic volumes during times when pedestrians might be present; including periods of low traffic volume or high right turn-on red volumes
- The complexity of traffic signal phasing (such as split phases, protected turn phases, leading pedestrian intervals, and exclusive pedestrian phases)
- The complexity of intersection geometry

#### **Recommendation**

This Plan recommends the City consider audible signals near senior centers and living facilities and near homes of those who are visually impaired. The current Draft PROWAG (Public Rights of Way

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<sup>31</sup> Federal Highway Administration 2002b, p.72

Guidelines) include requirements for audible pedestrian signals at new and modified intersections. The City of San Mateo should comply with these requirements when adopted.

### Advance Stop Bars

Advance stop bars increase pedestrian visibility by stopping motor vehicles in advance of marked crosswalks at stop controlled or signalized intersections. **Figure 5-11** illustrates an advance stop bar. Advance stop bars help prevent vehicle encroachment into a crosswalk and allows drivers to better see pedestrians, particularly where there are more than two lanes of travel in each direction.

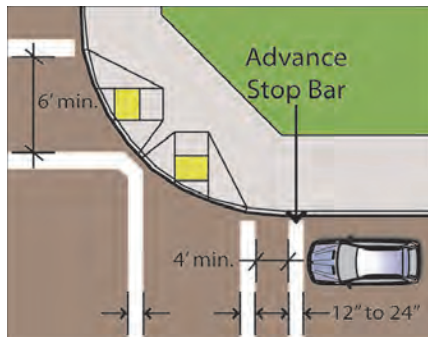


Figure 5-11: Advance Stop Bar

### Recommendations

This Plan recommends the City install advance stop bars at all stop controlled or signalized intersections in Downtown and along retail corridors including 25<sup>th</sup>, 37<sup>th</sup>, and 41<sup>st</sup> Avenues. The City should prioritize installation of advance stop bars at intersections with high pedestrian activity and those with a history of pedestrian related collisions. The recommended priority locations are presented in Table 5-6.

Table 5-6: Recommended Locations for Advance Stop Bars

Intersection	Travel Direction	Number of Bars
W Hillsdale Blvd & Edison St	All	4
W 39 <sup>th</sup> Ave & Edison St	All	4
W 39 <sup>th</sup> Ave & Colegrove St	All	4
37 <sup>th</sup> Ave & El Camino Real	Northbound Westbound	2
2 <sup>nd</sup> Ave & El Camino Real	All	3
El Camino Real & Baywood Ave/Baldwin Ave	Northbound Southbound Westbound	3
El Camino Real & El Cerrito/Tilton Ave	Northbound Southbound	2
El Camino Real & 39 <sup>th</sup> Ave	Northbound Southbound	2
B Street & Tilton Ave	Northbound	1
B Street & Baldwin Ave/Caltrain Entrance	All	4
San Mateo Dr & 2 <sup>nd</sup> Ave	All	4
N Delaware St & Monte Diablo Ave	All	4
N Delaware St & 1 <sup>st</sup> Ave	All	4
N Delaware St & 3 <sup>rd</sup> Ave	All	4
N Fremont St & E 3 <sup>rd</sup> Ave	All	4
Monte Diablo Ave & N Fremont St	All	3

### Regulatory Signage at Signalized Intersections

The use of regulatory pedestrian signs, such as MUTCD sign R10-3e, can help educate or remind pedestrians how to properly interpret the symbols on pedestrian countdown signal heads. Specifically, pedestrians should only start to cross the street when they have the white walk symbol and not when the flashing or solid hand is displayed.

#### Recommendation

This Plan recommends installation of MUTCD sign R10-3e or other comparable sign immediately above or incorporated in pedestrian pushbutton units. See Figure 5-12 for an illustration of this sign.

### 5.3.3. Citywide Signal Timing

Traffic signal timing is the amount of time each phase of a signal is allotted for vehicles, bicycles, and pedestrians to cross. The City of San Mateo currently employs a standard walking speed of four feet per second. The 2012 *California Manual on Uniform Traffic Control Devices* (CA MUTCD) and the *National MUTCD* permit a signal crossing time of 3.5 feet per second, which would increase the time for the walking phase.

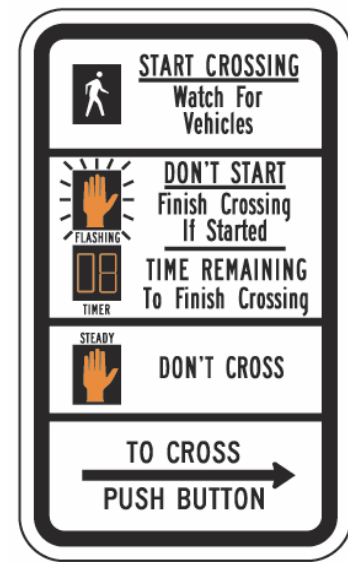
#### Recommendation

This Plan recommends the City of San Mateo adopt a standard signal timing of 3.5 feet per second except at certain locations described below.

### Signal Timing Near Senior Living Facilities and Schools

Seniors and young children do not walk as quickly as others. It is anticipated that by 2017, over 35 percent of San Mateo's population will be age 50 or over. The City's *Aging Well, San Mateo* (2009) report found the likelihood of being able to drive decreases with age. Maintaining mobility for seniors will be an important goal in the coming years.

The US Department of Transportation (US DOT) and the Federal Highway Administration (FHWA) recommend in the *Older Driver Highway Design Handbook* a signal timing of 2.8 feet per second to accommodate older pedestrians.<sup>32</sup> The FHWA<sup>33</sup> and the Metropolitan Transportation Commission<sup>34</sup> also recommend a slower crossing rate



R10-3e

Figure 5-12: Pedestrian R10-3e Sign

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Signs such as the R10-3e at traffic signals with pedestrian countdown signal heads and push buttons inform pedestrians of when to cross the street so that they complete their crossing before the signal changes. The bottom panel must be eliminated where the pedestrian signal timing is non-actuated as the pedestrian push button is used solely to activate accessible pedestrian signals.

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<sup>32</sup> FHWA *Older Driver Highway Design Handbook*.  
[www.fhwa.dot.gov/publications/research/safety/97135/rec1.cfm#n](http://www.fhwa.dot.gov/publications/research/safety/97135/rec1.cfm#n)

where concentrations of children are expected. The 2012 CA MUTCD permits the use of a signal timing of 2.8 feet per second where older or disabled pedestrians routinely use the crosswalk. Using a slower walking rate to calculate the pedestrian walking phase means the walk phase will be longer and pedestrians will have more time to cross the street.

### ***Recommendations***

This Plan recommends the City adjust signal timing within an eighth of a mile (660 feet) of all senior centers, senior living facilities and schools to 2.8 feet per second. Table 5-7 presents the intersections recommended for this timing adjustment.

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<sup>33</sup> FHWA *Traffic Signal Timing Manual*, Section 5.3 Pedestrian Timing Intervals.  
[ops.fhwa.dot.gov/publications/fhwahop08024/chapter5.htm](https://ops.fhwa.dot.gov/publications/fhwahop08024/chapter5.htm)

<sup>34</sup> MTC *Safety Toolbox: Engineering*, Signal Timing for Pedestrians.  
[www.mtc.ca.gov/planning/bicyclespedestrians/tools/signalTiming/index.htm](http://www.mtc.ca.gov/planning/bicyclespedestrians/tools/signalTiming/index.htm)

Table 5-7: Recommended Signal Timing Adjustments Locations Near Senior Facilities and Schools

Intersection	Within 1/8 Mile of Senior Facility	Within 1/8 Mile of School
19th Ave & Fashion Island Blvd	--	X
19th Ave & Ginnever St	--	X
1st Ave & Ellsworth Ave	--	X
20th Ave & Alameda de las Pulgas	--	X
25th Ave & El Camino Real	X	--
27th Ave & El Camino Real	X	--
2nd Ave & El Camino Real	X	X
2nd Ave & Ellsworth Ave	--	X
2nd Ave & San Mateo Dr	--	X
41st Ave & El Camino Real	X	--
4th Ave & San Mateo Dr	X	--
5th Ave & B Street	X	--
5th Ave & El Camino Real	X	--
5th Ave & San Mateo Dr	X	--
9th Ave & El Camino Real	X	X
Aragon Blvd & Alameda De Las Pulgas	--	X
Baldwin Ave & Ellsworth Ave	--	X
Baldwin Ave & San Mateo Dr	X	X
Baywood Ave / De Sabla Rd / Baldwin Ave & El Camino	X	X
California & Oak Grove	--	X
Crystal Springs Rd & El Camino Real	X	X
El Camino Real & Peninsula	X	--
Fashion Island Blvd & Hwy 101	--	X
Hillsdale Blvd & Clearview	--	X
Hillsdale Blvd & Hwy 101 Off Ramp	X	--
Hillsdale Blvd & Norfolk St	X	--
Hillside & Cabrillo	--	X
Hwy 92 Eastbound On Ramp & Alameda De Las Pulgas	--	X
J Hart Clinton Dr / 3rd Ave & Norfolk St	--	X
J Hart Clinton Dr At St Timothy's Church & Creekside Apts	--	X
Kentucky Ave & Alameda De Las Pulgas	--	X
Nevada Ave & Alameda De Las Pulgas	--	X
Nevada Ave & Alameda De Las Pulgas	--	X
Poplar Ave & Delaware St	--	X
Poplar Ave & Humboldt St	--	X
Poplar Ave & San Mateo Dr	X	X
Tilton Ave & San Mateo Dr	X	--

### Signal Timing on El Camino Real

El Camino Real is a major north-south corridor and bisects the City of San Mateo. The corridor bounds downtown San Mateo, and is adjacent to transit and many local retail districts. El Camino Real is a



community identified barrier and collision data shows it is the corridor with the most pedestrian related collisions in the City. Caltrans has jurisdiction over El Camino Real and any improvements to this roadway must be approved by Caltrans.

### **Recommendations**

This Plan recommends the City work with Caltrans to expedite signal timing modification to 3.5 feet per second at the intersections along El Camino Real identified in Table 5-8 that are not within an eighth of a mile of a school or senior facility. The City should also work with Caltrans to modify signal timing near schools and senior centers to 2.8 feet per second. This Plan recognizes the two recommended signal timing modifications may be a challenge for the signal system and will work with Caltrans regarding this potential issue.

Further, the City should work with Caltrans to adjust signal timing at El Camino Real and 31st Avenue to consider level of service for all users.

Table 5-8: Signal Timing Adjustments Locations on El Camio Real

	Within 1/8 Mile of Senior Facility	Within 1/8 Mile of School	Recommended Signal Timing (feet per second)
Cross Street			
Baldwin Avenue	X	X	2.8
Barneson Avenue	--	--	3.5
Bellevue Avenue	--	--	3.5
Poplar Avenue	--	--	3.5
Tilton Avenue	--	--	3.5
2nd Avenue	X	X	2.8
3rd Avenue	--	--	3.5
4th Avenue	--	--	3.5
5th Avenue	X		2.8
9th Avenue	X	X	2.8
12th Avenue	--	--	3.5
17th Avenue	--	--	3.5
20th Avenue	--	--	3.5
25th Avenue	X	--	2.8
27th Avenue	X	--	2.8
28th Avenue	--	--	3.5
31st Avenue	--	--	3.5
37th Avenue	--	--	3.5
41st Avenue	X	--	2.8
42nd Avenue	--	--	3.5

### 5.3.4. Uncontrolled Intersections

#### Advance Yield Lines

Advance yield lines indicate the point where vehicles should yield at uncontrolled locations. Figure 5-13 illustrates the yield line. Yield lines should be accompanied by “Yield Here” sign. These markings are most effective in midblock locations, where there is no intersection.

As with advance stop bars, yield lines help prevent vehicle encroachment into the crosswalk and allow drivers to better see pedestrians, particularly where there are more than two lanes of travel in each direction.

#### Recommendations

This Plan recommends installation of advance yield lines at all midblock uncontrolled marked crossings.

#### Crossing Beacons

Studies show pedestrian crossing beacons improve driver yield rates and reduce the number of pedestrian related collisions at marked crosswalks at uncontrolled locations.<sup>35</sup> There are two types of crossing beacons recommended for use in the City of San Mateo: the pedestrian hybrid beacon and the rectangular rapid flash beacon.

Pedestrian hybrid beacons, also known as a HAWK (High intensity Activated crossWalk) Signal includes three signal sections, two red circular indications above one yellow circular indication (Figure 5-14). The signal is dark until activated. When activated, the signal flashes yellow to inform drivers to stop. The signal then becomes solid yellow followed by a dual solid red. It then displays alternating red flashing as the pedestrian signal head reads DON'T WALK. Pedestrian hybrid beacons have been approved by the Federal Highway Administration (FHWA) and incorporated into the 2012 CA MUTCD.

Rectangular rapid flashing beacons (RRFB) are also pedestrian actuated devices; however they are mounted adjacent to the roadway (Figure 5-15). The beacon lights are rectangular LED lights installed below a pedestrian crosswalk sign that flash in an alternating pattern when activated. The beacon is dark when not activated. Caltrans has received approval from the FHWA for use of RRFBs on a blanket basis

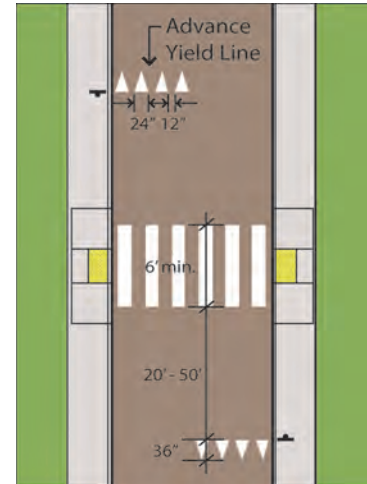


Figure 5-13: Advance Yield Line



Figure 5-14: Pedestrian Hybrid Beacon (HAWK)



Figure 5-15: Rectangular Rapid Flashing Beacon (RRFB)

<sup>35</sup> FHWA. *Safety Effectiveness of the HAWK Pedestrian Crossing Treatment*. July 2010.

at uncontrolled pedestrian and school crosswalk locations in California, including State highways and all local jurisdictions' roadways.<sup>36</sup>

### **Recommendations**

This Plan recommends installation of crossing beacons at all uncontrolled arterial crossing locations. The intersections listed in Table 5-9 should be prioritized for implementation as an interim improvement. Section 5.5.5 recommends signal warrant studies for both intersections.

Table 5-9: Recommend Locations for Pedestrian Beacons

Location	Improvement	Description and Need
El Camino Real at 22 <sup>nd</sup> Avenue	Pedestrian Hybrid Beacon	Uncontrolled marked crosswalk on major arterial. Nearest controlled crossings at 20 <sup>th</sup> and 25 <sup>th</sup> Avenues.
El Camino Real at 39 <sup>th</sup> Avenue	Pedestrian Hybrid Beacon	Uncontrolled marked crosswalk on major arterial. Nearest controlled crossings at 37 <sup>th</sup> and 41 <sup>st</sup> Avenues. SamTrans bus stop. Access to San Mateo Medical Center

### **5.3.5. Midblock Crossing Improvements**

Midblock crossing improvements can help increase the visibility of pedestrians to motorists and improve the pedestrian experience. Where there are no marked midblock crossings, these improvements can provide better pedestrian visibility. The City has a number of existing marked crosswalks at uncontrolled midblock locations as well as a need for new midblock crossings.

### **Recommendations**

A number of the existing midblock crosswalks are not located in the pedestrian desired path of travel which may result in pedestrian activity outside the marked crosswalks. Others were identified by the community as having poor visibility. Table 5-10 presents the recommend midblock crossing improvements.

<sup>36</sup> Approval number IA-11-83-RRBF-California Statewide.

Table 5-10: Recommended Locations for Uncontrolled Midblock Crossing Improvements

Location	Improvement	Description and Need
1 <sup>st</sup> Avenue between B St and Claremont St	High Visibility Crosswalk Advance Yield Line	Important connection to Caltrain.
B Street between 2 <sup>nd</sup> and 3 <sup>rd</sup> Ave	High Visibility Crosswalk Advance Yield Line Curb Extensions In-Pavement Flashers	No existing crossing; however important connection between theater and retail.
W. Hillsdale Blvd between Hacienda St and Edison St	In-Pavement Flashers In-Pavement Pedestrian Yield Sign Advance Yield Line	Uncontrolled crossing on an arterial street. Community identified challenge area.
25th Avenue between Hacienda St and Flores St	High Visibility Crosswalk Curb extensions In-Pavement Flashers In-Pavement Pedestrian Yield Sign Advance Yield Line	Curb extensions, in-pavement flashers, and signage will improve visibility.
37th Ave between El Camino Real and Colegrove St	Relocate crossing 150 feet to west Curb extensions In-Pavement Flashers In-Pavement Pedestrian Yield Sign Advance Yield Line	Existing crosswalk is 120 feet from another along El Camino Real. Existing potential for crowding from cars queued at El Camino Real traffic signal.

## 5.4. Zoning Code Revisions

The following lists revisions to the San Mateo Zoning Code. Deletions are shown with a strike-through and additions are underlined. These revisions are intended to improve pedestrian mobility, safety and environment.

### Revision to 27.38 CBD Districts - Central Business District

27.38.090 OPEN SPACE REQUIREMENTS. Open space shall be provided in an amount equal to one percent of the nonresidential floor area of the project, not including parking, provided that there shall be no requirement for open space where the resulting open space would be less than ~~500~~ 200 square feet.

This required open space shall be usable open space located at ground level directly accessible to a public sidewalk with a minimum width along the sidewalk of twenty-five feet (25'). Fifty percent (50%) of the required open space shall be unshaded between noon and 2:00 p.m. at the Spring and Fall equinox except where the open space is already shaded by an existing building and no other opportunities exist on the site. This open space area shall include provisions for public use facilities, such as seating for the public in the public areas. (Ord. 2001-28 § 1, 2001; Ord. 1986-14 § 1 (part), 1986).

### Revision to 27.64 Off-street Parking and Loading

27.64.023 PARKING -- PROHIBITED ON LAWNS, FLOWERS, SIDEWALK. It shall be unlawful to park a motor vehicle, trailer, unmounted camper or boat (1) upon any lawn or landscaped area, including an area of flowers or shrubs, (2) upon an area of decorative rocks, stones, chips, bark, or the like, unless such area of decorative rocks, stones, chips or bark was in place and used for parking of a motor vehicle, trailer, unmounted camper or boat prior to July 19, 1993, or (3) upon the sidewalk, thereby impeding the pedestrian right of way. Nothing herein shall be construed to prohibit parking on a driveway. For this section, a Driveway shall mean that the area from the street property line to the garage or carport which traverses the curb but (or rolled curb) and which is identical to width to the curb cut (or rolled curb) or such area that is approved as a driveway pursuant to this Code. This provision shall apply to parcels being used for single family or duplex residences. (Ord. 1993-11 § 1, 1993).

### Revision to 27.84 Fences, Trees and Hedges

27.84.040 FENCE OR HEDGE -- BRANCH EXTENSION. No person shall permit branches or trees or shrubs to extend ~~within eight (8) feet~~



~~from the ground over any portion of the public sidewalk unless providing a minimum eight (8) foot vertical clearance. No person shall permit branches or trees or shrubs to extend or within twelve (12) feet from the ground over any portion of a residential public street abutting the property on which the tree is growing, or within~~ unless providing a minimum fourteen (14) feet foot vertical clearance on streets designated as truck routes, except that portion within three (3) feet from the curb line of any of the foregoing. No person shall permit branches or shrubs to extend over the sidewalk rendering the sidewalk width is less than 4 feet. (Ord. 1992-16 § 19 (part), 1992).

## **Revision to 27.87 Outdoor Restaurant Seating and Merchandise Display**

Sections:

27.87.010 Purpose.

27.87.020 Requirements.

27.87.030 Development standards and conditions of use.

27.87.040 Off-street parking and loading.

27.87.010 PURPOSE. The purpose of this chapter is to regulate the use of public sidewalks for restaurant seating and the use of private property for outdoor display of merchandise accessory to existing businesses. This chapter is not intended to regulate outdoor restaurant seating on private property or the use of public right-of-way for street fairs or other events otherwise regulated under Section 17.08.120 of the Municipal Code. (Ord. 1994-24 § 1 (part), 1994).

27.87.020 REQUIREMENTS.

(a) Restaurant seating on public sidewalks. Restaurant seating located on public sidewalks (in the public right-of-way) are allowed in ~~Neighborhood Commercial (C1) and Central Business (CBD)~~ all Zoning Districts for legally permitted restaurants, subject to meeting the development standards and conditions listed below and approval of an encroachment permit from the Department of Public Works. Nothing is intended to prevent the placement of conditions on the encroachment permit as deemed appropriate.

(b) Outdoor merchandise display. Outdoor display of merchandise accessory to an existing business which occupies a building is permitted on private property in Neighborhood Commercial (C1) and Central Business (CBD) Districts. Such display is not permitted in the public right-of-way. (Ord. 1994-24 § 1 (part), 1994).

**Revision to 27.87.030 DEVELOPMENT STANDARDS AND CONDITIONS OF USE.**

(a) Restaurant seating. Restaurant seating located on public sidewalks must meet the following standards and conditions of use:

(1) Clearance. The physical extent of the seating encroachment must be located so as to permanently maintain a minimum sidewalk ~~clearance~~ pedestrian through zone of ~~5-4~~ feet, free and clear between: A) the outer boundary of the seating area and any physical obstruction, such as light standards, parking meters, news racks, trees, curb or other barrier, and B) the entryways or display window of adjacent businesses, unless authorized by the adjacent business.

(2) Physical delineation of seating area. The physical extent of the seating encroachment may be clearly delineated by physical means, which, if either required or voluntarily placed, shall be approved as part of the encroachment permit and designed to be decorative, durable, removable and minimize tripping hazards.

(3) Other limitations. Tables, seating and any approved physical barriers to delineate the seating area are the only items permitted to be located ~~within the public right of way~~ on the sidewalk. These items shall be removed from the public sidewalk at the close of business each day. Other items, such as busing stations, are not permitted on public sidewalks.

(4) Liability insurance. Applicants for restaurant seating ~~within the public right of way~~ on the public sidewalk shall provide liability insurance providing endorsements showing the City of San Mateo as additional insured on the policy, in an amount determined by the City Attorney's Office. Encroachment permits issued under authority of this Chapter shall be valid only during the term of liability insurance coverage.

(5) Site maintenance. Sidewalk seating areas shall be maintained free of litter, refuse and debris. The area shall be scrubbed and mopped to remove any food or drink stains on a daily basis. Such cleaning shall be performed in accordance with the City's Storm Water Management and Discharge Control Program, which prohibits any discharge other than storm water into the storm water drainage system. The applicant shall post maintenance security in a form and amount determined upon issuance of the encroachment permit. Failure to maintain the site shall be cause for termination of the encroachment permit.

(6) Encroachment fee. The applicant shall pay an annual fee in the amount set forth in the Comprehensive Fee Schedule.

(b) Merchandise display. Merchandise display on private property must meet the following standards:

(1) Private property. Outdoor merchandise display shall be maintained completely on private property in the immediate vicinity of the store entryway, such as in recessed entryways or along storefronts.

(2) Accessibility. Merchandise display areas shall maintain accessibility requirements for the disabled. (Ord. 1994-24 § 1 (part), 1994).

**Revision to 27.87.040 OFF-STREET PARKING AND LOADING.**

Off-street parking and loading shall not be ~~is not~~ required for: 1) outdoor restaurant seating in the public right-of-way, and 2) ~~and~~ outdoor merchandise display on private property. (Ord. 1994-24 § 1 (part), 1994).

## 5.5. Projects and Studies

While the major infrastructure, intersection and crossing improvements will improve pedestrian mobility and comfort in San Mateo, additional projects and studies are needed to fully address needed pedestrian improvements. The following projects further accommodate pedestrians, and in the case of infrastructure improvements, need additional study.

### 5.5.1. Downtown Streetscape Master Plan

A streetscape master plan provides cohesive design guidelines and standards for many elements of the streetscape environment including street furniture, street trees and other landscaping, gateways, and many other elements that are found in the public right-of-way.

Attractive streetscapes benefit communities in many ways including economic, environmental, and visual benefits. Well planned streetscapes also greatly enhances the pedestrian experience.

#### **Recommendation**

This Plan recommends the City of San Mateo develop a Downtown Streetscape Master Plan that includes focus on enhancing the pedestrian environment.

### 5.5.2. San Mateo Medical Center Neighborhood Pedestrian Access and Circulation Study

Pedestrian access and circulation studies examine pedestrian mobility challenges and opportunities to and within a designated area. The San Mateo Medical Center neighborhood is a diverse neighborhood with a number of pedestrian attractors and generators. The San Mateo County Medical Center and hospital is the City's second largest employer, which results in a high number of pedestrian related trips. The adjacent Hillsdale Garden Apartments, a high density residential complex, and the nearby Hillsdale Shopping Center add to the neighborhood's pedestrian destination points. A SamTrans transit hub at the Hillsdale Shopping Center also generates a high number of pedestrian trips from the hub to the Medical Center for patients, visitors and employees. Pedestrian concerns in this neighborhood relate to high traffic volumes, narrow streets, and rolled curbs. Cars often park rolled on to the sidewalk, blocking pedestrian access.

#### **Recommendation**

This plan recommends the City conduct a pedestrian access and circulation study to improve pedestrian conditions to and through the area.



*Versailles Senior Living on Crystal Springs Road has a landscaped buffer extending from the sidewalk*

### 5.5.3. Utility Boxes in the Public ROW Best Practices

Utility boxes house telecommunications equipment for television, phones, internet, and traffic signal controls and are often in the public right-of-way on the sidewalk. While these services are valued by the San Mateo community, the utility boxes typically reduce the pedestrian travel through zone and can detract from the streetscape aesthetic.

#### **Recommendation**

This plan recommends the City conduct a best practices review of how to integrate utility boxes in the public right-of-way.

### 5.5.4. Suggested Routes to School Maps

Suggested routes to school maps provide school officials, parents, and students with a tool to help plan the walking and bicycling routes to and from school. There are over 11,000 K-12 students enrolled in San Mateo schools and these types of maps will encourage more families and students to walk and bike to school rather than drive. Communities throughout the San Francisco Bay Area including Los Altos, Milpitas and San Rafael have used these maps as part of comprehensive Safe Routes to School programs to increase the number of students walking and biking to school.

#### **Recommendation**

As shown in Figure 5-16, this Plan recommends the City develop suggested routes to school maps that include identification of suggested routes, crossing locations, traffic controls, crossing guard locations, and the presence of sidewalks, paths and bikeways along routes to each school.

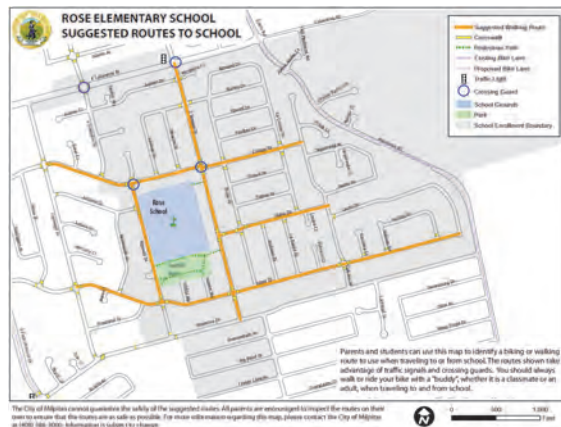


Figure 5-16: Example Suggested Routes to School Map (Milpitas, CA)

#### **5.5.5. Development and Work Zone Regulations**

The Americans with Disabilities Act and the 2012 CA MUTCD Part 6: Temporary Traffic Controls require accommodations for pedestrians where construction, alteration, maintenance, or other temporary conditions obstruct pedestrian access. Alternate routes must be provided.

##### ***Recommendation***

The Plan recommends that the City provide a handout for development projects and road construction activities to ensure pedestrian accessibility guidelines are met.

#### **5.5.6. Traffic Calming Considerations**

Traffic calming is a key aspect of the City's Neighborhood Traffic Management Plan (NTMP). The goal of that Plan is to make San Mateo neighborhood streets more livable by reducing speed and traffic volumes. Installation of traffic calming devices identified in the NTMP require a traffic study to determine if the following criteria are met:

- Average speed is seven (7) miles over the posted speed limit
- 1,000 or more cars travel on the road per day

##### ***Recommendation***

This Plan recommends, in addition to the above mentioned criteria, that the City should also consider pedestrian safety and pedestrian related traffic collision data when evaluating appropriateness for traffic calming devices.

#### **5.5.7. Requirements for Large Scale Development Projects**

While the City of San Mateo has had a number of large scale development projects, it has no citywide pedestrian design standards for these project types.

The City should establish citywide requirements for the improvement of the public right-of-way associated with large-scale development projects by developing and adopting a pedestrian design toolkit. The requirements will ensure that the public right-of-way is safe, accessible, convenient and attractive to pedestrian use and travel. The pedestrian design toolkit would govern the design, location, and dimensions of all pedestrian and streetscape items in the public right-of-way, including but not limited to sidewalks, crosswalks, curb ramps, refuge islands, street trees, lighting, and site furnishings.



Together, these elements can create a streetscape that is vibrant, colorful, and visually interesting; a comfortable and usable space for people; and with ecological benefits.

The toolkit should be consistent with and build upon the sidewalk development standards contained in this Citywide Pedestrian Master Plan. The design and placement of pedestrian elements would also be required to meet applicable Caltrans, MUTCD, and ADA standards.

The City should identify the types of development projects subject to the implementation of the toolkit by establishing applicable minimum thresholds through consultation with the public. Project proponents that meet these thresholds should be required to submit a streetscape plan to the Planning Division. The Planning Division, Public Works and Parks and Recreation would ensure compliance with these thresholds and how these elements relate to proposed new construction and site work on the developed properties.

As a model, the City of San Francisco requires development projects to include streetscape and pedestrian improvements on all publicly accessible rights-of-way directly fronting the property. In San Francisco, the required improvements vary by district and improvement type.

### **Recommendation**

This Plan recommends the City develop and adopt a pedestrian design toolkit for improvements of the public right-of-way associated with large-scale development projects.

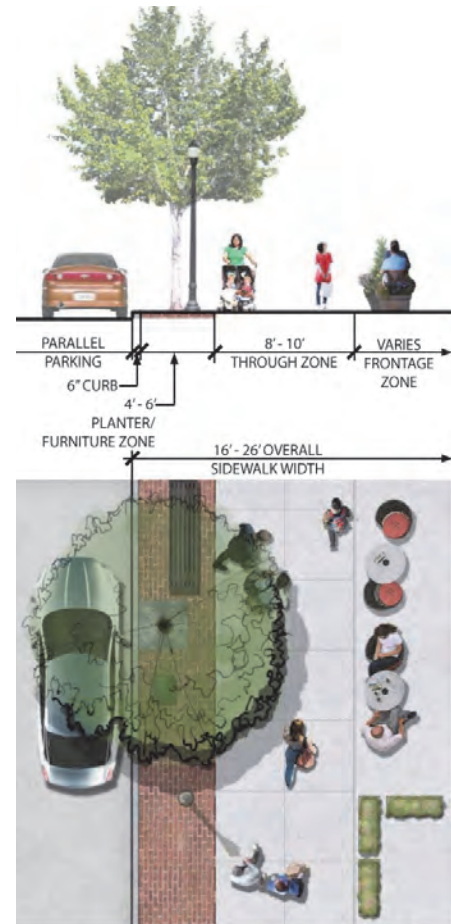


Figure 5-17: Example Requirements for Large Scale Development Projects

### **5.5.8. Bay to Transit Trail Feasibility Study**

The Bay to Transit Trail project envisions development of a paved two-mile pedestrian and bicycle pathway along the existing city-owned creek drainage channel from the Hayward Park Caltrain Station to the regional San Francisco Bay Trail (see **Figure 5-18**). The project addresses a variety of issues regarding pedestrian and bicycle network connectivity and increasing access to transit, schools and recreational opportunities near the San Francisco Bay. The project would serve a historically underserved area and would include a multi-lingual outreach effort to collect public input regarding the design of the path.

#### ***Recommendation***

This Plan recommends that the City conduct a feasibility study in order to study potential issues, including:

- Right of way
- Site engineering
- Safety
- Security
- Delivery of emergency vehicles
- Maintenance/ operations
- Community interests/needs
- Privacy

The feasibility study can address these issues, and other unknown variables associated with the development of trail

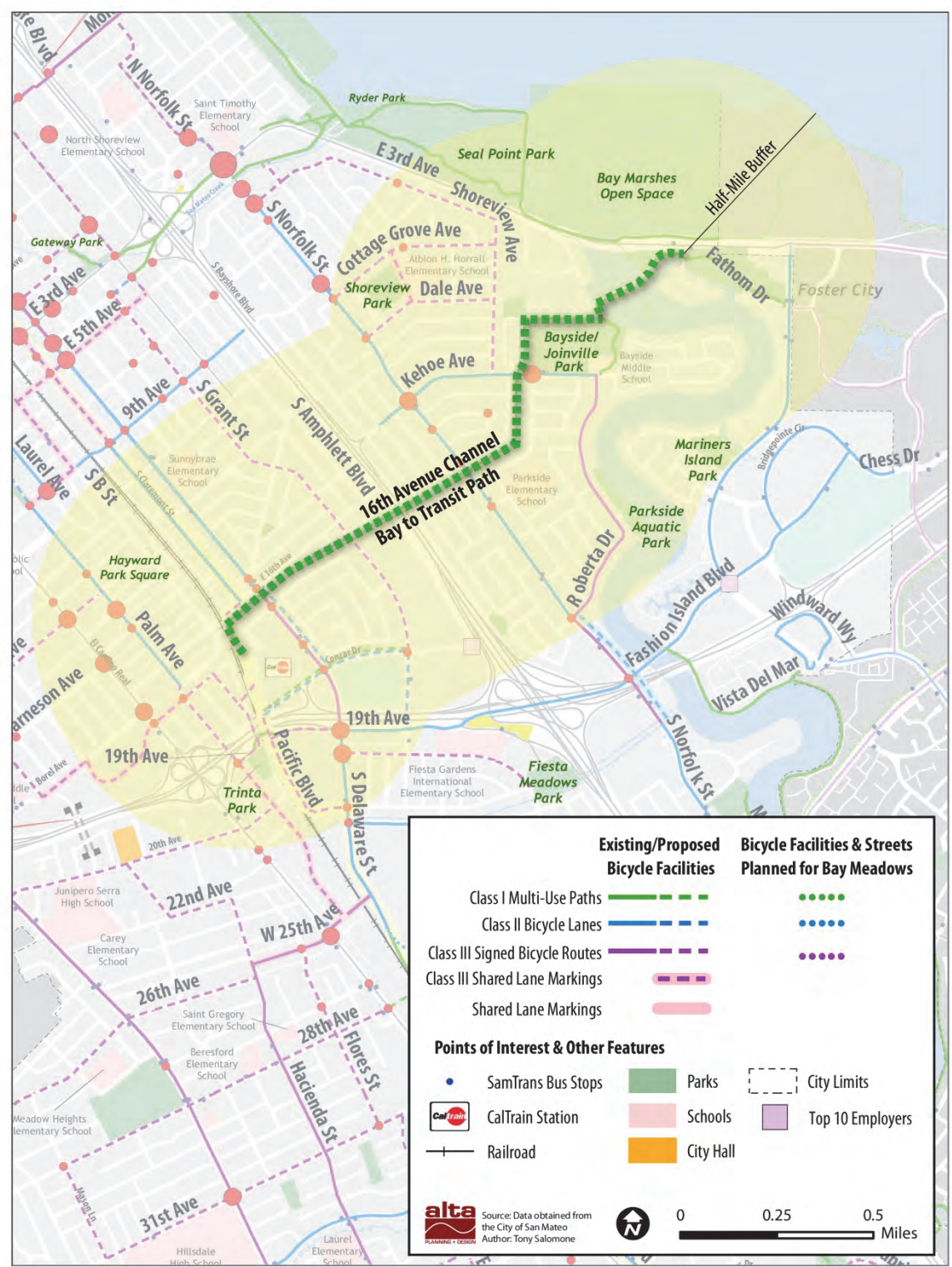


Figure 5-18: Bay to Transit Feasibility Study Area

### 5.5.9. Lead Pedestrian Interval Study

Many of the pedestrian related collisions reviewed as part of this plan occurred when the pedestrian was in a marked crosswalk in downtown and on El Camino Real adjacent to Downtown and at 25<sup>th</sup> and 37<sup>th</sup> Avenues. This indicates a need for improved pedestrian visibility. One method to improve pedestrian visibility is to implement a lead pedestrian interval (LPI). A lead pedestrian interval is a tool where traffic signals are programmed to give pedestrians a walk indication before vehicles receive the green light to proceed. Crossing with this “head start” allows pedestrians to be more visible to motorists approaching the intersection. LPI signal timing typically allows pedestrians to start 2-4 seconds before vehicles.

#### **Recommendation**

This Plan recommends the City study the feasibility of installing LPI's at Downtown intersections from Tilton Avenue to 5<sup>th</sup> Avenue and from El Camino Real to Delaware Street; as well as at Delaware and 25<sup>th</sup> and 37<sup>th</sup> Avenues. A LPI along El Camino Real will require coordination with Caltrans.

### 5.5.10. Downtown Pedestrian Recall Study

Most, but not all traffic signals in Downtown currently have a pedestrian recall phase, meaning pedestrians are automatically given a walk phase with each cycle of the light and do not need to push a button to request a walk phase. Given the high volume of pedestrian activity observed in Downtown San Mateo during preparation of this Plan, all signals within Downtown should include a pedestrian recall phase.

#### **Recommendation**

This Plan recommends the City conduct a study to include a pedestrian recall phase at all signalized intersections in Downtown. MUTCD sign R10-2 should be installed at all signalized intersections with a pedestrian recall phase, replacing MUTCD sign R10-4. See Figure 5-19.



*The Third Street Promenade in Santa Monica (Source: downtownsm.com)*

### 5.5.11. B Street Closure Study

On streets with high pedestrian volumes and destinations, closing the street to motor vehicles can provide a lively public space for walking, shopping, entertaining, and street life. One example is the 3<sup>rd</sup> Street Promenade in Santa Monica, a pedestrian shopping district and performance venue that has been highly successful. Similar treatment may enliven B Street in San Mateo.



**Recommendation**

The Plan recommends a study of alternatives for a car-free B Street, either on a temporary basis – for instance, after certain hours, on holidays, weekend and/or during special events – or permanently.

### 5.5.12. 3<sup>rd</sup> Avenue & Norfolk Street Intersection Improvement Study

The 3<sup>rd</sup> Avenue Median Path entrance at Norfolk Street (Figure 5-20) had high number of pedestrian related collisions in the past eight years (2001-2009). The path entrance is in the center of the roadway and requires bicyclists and pedestrians to awkwardly enter or leave the path using a number of turning movements.

**Recommendation**

The recommended improvement for this intersection is to initiate a study to improve access to the path entrance. Possible improvements may include signage and striping. The improvement study may review similar intersection configurations with median paths including in Brooklyn, New York.

### 5.5.13. El Camino Real at 22<sup>nd</sup> and 39<sup>th</sup> Avenues Traffic Signal Warrant Studies

El Camino Real has uncontrolled marked crosswalks at 22<sup>nd</sup> and 39<sup>th</sup> Avenues. The 22<sup>nd</sup> Avenue crossing connects pedestrians to commercial businesses on both the east and west sides of El Camino Real. The nearest controlled crossings are at 20<sup>th</sup> and 25<sup>th</sup> Avenues. The 39<sup>th</sup> Avenue crossing connects pedestrians to SanTrans bus stops as well as to the San Mateo Medical Center. The nearest controlled crossings are at 37<sup>th</sup> and 41<sup>st</sup> Avenues.

**Recommendation**

This Plan recommends the City coordinate with Caltrans and conduct a traffic signal study to determine the impact of a traffic signal installation at El Camino Real and 22<sup>nd</sup> Avenue and at El Camino Real and 39<sup>th</sup> Avenue.

Should the 22<sup>nd</sup> and/or 39<sup>th</sup> Avenue crossing locations not meet signal warrant requirements, other recommendations may be considered. Potential crossing improvements at the 39<sup>th</sup> Avenue/El Camino Real intersection are detailed in Appendix D and include relocating the crosswalk to the north side of the



R10-2



R10-4

Figure 5-19: Caltrans R10-4 Sign  
MUTCD sign R10-2 should be placed at all downtown traffic signals that include a pedestrian recall phase, replacing MUTCD sign R10-4.

Figure 5-20: 3<sup>rd</sup> & Norfolk Intersection

intersection, installation of a pedestrian hybrid beacon, and installation of a pedestrian refuge island.

#### **5.5.14. Peninsula Avenue and Bayshore Boulevard Intersection Improvement Study**

The Peninsula Avenue/Bayshore Boulevard intersection has limited sidewalks and one marked crosswalk. Pedestrians cannot directly cross Bayshore Boulevard from the south side of Peninsula Avenue, which is the desired path of travel for both eastbound and southbound pedestrians.

##### ***Recommendation***

This Plan recommends a study to improve access and pedestrian circulation at the intersection. Possible improvements include a marked crosswalk on south leg of the intersection and installation of a sidewalk on the unpaved southeast corner. Opportunities to incorporate stormwater treatment and drought-tolerant landscaping could also be explored.

#### **5.5.15. Highway 92 Crossing Study**

Highway 92 is a barrier to pedestrian travel between El Camino Real and Alameda de las Pulgas and prevents pedestrian north-south access across the City west of El Camino Real.

##### ***Recommendation***

This Plan recommends the City conduct a feasibility study to determine the opportunities and challenges of a crossing near Edinburgh Street.

#### **5.5.16. Railroad Crossing Study**

The rail tracks that run through the City are a community identified barrier. Pedestrian crossings are limited between 9<sup>th</sup> Avenue and Highway 92 and between Highway 92 and 42<sup>nd</sup> Avenue. The lack of crossings limits east-west activity and access to retail and employment.

##### ***Recommendation***

The City should consider additional pedestrian crossings between 9<sup>th</sup> and 42<sup>nd</sup> Avenues. Crossings may be considered with the current configuration and with any future development proposals.



### **5.5.17. El Camino Real Sidewalk Width Study**

El Camino Real is an important pedestrian corridor with potential for significant walking activity; however, it is also a community identified challenge area. One challenge is the existing narrow sidewalks.

#### ***Recommendation***

The City should consider a study to widen sidewalk width on El Camino Real within City limits. This study will require coordination with Caltrans.

## **5.6. Project Sheets and Audit Recommendations**

This Plan includes eleven specific project improvement sheets and audit recommendations for stand-alone intersection, crosswalk, or corridor projects throughout San Mateo. These projects will involve unique improvements or have more specific detail than in the previous categories.

### **5.6.1. Project Sheets**

The following eleven project sheets provide a summary of site specific recommendations. The locations were selected based on community identified need and collision analysis.

1. 3<sup>rd</sup> Avenue and Norfolk Street Intersection Improvement
2. 3<sup>rd</sup> Avenue and Parrott Drive Intersection Improvement
3. El Camino Real and Highway 92 Intersection Improvement
4. Hayward Park Caltrain Station Path at 17<sup>th</sup> Avenue Improvement
5. Alameda de Las Pulgas and 20<sup>th</sup> Avenue Intersection Improvement
6. El Camino Real and 22<sup>nd</sup> Avenue Intersection Improvement
7. Bridgepointe Circle Midblock Crossing Improvement
8. Franklin Parkway at Saratoga Drive Intersection Improvement and Study
9. Alameda de las Pulgas Road Diet (Barneson Avenue to Crystal Springs Road)
10. Norfolk Street Midblock Crossing Improvement

## 3rd Avenue and Norfolk Street Intersection Improvement

This project is designed to improve pedestrian visibility and safety. These intersection improvements will allow pedestrians to more quickly clear the median path waiting area and provide more pedestrian visibility. Wayfinding will direct pedestrians to the adjacent canal Class I path.

### Existing Issues

Community-identified challenge area  
High pedestrian collision area  
Median path waiting area confined and has long waits

### Project Description

Pedestrian phase allows crossing east leg of intersection during left turn phases  
High visibility crosswalks  
Advance stop bars  
Pedestrian countdown signals (all approaches)  
Wayfinding signs

### Project Illustration



### Project Benefits

Minimizes pedestrian and bicycle wait time and congestion in median  
Improved pedestrian visibility and discourages vehicle encroachment into crosswalks  
Wayfinding enhances connections the Shoreline Park paths with the 3rd Avenue median path

### Cost Estimate

High visibility crosswalks (4) - \$4,800  
Pedestrian countdown signals (10) - \$8,000  
Wayfinding: \$300  
Advance stop bars (4): \$800  
Signal phase study and adjustment: \$20,000  
**Total: \$33,900**

City of San Mateo Pedestrian Master Plan

# 3<sup>rd</sup> Avenue and Parrott Drive Intersection Improvement

This project is designed to provide more pedestrian friendly intersections with realigned curbs and shorter crossings. Improvements also provide enhanced crossings, enlarged green space, and improved bicycle lane striping.

## Existing Conditions



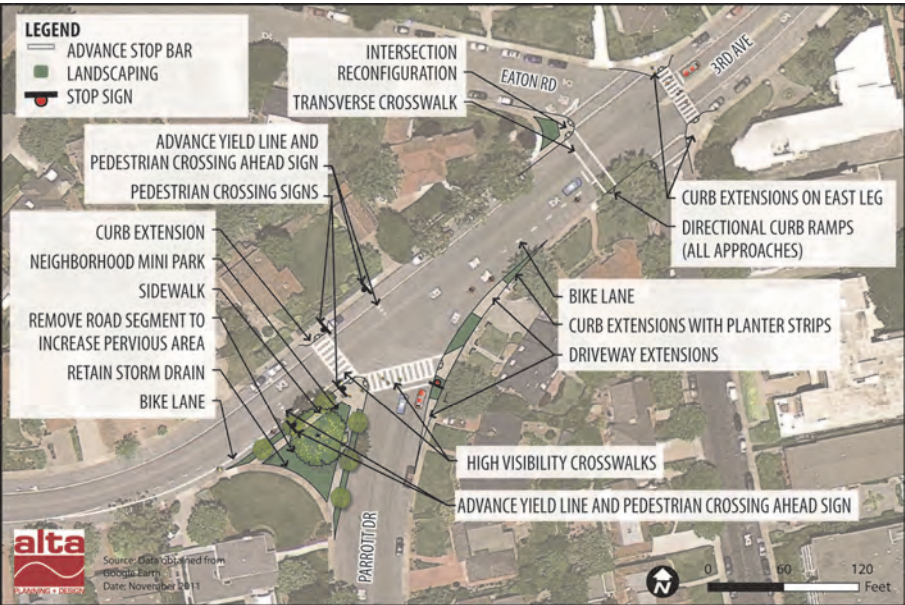
## Existing Issues

- Community identified challenge area
- Wide turn radii encourages fast motor vehicle speeds
- No marked pedestrian facilities on existing island green space
- Lack of crosswalks

## Project Description

- Reconfigure intersection at Eaton Road (reduced curb radii west corner; curb extensions east leg; transverse crosswalk east approach; diagonal curb ramps and advance stop bars all approaches)
- Green space at Parrott Drive (mini park replaces slip lane on southwest approach; high visibility crosswalk south approach; curb extensions and planting areas southeast approach; advance stop bars all approaches)
- Bike lanes on the south side of 3<sup>rd</sup> Avenue through the project area on the south side of 3<sup>rd</sup> Avenue through the project area

## Project Illustration



## Project Benefits

- Increased public park space
- Reduced motor vehicle speeds
- Improved pedestrian visibility and safety
- Enhanced connectivity to Downtown, De Anza Historical Park and San Mateo Public Library

## Cost Estimate

Mini-park: \$155,000	Curb extensions (4): \$100,000
High visibility crosswalks (2): \$2,400	Sidewalk extension: \$18,000
Transverse crosswalk (1): \$1,000	Planter strip: \$10,000
Advance stop bars (4): \$800	Bike lane: \$400
Advance yild lines (2): \$600	
Pedestrian signage (5): \$1,500	
	Total: \$289,400



## El Camino Real and Highway 92 Intersection Improvement

This project improves pedestrian visibility at the Highway 92 on- and off-ramps for Highway 92 along El Camino Real. Pedestrian-scale lighting, signs, and high-visibility crosswalks would improve safety and connectivity.

### Existing Issues

Community-identified challenge area  
Limited pedestrian visibility

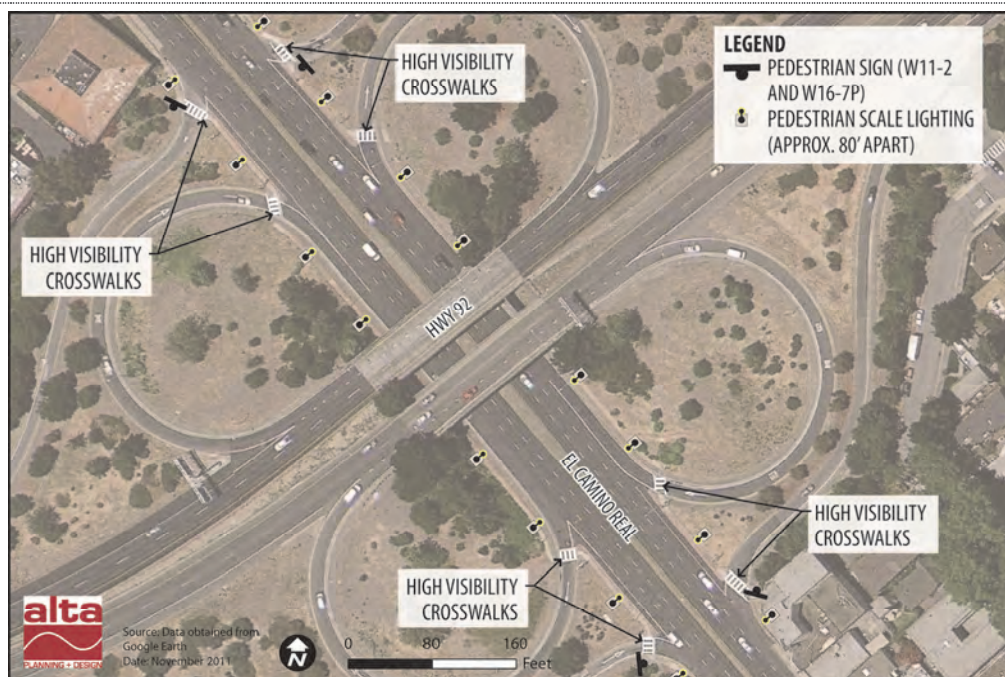
### Project Description

High visibility crosswalks across all Hwy 92 on- and off-ramps at El Camino Real  
Pedestrian signs  
Pedestrian scale lighting

### Existing Conditions



### Project Illustration



### Project Benefits

Improves pedestrian visibility at Highway 92 on- and off-ramps  
Improves connections to shopping areas north and south of Highway 92

### Cost Estimate

High visibility crosswalks (8): \$9,600  
Pedestrian signage (8): \$2,400  
Pedestrian scale lighting (32): \$288,000

Total: \$300,000

City of San Mateo Pedestrian Master Plan

# Hayward Park Caltrain Station Path at 17<sup>th</sup> Avenue Improvement

This project adds a pedestrian path and improved landscaping to an existing Hayward Park Caltrain Station access path. Pedestrian-scale lighting, wayfinding signs, and other improvements would guide pedestrians to Caltrain and enhance the environment.

## Existing Issues

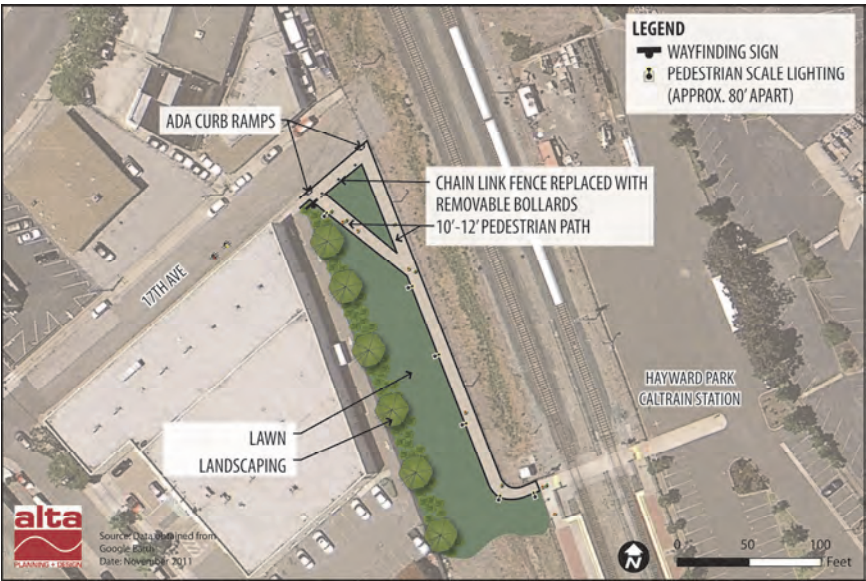
- Lack of ADA improvements
- Lack of landscaping
- Personal safety concerns

## Project Description

- Pedestrian path accessing the Hayward Park Caltrain Station
- Chain link fence replaced with removable bollards
- Curb ramps on 17<sup>th</sup> Avenue
- Pedestrian-scale lighting
- Wayfinding signs Caltrain station

## Project Illustration

### Existing Conditions



## Project Benefits

- Encourages non-motorized access to transit
- Provides a safer, accessible, and more pleasant walking environment

## Cost Estimate

- Curb ramp (2): \$8,000
- Wayfinding (1): \$300
- Pedestrian scale lighting (7): \$63,000
- Upgrade path: \$64,200
- Landscaping: \$320,000

Total:\$455,500



## Alameda de las Pulgas and 20<sup>th</sup> Avenue Improvement

This intersection is a key part of the route to Junipero Serra High School and other neighboring schools. High-visibility crosswalks, curb extensions, and curb ramps are recommended to improve walking conditions and meet ADA requirements.

### Existing Issues

School area (Junipero Serra High, Aragon High, and Borel Middle)  
High pedestrian collision area – crash history indicates pedestrian vulnerability in the crosswalks  
Median in Alameda de las Pulgas extends into crosswalk on south side

### Project Description

Reconfigure curb radii (west approaches)  
High visibility crosswalks (all approaches)  
Leading pedestrian intervals (if warranted and feasible)  
Pedestrian signal timing assumes a walking speed of 2.8 feet per second  
Median separated from crosswalk

### Project Illustration



### Project Benefits

Increases pedestrian visibility  
Enhances safe routes to high school  
Meets ADA requirements

### Cost Estimate

High visibility crosswalk (4): \$4,800  
Curb ramp (8): \$32,000  
Advance stop bars (2): \$400  
Tighten curb radii (2): \$50,000  
Remove median from crosswalk: \$15,000

Total: \$102,200



# El Camino Real and 22<sup>nd</sup> Avenue Intersection Improvement

This project provides an enhanced crossing of El Camino Real in an area where few other pedestrian crossings exist. Recommendations at this mid-block crossing improve motorist yielding behavior and minimize pedestrian jaywalking.

## Existing Issues

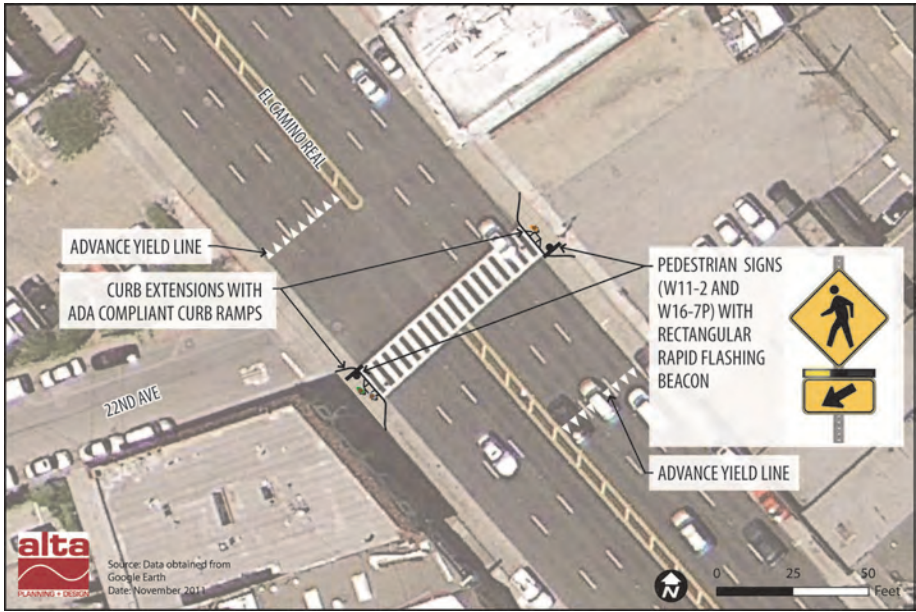
- Frequent pedestrian collision area, including a fatality
- Existing uncontrolled crossing with marked crosswalk across six travel lanes
- Low motorist yield rate
- Existing curb ramps do not meet ADA accessibility standards
- Nearest controlled crossing over 850 feet away
- Prevalence of jaywalking supports need for improved crossing facilities

## Project Description

- Rapid rectangular flashing beacons (both approaches)
- Curb extensions with ADA compliant curb ramps
- Pedestrian crossing signs

## Project Illustration

### Existing Conditions



### Project Benefits

- Increases motorist compliance with pedestrian right-of-way
- Improves safety for pedestrian crossings

### Resources

- FHWA Safer Journey Countermeasures: 3,23

### Cost Estimate

- Advance yield lines (2): 600
- Curb extensions (2): \$50,000
- Curb ramps (2): \$8,000
- Rectangular rapid flashing beacons (2): \$30,000
- Pedestrian Signage (2): \$600

Total: \$88,600

## Bridgepointe Circle Midblock Crossing Improvement

A new high-visibility crosswalk across Bridgepointe Circle - Chess Drive will provide a marked pedestrian crossing between two distant crossings along preferred pedestrian path of travel.

### Existing Conditions



### Existing Issues

Uncontrolled crossing of major arterial  
Nearest controlled crossings over 400 feet in either direction.

### Project Description

Walkway aligned to increase pedestrian visibility  
Rectangular rapid flashing beacons  
Pedestrian crossing signs

### Project Illustration



### Project Benefits

Provides a needed mid-block crossing of this arterial street, improving pedestrian efficiency. Off-set design increases the visibility of oncoming traffic.

### Resources

FHWA: Pedestrian and Bicyclist Safety and Mobility in Europe, Chapter 3  
Federal MUTCD

### Cost Estimate

Advance yield lines (2): \$600  
Curb ramps (2): \$8,000  
High visibility crosswalk: \$2,400  
Path through median: \$25,000  
Pedestrian signage (2): \$600  
Rectangular rapid flashing beacons (4): \$60,000

Total: \$96,600

City of San Mateo Pedestrian Master Plan



# Franklin Pkwy at Saratoga Drive Crossing Improvement and Study

This project improves connections between an existing and a proposed multi-use path on Franklin Parkway at Saratoga Drive. The lack of a pedestrian crossing on the south leg, where the multi-use paths meet, is a gap in the network with important connections to the planned Hillsdale Pedestrian/Bicycle Overcrossing.

## Existing Conditions



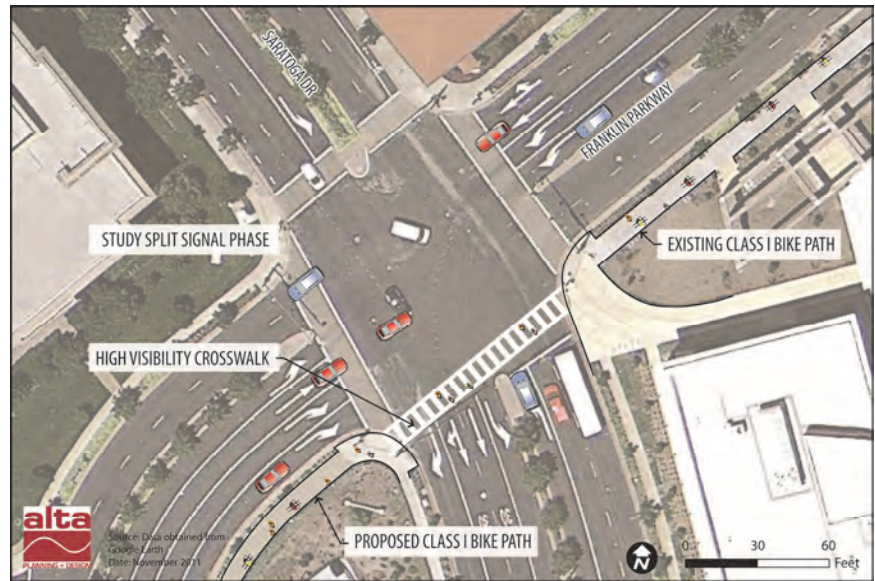
## Existing Issues

- Proposed and existing multi-use path on south side of Franklin Parkway west of Saratoga Dr will not connect
- Lack of crosswalk at preferred crossing leg between two paths
- Network gap to planned Hillsdale Pedestrian/Bicycle Overcrossing

## Project Description

- High visibility crosswalk (south leg)
- Split signal phase study

## Project Illustration



## Project Benefits

- Reduced number of crossings for trail users
- Significantly shortens trail user travel distance
- Improved path user visibility
- Reduced unsafe crossing behavior

## Cost Estimate

- Study: \$15,000
- High visibility crosswalk: \$1,200

Total: \$16,200

## Alameda de las Pulgas Road Diet (Barneson to Crystal Springs)

This project improves the pedestrian environment with reallocation of roadway space and wider sidewalks.

Existing travel lane configuration results in high vehicular speeds and an uncomfortable pedestrian environment. This project reapportions roadway space and enhances a key route to Baywood Elementary and Aragon High.

### Existing Issues

School area (Baywood Elementary, Aragon High, and Borel Middle School)

Wide roadway encourages high motor vehicle travel speeds

Senior facilities and Borel Park nearby

### Project Description

Road diet reduces road to two travel lanes and two-way left turn lane (see sections next page)

Wider sidewalk or bike lanes along corridor

Wider sidewalks at Baywood Elementary

Consider landscaped pedestrian refuge island at crossing at Alameda de las Pulgas and Kentucky Avenue

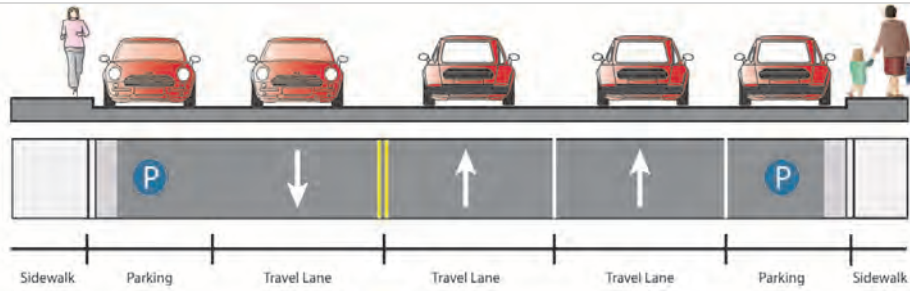
Shared Lane Markings

### Project Illustration

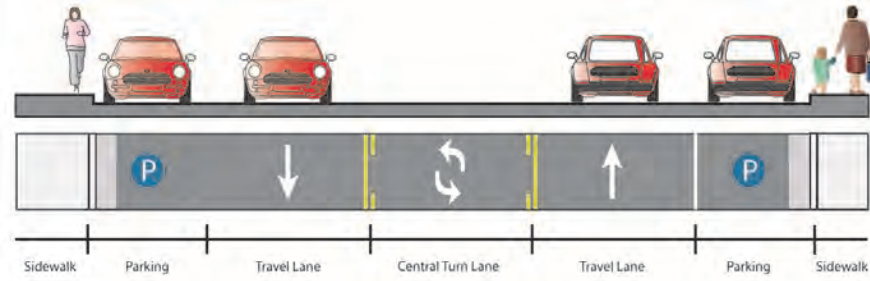
#### Existing Conditions



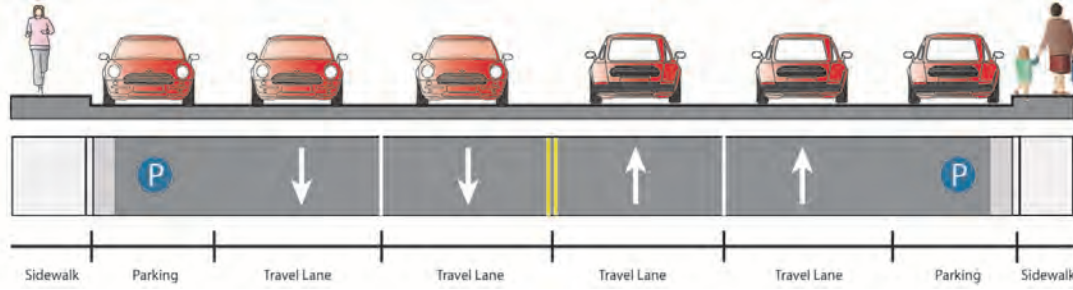




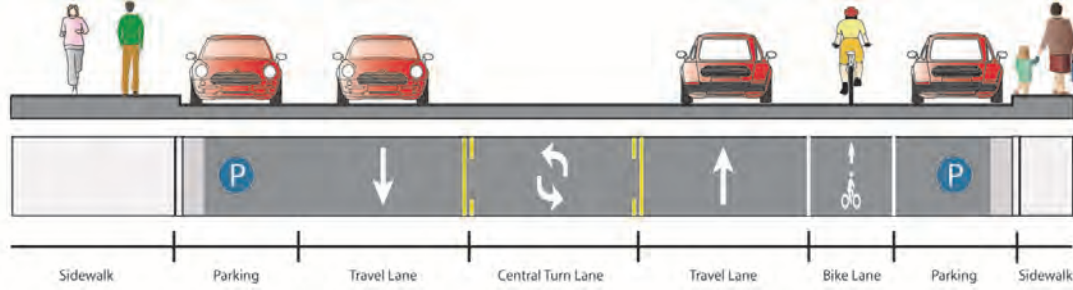
Alameda De La Pulgas - Existing Section A - A' (facing northwest)



Alameda De La Pulgas - Proposed Section A - A' (facing northwest)



Alameda De La Pulgas - Existing Section B - B' (facing west)



Alameda De La Pulgas - Proposed Section B - B' (facing west)  
(Left side shows wide sidewalk option; right side shows bike lane option)

**Project Benefits**

Reduces the number of conflict points  
Provides dedicated space for pedestrians and/or bicyclists

**Resources**

FHWA: Evaluation of Lane Reduction  
"Road Diet" Measures on Crashes, 2010

**Cost Estimate**

Study: \$10,000  
Restriping: \$14,700  
Widen sidewalk: \$51,000  
Replace/reconfigure signals/poles: TBD  
Total: \$95,800



## Norfolk Street Midblock Crossing Improvement

This project improves the pedestrian environment with the reallocation of roadway space and increased pedestrian visibility.

### Existing Issues

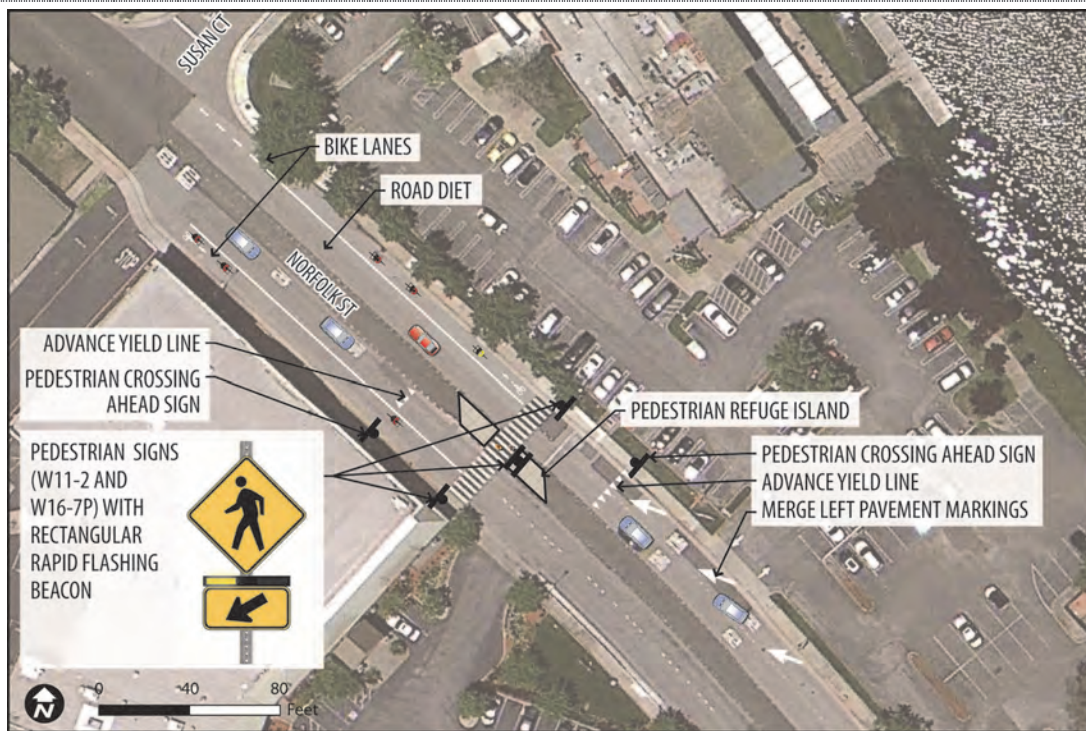
Uncontrolled pedestrian crossing and four travel lanes  
Crossing is adjacent to busy commercial driveway  
Crossing provides key access to commercial activity and SamTrans bus stop

### Project Description

Road diet  
Bike lanes  
Pedestrian refuge island  
Rectangular rapid flashing beacons  
Pedestrian crossing signs  
Advance yield lines

### Project Illustration

### Existing Conditions



### Project Benefits

Enhances mid-block crossing, improving pedestrian visibility.  
Improves onstreet bicycle circulation

### Cost Estimate

Bike lanes: \$1000  
Pedestrian refuge island: \$30,000  
Rectangular rapid flashing beacons: \$60,000  
Pedestrian crossing signs: \$600  
Advance yield lines: \$600  
Pedestrian lighting (2): \$18,000

Total: \$110,200

City of San Mateo Pedestrian Master Plan

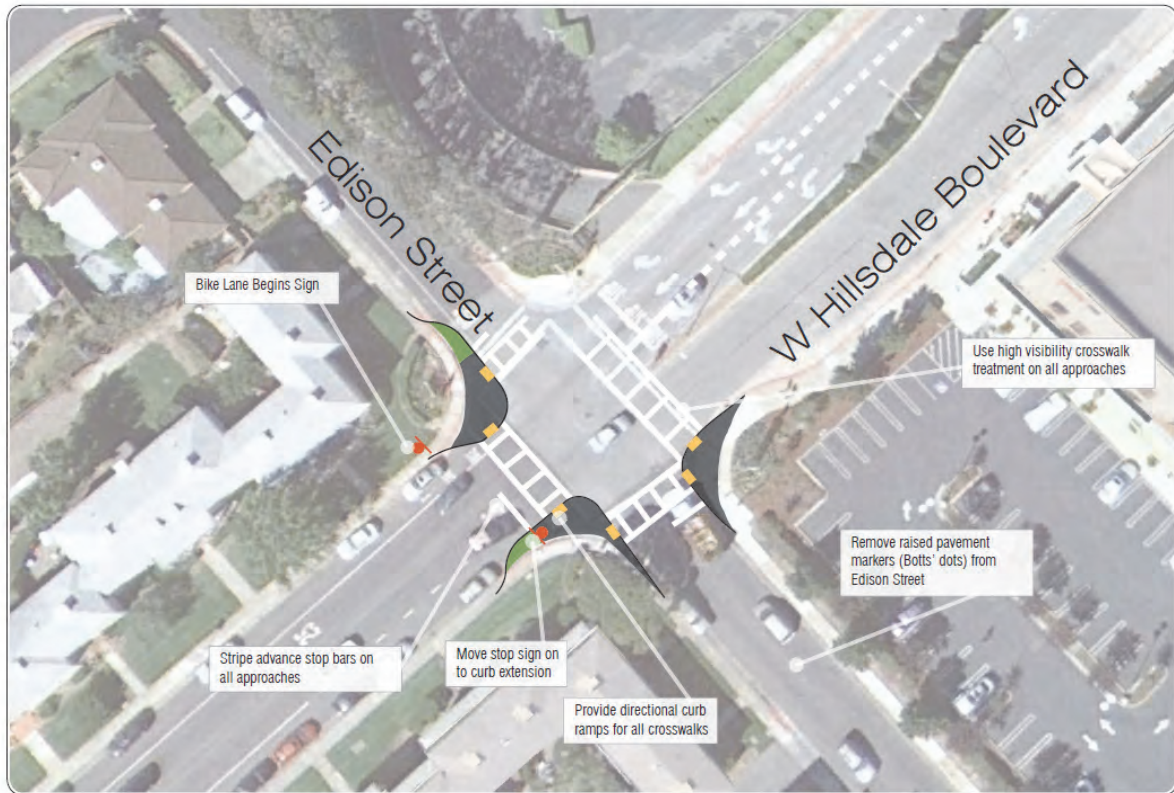
### 5.6.2. Walking Audit Recommendations

As described in Section 4.4 in the Needs Analysis Chapter, three routes were selected for a walking audit as part of the development of this Citywide Pedestrian Master Plan. A walking audit is a walking workshop that examines intersections along routes in either a neighborhood or along a corridor. The following three areas were selected based on pedestrian related collisions:

- Hillsdale Station Area: Edison Street, W 39<sup>th</sup> Avenue, El Camino Real, and Hillsdale Boulevard
- Downtown: El Camino Real, Tilton Avenue, B Street, and W 4<sup>th</sup> Avenue
- North Central: Monte Diablo Avenue, Delaware Street, E 3<sup>rd</sup> Avenue, and Fremont Street

The following pages outline a summary of the walking audit recommendations. Individual projects identified in these sheets area also presented in Section 5.2 and 5.3. Detailed recommendations are presented in **Appendix D**.

### Walking Audit Project A. Edison Street at W Hillsdale Boulevard



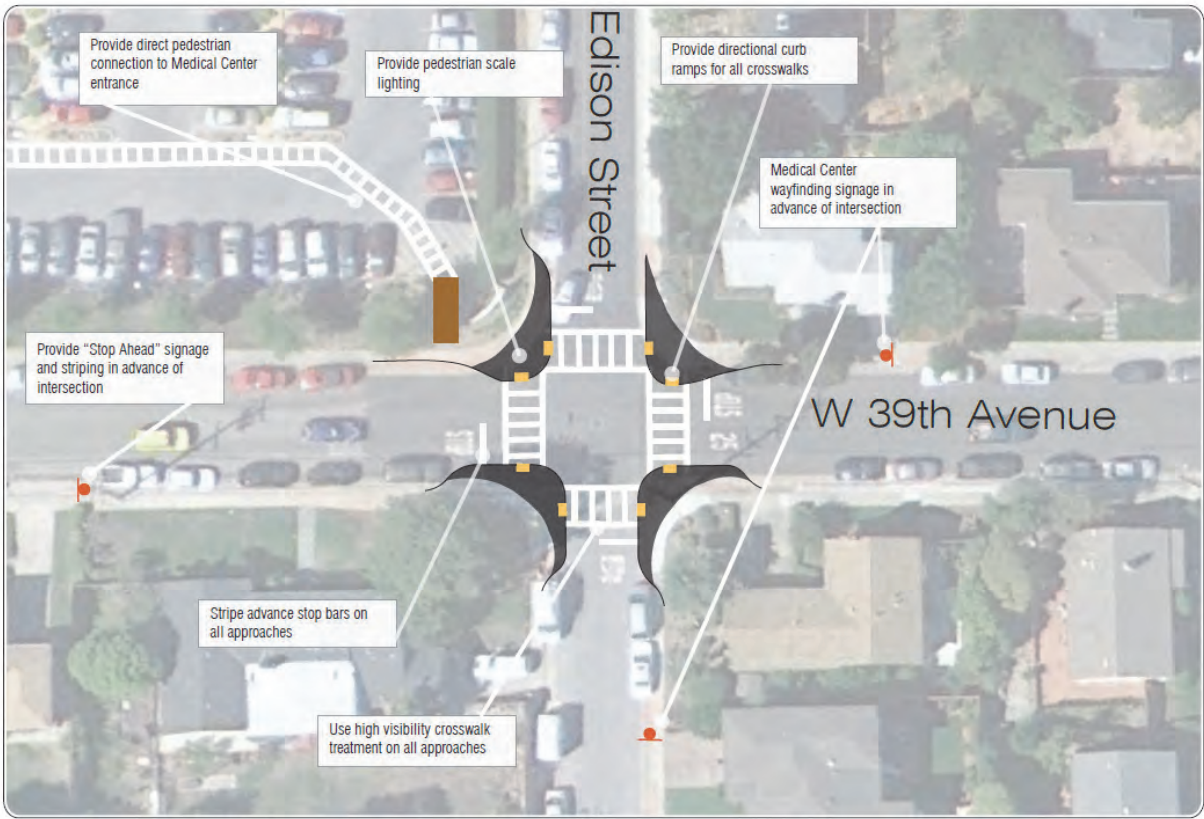
Study Location 1.1: Edison Street at W Hillsdale Boulevard

Route 1. Hillsdale Station Area

*Note: See Appendix D for the full text of the Walking Audit, including recommended improvements and full page graphics.*



**Walking Audit Project B. Edison Street at W 39<sup>th</sup> Avenue**



Study Location 1.2: Edison Street at W 39th Avenue

Route 1. Hillsdale Station Area

*Note: See Appendix D for the full text of the Walking Audit, including recommended improvements and full page graphics.*

### Walking Audit Project C.      Congreve Street at W 39<sup>th</sup> Avenue



Not to Scale

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Study Location 1.3: Congreve Street at W 39th Avenue

Route 1. Hillsdale Station Area

*Note: See Appendix D for the full text of the Walking Audit, including recommended improvements and full page graphics.*

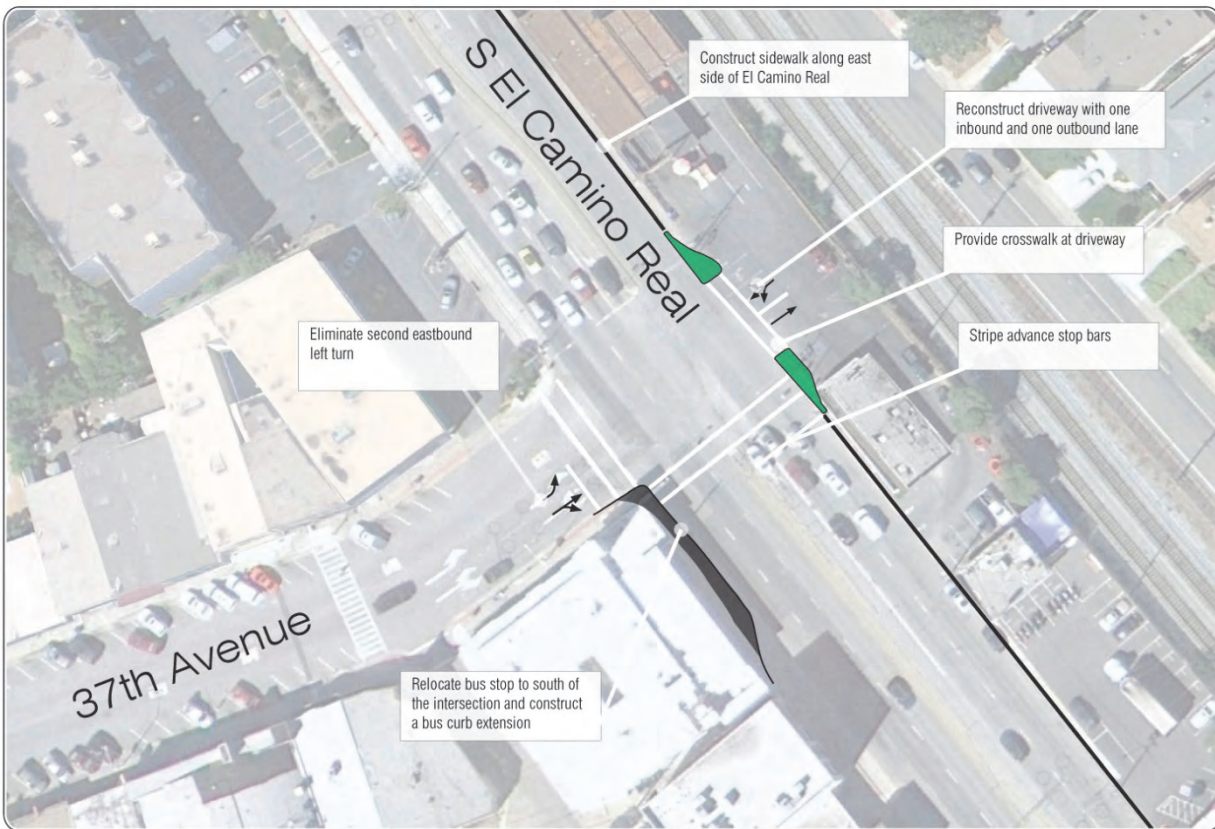


**Walking Audit Project D. El Camino Real at W 39<sup>th</sup> Avenue**



*Note: See Appendix D for the full text of the Walking Audit, including recommended improvements and full page graphics.*

### Walking Audit Project E. S El Camino Real at 37<sup>th</sup> Avenue



Not to Scale

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Study Location 1.5: S El Camino Real at 37th Avenue

Route 1. Hillsdale Station Area

*Note: See Appendix D for the full text of the Walking Audit, including recommended improvements and full page graphics.*



**Walking Audit Project F. S El Camino Real at W Hillsdale Boulevard**



Study Location 1.6: S El Camino Real at W Hillsdale Boulevard  
Route 1. Hillsdale Station Area

*Note: See Appendix D for the full text of the Walking Audit, including recommended improvements and full page graphics.*

### Walking Audit Project G. S El Camino Real at 2<sup>nd</sup> Avenue



Not to Scale

FEHR PEERS  
SF10-0522 San Mateo PMP



Study Location 2.1: S El Camino Real at 2nd Avenue

Route 2. Downtown San Mateo

*Note: See Appendix D for the full text of the Walking Audit, including recommended improvements and full page graphics.*



**Walking Audit Project H.      N El Camino Real at Baldwin Avenue – Baywood Avenue**



Not to Scale

FEHR PEERS  
SF10-0522 San Mateo PMP



Study Location 2.2: N El Camino Real at Baldwin Avenue-Baywood Avenue

Route 2. Downtown San Mateo

*Note: See Appendix D for the full text of the Walking Audit, including recommended improvements and full page graphics.*



### Walking Audit Project I. N El Camino Real at Tilton Avenue – El Cerrito Avenue



Not to Scale

FEHR PEERS  
SF10-0522 San Mateo PMP

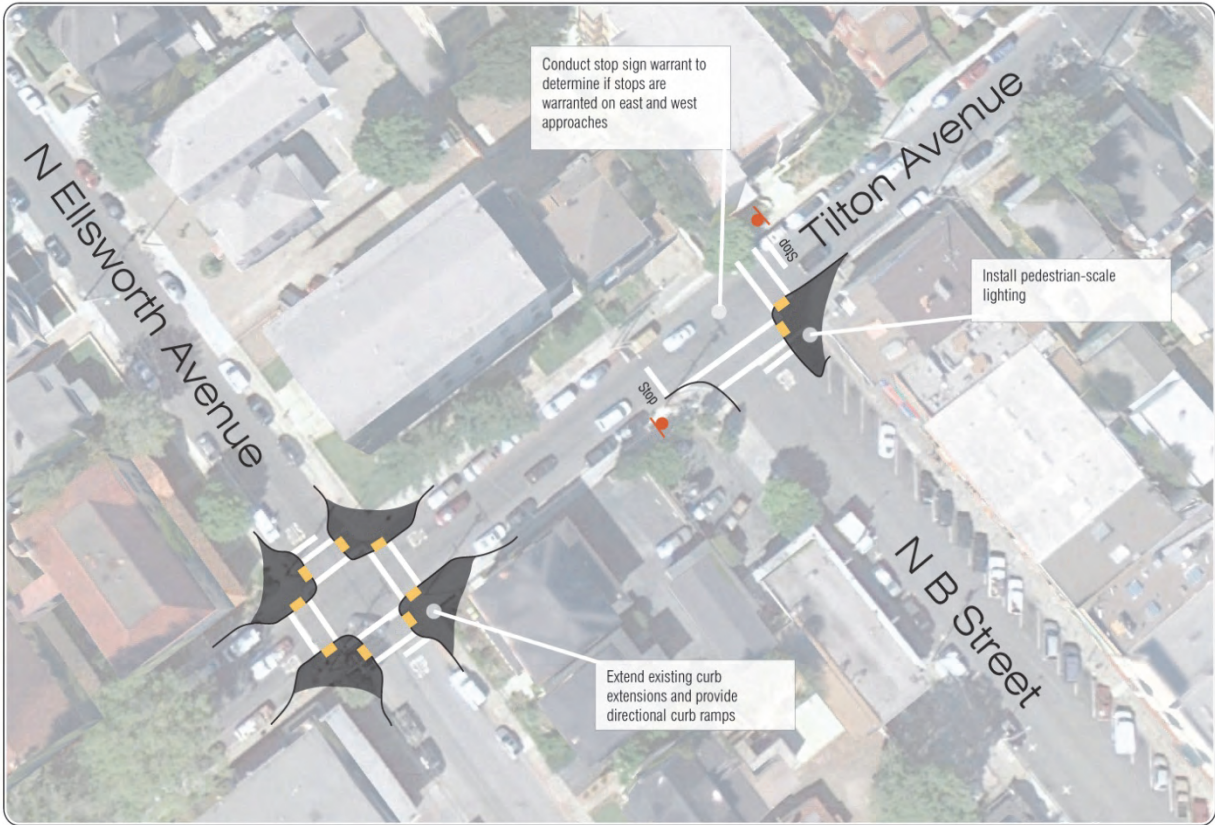


Study Location 2.3: N El Camino Real at Tilton Avenue-El Cerrito Avenue

Route 2. Downtown San Mateo

*Note: See Appendix D for the full text of the Walking Audit, including recommended improvements and full page graphics.*

**Walking Audit Project J. Tilton Avenue Corridor (Northbound B Street to N Ellsworth Avenue)**



Not to Scale

FEHR PEERS



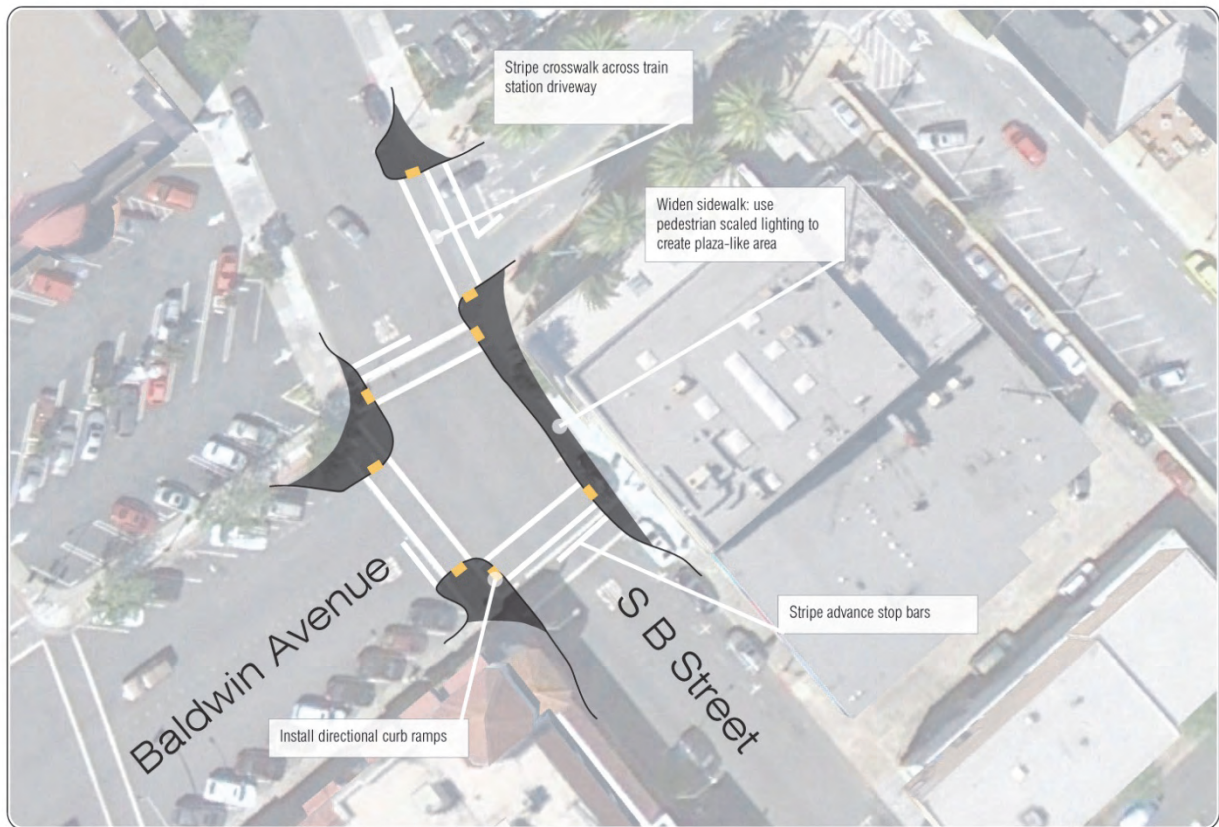
Study Location 2.4: Tilton Avenue Corridor (N B Street to N Ellsworth Avenue)

Route 2. Downtown San Mateo

*Note: See Appendix D for the full text of the Walking Audit, including recommended improvements and full page graphics.*



## Walking Audit Project K. South B Street at Baldwin Avenue



Not to Scale

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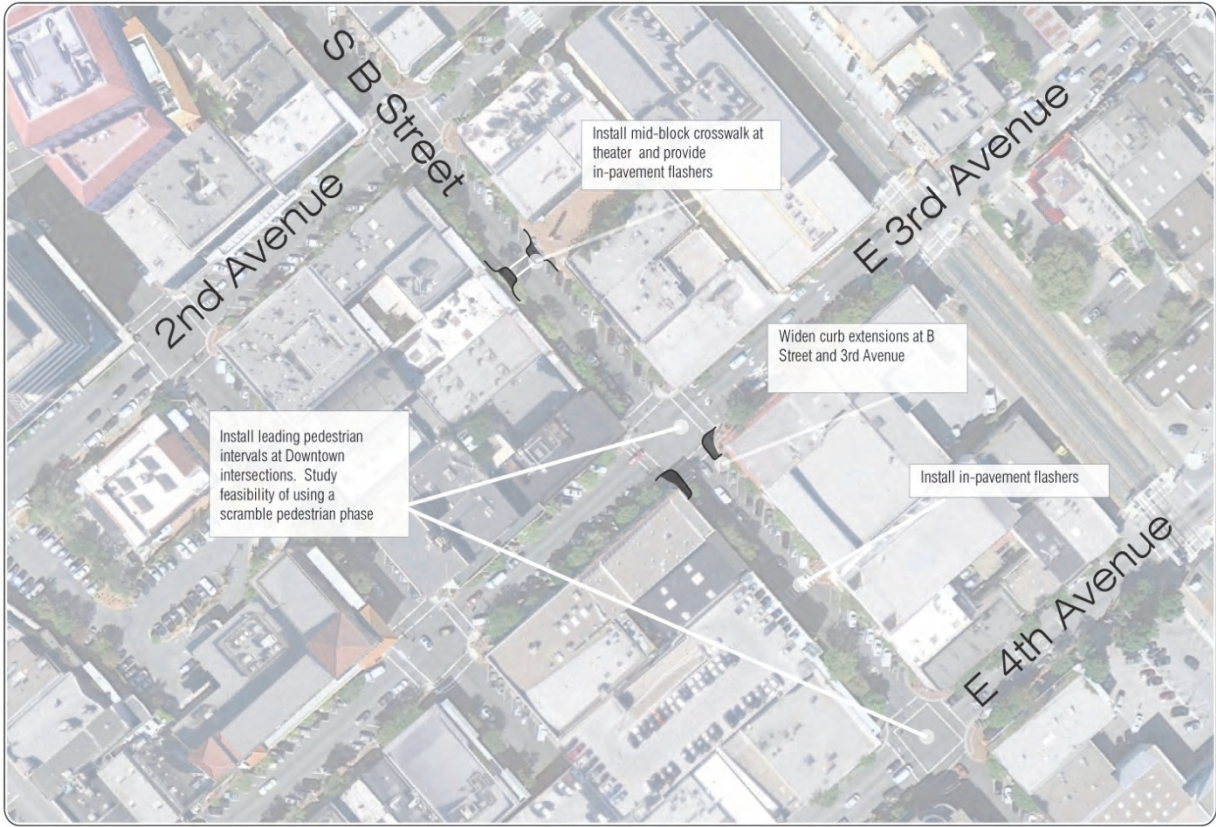


Study Location 2.5: S B Street at Baldwin Avenue

Route 2. Downtown San Mateo

*Note: See Appendix D for the full text of the Walking Audit, including recommended improvements and full page graphics.*

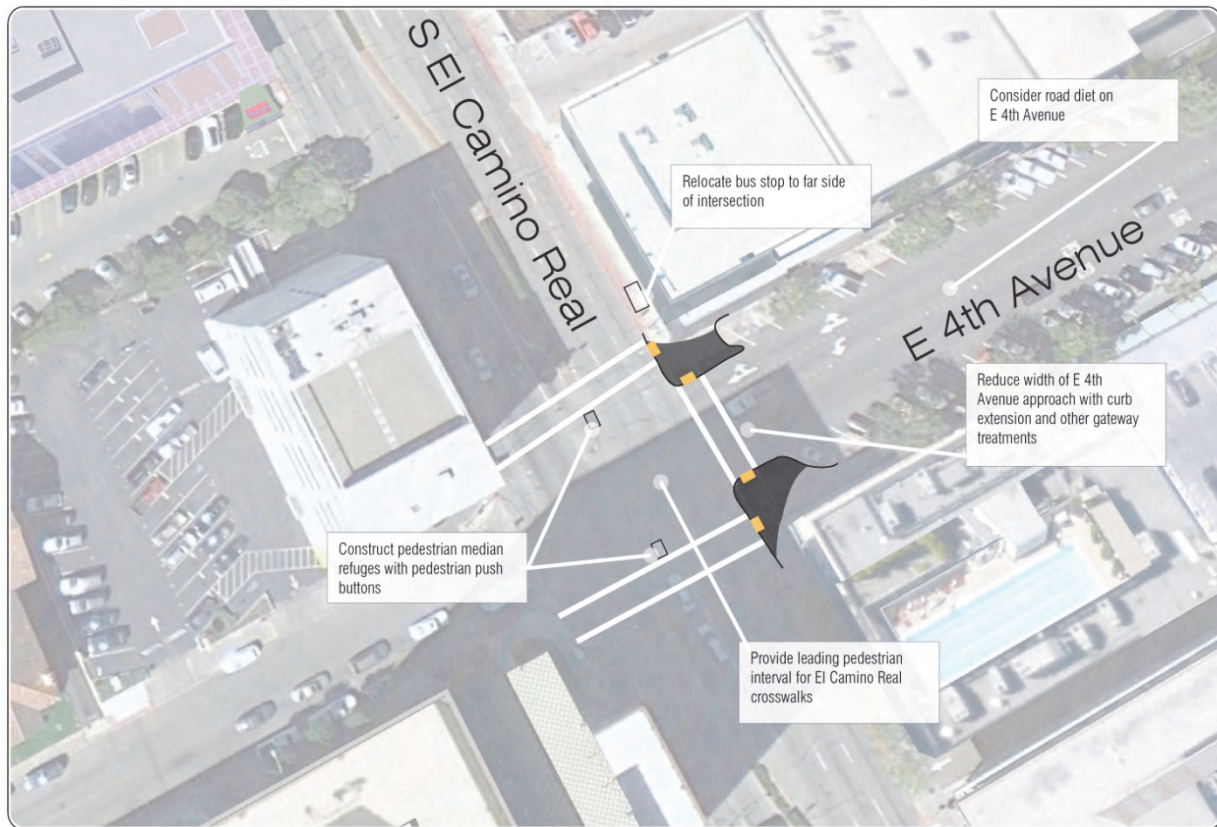
**Walking Audit Project L.      South B Street Corridor (East 4<sup>th</sup> Avenue to 2<sup>nd</sup> Avenue)**



*Note: See Appendix D for the full text of the Walking Audit, including recommended improvements and full page graphics.*



### Walking Audit Project M. South El Camino Real at East 4<sup>th</sup> Avenue



Not to Scale

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Study Location 2.7: S El Camino Real at E 4th Avenue

Route 2. Downtown San Mateo

*Note: See Appendix D for the full text of the Walking Audit, including recommended improvements and full page graphics.*



**Walking Audit Project N.      South San Mateo Drive at 2<sup>nd</sup> Avenue**



Not to Scale

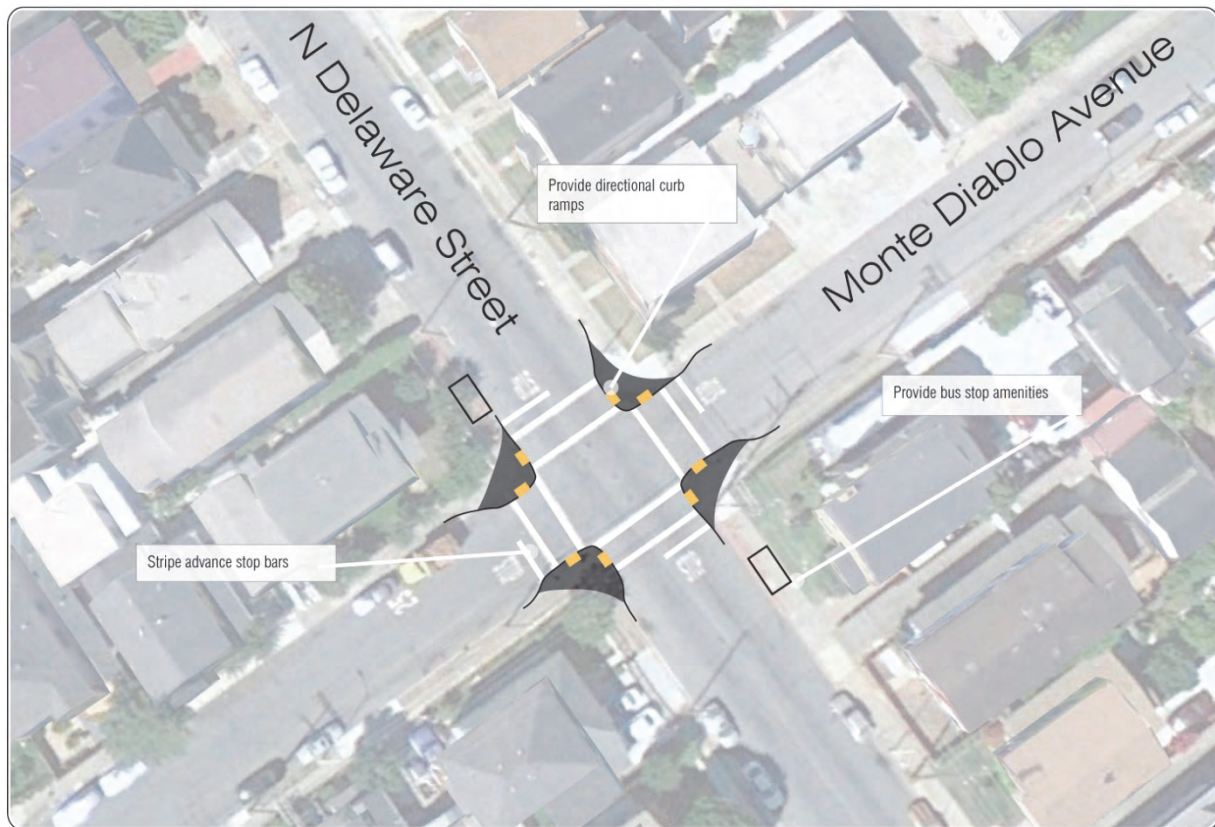
**FEHR PEERS**  
SF10-0522 San Mateo PMP



Optional Location 2.0: S San Mateo Drive at 2nd Avenue  
Route 2. Downtown San Mateo

*Note: See Appendix D for the full text of the Walking Audit, including recommended improvements and full page graphics.*

### Walking Audit Project O. North Delaware Street at Monte Diablo Avenue



Not to Scale

FEHR PEERS  
SF10-0522 San Mateo PMP



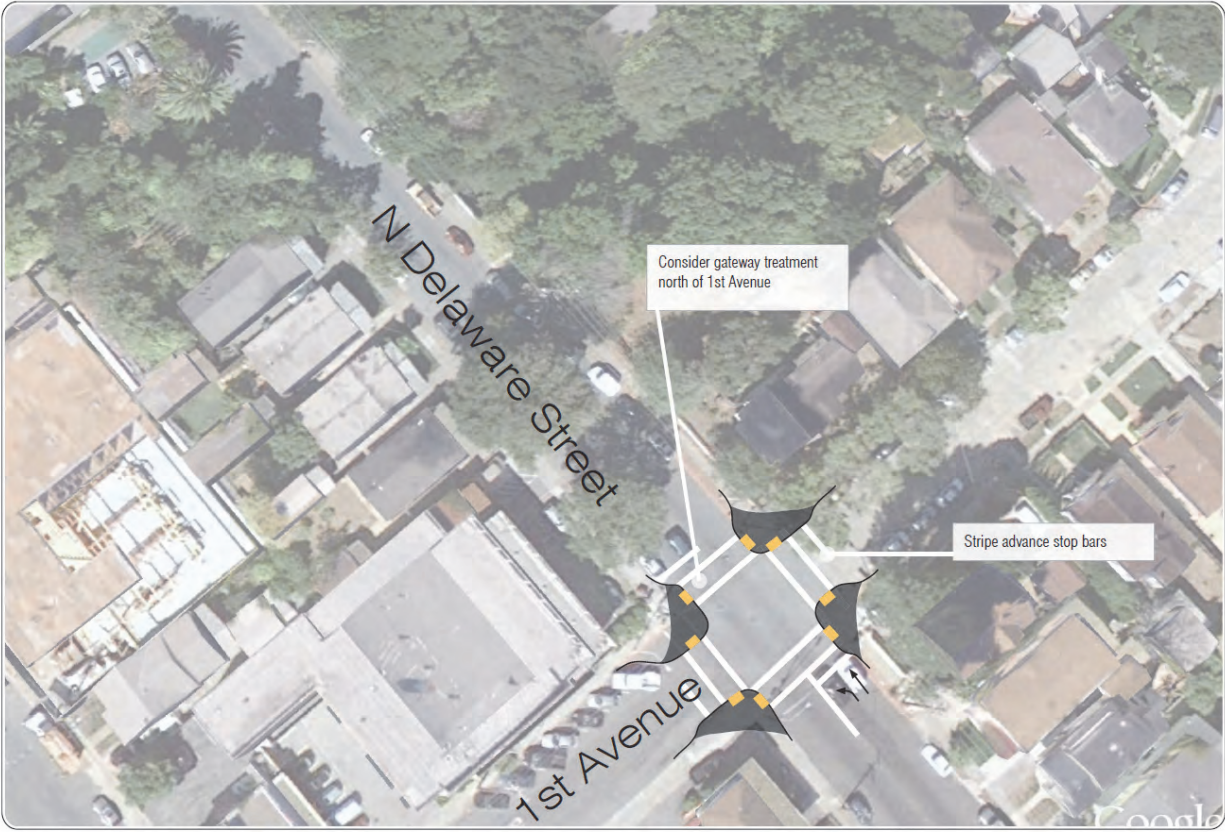
Study Location 3.1: N Delaware Street at Monte Diablo Avenue

Route 3. North Central

*Note: See Appendix D for the full text of the Walking Audit, including recommended improvements and full page graphics.*



**Walking Audit Project P.      North Delaware Street at 1<sup>st</sup> Avenue**



Not to Scale

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SF10-0622 San Mateo PMP



Study Location 3.2: N Delaware Street at 1st Avenue

Route 3. North Central

*Note: See Appendix D for the full text of the Walking Audit, including recommended improvements and full page graphics.*

### Walking Audit Project Q. North Delaware Street at East 3<sup>rd</sup> Avenue



Not to Scale

FEHR PEERS



SF10-0522 San Mateo PMIP

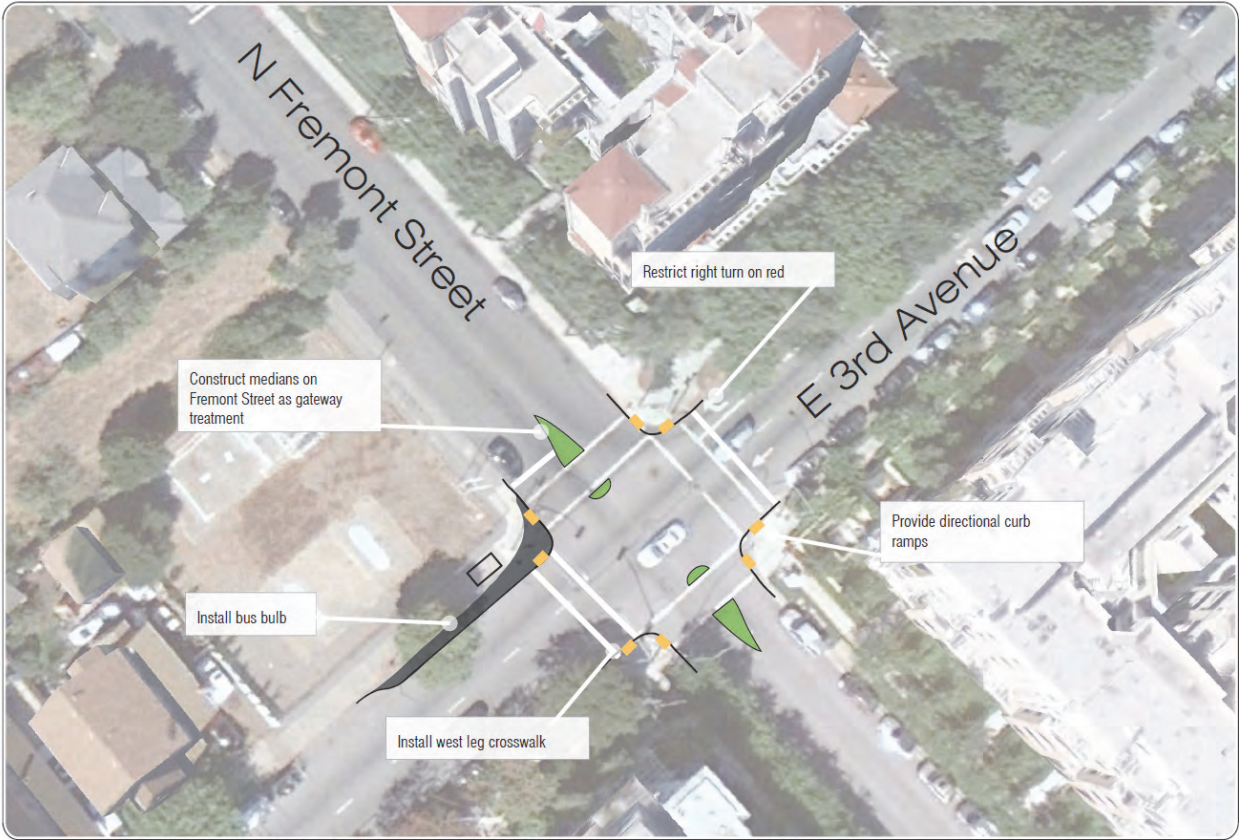
Study Location 3.3: N Delaware Street at E 3rd Avenue

Route 3, North Central

*Note: See Appendix D for the full text of the Walking Audit, including recommended improvements and full page graphics.*



**Walking Audit Project R.      North Fremont Street at East 3<sup>rd</sup> Avenue**

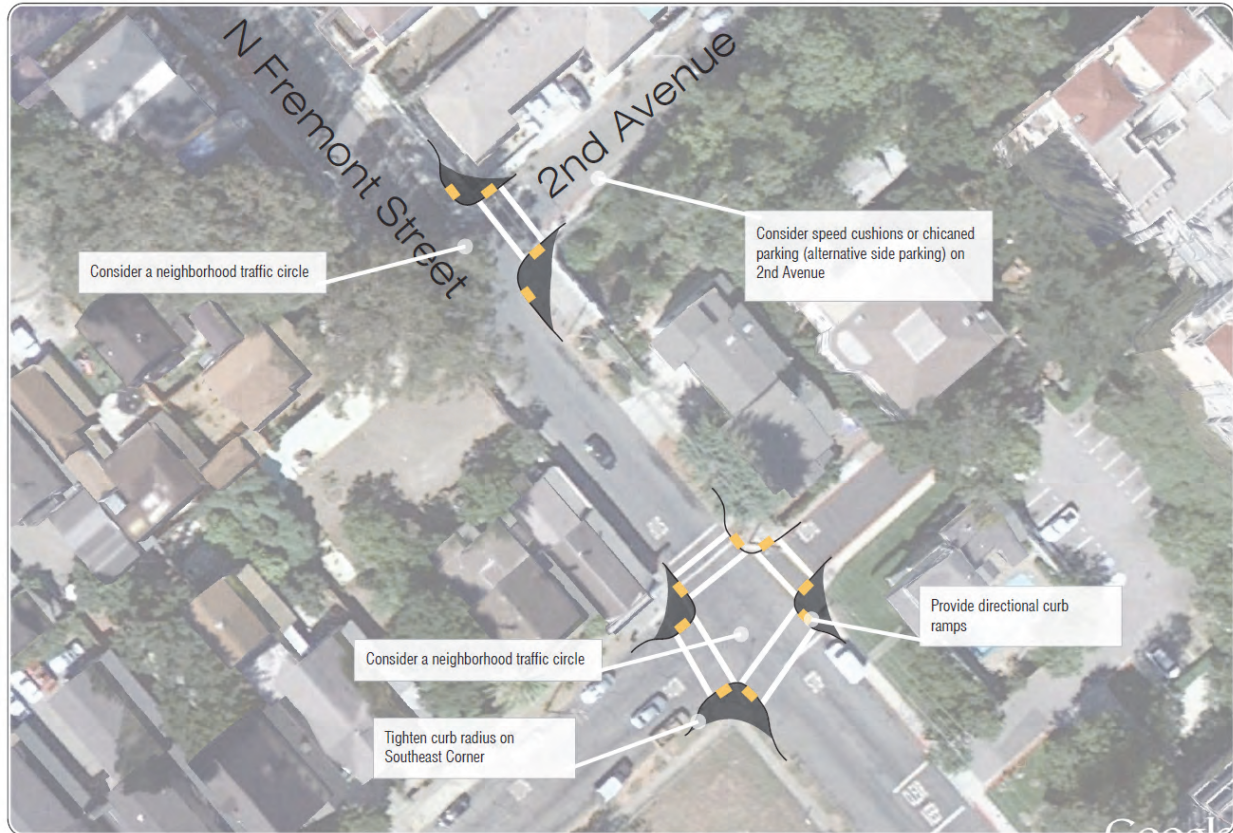


Study Location 3.4: N Fremont Street at E 3rd Avenue  
Route 3. North Central

*Note: See Appendix D for the full text of the Walking Audit, including recommended improvements and full page graphics.*



### Walking Audit Project 5. North Fremont Street at 2<sup>nd</sup> Avenue



Study Location 3.5: N Fremont Street at 2nd Avenue

Route 3. North Central

*Note: See Appendix D for the full text of the Walking Audit, including recommended improvements and full page graphics.*

**Walking Audit Project T.      North Fremont Street at Monte Diablo Avenue**



FEHR PEERS  
SF10-0522 San Mateo PMP



Study Location 3.6: N Fremont Street at Monte Diablo Avenue

Route 3. North Central

*Note: See Appendix D for the full text of the Walking Audit, including recommended improvements and full page graphics.*

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# 6. Programmatic Improvements

Improvements to and continued support of education, enforcement and evaluation programs are critical to increasing the number of pedestrian trips and safety. These programs can ensure that more residents know about new and improved facilities, learn the skills they need to integrate walking into their activities, and receive positive reinforcement about integrating walking into their daily lives. In essence, the new and enhanced programs market the idea of walking to local residents and ensure a shift to walking as a transportation option. The following section presents program recommendations intended to support walking in the City.

## 6.1. Encouragement

Everyone from young children to elderly residents can be encouraged to increase their rates of walking or to try walking instead of an alternative travel mode. Currently, San Mateo residents benefit from encouragement programs administered or funded by numerous organizations, including the Peninsula Traffic Congestion Relief Alliance (Alliance), City/County Association of Governments (C/CAG), San Mateo County Transportation Authority (SMCTA), Metropolitan Transportation Commission, the Bay Area Air Quality Management District, the California Office of Traffic and Safety, the County of San Mateo, and the City of San Mateo. The new and expanded encouragement programs should build on the successes of these programs and promote the role of walking in contributing positively to community life in San Mateo. The following additional programs are each designed to increase rates of walking in the City, increase safety for residents traveling by foot, and raise awareness of the benefits of walking.

*Walk Score* is a relatively new online tool that measures the “walkability” of an area. Walkscore approximates the frequency of amenities that are within walking distance within an examined region. Table 6-1 shows San Mateo’s Walkscore compared to its neighboring municipalities.<sup>37</sup>

As Table 6-1 shows, San Mateo’s walkscore is very high compared to other Bay Area cities. This is indicative a very high concentration of amenities and destinations that are highly accessible to pedestrians.

Table 6-1: Bay Area Walk Scores

City	Walk Score
Oakland	68
<b>San Mateo</b>	<b>67</b>
Burlingame	67
Mountain View	66
Palo Alto	63
Redwood City	62
Belmont	59
San Bruno	58
San Jose	55
San Carlos	52
Foster City	52

<sup>37</sup> 2011 Walk Score Rankings, [www.walkscore.com/CA](http://www.walkscore.com/CA) (accessed July 25, 2011).

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Physical inactivity costs California \$13.3 billion per year in medical care, workers' compensation and lost productivity. Employers shoulder most of the burden. If California's residents improved their physical activity and lose weight by 5 percent over the next 5 years, it will save more than \$1.3 billion per year.

*David Chenworth for the Cancer Section and Nutrition Section of the California Department of Health Services. 2005. "The Economic Costs of Physical Activity, Obesity and Overweight in California Adults During the Year 2000: A Technical Analysis." p. 27-29.*

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### **6.1.1. Local Transportation Demand Management**

The Peninsula Traffic Congestion Relief Alliance (Alliance) is the transportation demand management agency for San Mateo County. The Alliance is funded by the City/County Association of Governments, San Mateo County Transportation Authority, Metropolitan Transportation Commission and the Bay Area Air Quality Management District. The Alliance administers a range of programs that work to reduce the number of single-occupancy drivers and commuters, including a step-by-step guide to commute planning and as well as a pedestrian safety program ([www.commute.org](http://www.commute.org)).

#### **Recommendation**

The City of San Mateo should support the Alliance's pedestrian related programs.

### **6.1.2. Safe Routes to School Program**

A Safe Routes to School (SRTS) program can be an effective way to increase the number of students walking to and from local schools. SRTS programs generally try to increase rate of walking by funding infrastructure projects that remove the barriers that currently prevent students from doing so and adding encouragement and education programs to support these efforts. SRTS programs are usually run by a coalition of city government, school and school district officials, teachers, parents, students, and neighbors.

There are two separate Safe Routes to School grant programs administered by Caltrans: the State-legislated program referred to as SR2S and the federal program referred to as SRTS. The SRTS program includes grant funding for education and encouragement programs for kindergarten through eighth grade.

#### **Recommendation**

The City does not currently have a SRTS program and this Plan recommends the City work with the San Mateo – Foster City School District to institute a Safe Routes to School program.

### **6.1.3. Safe Routes to Transit Program**

Walking and transit are complementary modes that together can provide transportation for a significant number of commuters, students, shoppers, and other travelers. The purpose of a Safe Routes to Transit (SR2T) program would be to evaluate existing pedestrian conditions near Caltrain stations and bus and shuttle stops and to



recommend ways to improve the safety and convenience of walking to transit.

The program is funded by Regional Measure 2, and is administered by TransForm and the East Bay Bicycle Coalition. Four million will be available for the nine-county Bay Area region for programming in Cycle IV (2011) to facilitate walking and bicycling to regional transit.

#### **Recommendation**

The City does not currently have a SR2T program. This Plan recommends the City work with Caltrain, SamTrans and San Mateo County to institute a SR2T program.

### **6.1.4. International Walk to School Day**

International Walk to School Day was created to increase awareness of the need for communities to be walkable but has since evolved into a large-scale international event encouraging safe walking to school. The day is held annually and is next planned for October 5th, 2011 ([www.walktoschool.org](http://www.walktoschool.org)). In 2010, Beresford Elementary School participated in International Walk to School Day and created four walking bus routes to celebrate. In addition, Baywood Elementary School held an extravaganza with a D.J. and snacks for its student walkers on this day.

#### **Recommendation**

This Plan recommends the City work with the San Mateo – Foster City School District to expand International Walk to School Day events.

### **6.1.5. Streets Alive San Mateo County**

Streets Alive is a county-wide program to encourage people to be active on streets in their own communities. The goal of the program is to transform San Mateo County to make everyday active transportation easy for everyone. Streets Alive is made possible through the cooperative effort of each participating city's staff and volunteers including the City of San Mateo.

#### **Recommendation**

This Plan recommends the City of San Mateo continue to participate in the Streets Alive San Mateo County program.

### **6.1.6. Walkable Community Events**

With its transit access and compact street network, Downtown San Mateo is an opportune site to host community walking events. One local example of a community walking event is the San Mateo Wine



*Streets Alive San Mateo County is an annual event promoting healthy outdoor activity*  
Source: [www.streetsalivesmc.org](http://www.streetsalivesmc.org)

Walk, which the Downtown San Mateo Association, a non-profit organization representing more than 800 businesses in Downtown San Mateo, hosted from 1984 to 2009.

***Recommendation***

This Plan recommends the City work with the Downtown San Mateo Association to reinstate the San Mateo Wine Walk or a similarly walkable event in Downtown.

**6.1.7. Walk Friendly Community Designation**

Walk Friendly Communities (WFC) is a national recognition program developed to encourage towns and cities across the U.S. to establish or recommit to a high priority for supporting safer walking environments. The WFC program recognizes communities that have shown a commitment to improving walkability and pedestrian safety, mobility, access and comfort through comprehensive programs, plans and policies. Communities can apply to the program to receive recognition in the form of a Bronze, Silver, Gold, or Platinum designation. There is no cost to apply for a WFC designation although it is estimated to take approximately 20–60 hours of time to complete an application. Further information is available at [www.walkfriendly.org](http://www.walkfriendly.org). Questions about the program can be directed to [info@walkfriendly.org](mailto:info@walkfriendly.org). The WFC program is maintained by the University of North Carolina Highway Safety Research Center's Pedestrian and Bicycling Information Center, with support from a number of national partners.

***Recommendation***

This Plan recommends the City pursue a Walk Friendly Community designation.

**6.1.8. Encouraging Seniors Program**

It is anticipated that by 2017, over 35 percent of San Mateo's population will be age 50 or over. Seniors have a clear need for safe pedestrian environments that are designed with consideration of their rates of movement, sight, and reaction time. Opportunities exist to create programs for seniors that encourage them to start or increase their walking. An example of a successful program is *Sound Steps* operated by the Seattle Parks and Recreation Department. They created a volunteer-supported walking program for adults age 50 and up: [www.seattle.gov/parks/seniors/SoundSteps.htm](http://www.seattle.gov/parks/seniors/SoundSteps.htm). It is a free, year-round community-based walking program designed to get older adults active and provides connections to other walkers, tools to measure progress, a number of weekly walks from various locations, monthly hikes, and training for longer walking events.

Another example is City of Sacramento Parks and Recreation Department 50+ Wellness Program ([www.cityofsacramento.org/parksandrecreation/ohs/50+.htm](http://www.cityofsacramento.org/parksandrecreation/ohs/50+.htm)) that encourages walking for health. It includes the Neighborhood Walk program which organizes walking groups in locations where the participants live, removing the need for transportation to and from the activity and strengthening community. The concept of walking in a group also encourages older residents who might otherwise not walk either because of safety concerns or lack of motivation.

Another way to address the needs of seniors is to start a Safe Routes for Seniors program. Seniors often experience limitations in mobility as they age, and are often left out of recreation programs. A Senior Strolls program will help seniors maintain physical fitness, improve health, and enjoy opportunities for social interaction. Senior Strolls can be organized as a walking and bicycling program that may include any of the following components:

- Group walks and/or bicycle rides
- Walk/bike maps at senior centers
- Senior participation in Safe Routes to Schools (e.g. crossing guard or Walking School Bus volunteer)
- Targeted infrastructure investments aimed at solving senior mobility problems
- Policy and traffic operations changes to assist seniors (such as LPI (leading pedestrian interval) and increasing walk cycle time)
- Sample Programs:
- City of Seattle Sound Steps Program:  
<http://www.seattle.gov/parks/seniors/soundsteps.htm>
- City of Sacramento Parks and Recreation Department 50+ Wellness Program:  
[www.cityofsacramento.org/parksandrecreation/ohs/50+.htm](http://www.cityofsacramento.org/parksandrecreation/ohs/50+.htm)
- New York City DOT Safe Streets for Seniors Program:  
[www.nyc.gov/html/dot/html/sidewalks/safeseniors.shtml](http://www.nyc.gov/html/dot/html/sidewalks/safeseniors.shtml)

### **Recommendation**

This Plan recommends the City develop an Encouraging Seniors Program.

### **6.1.9. Pedestrian Advisory Committee**

The City does not currently have a Pedestrian Advisory Committee. Such committees are typically composed of community members that advise the local government on pedestrian issues on an ongoing basis.

### **Recommendation**

The City should consider forming a Pedestrian Advisory Committee as need arises. The committee would be made up of local residents representing a range of pedestrian interests and experiences and could meet monthly at a public facility.

The charges of the PAC may include some or all of the following:

- Review and provide citizen input on capital project planning and design as it affects walking (e.g., corridor plans, street improvement projects, signing or signal projects, and parking facilities)
- Review and comment on changes to zoning, development code, comprehensive plans, and other long-term planning and policy documents
- Participate in the development, implementation, and evaluation of Citywide Pedestrian Master Plan and pedestrian facility standards
- Provide a formal liaison between local government, staff, and the public
- Develop and monitor goals and benchmarks related to walking
- Promote walking, including safety and education

Because PAC members are volunteers, it is essential to have strong staffing supporting the committee in order for it to be successful.

The committee should be created through an enacting City Council resolution that calls it into being and defines the committee's charge, responsibilities, member composition, how members are chosen/appointed, what the decision making structure is, and how often the committee meets.

### **6.1.10. Volunteer Source**

Volunteers play a key role in the successful operation and maintenance of pedestrian facilities and can get involved in several ways. Formalized maintenance agreements, such as adopt-a-trail programs, between the City and local businesses or organizations can improve the conditions of local facilities. Work parties may be formed to help clear the right-of-way where needed. Local schools or community groups, such as a scout group, may choose to adopt a facility project. Advantages of utilizing volunteers include increased community pride and personal connections to the City's pedestrian networks. The City's Volunteer Source program connects residents with opportunities to improve San Mateo.



**Recommendation**

The City should continue its Volunteer Source Program and consider using it to organize volunteers for light sidewalk and trail maintenance, such as garbage collection, pruning; conducting annual pedestrian counts; and identifying larger improvement opportunities.

**6.1.11. Pedestrian Coordinator**

A pedestrian coordinator works with local elected officials, public officials, business leaders, media, law enforcement, health officials, transit providers and the general public to build partnerships providing leadership and vision so these groups may embrace and implement facilities and programs that increase the number of residents safely bicycling and walking. The pedestrian coordinator can provide clarity of vision and a clear plan for how to proceed in the community. They can also assist with the encouragement aspects of the pedestrian program. Many new programs may require community outreach or coordination with existing agencies or businesses and may benefit from having a full- or part-time staff person dedicated to implementing the community vision.

**Recommendation**

This Plan recommends the City designate a Pedestrian Coordinator position.

**6.1.12. Positive Publicity and Media**

Local media have a high level of interest in stories related to public welfare, community successes and pedestrian safety. There are many opportunities for local agencies to gain publicity for pedestrian-related programs and safety issues. Developing and maintaining relationships with local media outlets can assist with publicizing pedestrian encouragement and safety programs. The media can be alerted to pedestrian-related efforts through press releases and invitations to staged publicity-related events. Positive stories such as ribbon cuttings or community walking events can encourage residents to participate as well as increase awareness and support for on-going efforts. Such local outlets as the San Mateo Patch can actively report on what is happening in the community (<http://sanmateo.patch.com/>).

**Recommendation**

This Plan recommends the City pursue publicity for pedestrian encouragement and safety programs.



## 6.2. Education

Education programs are important for teaching safety rules and laws as well as increasing awareness regarding walking opportunities and existing facilities. Education programs may need to be designed to reach groups at varying levels of knowledge and there may be many different audiences: pre-school age children, elementary school students, teenage and college students, workers and commuters, families, retirees, the elderly, new immigrants and non-English speakers. Education plays a key role for all these groups in reducing risk and the number of crashes involving pedestrians.

### 6.2.1. Traffic Safety Campaign

On a citywide scale, the City could start a StreetSmarts media campaign, similar to those in San Jose, Marin County, Davis and other California cities. Developed by the City of San Jose, StreetSmarts uses print media, radio spots and television spots to educate people about safe driving, bicycling, skateboarding, and walking behavior. More information about StreetSmarts can be found at [www.getstreetsmarts.org](http://www.getstreetsmarts.org).

Local resources for conducting a StreetsSmarts campaign can be maximized by assembling a group of local experts, law enforcement officers, businesspeople, civic leaders and dedicated community volunteers. These allies could assist with a successful safety campaign goals based on the local concerns and issues. It may be necessary to develop creative strategies for successful media placement in order to achieve campaign goals.

The Federal Highway Administration provides a resource on their website detailing the elements required to conduct a successful local safety campaign.

([http://safety.fhwa.dot.gov/local\\_rural/pedcampaign/guide.htm#2](http://safety.fhwa.dot.gov/local_rural/pedcampaign/guide.htm#2)).

#### **Recommendation**

This Plan recommends the City consider implementation of a traffic safety program such as StreetsSmarts.

### 6.2.2. Pedestrian Safety Workshops

San Mateo's top ten employers employ more than 11,000 people. These employees constitute a large number of potential pedestrians. The Peninsula Traffic Congestion Relief Alliance (Alliance) offers employers free one-hour pedestrian safety workshops at their business. The workshop includes information encouraging walking as a safe, stress-relieving commute mode, as well as instruction about traffic

laws for pedestrians and other road users. Additional information including how to request a workshop is available at [www.commute.org](http://www.commute.org).

### **Recommendation**

This Plan recommends the City work the Alliance to host pedestrian safety workshops at City Hall and encourage additional workshops in San Mateo.

### **6.2.3. Pedestrian Resource Website**

A valuable local low-cost tool can be the creation of a Pedestrian Resource Center website. The site can include a variety of resources and information about walking for all ages and levels of expertise. Topics can include safety issues, important laws and policies, how to incorporate walking into trips to work or school, places to walk, special events, as well as walking trail maps. Maps are a tremendously useful resource for people who want to give walking a try.

With the increasing popularity of handheld mobile devices such as smart phones, the opportunity to create a multimodal trip planner could make it simpler to provide walking directions. Such tools as Google maps allow local pedestrian trip planning and provide detailed information through *Streetview*

(<http://maps.google.com/help/maps/streetview/>).

There are a number of free web resources that have been developed to support local agencies in their efforts to increase walking in their communities and may be considered as links on a resource website. These sites provide on-going information about new findings and model programs as well as free webinars on a range of issues:

- Pedestrian and Bicycling Information Center  
[www.walkinginfo.org](http://www.walkinginfo.org)
- Safe Routes National Partnership  
[www.saferoutespartnership.org](http://www.saferoutespartnership.org)
- Federal Highway Pedestrian & Bicycle Safety  
[http://safety.fhwa.dot.gov/ped\\_bike](http://safety.fhwa.dot.gov/ped_bike)
- Association of Pedestrian and Bicycling Professionals  
[www.apbp.org](http://www.apbp.org)
- American Public Health Association [www.apha.org](http://www.apha.org)

### **Recommendation**

This Plan recommends the City create a Pedestrian Resource Center website.

#### **6.2.4. Diversion Class**

Diversion classes are classes offered to first-time offenders of certain traffic violations, such as running a stoplight. The classes can be aimed at pedestrians, bicyclists, and/or motorists. In lieu of a citation and/or fine, individuals can take a one-time, free or inexpensive class. For example, in Marin County

([www.marinbike.org/Campaigns/ShareTheRoad/Index.shtml#StreetS](http://www.marinbike.org/Campaigns/ShareTheRoad/Index.shtml#StreetS) kills), interested citizens can take the class even if they did not receive a ticket.

This program is a good way to educate road users about rights and responsibilities, and can also increase public acceptance of enforcement actions against pedestrians.

##### ***Recommendation***

This Plan recommends the City consider offering diversion classes for first-time offenders of minor traffic violations.

#### **6.2.5. City Walking Map**

City Walking Maps can help to make pedestrians more aware of existing opportunities and facilities for walking within the City of San Mateo.

##### ***Recommendation***

The Plan recommends the City provide a walking map that includes major destinations, trails, major hills, and approximate walking times between locations. The map could be made available on the City website and offered for sale in local retail stores.

### **6.3. Enforcement**

Enforcement programs enforce legal and respectful use of the transportation network. The pedestrian safety analysis and community identified needs indicate enforcement programs will help educate both motorists and pedestrians about the rules and responsibilities of the road.

The following outlines recommended enforcement programs.

#### **6.3.1. Traffic Enforcement**

The City of San Mateo Police Department is responsible for enforcing the California Vehicle Code. This includes ticketing for red light violations, jaywalking, and other activities that potentially impact pedestrian safety. In addition to vehicular patrols, the Police Department deploys up to two bicycle patrol officers in the Downtown

area on an as needed basis which increase the officer mobility in dense areas.

**Recommendation**

This Plan recommends the City continue its traffic enforcement programs.

**6.3.2. Targeted Police Enforcement**

Targeted enforcement consists of focused efforts of police officers to enforce traffic laws in specific locations with a history of traffic violations. Enforcement campaigns designed to increase yielding behavior can produce a marked and sustained improvements in driver behavior depending on the length of the campaign.

Partnering with the Police Department on targeting drivers that fail to yield to pedestrians can help to raise awareness of the law.

**Recommendation**

This Plan recommends that the City coordinate with the Police Department to conduct targeted enforcement at locations known for noncompliance with traffic laws and at high conflict or high pedestrian collision areas.

**6.3.3. Speed Feedback Signs**

Higher speed traffic discourages walking, making pedestrians feel uncomfortable. At higher speeds, motorists are less likely to see and react to a pedestrian, and even less likely to actually stop in time to avoid a crash. Higher speed crashes are also much more lethal to pedestrians. Speed feedback signs display the speed of passing motor vehicles, with the intent that motorists will slow down if they are made aware of their speed.

**Recommendation**

This Plan recommends the Police Department and Public Works continue to operate mobile speed feedback signs.

**6.3.4. Parking Enforcement**

It is illegal to block the sidewalk or crosswalks with a motor vehicle. Vehicles parked on sidewalks or crosswalks impede pedestrian travel, particularly those who use wheelchairs and strollers, and force pedestrians to travel in the street to pass. In San Mateo, parking on the sidewalks is a particular issue because of rolled curbs in many areas which enable drivers to easily mount the curb.

### **Recommendation**

This Plan recommends the City increase its parking enforcement efforts. On a neighborhood level, distributing flyers letting offenders know that this practice is illegal may be enough of an education effort to solve the problem. In addition, residents can be encouraged to call local parking enforcement officials to request ticketing of repeat offenders.

## **6.4. Evaluation**

Evaluation programs help the City measure how well it is meeting the goals of this Plan, the General Plan and the Sustainable Initiatives Plan and evaluation is a key component of any engineering or programmatic investment. It is also a useful way to communicate success with elected officials as well as local residents.

### **6.4.1.1 Annual Pedestrian Counts and Survey Program**

Evaluation programs measure and evaluate the impact of projects, policies, and programs. Data collected through these efforts can serve as a baseline each year and would be a key part of an annual performance report. Typical evaluation programs range from a simple year over year comparison of US Census Journey to Work data to pedestrian counts and community surveys. Pedestrian counts and community surveys act as methods to evaluate not only the impacts of specific pedestrian improvement projects but can also function as way to measure progress towards City goals such as increased pedestrian travel for trips one mile or less.

### **Recommendation**

This Plan recommends an annual pedestrian related community survey and an annual pedestrian count program.

The community survey will allow San Mateo to be on the pulse of its pedestrian environment, knowing the top concerns as generated by community input. Before/after pedestrian counts provide invaluable evaluation information about pedestrian activity corresponding with physical improvements to the pedestrian environment. This data can show to what extent, physical improvements impact pedestrian behavior. Table 6-2 and Figure 6-1 present the recommended count locations. Count locations are presented in two tiers. Tier 1 count locations are high priority locations and are near attractor land uses such as schools, commercial areas, and transit. Tier 2 locations are recommended as volunteers are available.



*The New York City Mayor's Management Report tracks implementation of pedestrian improvements, collision data, and performance statistics.*



Goals outlined in the Sustainable Initiative Plan include increasing pedestrian and bicycle mode share for trips under one mile and five miles in length, respectively. The pedestrian and bicycle surveys conducted as part of this Plan and the Bicycle Master Plan can serve as benchmarks for measuring pedestrian and bicycle activity. The pedestrian and bicycle survey recommended as part of this Plan would help measure progress toward this goal as additional facility improvements and programs are carried out.

The City may also produce an annual report or 'report card' on walking. Annual reports developed from count and survey efforts can help the City measure its success toward the goals of this Plan as well rate the overall quality or effectiveness of the ongoing efforts to increase walking in the City. In addition to pedestrian counts, the City could include measurements such as crash rates (both on- and off-road), fatality and injury rates, and school walking mode share.

Table 6-2: Recommended Annual Pedestrian Count Locations

ID	Location	Rationale
<b>Tier 1</b>		
	17 <sup>th</sup> Avenue at El Camino Real	This location is an important connector to retail, offices and the Hayward Park Caltrain Station.
	25 <sup>th</sup> Avenue at El Camino Real	This corridor is a neighborhood serving retail district, and is a connector to the Event Center and Bay Meadows.
	31 <sup>st</sup> Avenue at El Camino Real	This location is an important connector to regional retail and transit.
	37 <sup>th</sup> Avenue at Edison Street	This location is an important connector to transit and the County Medical Center.
	3 <sup>rd</sup> Avenue at Delaware Street	This location serves as an important gateway to Downtown.
	3 <sup>rd</sup> Avenue at El Camino Real	This location serves as an important gateway to Downtown.
	3 <sup>rd</sup> Avenue at Norfolk Street	This location is a well-traveled crossing over US 101. It connects eastern San Mateo with Downtown and has been identified as a potential area for improvement.
	4 <sup>th</sup> Avenue at El Camino Real	This location serves as an important gateway to Downtown.
	9 <sup>th</sup> Avenue at Palm Avenue	This location serves as an important gateway to Downtown.
	Alameda De Las Pulgas at West Hillsdale Boulevard	This intersection is adjacent to Hillsdale High School, Abbott Middle School and Laurel Elementary.
	Concar Drive at Delaware Street	This location is a connector to Caltrain and planned transit-oriented development.
	Franklin Parkway at Saratoga Drive	This location will serve as an important connection to the planned Hillsdale Overcrossing.

ID	Location	Rationale
	Hillsdale Boulevard at El Camino Real	This location provides access to both the Hillsdale Shopping Center and to the Hillsdale Caltrain Station.
	Hillsdale Boulevard at Norfolk Street	This location is an important north-south connector and will serve as a connector to the planned Hillsdale Overcrossing.
	Kehoe Avenue at Van Buren Street	This is a connector to Bayside Middle School and the proposed Bay to Transit Trail.
	Monte Diablo Avenue US 101 Bicycle and Pedestrian Bridge	This is an important pedestrian and bicycle connection over US 101.
	Poplar Avenue at San Mateo Drive	This is an important connection between the residential areas to the west and commercial activities to the east.
	Portola Drive at Alameda de las Pulgas	This is a connector to Beresford Park and Recreation Center and the San Mateo Senior Center.
	Saratoga Avenue at Pacific Boulevard	This location will serve the Bay Meadows 2 development project.
	Tilton Avenue at San Mateo Drive	This location serves as an important gateway to Downtown.
<b>Tier 2</b>		
	25 <sup>th</sup> Avenue at Hacienda Street	This corridor is a neighborhood serving retail district, and is a connector to the Event Center and Bay Meadows.
	37 <sup>th</sup> Avenue at El Camino Real	This corridor is a neighborhood serving retail district and is a connector to the County Medical Center.
	37 <sup>th</sup> Avenue at Colegrove Street	This corridor is a neighborhood serving retail district and is a connector to the County Medical Center.
	41st Avenue at El Camino Real and Beresford Street	This corridor is a neighborhood serving retail district.
	4 <sup>th</sup> Avenue at Humboldt Street	This location serves as an important gateway to Downtown.
	Downtown San Mateo Caltrain Station	This location was a part of the Bicycle Master Plan counts (which also counted pedestrian activity).
	Fashion Island Boulevard at Mariners Isl and Boulevard	This location is a key area of high density residential, commercial uses and retail.
	Hayward Park Caltrain Station	This location was a part of the Bicycle Master Plan counts (which also counted pedestrian activity).
	Hillsdale Caltrain Station	This location was a part of the Bicycle Master Plan counts (which also counted pedestrian activity).
	Laurie Meadows Drive at Pacific Boulevard	This location is an important connection from residential to retail.

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## 7. Implementation

This Citywide Pedestrian Master Plan recommends projects and programs that will improve the pedestrian environment and help the City reach its sustainability goals; however, implementation of the projects and programs will take a significant amount of time and funding to implement. This Chapter lays out the strategy for implementing the Citywide Pedestrian Master Plan projects and programs and is divided into the following sections:

- **Project evaluation strategy** is intended to measure how well a project meets this Plan's goals and policies.
- **Cost estimates** presents unit costs, costs by project type and costs by implementation tier.
- **Priority projects** presents the projects intended for near-term implementation.
- **Priority programmatic recommendations** presents priority improvements that cannot be evaluated using the same strategy as engineering projects.
- **Project list** presents each project, its tier, evaluation score and cost estimate.

### 7.1. Project Evaluation Strategy

The intent of an evaluation strategy is to identify achievable, priority projects for near-term implementation as well as projects for mid- and longer-term implementation. In order to do so, evaluation criteria were developed to measure how strongly a project meets this Plan's goals and policies as well how well it adheres to best practices.

The criteria are intended to give weight to those projects that best support the Plan's goals and will therefore receive higher priority.

Table 7-1 describes the evaluation criteria, which include:

- **Greenway Pedestrian Corridor Network:** Is the project on the greenway network?
- **Community identified challenge:** Is the project in a community identified challenge area?
- **Collision history:** Is the project in an area with a high number of pedestrian related collisions?
- **Access to community activity centers:** Does the project improve access to community activity centers?
- **Access to schools and senior facilities:** Does the project improve access to schools and senior facilities?



- **Roadway type:** Does the project improve conditions on larger volume and speed roadways?
- **Low income areas:** Is the project in a low income area and address equity issues?

Each criterion has a maximum score of ten with the exception of collisions, which has a maximum score of 20. Based on the nature of the criterion, the projects are scored:

- Score / No Score
- Full Score / Half Score / Zero Score
- Scaled range from zero to ten

For example, projects evaluated for community-identified challenge area received either no score or a score. The project is either in a community identified area or it is not. By contrast, collision history was scored on a range from zero to twenty, depending on the number of pedestrian related collisions. The maximum potential score for each project is the sum of the maximum potential scores of all project criteria (80).

Table 7-6 at the end of this Chapter presents each project scored by the above criteria.

Table 7-1: Project Evaluation Criteria and Scores

Evaluation Criteria	Description	Maximum Score
Greenway Pedestrian Corridor Network	Projects on the Greenway Pedestrian Corridor Network receive higher scores. Projects are scored with either a zero or ten.	10
Community Identified Challenge	Projects in a community identified challenge area receive higher scores. Projects are scored with either a zero or ten.	10
Collision History	Projects with high incidents of pedestrian related collisions within an eighth mile buffer of the proposed improvement. Projects are scored on a scaled ranking from zero to ten based on number of collisions. Projects with the highest number of collisions are scored with a ten.	20
Access to Community Centers	Improvements at community centers receive higher scores. Projects are scored with either a zero or ten. Community centers include the following: <ul style="list-style-type: none"> <li>• Martin Luther King, Jr. Recreational Center</li> <li>• Main Library</li> <li>• Hillsdale Library</li> <li>• Marina Library</li> <li>• Sugarloaf Mountain</li> <li>• Coyote Point Recreation Area</li> <li>• Central Park and Recreation Center</li> <li>• Shoreline Park</li> <li>• Beresford Recreation Center and Park</li> <li>• Bay Meadows Community Park</li> <li>• County Event Center</li> <li>• Downtown San Mateo</li> <li>• Hillsdale Shopping Center</li> <li>• Bridgepointe Shopping Center</li> <li>• Caltrain Stations: Downtown, Hillsdale and Hayward Park</li> <li>• Retail districts along 25<sup>th</sup>, 37<sup>th</sup>, 41<sup>st</sup>, and 42<sup>nd</sup> Avenues as well as at Norfolk Street and Hillsdale Boulevard</li> </ul>	10
School and Senior Facility Connections	Projects at schools and senior centers and living facilities receive higher scores. Projects are scored with either a zero or ten.	10
Roadway Type	Projects on arterial and collector roadways receive higher scores. <ul style="list-style-type: none"> <li>• Projects on arterial roadways receive 10 points.</li> <li>• Projects on collector roadways receive 5 points.</li> <li>• Projects on local roadways receive zero points.</li> </ul>	10
Federally Designated Low Income Areas	Projects in Federally designated low income areas receive higher scores. Projects are scored with either a zero or ten.	10
<b>Maximum Score</b>		<b>80</b>

## 7.2. Cost Estimates

### 7.2.1. Unit Cost Assumptions

Table 7-2 presents the planning level cost assumptions used to determine project cost estimates. Unit costs are typical or average costs experienced by California cities. While they reflect typical costs, unit costs do not consider project-specific factors such as intensive grading, landscaping, right-of-way acquisition or other location-specific factors that may increase actual costs. For some segments, project costs may be significantly greater. Table 7-6 presents a cost estimate for each project.

Table 7-2: Unit Cost Assumptions

Item	Unit Cost	Unit
Advance stop bar	\$200	EA
Advance yield line	\$300	EA
Curb extension	\$25,000	EA
Curb extension with advance stop bar	\$25,200	EA
Curb ramp	\$4,000	EA
Fence (6')	\$55	LF
High visibility crosswalk	\$1,200	EA
In-pavement flashers	\$75,000	EA
Landscaping	\$20	SF
Maintenance (resurfacing)	\$200,000	MI
Metal railing	\$100	LF
Midblock crossing	\$2,400.00	EA
Parklet	\$6,000	EA
Path (Caltrans Class I - 10' paved, 2' shoulders)	\$642,720	MI
Pavement marking	\$3.5	LF
Pavement striping	\$2	LF
Pedestrian hybrid beacon	\$50,000	EA
Pedestrian refuge island	\$30,000	EA
Pedestrian scale lighting	\$2,178,000	MI
Rectangular rapid flash beacon	\$15,000	EA
Sidewalk	\$540,000	MI
Signal head, countdown	\$800	EA
Signal treatments, advance pedestrian phase	\$1,000	EA
Signs	\$300	EA
Soft surface path	\$460,000	MI
Standard crosswalk	\$1,000	EA
'Stop Ahead' pavement marking	\$800	EA
Traffic signal	\$250,000	EA

### 7.2.2. Cost Estimates by Project Type

Table 7-3 presents the total estimated costs for this Plan's projects by improvement type.

The total cost estimate for all projects presented in this Plan is approximately \$104 million. A significant amount of this cost estimate is due to the Pedestrian Scaled Lighting projects, which are nearly \$104 million. The recommended total project cost without the lighting is approximately \$8.4 million.

Table 7-3: Cost Estimate Summary by Facility Type

Improvement	Quantity	Cost Estimate
Advance stop bars	7	\$3,600
Advance yield lines	4	\$2,400
Bike lane	3	\$1,800
Class I path	8	\$2,302,800
Crossing beacon	7	\$240,000
Crosswalk, high-visibility	115	\$370,800
Crosswalk, school zone	14	\$37,200
Crosswalk, standard	8	\$15,000
Curb extension	14	\$1,100,000
Curb extension with stop bar	16	\$1,209,600
Directional curb ramp	9	\$116,000
In-pavement flashers	3	\$150,600
Landscaping	3	\$650,000
Leading pedestrian interval	4	\$14,000
Left turn pocket	1	\$15,000
Median	2	\$90,000
Midblock crossing	6	\$16,800
Midblock crossing with in-pavement flashers	1	\$154,800
Neighborhood mini park	1	\$155,000
Parklet	3	\$2,600
Path	3	\$330,700
Pedestrian countdown signals	1	\$8,000
Pedestrian refuge	6	\$345,000
Pedestrian scale lighting	65	\$95,514,500
Planting strip	2	\$12,000
Railing	1	\$8,000
Sidewalk Installation	9	\$748,200
Signage	8	\$7,700
Signal timing	48	\$202,000
Striping	3	\$14,900
Study	1	\$15,000
Tighten curb radii	1	\$50,000
<b>Total</b>		<b>\$103,904,000</b>
<b>Total without Pedestrian Scale Lighting</b>		<b>\$8,389,500</b>

### 7.3. Priority Projects

Based on overall project score and City implementation capacity, projects that had an overall score of 46 or greater are considered priority projects. These projects are intended for near-term implementation within 1-5 years.

The priority projects are summarized in **Table 7-4** and presented in detail in **Table 7-5**. These projects are the highest scoring projects. As discussed earlier, a set of evaluation criteria was developed to measure how strongly a project meets this Plan's goals including access to schools, senior facilities, transit, and community centers. In addition to those projects, many of the recommended studies and programs were also identified as priority (presented in Section 7.4).

A number of the priority projects are pedestrian scaled lighting along long corridors and are estimated to cost \$56.9 million. These projects may be part of corridor improvements and may be considered for longer-term implementation. The cost estimate sum excluding these pedestrian scale lighting projects is approximately \$1,406,300.

Table 7-4: Priority Improvements by Type Summary

Improvement Type	No. of Improvements	Cost Estimate
Advance stop bars	2	\$1,000
Crosswalk, high-visibility	34	\$142,800
Crosswalk, school zone	2	\$9,600
Curb extension	4	\$250,000
Curb extension with stop bar	4	\$226,800
Directional curb ramp	1	\$4,000
In-pavement flashers	2	\$150,000
Leading pedestrian interval	4	\$14,000
Midblock crossing	2	\$4,800
Midblock crossing with in-pavement flashers	1	\$154,800
Pedestrian countdown signals	1	\$8,000
Pedestrian refuge	3	\$270,000
Pedestrian scale lighting	23	\$55,459,600
Planting strip	1	\$6,000
Sidewalk installation	2	\$77,300
Signage	1	\$300
Signal timing	15	\$72,000
Striping	3	\$14,900
<b>Total</b>		<b>\$56,865,900</b>
<b>Total without Pedestrian Scale Lighting</b>		<b>\$1,406,300</b>



Table 7-5: Priority Projects

Location	Improvement	Limits	Quantity	Unit	Cost Estimate
<b>1st Ave</b>					
1st Ave	Pedestrian Scale Lighting	B St to Delaware St	0.17	Miles	\$369,900
<b>1st Ave &amp; Delaware St</b>					
1st Ave & Delaware St	Curb Extension with Stop Bar		4		\$100,800
<b>1st Ave Between B St &amp; Claremont St</b>					
1st Ave Between B St & Claremont St	Midblock Crossing		1		\$2,400
<b>20th Ave</b>					
20th Ave	Pedestrian Scale Lighting	Alameda de las Pulgas to Palm Ave	0.74	Miles	\$1,601,800
<b>25th Ave</b>					
25th Ave	Pedestrian Scale Lighting	El Camino Real to Delaware St	0.15	Miles	\$323,600
25th Ave	Pedestrian Scale Lighting	Hacienda St to El Camino Real	0.22	Miles	\$478,300
<b>2nd Ave</b>					
2nd Ave	Pedestrian Scale Lighting	El Camino Real to Delaware St	0.43	Miles	\$942,700
<b>2nd Ave &amp; El Camino Real</b>					
2nd Ave & El Camino Real	Signal Timing		4		\$4,000
<b>2nd Ave &amp; Ellsworth Ave</b>					
2nd Ave & Ellsworth Ave	Signal Timing		4		\$4,000
<b>37th Ave</b>					
37th Ave	Pedestrian Scale Lighting	Hacienda St to El Camino Real	0.50	Miles	\$1,098,700
<b>3rd Ave &amp; B St</b>					
3rd Ave & B St	Curb Extension		2		\$50,000
<b>3rd Ave &amp; Delaware St</b>					
3rd Ave & Delaware St	Curb Extension with Stop Bar		1		\$25,200
<b>3rd Ave</b>					
3rd Avenue	Pedestrian Scale Lighting	Humboldt St to J Hart Clinton Dr	0.93	Miles	\$2,025,800
<b>3rd Avenue at Norfolk Street</b>					
3rd Avenue at Norfolk Street	Crosswalk: School Zone		4		\$4,800
3rd Avenue at S. Norfolk Street	Advance stop bars		4		\$800
3rd Avenue at S. Norfolk Street	Crosswalk: High-Visibility		4		\$4,800
3rd Avenue at S. Norfolk Street	Pedestrian Countdown Signals		10		\$8,000
3rd Avenue at S. Norfolk Street	Signage		1		\$300
3rd Avenue at S. Norfolk Street	Signal Timing		2		\$20,000
<b>41st Ave &amp; El Camino Real</b>					
41st Ave & El Camino Real	Signal Timing		4		\$4,000
<b>44 4th Ave</b>					
44 4th Ave	Crosswalk: High-Visibility		1		\$1,200
<b>4th Ave</b>					
4th Ave	Pedestrian Scale Lighting	El Camino Real to Hwy 101	0.86	Miles	\$1,874,300
<b>4th Ave &amp; San Mateo Dr</b>					
4th Ave & San Mateo Dr	Signal Timing		4		\$4,000
<b>4th Ave At Caltrain Tracks</b>					
4th Ave At Caltrain Tracks	In-pavement flashers		1		\$75,000
<b>4th Ave At El Camino Real</b>					
4th Ave At El Camino Real	Curb Extension		4		\$100,000

Location	Improvement	Limits	Quantity	Unit	Cost Estimate
<b>5th Ave</b>					
5th Ave	Pedestrian Scale Lighting	El Camino Real to Delaware St	0.43	Miles	\$938,800
<b>5th Ave &amp; B St</b>					
5th Ave & B St	Signal Timing		4		\$4,000
<b>5th Ave &amp; San Mateo Dr</b>					
5th Ave & San Mateo Dr	Signal Timing		4		\$4,000
<b>6th Ave Laurel Ave</b>					
6th Ave Laurel Ave	Crosswalk: High-Visibility		2		\$2,400
<b>9th Ave</b>					
9th Ave	Pedestrian Scale Lighting	El Camino Real to B St	0.26	Miles	\$567,500
<b>9th Ave &amp; El Camino Real</b>					
9th Ave & El Camino Real	Crosswalk: High-Visibility		3		\$3,600
<b>Alameda De Las Pulgas</b>					
Alameda De Las Pulgas	Pedestrian Scale Lighting	Crystal Springs Rd to S of La Casa Ave	3.03	Miles	\$6,592,100
<b>Alameda De Las Pulgas Road Diet</b>					
Alameda De Las Pulgas	Striping	Crystal Springs to Barneson	1		\$14,700
Alameda De Las Pulgas	Sidewalk Installation	Crystal Springs to Barneson	1		\$5,100
<b>B St &amp; 2nd Ave</b>					
B St & 2nd Ave	Crosswalk: High-Visibility		4		\$4,800
<b>B St &amp; 3rd Ave</b>					
B St At 3rd Ave	Curb Extension		2		\$50,000
B St At 3rd Ave	Leading pedestrian interval		2		\$2,000
B St At 3rd Ave	Midblock Crossing with In-Pavement Flashers		2		\$154,800
B St & 3rd Ave	Crosswalk: High-Visibility		4		\$4,800
<b>B St &amp; 4th Ave</b>					
B St & 4th Ave	Crosswalk: High-Visibility		4		\$4,800
<b>B St &amp; 5th Ave</b>					
B St & 5th Ave	Crosswalk: High-Visibility		4		\$4,800
<b>B St At 4th Ave</b>					
B St At 4th Ave	Leading pedestrian interval		4		\$4,000
<b>B St Between 2nd &amp; 3rd Ave</b>					
B St Between 2nd & 3rd Ave	Midblock Crossing		1		\$2,400
<b>B Street at Central Garage</b>					
B Street at Central Garage	In-pavement flashers		1		\$75,000
<b>Baldwin Ave</b>					
Baldwin Ave	Pedestrian Scale Lighting	El Camino Real to San Mateo Dr	0.24	Miles	\$528,200
<b>Baldwin Ave &amp; San Mateo Dr</b>					
Baldwin Ave & San Mateo Dr	Signal Timing		4		\$4,000
<b>Baywood Ave/De Sabla Rd/Baldwin Ave * &amp; El Camino</b>					
Baywood Ave/De Sabla Rd/Baldwin Ave * & El Camino	Signal Timing		4		\$4,000
<b>Claremont St &amp; 2nd Ave</b>					
Claremont St & 2nd Ave	Crosswalk: High-Visibility		4		\$4,800
<b>Claremont St &amp; 3rd Ave</b>					
Claremont St & 3rd Ave	Crosswalk: High-Visibility		4		\$4,800
<b>Claremont St &amp; 4th Ave</b>					
Claremont St & 4th Ave	Crosswalk: High-Visibility		4		\$4,800
<b>Crystal Springs Rd &amp; El Camino Real</b>					

Location	Improvement	Limits	Quantity	Unit	Cost Estimate
Crystal Springs Rd & El Camino Real	Signal Timing		3		\$3,000
<b>Delaware St</b>					
Delaware St	Pedestrian Scale Lighting	Peninsula Ave to 25th Ave	2.99	Miles	\$6,503,700
<b>Delaware St &amp; 2nd Ave</b>					
Delaware St & 2nd Ave	Crosswalk: High-Visibility		4		\$4,800
<b>Delaware St &amp; 3rd Ave</b>					
Delaware St & 3rd Ave	Crosswalk: High-Visibility		4		\$4,800
Delaware St & 3rd Ave	Leading pedestrian interval		4		\$4,000
Delaware St & 3rd Ave	Pedestrian Refuge		4		\$120,000
<b>Delaware St &amp; 4th Ave</b>					
Delaware St & 4th Ave	Crosswalk: High-Visibility		4		\$4,800
<b>Edison St &amp; Hillsdale Blvd</b>					
Edison St & Hillsdale Blvd	Crosswalk: High-Visibility		4		\$4,800
<b>El Camino Real</b>					
El Camino Real	Pedestrian Scale Lighting	Peninsula Ave to North Rd	4.42	Miles	\$9,632,000
<b>El Camino Real &amp; 2nd Ave</b>					
El Camino Real & 2nd Ave	Crosswalk: High-Visibility		3		\$3,600
El Camino Real & 2nd Ave	Curb Extension with Stop Bar		2		\$50,400
El Camino Real & 2nd Ave	Striping		1		\$100
El Camino Real & 2nd Ave	Advance stop bars		1		\$200
El Camino Real & 2nd Ave	Directional curb ramp		1		\$4,000
El Camino Real & 2nd Ave	Pedestrian Refuge		1		\$30,000
El Camino Real & 2nd Ave	Striping		1		\$100
<b>El Camino Real &amp; 41st Ave</b>					
El Camino Real & 41st Ave	Crosswalk: High-Visibility		2		\$2,400
<b>El Camino Real &amp; 4th Ave</b>					
El Camino Real & 4th Ave	Crosswalk: High-Visibility		4		\$4,800
El Camino Real & 4th Ave	Curb Extension		2		\$50,000
El Camino Real & 4th Ave	Signal Timing		4		\$4,000
<b>El Camino Real &amp; Baldwin Ave</b>					
El Camino Real & Baldwin Ave	Crosswalk: High-Visibility		4		\$4,800
El Camino Real & Baldwin Ave	Crosswalk: High-Visibility		4		\$4,800
El Camino Real & Baldwin Ave	Curb Extension with Stop Bar		2		\$50,400
<b>El Camino Real &amp; Crystal Springs Rd</b>					
El Camino Real & Crystal Springs Rd	Crosswalk: High-Visibility		2		\$2,400
<b>El Camino Real &amp; Hillsdale Blvd</b>					
El Camino Real & Hillsdale Blvd	Crosswalk: High-Visibility		6		\$7,200
<b>El Camino Real At 4th Ave</b>					
El Camino Real At 4th Ave	Leading pedestrian interval		4		\$4,000
El Camino Real At 4th Ave	Pedestrian Refuge		4		\$120,000
<b>El Camino Real At Baldwin Ave/Baywood Ave</b>					
El Camino Real At Baldwin Ave/Baywood Ave	Signal Timing		1		\$1,000
<b>Ellsworth Ave &amp; 2nd Ave</b>					
Ellsworth Ave & 2nd Ave	Crosswalk: High-Visibility		4		\$4,800
<b>Ellsworth Ave &amp; 3rd Ave</b>					
Ellsworth Ave & 3rd Ave	Crosswalk: High-Visibility		4		\$4,800
<b>Ellsworth Ave &amp; 4th Ave</b>					

Location	Improvement	Limits	Quantity	Unit	Cost Estimate
Ellsworth Ave & 4th Ave	Crosswalk: High-Visibility		4		\$4,800
<b>Ellsworth Ave &amp; 5th Ave</b>					
Ellsworth Ave & 5th Ave	Crosswalk: High-Visibility		2		\$2,400
<b>Hacienda St</b>					
Hacienda St	Pedestrian Scale Lighting	36th Ave to 37th Ave	0.09 Miles		\$187,100
Hacienda St	Sidewalk Installation	31st Ave to Louise Ln	0.13 Miles		\$72,200
<b>Hillsdale Blvd</b>					
<b>Hillsdale Blvd</b>					
Hillsdale Blvd	Pedestrian Scale Lighting	Alameda de las Pulgas to Hillsdale Blvd	1.14 Miles		\$2,487,100
<b>Humboldt St</b>					
Humboldt St	Pedestrian Scale Lighting	Peninsula Ave to 5th Ave	1.32 Miles		\$2,870,800
<b>J Hart Clinton Dr/ 3rd Ave &amp; Norfolk St</b>					
J Hart Clinton Dr/ 3rd Ave & Norfolk St	Signal Timing		4		\$4,000
J. Hart Clinton Drive at Norfolk Street	Crosswalk: High-Visibility		4		\$4,800
<b>Laurel Ave &amp; 5th Ave</b>					
Laurel Ave & 5th Ave	Crosswalk: High-Visibility		2		\$2,400
<b>Monte Diablo Ave</b>					
Monte Diablo Ave	Pedestrian Scale Lighting	El Camino Real to Bay Landing	1.30 Miles		\$2,827,800
<b>Norfolk St</b>					
Norfolk St	Pedestrian Scale Lighting	J Hart Clinton/3rd Ave to Hillsdale Blvd	2.37 Miles		\$5,152,100
Norfolk St	Pedestrian Scale Lighting	Huron Ave to 3rd Ave/J Hart Clinton Dr	0.38 Miles		\$836,900
<b>Palm Ave</b>					
Palm Ave	Pedestrian Scale Lighting	9th Ave to 25th Ave	1.35 Miles		\$2,947,000
<b>Poplar Ave</b>					
Poplar Ave	Pedestrian Scale Lighting	El Camino Real to Humboldt St	0.80 Miles		\$1,739,800
<b>Poplar Ave &amp; Humboldt St</b>					
Poplar Ave & Humboldt St	Signal Timing		4		\$4,000
<b>Railroad Ave &amp; 2nd Ave</b>					
Railroad Ave & 2nd Ave	Crosswalk: High-Visibility		5		\$6,000
<b>Railroad Ave &amp; 3rd Ave</b>					
Railroad Ave & 3rd Ave	Crosswalk: High-Visibility		3		\$3,600
<b>Railroad Ave &amp; 4th Ave</b>					
Railroad Ave & 4th Ave	Crosswalk: High-Visibility		2		\$2,400
<b>Railroad Ave &amp; 5th Ave</b>					
Railroad Ave & 5th Ave	Crosswalk: High-Visibility		2		\$2,400
<b>San Mateo Dr</b>					
San Mateo Dr	Pedestrian Scale Lighting	Poplar Ave to 5th Ave	1.35 Miles		\$2,933,600
<b>San Mateo Dr &amp; 4th Ave</b>					
San Mateo Dr & 4th Ave	Crosswalk: High-Visibility		4		\$4,800
<b>San Mateo Dr &amp; Baldwin Ave</b>					
San Mateo Dr & Baldwin Ave	Crosswalk: School Zone		4		\$4,800
<b>San Mateo Dr At 2nd Ave</b>					
San Mateo Dr At 2nd Ave	Planting Strip		300 s.f.		\$6,000
<b>Tilton Ave &amp; San Mateo Dr</b>					
Tilton Ave & San Mateo Dr	Crosswalk: High-Visibility		4		\$4,800
Tilton Ave & San Mateo Dr	Signal Timing		4		\$4,000

## 7.4. Priority Programmatic Recommendations

In addition to the engineering projects, priority recommendations also include programmatic infrastructure and non-infrastructure recommendations. These projects are broad improvements that cannot be evaluated using the same strategy or criteria as engineering projects. Based on their importance in supporting the pedestrian network infrastructure improvements, the following studies and programs are included in the priority, near-term project list:

- A. Bay to Transit Path Feasibility Study
- B. Downtown Lead Pedestrian Interval Study
- C. Third Avenue and Norfolk Street Intersection Improvement Study
- D. Safe Routes to School Program
- E. Suggested Routes to School Maps
- F. Encouraging Seniors Program
- G. Flexible Zone Parklet Pilot Program
- H. Parking Enforcement
- I. Annual Pedestrian Counts and Surveys



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## 7.5. Project List

Table 7-6 lists the each engineering project and its score.

Table 7-6: Project List													
Location	Type	Limits	Greenway Pedestrian Corridor Network		Community Identified Challenge	Collision History	Access to Community Centers	School and Senior Facility Connections	Roadway Type	Federally Designated Low Income Areas	Identified in Walking Audit		Cost Estimate
			Quantity	Unit							Total Points		
1st Ave													
1st Ave	Pedestrian Scale Lighting	B St to Delaware St	0.17	Miles	10	10	10	0	5	10	48.30		\$369,900
1st Ave	Pedestrian Scale Lighting	Ellsworth Ave to B St	0.05	Miles	10	10	10	0	0	0	32.94		\$99,700
1st Ave at Delaware St													
1st Ave at Delaware St	Curb Extension with Stop Bar		4		10	2.44	10	0	10	10	52.44		\$100,800
1st Ave at Ellsworth Ave													
1st Ave at Ellsworth Ave	Signal Timing		3		10	6.83	10	0	5	0	41.83		\$3,000
1st Ave Between B St at Claremont St													
1st Ave Between B St at Claremont St	Midblock Crossing		1		10	5.85	10	0	5	10	50.85		\$2,400
2nd Ave													
2nd Ave	Pedestrian Scale Lighting	El Camino Real to Delaware St	0.43	Miles	10	10	10	0	10	10	59.17		\$942,700
2nd Ave at El Camino Real													
2nd Ave at El Camino Real	Signal Timing		4		10	6.83	10	0	10	0	46.83		\$4,000
2nd Ave at Ellsworth Ave													
2nd Ave at Ellsworth Ave	Signal Timing		4		10	12.20	10	0	10	0	52.20		\$4,000
2nd Ave at San Mateo Dr													
2nd Ave at San Mateo Dr	Signal Timing		4		10	5.37	10	0	10	0	45.37		\$4,000
3rd Ave													
3rd Ave	Bike Lane	Crystal Springs Rd to Parrott Dr	0.10	Miles	0	10	0	0	5	0	15.48		\$64,300
3rd Ave	Parklet	B St to Ellsworth Ave	0.06	Miles	10	7.89	10	0	0	0	37.89		\$300
3rd Ave	Pedestrian Scale Lighting	Humboldt St to J Hart Clinton Dr	0.93	Miles	10	13.58	10	10	10	10	73.58		\$2,025,800
3rd Ave	Pedestrian Scale Lighting	Dartmouth Rd to El Camino Real	0.13	Miles	10	3.12	10	0	5	0	38.12		\$272,600
3rd Ave	Sidewalk Installation	Crystal Springs Rd to Parrott Dr	0.00	Miles	0	0.48	0	0	5	0	15.48		\$0
3rd Ave at B St													
3rd Ave at B St	Curb Extension		2		10	13.66	10	0	10	0	53.66		\$50,000
3rd Ave at Delaware St													
3rd Ave at Delaware St	Curb Extension with Stop Bar		1		10	3.41	10	0	10	10	53.41		\$25,200
3rd Ave at Fremont St													
3rd Ave at Fremont St	Curb Extension with Stop Bar		4		0	0.98	0	0	10	10	30.98		\$100,800
3rd Ave at Hwy 101 Southbound Off-ramp													
3rd Ave at Hwy 101 Southbound Off-ramp	High-Visibility Crosswalk		2		10	1.95	0	0	10	10	41.95		\$2,400
3rd Ave at Hwy 101 Southbound Off-ramp	High-Visibility Crosswalk		2		10	1.95	0	0	10	10	41.95		\$2,400
3rd Ave at Norfolk St													
3rd Ave at Norfolk St	School Zone Crosswalk		4		10	1.43	10	10	5	10	56.43		\$4,800

Location	Type	Limits	Quantity	Unit	Greenway Pedestrian Corridor Network	Community Identified Challenge	Collision History	Access to Community Centers	School and Senior Facility Connections	Roadway Type	Federally Designated Low Income Areas	Identified in Walking Audit	Total Points	Cost Estimate
3rd Ave at S. Norfolk St														
3rd Ave at S. Norfolk St	Advance stop bars		4		10	10	1.43	10	10	5	10		56.43	\$600
3rd Ave at S. Norfolk St	Pedestrian Countdown Signals		10		10	10	1.43	10	10	5	10		56.43	\$0,000
3rd Ave at S. Norfolk St	Signage		1		10	10	1.43	10	10	5	10		56.43	\$300
3rd Ave at S. Norfolk St	Signal Timing		2		10	10	1.43	10	10	5	10		56.43	\$20,000
3rd Ave at S. Norfolk St	High-Visibility Crosswalk		4		10	10	1.43	10	10	5	10		56.43	\$4,800
3rd Ave at Parrott Dr														
3rd Ave at Parrott Dr	Advance stop bars		1		0	10	0.48	0	0	5	0		15.48	\$200
3rd Ave at Parrott Dr	Advance yield lines		2		0	10	0.48	0	0	5	0		15.48	\$600
3rd Ave at Parrott Dr	High-Visibility Crosswalk		2		0	10	0.48	0	0	5	0		15.48	\$2,400
3rd Ave at Parrott Dr	Neighborhood Mini Park		1		0	10	0.48	0	0	5	0		15.48	\$155,000
3rd Ave at Parrott Dr	Signage		5		0	10	0.48	0	0	5	0		15.48	\$1,500
3rd Ave at Parrott Dr	Stripe Standard Crosswalk		1		0	10	0.48	0	0	5	0		15.48	\$1,000
3rd Ave at Parrott Dr	Curb Extension		1		0	10	0.48	0	0	5	0		15.48	\$25,000
3rd Ave at Parrott Dr	Neighborhood Mini Park		1		0	10	0.48	0	0	5	0		15.48	\$155,000
3rd Ave at Parrott Dr	Landscape strip		1		0	10	0.48	0	0	5	0		15.48	\$10,000
3rd Ave at Virginia Ave														
3rd Ave at Virginia Ave	Curb Extension		3		0	10	0.48	0	0	5	0		15.48	\$75,000
3rd Ave at Virginia Ave	Directional curb ramp		6		0	10	0.48	0	0	5	0		15.48	\$24,000
3rd Ave at Virginia Ave	Stripe Standard Crosswalk		1		0	10	0.48	0	0	5	0		15.48	\$1,000
4th Ave														
4th Ave	Pedestrian Scale Lighting	El Camino Real to Hwy 101	0.86	Miles	10	10	12.11	10	0	10	10		62.11	\$1,874,300
4th Ave	Pedestrian Scale Lighting	Dartmouth Rd to El Camino Real	0.13	Miles	10	10	3.12	10	0	0	0		33.12	\$272,900
44 4th Ave														
44 4th Ave	High-Visibility Crosswalk		1		10	10	15.61	10	0	10	0		55.61	\$1,200
4th Ave at Caltrain Tracks														
4th Ave at Caltrain Tracks	In-pavement flashers		1		10	10	11.22	10	0	10	0		51.22	\$75,000
4th Ave at El Camino Real														
4th Ave at El Camino Real	Curb Extension		4		10	10	7.80	10	0	10	0		47.80	\$100,000
4th Ave at Grant St														
4th Ave at Grant St	High-Visibility Crosswalk		3		10	0	0.00	0	0	5	10		25.00	\$3,600
4th Ave at San Mateo Dr														
4th Ave at San Mateo Dr	Signal Timing		4		10	10	10.24	10	0	10	0		50.24	\$4,000
5th Ave														
5th Ave	Pedestrian Scale Lighting	El Camino Real to Delaware St	0.43	Miles	10	10	6.42	10	0	10	10		56.42	\$938,800
5th Ave	Pedestrian Scale Lighting	Delaware St to Humboldt St	0.27	Miles	10	10	1.10	10	0	0	10		41.10	\$582,300
5th Ave at B St														
5th Ave at B St	Signal Timing		4		10	10	7.80	10	0	10	0		47.80	\$4,000
5th Ave at El Camino Real														
5th Ave at El Camino Real	Signal Timing		4		10	10	3.90	10	0	10	0		43.90	\$4,000
5th Ave at San Mateo Dr														
5th Ave at San Mateo Dr	Signal Timing		4		10	10	6.83	10	10	10	0		56.83	\$4,000

Location	Type	Limits	Greenway Pedestrian Corridor Network		Community Identified Challenge	Collision History	Access to Community Centers	School and Senior Facility Connections	Roadway Type	Federally Designated Low Income Areas	Identified in Walking Audit	Total Points	Cost Estimate
			Quantity	Unit									
6th Ave at Laurel Ave													
6th Ave at Laurel Ave	High-Visibility Crosswalk		2		10	10	7.32	10	10	0	0	47.32	\$2,400
7th Ave at Laurel Ave													
7th Ave at Laurel Ave	High-Visibility Crosswalk		1		10	10	0.98	10	10	0	0	40.98	\$1,200
9th Ave													
9th Ave	Pedestrian Scale Lighting	El Camino Real to B St	0.26	Miles	10	10	1.10	10	10	0	0	51.10	\$567,500
9th Ave at El Camino Real													
9th Ave at El Camino Real	High-Visibility Crosswalk		3		10	10	2.44	10	10	0	0	52.44	\$3,600
9th Ave at El Camino Real	Signal Timing		4		10	10	2.44	0	10	10	0	42.44	\$4,000
9th Ave at Laurel Ave													
9th Ave at Laurel Ave	High-Visibility Crosswalk		3		10	0	0.49	0	0	10	0	20.49	\$3,600
9th Ave at Palm Ave													
9th Ave at Palm Ave	High-Visibility Crosswalk		2		10	10	2.93	10	0	10	0	42.93	\$2,400
19th Ave at Fashion Island Blvd													
19th Ave at Fashion Island Blvd	School Zone Crosswalk		2		0	0	0.00	0	10	10	0	20.00	\$2,400
19th Ave at Fashion Island Blvd	Signal Timing		4		0	0	0.00	0	10	10	0	20.00	\$4,000
19th Ave at Ginnever St													
19th Ave at Ginnever St	Signal Timing		4		0	0	0.49	0	0	10	0	10.49	\$4,000
20th Ave													
20th Ave	Pedestrian Scale Lighting	Alameda de las Pulgas to Palm Ave	0.74	Miles	10	10	1.28	0	10	5	10	46.28	\$1,601,800
20th Ave	Pedestrian Scale Lighting	Palm Ave to Leslie St	0.04	Miles	10	0	0.55	0	0	0	10	20.55	\$89,300
22nd Ave at Flores St													
22nd Ave at Flores St	High-Visibility Crosswalk		2		0	0	2.86	0	0	0	0	2.86	\$2,400
23rd Ave at Flores St													
23rd Ave at Flores St	High-Visibility Crosswalk		2		0	0	2.38	0	0	0	0	2.38	\$2,400
24th Ave at Flores St													
24th Ave at Flores St	High-Visibility Crosswalk		2		0	0	5.24	0	0	0	0	5.24	\$2,400
25th Ave													
25th Ave	Parklet	Flores St to Hacienda St	0.13	Miles	10	0	1.47	10	0	0	0	21.47	\$800
25th Ave	Pedestrian Scale Lighting	El Camino Real to Delaware St	0.15	Miles	10	10	2.39	10	0	10	10	52.39	\$323,600
25th Ave	Pedestrian Scale Lighting	Hacienda St to El Camino Real	0.22	Miles	10	10	2.39	10	0	5	10	47.39	\$478,300
25th Ave	Pedestrian Scale Lighting	Alameda de las Pulgas to Hacienda St	0.38	Miles	10	0	0.55	10	0	0	0	20.55	\$830,300
140 25th Ave													
140 25th Ave	In-Pavement Pedestrian Yield Sign		2		10	0	0.49	10	0	5	0	25.49	\$600
140 25th Ave	Midblock Crossing		1		10	0	0.49	10	0	5	0	25.49	\$2,400
27th Ave at Edison St													
27th Ave at Edison St	High-Visibility Crosswalk		2		0	0	0.48	0	0	0	0	0.48	\$2,400
28th Ave													
28th Ave	Pedestrian Scale Lighting	Alameda de las Pulgas to El Camino Real	0.58	Miles	10	10	0.37	0	10	5	10	45.37	\$1,255,100
28th Ave at Edison St													
28th Ave at Edison St	High-Visibility Crosswalk		2		10	0	0.48	0	0	5	10	25.48	\$2,400

Location	Type	Limits	Quantity	Unit	Greenway Pedestrian Corridor Network	Community Identified Challenge	Collision History	Access to Community Centers	School and Senior Facility Connections	Roadway Type	Federally Designated Low Income Areas	Identified in Walking Audit	Total Points	Cost Estimate
28th Ave at Isabelle Ave														
28th Ave at Isabelle Ave	High-Visibility Crosswalk		2		10	0	0.48	0	10	5	0		25.48	\$2,400
28th Ave Extension														
28th Ave Extension	Class I Path	EL Camino Real to New Delaware St	0.10	Miles	10	10	0.18	0	0	0	10		30.18	\$67,400
28th Ave Extension Path														
28th Ave Extension Path	Pedestrian Scale Lighting	Saratoga Dr to Bay Meadows Alt	0.39	Miles	10	0	0.00	0	0	0	0		10.00	\$853,800
31st Ave Extension														
31st Ave Extension	Class I Path	EL Camino Real to Caltrain	0.08	Miles	10	10	1.47	0	0	0	10		31.47	\$52,100
36th Ave														
36th Ave	Pedestrian Scale Lighting	Alameda de las Pulgas to Hacienda St	0.24	Miles	10	0	0.18	0	10	0	10		30.18	\$528,600
37th Ave														
37th Ave	Pedestrian Scale Lighting	Hacienda St to El Camino Real	0.50	Miles	10	10	2.02	10	0	5	10		47.02	\$1,098,700
37th Ave at Hillsdale Gardens														
37th Ave at Hillsdale Gardens	Crossing Beacon		2		10	0	0.48	0	0	5	0		15.48	\$30,000
37th Ave Between El Camino Real and Colegrove St														
37th Ave Between El Camino Real and Colegrove St	Midblock Crossing		1		10	0	1.46	10	0	5	10		36.46	\$2,400
39th Ave														
39th Ave	Pedestrian Scale Lighting	Edison St to El Camino Real	0.32	Miles	10	10	1.83	0	0	0	0		21.83	\$687,000
40th Ave														
40th Ave	Sidewalk Installation	Hacienda St to Beresford St	0.47	Miles	10	0	2.20	0	0	0	0		12.20	\$256,100
41st Ave														
41st Ave	Pedestrian Scale Lighting	Edison St to El Camino Real	0.32	Miles	10	10	0.73	10	0	0	10		40.73	\$707,300
41st Ave	Sidewalk Installation	Hacienda St to Colegrove St	0.43	Miles	10	0	0.37	0	0	0	10		20.37	\$231,000
41st Ave at Beresford St														
41st Ave at Beresford St	High-Visibility Crosswalk		1		10	0	1.95	10	0	0	10		31.95	\$1,200
41st Ave at El Camino Real														
41st Ave at El Camino Real	Signal Timing		4		10	10	0.98	10	0	10	10		50.98	\$4,000
Alameda De Las Pulgas														
Alameda De Las Pulgas	Pedestrian Scale Lighting	Crystal Springs Rd to S of La Casa Ave	3.03	Miles	10	10	2.75	10	10	10	0		52.75	\$6,592,100
Alameda De Las Pulgas Road Diet														
Alameda De Las Pulgas	Restriping	Crystal Springs Rd to Barneson Ave			10	10	2.75	10	10	10	0		52.75	\$14,700
Alameda de las Pulgas	Sidewalk Installation	Crystal Springs Rd to Barneson Ave	0.00		10	10	2.75	10	10	10	0		52.75	\$51,000



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Alameda De Las Pulgas at 20th Ave														
Alameda de las Pulgas at 20th Ave	Advance stop bars		2		10	0	0.95	0	0	5	0		15.95	\$400
Alameda de las Pulgas at 20th Ave	Tighten curb radii		2		10	0	0.95	0	0	5	0		15.95	\$50,000
Alameda de las Pulgas at 20th Ave	Directional curb ramp		8		10	0	0.95	0	0	5	0		15.95	\$32,000
Alameda de las Pulgas at 20th Ave	School Zone Crosswalk		4		10	0	0.95	0	0	5	0		15.95	\$4,800
Alameda de las Pulgas at 20th Ave	Pedestrian refuge		1		10	0	0.95	0	0	5	0		15.95	\$15,000
Alameda De Las Pulgas at 20th Ave	Signal Timing		4		10	0	0.98	0	0	10	0		20.98	\$4,000
Alameda De Las Pulgas at 26th Ave														
Alameda De Las Pulgas at 26th Ave	High-Visibility Crosswalk		4		10	0	0.98	0	0	10	0		20.98	\$4,800
Alameda De Las Pulgas at 28th Ave														
Alameda De Las Pulgas at 28th Ave	High-Visibility Crosswalk		4		10	0	0.49	10	10	10	0		40.49	\$4,800
Alameda De Las Pulgas at 42nd Ave														
Alameda De Las Pulgas at 42nd Ave	School Zone Crosswalk		4		10	0	0.00	0	10	10	0		30.00	\$4,800
Alameda de las Pulgas at Fernwood St														
Alameda de las Pulgas at Fernwood St	High-Visibility Crosswalk		1		10	0	0.00	0	10	10	0		30.00	\$1,200
Alameda De Las Pulgas at Parkside Wy														
Alameda De Las Pulgas at Parkside Wy	High-Visibility Crosswalk		1		10	0	0.00	10	10	10	0		40.00	\$1,200
Alameda De Las Pulgas at Portola Wy														
Alameda De Las Pulgas at Portola Wy	High-Visibility Crosswalk		1		10	0	0.49	10	10	10	0		40.49	\$1,200
Alley														
Alley	Pedestrian Scale Lighting	Norfolk St to J Hart Clinton Dr	0.41	Miles	10	10	0.55	10	0	0	10		40.55	\$886,300
Aragon Blvd														
Aragon Blvd	Pedestrian Scale Lighting	Alameda de las Pulgas to El Camino Real	0.62	Miles	10	10	1.10	0	10	5	0		36.10	\$1,355,900
Aragon Blvd at Alameda De Las Pulgas														
Aragon Blvd at Alameda De Las Pulgas	Signal Timing		3		10	0	0.49	0	10	10	0		30.49	\$3,000
Aragon Blvd at El Camino Real														
Aragon Blvd at El Camino Real	High-Visibility Crosswalk		2		10	10	2.44	0	10	5	0		37.44	\$2,400
B St														
B St	Parklet	Baldwin Ave to 4th Ave	0.25	Miles	10	10	6.97	10	0	5	0		41.97	\$1,500
B St	Pedestrian Scale Lighting	Baldwin Ave to 9th Ave	0.54	Miles	10	10	7.16	10	0	5	0		42.16	\$1,165,600
B St at 12th Ave														
B St at 12th Ave	High-Visibility Crosswalk		2		0	10	0.49	0	0	5	0		15.49	\$2,400
B St at 1st Ave														
B St at 1st Ave	High-Visibility Crosswalk		4		10	10	5.85	10	0	5	0		40.85	\$4,800
B St at 2nd Ave														
B St at 2nd Ave	High-Visibility Crosswalk		4		10	10	9.76	10	0	10	0		49.76	\$4,800
B St at 3rd Ave														
B St at 3rd Ave	Curb Extension		2		10	10	13.66	10	0	10	0		53.66	\$50,000
B St at 3rd Ave	High-Visibility Crosswalk		4		10	10	13.66	10	0	10	0		53.66	\$4,800
B St at 3rd Ave	Leading pedestrian interval		2		10	10	13.66	10	0	10	0		53.66	\$2,000
B St at 3rd Ave	Midblock Crossing with In-Pavement Flashers		2		10	10	13.66	10	0	10	0		53.66	\$154,800

Location	Type	Limits		Greenway Pedestrian Corridor Network		Community Identified Challenge	Collision History	Access to Community Centers	School and Senior Facility Connections	Roadway Type	Federally Designated Low Income Areas	Identified in Walking Audit	Total Points	Cost Estimate
		Quantity	Unit											
B St at 4th Ave														
B St at 4th Ave	High-Visibility Crosswalk	4		10	10	11.71	10	0	10	10	0	51.71		\$4,800
B St at 4th Ave	Leading pedestrian interval	4		10	10	11.71	10	0	10	10	0	51.71		\$4,000
B St at 5th Ave														
B St at 5th Ave	High-Visibility Crosswalk	4		10	10	10.73	10	0	10	10	0	50.73		\$4,800
B St at 8th Ave														
B St at 8th Ave	High-Visibility Crosswalk	2		10	0	0.49	10	0	5	5	0	25.49		\$2,400
B St at Baldwin Ave														
B St at Baldwin Ave	High-Visibility Crosswalk	3		10	10	5.85	10	0	5	5	0	40.85		\$3,600
B St at Central Garage														
B St at Central Garage	In-pavement flashers	1		10	10	14.76	10	0	5	5	0	49.76		\$75,000
B St at Train Station Drway														
B St at Train Station Drway	Stripe Standard Crosswalk	1		10	10	4.88	10	0	5	5	0	39.88		\$1,000
B St Between 2nd and 3rd Ave														
B St Between 2nd and 3rd Ave	Midblock Crossing	1		10	10	15.61	10	0	10	10	0	55.61		\$2,400
Baldwin Ave														
Baldwin Ave	Pedestrian Scale Lighting	0.24	Miles	10	10	3.12	10	10	5	5	0	48.12		\$528,200
Baldwin Ave at B St														
Baldwin Ave at B St	Curb Extension with Stop Bar	4		10	10	5.85	10	0	5	5	0	40.85		\$100,800
Baldwin Ave at B St	Directional curb ramp	4		10	10	5.85	10	0	5	5	0	40.85		\$16,000
Baldwin Ave at Ellsworth Ave														
Baldwin Ave at Ellsworth Ave	Signal Timing	4		10	10	5.85	10	0	5	5	0	40.85		\$4,000
Baldwin Ave at San Mateo Dr														
Baldwin Ave at San Mateo Dr	Signal Timing	4		10	10	3.90	10	10	10	10	0	53.90		\$4,000
Bay To Transit Feasibility Study														
Bay To Transit Feasibility Study	Class I Path	1.82	Miles	10	10	1.28	0	0	0	0	0	21.28		\$1,168,300
Bay To Transit Path														
Bay To Transit Path	Pedestrian Scale Lighting	2.40	Miles	10	10	3.30	0	0	0	0	10	33.30		\$5,217,300
Baywood Ave/De Sabla Rd/Baldwin Ave at El Camino Real														
Baywood Ave/De Sabla Rd/Baldwin Ave at El Camino Real	Signal Timing	4		10	10	2.44	10	10	10	10	0	52.44		\$4,000
Bermuda Dr														
Bermuda Dr	Pedestrian Scale Lighting	0.16	Miles	0	0	0.00	0	0	0	0	0	0.00		\$354,200
Bettina Ave at 42nd Ave														
Bettina Ave at 42nd Ave	School Zone Crosswalk	1		0	0	0.00	0	0	10	0	0	10.00		\$1,200
Boral Creek Path														
Boral Creek Path	Pedestrian Path	0.38	Miles	0	0	0.00	0	0	0	0	0	0.00		\$241,500
Castilian Wy at Alameda De Las Pulgas														
Castilian Wy at Alameda De Las Pulgas	School Zone Crosswalk	1		10	0	0.49	0	0	10	10	0	30.49		\$1,200

Location	Type	Limits	Quantity		Unit	Greenway Pedestrian Corridor Network	Community Identified Challenge	Collision History	Access to Community Centers	School and Senior Facility Connections	Roadway Type	Federally Designated Low Income Areas	Identified in		Cost Estimate
													Walking Audit	Total Points	
Chess Dr at Bridgepointe Shopping Center															
Chess Dr at Bridgepointe Shopping Center	High-Visibility Crosswalk		2			0	0	0.48	10	0	5	0		15.48	\$2,400
Chess Dr at Bridgepointe Shopping Center	Advance Yield Lines		2			0	0	0.48	10	0	5	0		15.48	\$600
Chess Dr at Bridgepointe Shopping Center	Crossing Beacon		4			0	0	0.48	10	0	5	0		15.48	\$60,000
Chess Dr at Bridgepointe Shopping Center	Path through Median		1			0	0	0.48	10	0	5	0		15.48	\$25,000
Chess Dr at Bridgepointe Shopping Center	Warning Signage		2			0	0	0.48	10	0	5	0		15.48	\$600
Chess Dr at Bridgepointe Shopping Center	Curb ramps		2			0	0	0.48	10	0	5	0		15.48	\$8,000
Claremont St at 2nd Ave															
Claremont St at 2nd Ave	High-Visibility Crosswalk		4			10	10	6.83	10	0	10	0		46.83	\$4,800
Claremont St at 3rd Ave															
Claremont St at 3rd Ave	High-Visibility Crosswalk		4			10	10	7.32	10	0	10	0		47.32	\$4,800
Claremont St at 4th Ave															
Claremont St at 4th Ave	High-Visibility Crosswalk		4			10	10	7.80	10	0	10	0		47.80	\$4,800
Colegrove St at 39th Ave															
Colegrove St at 39th Ave	Curb Extension with Stop Bar		4			10	0	0.98	0	0	0	0		10.98	\$100,800
Colegrove St at 39th Ave	Stripe Standard Crosswalk		4			10	0	0.98	0	0	0	0		10.98	\$4,000
Colegrove St at 39th Ave	Stripe Standard Crosswalk		4			10	0	0.98	0	0	0	0		10.98	\$4,000
Concar Dr															
Concar Dr	Class I Path	S Delaware St-Pacific Blvd	0.20		Miles	10	10	0.55	0	0	10	0		30.55	\$129,800
Concar Dr	Class I Path	S Grant St to S Delaware St	0.23		Miles	10	10	0.55	0	0	10	0		30.55	\$144,800
Crescent Ave at Pinecrest Terrace															
Crescent Ave at Pinecrest Terrace	High-Visibility Crosswalk		1			0	0	0.00	0	10	0	0		10.00	\$1,200
Crystal Springs Rd at El Camino Real															
Crystal Springs Rd at El Camino Real	Signal Timing		3			10	10	9.27	10	10	10	0		59.27	\$3,000
Cupertino Wy at Orinda Dr															
Cupertino Wy at Orinda Dr	School Zone Crosswalk		1			0	0	0.00	0	10	0	0		10.00	\$1,200
Dartmouth Rd															
Dartmouth Rd	Pedestrian Scale Lighting	4th Ave to 5th Ave	0.11		Miles	10	10	0.18	0	0	5	0		25.18	\$240,400
De Sabla Rd at Baytree Wy															
De Sabla Rd at Baytree Wy	High-Visibility Crosswalk		1			0	0	3.41	0	0	0	0		3.41	\$1,200
Delaware St															
Delaware St	Pedestrian Scale Lighting	Peninsula Ave to 25th Ave	2.99		Miles	10	10	11.01	10	10	10	10		71.01	\$6,503,700
Delaware St	Pedestrian Scale Lighting	25th Ave to Bay Meadows Alt	0.10		Miles	10	10	0.92	10	0	0	0		30.92	\$207,000
Delaware St at 2nd Ave															
Delaware St at 2nd Ave	High-Visibility Crosswalk		4			10	10	4.88	10	0	10	10		54.88	\$4,800
Delaware St at 3rd Ave															
Delaware St at 3rd Ave	High-Visibility Crosswalk		4			10	10	3.41	10	0	10	10		53.41	\$4,800
Delaware St at 3rd Ave	Leading pedestrian interval		4			10	10	3.41	10	0	10	10		53.41	\$4,000
Delaware St at 3rd Ave	Pedestrian refuge		4			10	10	3.41	10	0	10	10		53.41	\$120,000
Delaware St at 4th Ave															
Delaware St at 4th Ave	High-Visibility Crosswalk		4			10	10	2.44	10	0	10	10		52.44	\$4,800
Delaware St at State St															
Delaware St at State St	School Zone Crosswalk		3			10	0	0.49	0	10	10	10		40.49	\$3,600
Edison St															

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			Quantity	Unit									
Edison St	Pedestrian Scale Lighting	Hillsdale Blvd to 41st Ave	0.54	Miles	10	0	2.39	0	0	5	10	27.39	\$1,178,100
Edison St at 39th Ave													
Edison St at 39th Ave	"Stop Ahead" Signage and Striping		1		10	0	1.46	0	0	5	0	16.46	\$1,100
Edison St at 39th Ave	Curb Extension with Stop Bar		4		10	0	1.46	0	0	5	0	16.46	\$100,800
Edison St at 39th Ave	High-Visibility Crosswalk		4		10	0	1.46	0	0	5	0	16.46	\$4,800
Edison St at Hillsdale Blvd													
Edison St at Hillsdale Blvd	High-Visibility Crosswalk		4		10	10	3.90	10	0	10	10	53.90	\$4,800
El Camino Real													
El Camino Real	Pedestrian Scale Lighting	Peninsula Ave to North Rd	4.42	Miles	10	10	20.00	10	10	10	10	80.00	\$9,632,000
El Camino Real	Sidewalk Reconstruction	at 2nd Ave	0.01	Miles	10	10	3.12	10	0	0	0	33.12	\$7,600
El Camino Real (Northbound)													
El Camino Real (Northbound)	Sidewalk Installation	37th Ave to 39th Ave	0.15	Miles	10	10	2.57	0	0	10	0	32.57	\$83,400
El Camino Real at 12th Ave													
El Camino Real at 12th Ave	Signal Timing		4		10	10	0.98	0	0	10	0	30.98	\$4,000
El Camino Real at 17th Ave													
El Camino Real at 17th Ave	High-Visibility Crosswalk		3		10	10	6.83	0	0	10	0	36.83	\$3,600
El Camino Real at 17th Ave	Signal Timing		4		10	10	6.83	0	0	10	0	36.83	\$4,000
El Camino Real at 20th Ave													
El Camino Real at 20th Ave	Signal Timing		4		10	10	1.95	0	0	10	10	41.95	\$4,000
El Camino Real at 22nd Ave													
El Camino Real at 22nd Ave	Crossing Beacon		2		10	10	2.93	0	0	10	10	42.93	\$30,000
El Camino Real at 22nd Ave	Curb Extension		2		10	10	2.93	0	0	10	10	42.93	\$50,000
El Camino Real at 22nd Ave	Directional curb ramp		2		10	10	2.93	0	0	10	10	42.93	\$8,000
El Camino Real at 22nd Ave	Advance Yield Lines		2		10	10	2.93	0	0	10	10	42.93	\$600
El Camino Real at 22nd Ave	Pedestrian signage		2		10	10	2.93	0	0	10	10	42.93	\$600
El Camino Real at 25th Ave													
El Camino Real at 25th Ave	High-Visibility Crosswalk		3		10	10	5.85	0	0	10	10	45.85	\$3,600
El Camino Real at 25th Ave	Signal Timing		4		10	10	5.85	0	0	10	10	45.85	\$4,000
El Camino Real at 27th Ave													
El Camino Real at 27th Ave	High-Visibility Crosswalk		2		10	10	0.49	0	0	10	10	40.49	\$2,400
El Camino Real at 27th Ave	Signal Timing		4		10	10	0.49	0	0	10	10	40.49	\$4,000
El Camino Real at 28th Ave													
El Camino Real at 28th Ave	Signal Timing		4		10	10	0.49	0	0	10	10	40.49	\$4,000

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			Quantity	Unit							Walking Audit	Total Points	
El Camino Real at 2nd Ave													
El Camino Real at 2nd Ave	Advance stop bars		1		10	10	6.83	10	0	10	0	46.83	\$200
El Camino Real at 2nd Ave	Curb Extension with Stop Bar		2		10	10	6.83	10	0	10	0	46.83	\$50,400
El Camino Real at 2nd Ave	Directional curb ramp		1		10	10	6.83	10	0	10	0	46.83	\$4,000
El Camino Real at 2nd Ave	High-Visibility Crosswalk		3		10	10	6.83	10	0	10	0	46.83	\$3,600
El Camino Real at 2nd Ave	Pedestrian refuge		1		10	10	6.83	10	0	10	0	46.83	\$30,000
El Camino Real at 2nd Ave	Strip edge line along ECR to delineate parking		1		10	10	2.44	10	10	10	0	52.44	\$100
	Stripe left turn tracking		1		10	10	6.83	10	0	10	0	46.83	\$100
El Camino Real at 31st Ave													
El Camino Real at 31st Ave	Signal Timing		4		10	10	3.90	0	0	10	10	43.90	\$4,000
El Camino Real at 37th Ave													
El Camino Real at 37th Ave	Advance stop bars		2		10	10	4.39	0	0	10	10	44.39	\$400
El Camino Real at 37th Ave	Curb Extension		1		10	10	4.39	0	0	10	10	44.39	\$25,000
El Camino Real at 37th Ave	Curb Extension with Stop Bar		4		10	10	4.39	0	0	10	10	44.39	\$100,800
El Camino Real at 37th Ave	Signal Timing		4		10	10	4.39	0	0	10	10	44.39	\$4,000
El Camino Real at 37th Ave	Stripe Standard Crosswalk		1		10	10	4.39	0	0	10	10	44.39	\$1,000
El Camino Real at 39th Ave													
El Camino Real at 39th Ave	Advance stop bars		1		10	10	2.44	0	0	10	0	32.44	\$200
El Camino Real at 39th Ave	Crossing Beacon		2		10	10	2.44	0	0	10	0	32.44	\$30,000
El Camino Real at 39th Ave	High-Visibility Crosswalk		1		10	10	2.44	0	0	10	0	32.44	\$1,200
El Camino Real at 39th Ave	Left Turn Pocket		1		10	10	2.44	0	0	10	0	32.44	\$15,000
El Camino Real at 39th Ave	Median		1		10	10	2.44	0	0	10	0	32.44	\$30,000
El Camino Real at 39th Ave	Stripe Standard Crosswalk		1		10	10	2.44	0	0	10	0	32.44	\$1,000
El Camino Real at 3rd Ave													
El Camino Real at 3rd Ave	Curb Extension		4		10	10	8.29	0	0	10	0	38.29	\$100,000
El Camino Real at 3rd Ave	Signal Timing		4		10	10	8.29	0	0	10	0	38.29	\$4,000
El Camino Real at 41st Ave													
El Camino Real at 41st Ave	High-Visibility Crosswalk		2		10	10	0.98	10	0	10	10	50.98	\$2,400
El Camino Real at 42nd Ave													
El Camino Real at 42nd Ave	Signal Timing		4		10	10	2.44	0	0	10	10	42.44	\$4,000
El Camino Real at 4th Ave													
El Camino Real at 4th Ave	Curb Extension		2		10	10	7.80	10	0	10	0	47.80	\$50,000
El Camino Real at 4th Ave	High-Visibility Crosswalk		4		10	10	7.80	10	0	10	0	47.80	\$4,800
El Camino Real at 4th Ave	Leading pedestrian interval		4		10	10	7.80	10	0	10	0	47.80	\$4,000
El Camino Real at 4th Ave	Pedestrian refuge		4		10	10	7.80	10	0	10	0	47.80	\$120,000
El Camino Real at 4th Ave	Signal Timing		4		10	10	7.80	10	0	10	0	47.80	\$4,000
El Camino Real at Baldwin Ave													
El Camino Real at Baldwin Ave	Curb Extension with Stop Bar		2		10	10	2.44	10	10	10	0	52.44	\$50,400
El Camino Real at Baldwin Ave	High-Visibility Crosswalk		4		10	10	2.44	10	10	10	0	52.44	\$4,800
El Camino Real at Baldwin Ave/Baywood Ave													
El Camino Real at Baldwin Ave/Baywood Ave	Signal Timing		1		10	10	2.44	10	10	10	0	52.44	\$1,000



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El Camino Real at Barneson Ave														
El Camino Real at Barneson Ave	High-Visibility Crosswalk		3		10	10	0.98	0	0	10	0		30.98	\$3,600
El Camino Real at Barneson Ave	Signal Timing		3		10	10	0.98	0	0	10	0		30.98	\$3,000
El Camino Real at Bellevue Ave														
El Camino Real at Bellevue Ave	Signal Timing		4		10	10	0.98	0	0	10	0		30.98	\$4,000
El Camino Real at Bovet Rd														
El Camino Real at Bovet Rd	High-Visibility Crosswalk		1		10	10	6.83	0	0	10	0		36.83	\$1,200
El Camino Real at Crystal Springs Rd														
El Camino Real at Crystal Springs Rd	High-Visibility Crosswalk		2		10	10	9.27	10	10	10	0		59.27	\$2,400
El Camino Real at Hillsdale Blvd														
El Camino Real at Hillsdale Blvd	High-Visibility Crosswalk		6		10	10	0.98	10	0	10	10		50.98	\$7,200
El Camino Real at Hobart Ave														
El Camino Real at Hobart Ave	High-Visibility Crosswalk		4		10	10	0.98	0	0	10	0		30.98	\$4,800
El Camino Real at Peninsula														
El Camino Real at Peninsula	Signal Timing		4		10	10	0.98	0	0	10	0		30.98	\$4,000
El Camino Real at Poplar Ave														
El Camino Real at Poplar Ave	Signal Timing		4		10	10	2.44	0	0	10	0		32.44	\$4,000
El Camino Real at Seville Wy														
El Camino Real at Seville Wy	High-Visibility Crosswalk		1		10	10	0.98	0	0	10	0		30.98	\$1,200
El Camino Real at Tilton Ave														
El Camino Real at Tilton Ave	Curb Extension with Stop Bar		4		10	10	0.98	0	0	10	10		40.98	\$100,800
El Camino Real at Tilton Ave	Signal Timing		4		10	10	0.98	0	0	10	10		40.98	\$4,000
El Camino Real at Hwy 92 Off-ramps														
El Camino Real at Hwy 92 Off-ramp	High-Visibility Crosswalk		8		10	10	1.46	0	0	10	10		41.46	\$9,600
El Camino Real Hwy 92 Off-ramp	Signage		4		10	10	4.39	0	0	10	0		34.39	\$1,200
El Camino Real Hwy 92 Off-ramp	Pedestrian Scale Lighting		32		10	10	4.39	0	0	10	0		34.39	\$288,000
El Dorado St at 3rd Ave														
El Dorado St at 3rd Ave	High-Visibility Crosswalk		2		0	10	2.93	10	0	10	10		42.93	\$2,400
El Dorado St at 4th Ave														
El Dorado St at 4th Ave	High-Visibility Crosswalk		2		10	0	2.44	10	0	10	10		42.44	\$2,400
Ellsworth Ave														
Ellsworth Ave	Pedestrian Scale Lighting	Baldwin Ave to 5th Ave	0.31	Miles	10	10	10.28	10	0	5	0		45.28	\$684,600
Ellsworth Ave at 1st Ave														
Ellsworth Ave at 1st Ave	High-Visibility Crosswalk		3		10	10	6.83	10	0	5	0		41.83	\$3,600
Ellsworth Ave at 2nd Ave														
Ellsworth Ave at 2nd Ave	High-Visibility Crosswalk		4		10	10	12.20	10	0	10	0		52.20	\$4,800
Ellsworth Ave at 3rd Ave														
Ellsworth Ave at 3rd Ave	High-Visibility Crosswalk		4		10	10	20.00	10	0	10	0		60.00	\$4,800
Ellsworth Ave at 4th Ave														
Ellsworth Ave at 4th Ave	High-Visibility Crosswalk		4		10	10	19.02	10	0	10	0		59.02	\$4,800
Ellsworth Ave at 5th Ave														
Ellsworth Ave at 5th Ave	High-Visibility Crosswalk		2		10	10	12.68	10	0	10	0		52.68	\$2,400
Ellsworth Ave at Baldwin Ave														
Ellsworth Ave at Baldwin Ave	High-Visibility Crosswalk		4		10	10	5.85	10	0	5	0		40.85	\$4,800

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Ensenada Wy at Falda Ave														
Ensenada Wy at Falda Ave	High-Visibility Crosswalk		1		0	0	0.00	0	10	0	0		10.00	\$1,200
Ensenada Wy at Parkside Wy														
Ensenada Wy at Parkside Wy	High-Visibility Crosswalk		1		0	0	0.00	10	10	0	0		20.00	\$1,200
Fairfax Ave														
Fairfax Ave	Pedestrian Scale Lighting	Alameda de las Pulgas, continuing on Franklin to D	0.60	Miles	0	10	0.00	0	0	0	0		10.00	\$1,299,700
Fashion Island Blvd														
Fashion Island Blvd	Pedestrian Scale Lighting	Norfolk St to Mariners Island Blvd	0.36	Miles	10	0	0.18	10	0	10	0		30.18	\$778,500
Fashion Island Blvd at Hwy 101														
Fashion Island Blvd at Hwy 101	Signal Timing		4		0	0	0.00	0	0	10	0		10.00	\$4,000
Fernwood St														
Fernwood St	Sidewalk Installation	Hillsdale Blvd to Kingridge Dr	0.14	Miles	0	10	0.00	0	0	0	0		10.00	\$74,400
Flores St at 25th Ave														
Flores St at 25th Ave	High-Visibility Crosswalk		4		10	0	3.90	10	0	5	0		28.90	\$4,800
Flores St at 27th Ave														
Flores St at 27th Ave	High-Visibility Crosswalk		4		0	0	0.00	0	0	0	0		0.00	\$4,800
Flores St at 28th Ave														
Flores St at 28th Ave	High-Visibility Crosswalk		2		10	0	0.00	0	0	5	10		25.00	\$2,400
Franklin Dr at Saratoga Dr														
Franklin Dr at Saratoga Dr	High-Visibility Crosswalk		1		10	0	0.48	0	0	10	0		20.48	\$1,200
Franklin Dr at Saratoga Dr	Signal phase study		1		10	0	0.48	0	0	10	0		20.48	\$15,000
Franklin Path														
Franklin Path	Class I Path	Pacific Boulevard to Hillsdale Boulevard	0.17	Miles	10	0	1.10	0	0	0	10		21.10	\$106,100
Fremont St at 2nd Ave														
Fremont St at 2nd Ave	Curb Extension		4		0	0	0.00	0	0	5	10		15.00	\$100,000
Fremont St at 2nd Ave	Curb Extension		4		0	0	0.00	0	0	5	10		15.00	\$100,000
Fremont St at 2nd Ave	Directional curb ramp		2		0	0	0.00	0	0	5	10		15.00	\$8,000
Fremont St at 3rd Ave														
Fremont St at 3rd Ave	Curb Extension		4		0	10	0.98	0	0	10	10		30.98	\$100,000
Fremont St at 3rd Ave	High-Visibility Crosswalk		3		0	10	0.98	0	0	10	10		30.98	\$3,600
Fremont St at 3rd Ave	Median		2		0	10	0.98	0	0	10	10		30.98	\$60,000
Fremont St at 3rd Ave	Stripe Standard Crosswalk		1		0	10	0.98	0	0	10	10		30.98	\$1,000
Fremont St at 3rd Ave	Stripe Standard Crosswalk		2		0	10	0.98	0	0	10	10		30.98	\$2,000
Fremont St at 4th Ave														
Fremont St at 4th Ave	High-Visibility Crosswalk		3		10	0	0.98	0	0	10	10		30.98	\$3,600
Fremont St at Lawrence Rd														
Fremont St at Lawrence Rd	High-Visibility Crosswalk		1		0	0	0.49	0	0	0	10		10.49	\$1,200
Fremont St at Monte Diablo Ave														
Fremont St at Monte Diablo Ave	Curb Extension with Stop Bar		1		10	0	1.95	10	0	5	10		36.95	\$25,200
Fremont St at Monte Diablo Ave	High-Visibility Crosswalk		1		10	0	1.95	10	0	5	10		36.95	\$1,200
Fremont St at Monte Diablo Ave	High-Visibility Crosswalk		0.01	Miles	10			10	0				20.00	\$0

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Garfield St at 27th Ave														
Garfield St at 27th Ave	High-Visibility Crosswalk		4		0	0	0.00	0	10	0	0	10.00		\$4,800
Garfield St at 28th Ave														
Garfield St at 28th Ave	High-Visibility Crosswalk		3		10	0	0.00	0	10	5	0	25.00		\$3,600
Georgetown Ave at Alameda De Las Pulgas														
Georgetown Ave at Alameda De Las Pulgas	School Zone Crosswalk		1		10	0	0.00	0	10	10	0	30.00		\$1,200
Grant St														
Grant St	Pedestrian Scale Lighting	3rd Ave to Bermuda Dr	1.58	Miles	10	0	1.65	0	0	5	10	26.65		\$3,437,400
Grant St at 3rd Ave														
Grant St at 3rd Ave	High-Visibility Crosswalk		4		10	10	1.95	0	0	10	10	41.95		\$4,800
Hacienda St														
Hacienda St	Pedestrian Scale Lighting	36th Ave to 37th Ave	0.09	Miles	10	10	0.18	10	10	5	10	55.18		\$187,100
Hacienda St	Pedestrian Scale Lighting	39th Ave to 22nd Ave	1.24	Miles	10	10	0.00	0	10	5	0	35.00		\$2,702,200
Hacienda St	Sidewalk Installation	31st Ave to Louise Ln	0.13	Miles	10	10	0.18	10	10	5	0	46.18		\$72,200
Hacienda St at 25th Ave														
Hacienda St at 25th Ave	High-Visibility Crosswalk		3		10	0	0.49	10	0	5	0	25.49		\$3,600
Hacienda St at 26th Ave														
Hacienda St at 26th Ave	High-Visibility Crosswalk		1		0	10	0.49	0	0	5	0	15.49		\$1,200
Hacienda St at 27th Ave														
Hacienda St at 27th Ave	High-Visibility Crosswalk		4		0	10	0.00	0	10	5	0	25.00		\$4,800
Hacienda St at 28th Ave														
Hacienda St at 28th Ave	High-Visibility Crosswalk		4		10	10	0.00	0	10	5	0	35.00		\$4,800
Hacienda St at Briar Ln														
Hacienda St at Briar Ln	Curb Extension with Stop Bar		1		0	10	0.49	0	0	5	0	15.49		\$25,200
Hayward Ave														
Hayward Ave	Pedestrian Scale Lighting	El Camino Real - Palm Ave	0.12	Miles	10	10	1.10	0	10	0	0	31.10		\$252,300
Hayward Park Caltrain Path														
Hayward Park Caltrain Path	Pedestrian Path	Concar Dr - Caltrain crossing	0.05	Miles	0	0	0.37	0	0	0	0	0.37		\$64,200
Hayward Park Caltrain Path	Pedestrian Scale Lighting	Concar Dr - Caltrain crossing	7		0	0	0.37	0	0	0	0	0.37		\$63,000
Hayward Park Caltrain Path	Curb ramps		2		0	0	0.37	0	0	0	0	0.37		\$8,000
Hayward Park Caltrain Path	Landscaping				0	0	0.37	0	0	0	0	0.37		\$320,000
Hayward Park Caltrain Path	Wayfinding				0	0	0.37	0	0	0	0	0.37		\$300
Hillsdale Blvd														
Hillsdale Blvd	Pedestrian Scale Lighting	Alameda de las Pulgas to Hillsdale Blvd	1.14	Miles	10	10	4.04	10	10	10	10	64.04		\$2,487,100
Hillsdale Blvd	Pedestrian Scale Lighting	Split to Saratoga Dr	0.06	Miles	10	0	0.73	0	0	0	0	10.73		\$120,600
Hillsdale Blvd	Pedestrian Scale Lighting	Alameda del las Pulgas to Campus Dr	1.27	Miles	0	10	0.00	0	0	0	0	10.00		\$2,776,700
Hillsdale Blvd at Clearview Wy														
Hillsdale Blvd at Clearview Wy	Signal Timing		4		0	0	0.00	0	10	10	0	20.00		\$4,000
Hillsdale Blvd at Hwy 101 Off Ramp														
Hillsdale Blvd at Hwy 101 Off Ramp	Signal Timing		7		0	0	0.00	0	0	10	10	20.00		\$7,000

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Hillsdale Blvd at Norfolk St															
Hillsdale Blvd at Norfolk St	Signal Timing			4		10	10	1.46	0	0	10	10		41.46	\$4,000
Humboldt St															
Humboldt St	Pedestrian Scale Lighting	Peninsula Ave to 5th Ave		1.32	Miles	10	10	4.40	0	10	10	10		54.40	\$2,870,800
Humboldt St at 3rd Ave															
Humboldt St at 3rd Ave	High-Visibility Crosswalk			3		10	10	1.95	0	0	10	10		41.95	\$3,600
Humboldt St at 4th Ave															
Humboldt St at 4th Ave	High-Visibility Crosswalk			4		10	0	1.95	0	0	10	10		31.95	\$4,800
Hwy 92 Eastbound Pm-Ramp at Alameda De Las Pulgas															
Hwy 92 Eastbound Pm-Ramp at Alameda De Las Pulgas	Signal Timing			3		10	0	0.00	0	0	10	0		20.00	\$3,000
Isabelle Ave at 27th Ave															
Isabelle Ave at 27th Ave	High-Visibility Crosswalk			4		0	0	0.49	0	0	0	0		0.49	\$4,800
J Hart Clinton Dr/ 3rd Ave at Norfolk St															
J Hart Clinton Dr/ 3rd Ave at Norfolk St	Signal Timing			4		10	10	1.46	10	10	10	10		61.46	\$4,000
J. Hart Clinton Dr at Norfolk St															
J. Hart Clinton Dr at Norfolk St	High-Visibility Crosswalk			4		10	10	1.43	10	10	5	10		56.43	\$4,800
Kentucky Ave at Alameda De Las Pulgas															
Kentucky Ave at Alameda De Las Pulgas	Signal Timing			3		10	0	0.00	0	10	10	0		30.00	\$3,000
Laguna Vista Path															
Laguna Vista Path	Class I Path	Los Prados- Laguna Vista		0.10	Miles	0	0	0.00	0	0	0	0		0.00	\$66,400
Laurel Ave															
Laurel Ave	Pedestrian Scale Lighting	5th Ave to 9th Ave		0.23	Miles	10	10	4.77	10	0	0	0		34.77	\$495,900
Laurel Ave at 5th Ave															
Laurel Ave at 5th Ave	High-Visibility Crosswalk			2		10	10	12.20	10	0	10	0		52.20	\$2,400
Laurel Ave at 8th Ave															
Laurel Ave at 8th Ave	High-Visibility Crosswalk			1		10	10	0.49	10	10	0	0		40.49	\$1,200
Maple St															
Maple St	Pedestrian Scale Lighting	5th Ave to Borel Ave		0.83	Miles	0	10	0.00	0	0	0	0		10.00	\$1,811,800
Mariners Island Blvd															
Mariners Island Blvd	Pedestrian Scale Lighting	Reef Dr to Fashion Isl Blvd		0.79	Miles	10	0	0.00	10	0	10	0		30.00	\$1,730,700
Monte Diablo Ave															
Monte Diablo Ave	Pedestrian Scale Lighting	El Camino Real-Bay Landing		1.30	Miles	10	10	5.50	10	0	5	10		50.50	\$2,827,800
Monte Diablo Ave at Delaware St															
Monte Diablo Ave at Delaware St	Curb Extension with Stop Bar			4		10	0	2.93	0	0	10	10		32.93	\$100,800
Nash Dr at Cottage Grove Ave															
Nash Dr at Cottage Grove Ave	School Zone Crosswalk			1		0	0	0.49	0	10	0	0		10.49	\$1,200
Nevada Ave at Alameda De Las Pulgas															
Nevada Ave at Alameda De Las Pulgas	Signal Timing			4		10	0	0.00	0	10	10	0		30.00	\$4,000
Norfolk St															
Norfolk St	Pedestrian Scale Lighting	J Hart Clinton/3rd Ave to Hillsdale Blvd		2.37	Miles	10	10	2.94	10	10	10	10		62.94	\$5,152,100
Norfolk St	Pedestrian Scale Lighting	Huron Ave to 3rd Ave/J Hart Clinton Dr		0.38	Miles	10	10	1.10	10	10	5	10		56.10	\$836,900
Orinda Dr at Del Rosa Wy															
Orinda Dr at Del Rosa Wy	School Zone Crosswalk			2		0	0	0.98	0	10	0	0		10.98	\$2,400

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Pacific Boulevard at 19 <sup>th</sup> Avenue														
Pacific Boulevard at 19 <sup>th</sup> Avenue	High-Visibility Crosswalk		2		10	0	0.00	10	0	0	0		20.00	\$2,400
Pacific Blvd at 39 <sup>th</sup> Ave														
Pacific Blvd at 39 <sup>th</sup> Ave	High-Visibility Crosswalk		1		0	10	2.44	0	0	10	0		22.44	\$1,200
Pacific Blvd at 40 <sup>th</sup> Ave														
Pacific Blvd at 40 <sup>th</sup> Ave	High-Visibility Crosswalk		1		0	10	2.44	0	0	10	0		22.44	\$1,200
Pacific Blvd at 41 <sup>st</sup> Ave														
Pacific Blvd at 41 <sup>st</sup> Ave	High-Visibility Crosswalk		1		0	10	0.49	0	0	10	0		20.49	\$1,200
Pacific Boulevard														
19 <sup>th</sup> Ave to New Development														
Pacific Boulevard	Pedestrian Scale Lighting		0.18	Miles	10	0	0.00	10	0	0	0		20.00	\$402,400
Pacific Boulevard	Sidewalk Installation	19 <sup>th</sup> Ave to Caltrain	0.18	Miles	10	0	0.00	10	0	0	0		20.00	\$18,400
Palm Ave														
Palm Ave	Pedestrian Scale Lighting	9 <sup>th</sup> Ave to 25 <sup>th</sup> Ave	1.35	Miles	10	10	8.07	10	0	5	10		53.07	\$2,947,000
Palm Ave at 12 <sup>th</sup> Ave														
Palm Ave at 12 <sup>th</sup> Ave	High-Visibility Crosswalk		1		10	10	0.98	0	0	5	0		25.98	\$1,200
Palm Ave at 15 <sup>th</sup> Ave														
Palm Ave at 15 <sup>th</sup> Ave	High-Visibility Crosswalk		1		10	0	0.00	0	0	5	0		15.00	\$1,200
Palm Ave at 17 <sup>th</sup> Ave														
Palm Ave at 17 <sup>th</sup> Ave	High-Visibility Crosswalk		4		10	0	6.34	0	0	5	0		21.34	\$4,800
Palm Ave at Hayward Ave														
Palm Ave at Hayward Ave	High-Visibility Crosswalk		1		10	10	0.00	0	0	5	0		25.00	\$1,200
Palm Ave at South Blvd														
Palm Ave at South Blvd	High-Visibility Crosswalk		2		10	0	6.34	0	0	5	0		21.34	\$2,400
Parrott Dr														
Parrott Dr	Planting	3 <sup>rd</sup> Ave Intersection	300.00	s.f.	0	10	0.48	0	0	5	0		15.48	\$6,000
Patricia Ave at James Ct														
Patricia Ave at James Ct	High-Visibility Crosswalk		1		0	0	0.49	0	0	0	0		0.49	\$1,200
Peninsula Ave														
El Camino Real to Humboldt St														
Peninsula Ave	Pedestrian Scale Lighting	Humboldt St	0.88	Miles	10	10	2.02	0	0	10	10		42.02	\$1,925,400
Peninsula Ave	Pedestrian Scale Lighting	Humboldt St east	0.53	Miles	10	10	0.37	10	0	0	10		40.37	\$1,160,800
Peninsula Ave at Prospect Row														
Peninsula Ave at Prospect Row	High-Visibility Crosswalk		3		10	0	1.46	0	0	10	0		21.46	\$3,600
Poinsettia Ave														
Poinsettia Ave	Pedestrian Scale Lighting	Saratoga Dr to Branson Dr	0.20	Miles	10	0	0.73	0	0	0	0		10.73	\$433,800
Poplar Ave														
El Camino Real to Humboldt St														
Poplar Ave	Pedestrian Scale Lighting	Humboldt St	0.80	Miles	10	10	5.69	0	10	10	10		55.69	\$1,739,800
Poplar Ave at Delaware St														
Poplar Ave at Delaware St	Signal Timing		4		10	0	4.39	0	10	10	10		44.39	\$4,000
Poplar Ave at Humboldt St														
Poplar Ave at Humboldt St	Signal Timing		4		10	10	3.90	0	10	10	10		53.90	\$4,000
Poplar Ave at San Mateo Dr														
Poplar Ave at San Mateo Dr	Signal Timing		4		10	0	2.93	0	0	10	0		22.93	\$4,000



Location	Type	Limits	Quantity	Unit	Greenway Pedestrian Corridor Network	Community Identified Challenge	Collision History	Access to Community Centers	School and Senior Facility Connections	Roadway Type	Federally Designated Low Income Areas	Identified in Walking Audit	Total Points	Cost Estimate
Railroad Ave														
Railroad Ave	Pedestrian Scale Lighting	3rd Ave to 4th Ave	0.12	Miles	10	10	5.87	10	0	0	0		35.87	\$262,000
Railroad Ave at 2nd Ave														
Railroad Ave at 2nd Ave	High-Visibility Crosswalk		5		10	10	9.76	10	0	10	0		49.76	\$6,000
Railroad Ave at 3rd Ave														
Railroad Ave at 3rd Ave	High-Visibility Crosswalk		3		10	10	12.68	10	0	10	0		52.68	\$3,600
Railroad Ave at 4th Ave														
Railroad Ave at 4th Ave	High-Visibility Crosswalk		2		10	10	10.73	10	0	10	0		50.73	\$2,400
Railroad Ave at 5th Ave														
Railroad Ave at 5th Ave	High-Visibility Crosswalk		2		10	10	7.80	10	0	10	0		47.80	\$2,400
Rosewood Dr at 9th Ave														
Rosewood Dr at 9th Ave	High-Visibility Crosswalk		1		10	0	0.49	10	0	10	0		30.49	\$1,200
S. Norfolk St at Parkside Plaza														
S. Norfolk St at Parkside Plaza	Crossing Beacon		4		10	0	0.95	0	0	10	0		20.95	\$60,000
S. Norfolk St at Parkside Plaza	Lamp		2		10	0	0.95	0	0	10	0		20.95	\$18,000
S. Norfolk St at Parkside Plaza	Pedestrian refuge		1		10	0	0.95	0	0	10	0		20.95	\$30,000
S. Norfolk St at Parkside Plaza	Advance yield lines		2		10	0	0.95	0	0	10	0		20.95	\$600
S. Norfolk St at Parkside Plaza	Signage		2		10	0	0.95	0	0	10	0		20.95	\$600
S. Norfolk St at Parkside Plaza	Bike lane				10	0	0.95	0	0	10	0		20.95	\$1,00
San Mateo Dr														
San Mateo Dr	Pedestrian Scale Lighting	Poplar Ave to 5th Ave	1.35	Miles	10	10	10.83	10	0	10	10		60.83	\$2,933,600
San Mateo Dr at 2nd Ave														
San Mateo Dr at 2nd Ave	Curb Extension with Stop Bar		4		10	10	5.37	10	0	10	0		45.37	\$100,800
San Mateo Dr at 2nd Ave	High-Visibility Crosswalk		4		10	10	5.37	10	0	10	0		45.37	\$4,800
San Mateo Dr at 2nd Ave	Planting		300	s.f.	10	10	6.83	10	0	10	0		46.83	\$6,000
San Mateo Dr at 2nd Ave	Railing		80		10	10	5.37	10	0	10	0		45.37	\$8,000
San Mateo Dr at 4th Ave														
San Mateo Dr at 4th Ave	High-Visibility Crosswalk		4		10	10	10.24	10	0	10	0		50.24	\$4,800
San Mateo Dr at Baldwin Ave														
San Mateo Dr at Baldwin Ave	School Zone Crosswalk		4		10	10	1.46	10	10	10	0		51.46	\$4,800
San Mateo Dr at Bellevue Ave														
San Mateo Dr at Bellevue Ave	High-Visibility Crosswalk		2		10	0	0.98	0	0	10	0		20.98	\$2,400
San Mateo Dr at Poplar Ave														
San Mateo Dr at Poplar Ave	High-Visibility Crosswalk		4		10	0	2.93	0	0	10	0		22.93	\$4,800
Saratoga Dr														
Saratoga Dr	Pedestrian Scale Lighting	Hillsdale Blvd to Poinsettia Ave	0.06	Miles	10	0	0.73	0	0	5	0		15.73	\$127,900
Saratoga Dr	Pedestrian Scale Lighting	Franklin Dr to Delaware St	0.85	Miles	0	0	0.00	0	0	0	0		0.00	\$1,845,000
Sonora Dr at Alameda De Las Pulgas														
Sonora Dr at Alameda De Las Pulgas	School Zone Crosswalk		1		10	0	0.49	0	10	10	0		30.49	\$1,200
St Matthews Ave at San Mateo Dr														
St Matthews Ave at San Mateo Dr	High-Visibility Crosswalk		2		10	10	4.39	10	0	10	0		44.39	\$2,400
Stratford Wy at 22nd Ave														
Stratford Wy at 22nd Ave	School Zone Crosswalk		2		0	0	0.00	0	10	0	0		10.00	\$2,400

Location	Type	Limits	Quantity	Unit	Greenway Pedestrian Corridor Network	Community Identified Challenge	Collision History	Access to Community Centers	School and Senior Facility Connections	Roadway Type	Federally Designated Low Income Areas	Identified in Walking Audit	Total Points	Cost Estimate
Sugarloaf Mountain Path														
Sugarloaf Mountain Path	Class I Path	Laurelwood Dr to Laurel Creek Rd	0.88	Miles	0	0	0.00	10	0	0	0		10.00	\$567,900
Tilton Ave														
Tilton Ave	Pedestrian Scale Lighting	El Camino Real to Rail	0.30	Miles	0	10	0.00	0	0	0	0		10.00	\$648,300
Tilton Ave at B St														
Tilton Ave at B St	Curb Extension with Stop Bar		1		0	10	4.39	10	0	5	10		39.39	\$25,200
Tilton Ave at B St	Lamp		2		0	10	4.39	10	0	5	10		39.39	\$6,200
Tilton Ave at Ellsworth Ave														
Tilton Ave at Ellsworth Ave	Advance stop bars		4		0	10	3.41	0	0	5	10		28.41	\$800
Tilton Ave at Ellsworth Ave	Curb Extension		4		0	10	3.41	0	0	5	10		28.41	\$100,000
Tilton Ave at Ellsworth Ave	High-Visibility Crosswalk		4		0	10	3.41	0	0	5	10		28.41	\$4,800
Tilton Ave at San Mateo Dr														
Tilton Ave at San Mateo Dr	High-Visibility Crosswalk		4		10	10	3.41	10	0	10	10		53.41	\$4,800
Tilton Ave at San Mateo Dr	Signal Timing		4		10	10	3.41	10	0	10	10		53.41	\$4,000
W Hillsdale Blvd at Edison St														
W Hillsdale Blvd at Edison St	Curb Extension with Stop Bar		4		10	10	3.90	0	0	10	10		43.90	\$100,800
W Hillsdale Blvd Between Hacienda St and Edison St														
W Hillsdale Blvd Between Hacienda St and Edison St	Midblock Crossing		1		10	0	4.39	0	0	10	10		34.39	\$2,400
W. Hillsdale Boulevard at Hillside Garden Apartments														
W. Hillsdale Boulevard at Hillside Garden Apartments	Crossing Beacon		2		10	0	3.81	0	0	10	10		33.81	\$30,000

## 8. Funding

This chapter describes various sources of funding available to plan and construct pedestrian facilities, or to provide awareness, encouragement, or education programs. Pedestrian projects and programs are funded through multiple sources, and not all sources apply to all projects. Many sources require a local funding match and most are competitive based on project merit and adherence to grant criteria. This chapter covers federal, state, regional and local sources of pedestrian funding, as well as some non-traditional funding sources that have been used by local agencies to fund pedestrian infrastructure and programs.

### 8.1. Federal Funding Sources

SAFETEA-LU, the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users, is the primary federal funding source for pedestrian projects. SAFETEA-LU is the fourth iteration of the transportation vision established by the Intermodal Surface Transportation Efficiency Act (1991). Also known as the federal transportation bill, Congress passed the \$286.5 billion SAFETEA-LU bill in 2005. SAFETEA-LU expired in 2009, at which time Congress approved extending funds through 2010. When the next multi-year federal transportation bill is reauthorized, funding available for pedestrian projects is likely to change. Historically, these modes have received larger allocations with each new multi-year transportation bill.

Caltrans, the State Resources Agency and regional planning agencies administer SAFETEA-LU funding. Most, but not all of these funding programs emphasize transportation modes and purposes that reduce auto trips and provide inter-modal connections. SAFETEA-LU programs require a local match of between zero percent and 20 percent. SAFETEA-LU funds primarily capital improvements and safety and education programs that relate to the surface transportation system.

To be eligible for Federal transportation funds, States are required to develop a State Transportation Improvement Program (STIP) and update it at least every four years. A STIP is a multi-year capital improvement program of transportation projects that coordinates transportation-related capital improvements planned by metropolitan planning organizations and the state.

To be included in the STIP, projects must be identified either in the Interregional Transportation Improvement Plan (ITIP), which is prepared by Caltrans, or in the Regional Transportation Improvement Plan (RTIP), which in the Bay Area is prepared by the Metropolitan Transportation Commission. Pedestrian improvements are eligible for inclusion. Caltrans updates the STIP every two years.

The following programs are administered by the Federal government.

### **8.1.1. Transportation, Community and System Preservation (TCSP) Program**

The Transportation, Community and System Preservation (TCSP) Program provides federal funding for transit oriented development, traffic calming and other projects that improve the efficiency of the transportation system, reduce the impact on the environment, and provide efficient access to jobs, services and trade centers. The program provides communities with the resources to explore the integration of their transportation system with community preservation and environmental activities. TCSP Program funds require a 20 percent match. Congress appropriated \$204 million to this program in Fiscal Year 2009. Funding has been extended under a continuing resolution for FY 2010.

Online resource: [www.fhwa.dot.gov/tcsp/](http://www.fhwa.dot.gov/tcsp/)

### **8.1.2. Rivers, Trails and Conservation Assistance Program**

The Rivers, Trails and Conservation Assistance Program (RTCA) is a National Parks Service program that provides technical assistance via direct staff involvement, to establish and restore greenways, rivers, trails, watersheds and open space. The RTCA program provides only for planning assistance—there are no implementation monies available. Projects are prioritized for assistance based upon criteria that include conserving significant community resources, fostering cooperation between agencies, serving a large number of users, encouraging public involvement in planning and implementation and focusing on lasting accomplishments.

Online resource:

[www.nps.gov/ncrc/programs/rtca/contactus/cu\\_apply.html](http://www.nps.gov/ncrc/programs/rtca/contactus/cu_apply.html)

### **8.1.3. National Scenic Byways Program**

The National Scenic Byways Program identifies roads with outstanding scenic, historic, and cultural, natural, recreational, and archaeological qualities as National Scenic Byways. The program

provides funding for scenic byway projects and for planning, designing, and developing scenic byway programs. There is a 20 percent match requirement. National Scenic Byways Program can be used to fund pedestrian facilities, intersection improvements, interpretive facilities, user maps and other publications. Within San Mateo County, Highway 1 is a National Scenic Byway, and Highways 280 and 35 are State Scenic Byways.

Nationally, \$3 million were available each fiscal year between 2006 and 2009. Grant applications for National Scenic Byways Programs are forwarded to the FHWA division office by the state or tribal scenic byways coordinator.

Federal Fact Sheet: [www.fhwa.dot.gov/safetealu/factsheets/scenic.htm](http://www.fhwa.dot.gov/safetealu/factsheets/scenic.htm)

National Scenic Byways Program: [www.bywayonline.org/grants/](http://www.bywayonline.org/grants/)

#### **8.1.4. Paul S. Sarbanes Transit in Parks Program**

Paul S. Sarbanes Transit in Parks and Public Lands Program, formerly the Alternative Transportation in Parks and Public Lands (ATPPL) Program, funds transportation modes that reduce congestion in parks and public lands. The program funds planning and capital expenses for alternative modes in state and national lands, including multi-use paths. Any local, state, federal agency or tribal group that manages federal lands may apply for funds. Project awards range from \$40,000 to \$3 million.

Online resource:

[www.fta.dot.gov/funding/grants/grants\\_financing\\_6106.html](http://www.fta.dot.gov/funding/grants/grants_financing_6106.html)

## **8.2. State-Administered Funding**

The State of California uses both federal sources (such as the Recreational Trails Program) and its own budget to fund pedestrian projects and programs. In some cases, such as Safe Routes to School, Office of Traffic Safety, and Environmental Justice grants, project sponsors apply directly to the State for funding. In others, such as Bay Trail grants, sponsors apply to a regional agency.

### **8.2.1. Federal Safe Routes to School (SRTS) and California Safe Routes to School (SR2S)**

Caltrans administers funding for Safe Routes to School projects through two separate and distinct programs: the state-legislated Program (SR2S) and the federally-legislated Program (SRTS). Both programs competitively award reimbursement grants with the goal of increasing the number of children who walk or bicycle to school.



California Safe Routes to School Program expires December 21, 2012, requires a 10 percent local match, is eligible to cities and counties, and targets children in grades K-12. The fund is primarily for construction, but applicants may use up to 10 percent of the program funds for education, encouragement, enforcement and evaluation activities. Cycle 9 provided \$24.25 million for FY 10/11.

The Federal Safe Routes to School Program has been extended through December 31, 2011, and may be included in the future federal transportation bill. Cities, counties, school districts, non-profits, and tribal organizations are eligible for the 100 percent reimbursable funds that target children in grades K-8. Applicants may use funds for construction or for education, encouragement, enforcement, and evaluation activities. Construction must be within two miles of a grade school or middle school. Cycle 1 provided \$42 million for FY 10/11 and 11/12 which may be adjusted pending a new federal transportation bill.

Online resource:

[www.dot.ca.gov/hq/LocalPrograms/saferoutes/saferoutes.htm](http://www.dot.ca.gov/hq/LocalPrograms/saferoutes/saferoutes.htm)

### **8.2.2. Recreational Trails Program**

The Recreational Trails Program (RTP) of SAFETEA-LU allocates funds to states to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses. Examples of trail uses include hiking, bicycling, in-line skating, equestrian use, and other non-motorized and motorized uses. The State Department of Parks and Recreation administers RTP funds in California. A minimum 12 percent of local match is required. California received a \$1.3 million apportionment for FY 2010 and continuation of the program is dependent on Federal authorization of a new transportation bill. RTP projects must be ADA-compliant and may be used for:

- Maintenance and restoration of existing trails
- Purchase and lease of trail construction and maintenance equipment
- Construction of new trails, including unpaved trails
- Acquisition of easements or property for trails
- State-administrative costs related to this program (limited to seven percent of a State's funds)
- Operation of educational programs to promote safety and environmental protection related to trails (limited to five percent of a State's funds).

Online resource: [www.fhwa.dot.gov/environment/rectrails/](http://www.fhwa.dot.gov/environment/rectrails/)

### **8.2.3. California Conservation Corps**

The California Conservation Corps (CCC) is a public service program that occasionally provides assistance on construction projects. The CCC may be written into grant applications as a project partner. In order to utilize CCC labor, project sites must be public land or publicly-accessible. CCC labor will not perform regular maintenance, but will perform annual maintenance, such as the opening of trails in the spring.

Online resource: [www.ccc.ca.gov/](http://www.ccc.ca.gov/)

### **8.2.4. Transportation Planning Grant Program**

The Transportation Planning Grant Program, administered by Caltrans, provides two grants for pedestrian project planning and construction.

The Community-Based Transportation Planning Grant funds projects that exemplify livable community concepts, including pedestrian improvement projects. Eligible applicants include local governments, MPOs, and RPTAs. A 20 percent local match is required and projects must demonstrate a transportation component or objective. There is \$3 million available annually statewide. The maximum grant award is \$300,000.

The Environmental Justice: Context Sensitive Planning Grants promote context sensitive planning in diverse communities and funds planning activities that assist low-income, minority, and Native American communities to become active participants in transportation planning and project development. Grants are available to transit districts, cities, counties, and tribal governments. This grant is funded by the State Highway Account at \$1.5 million annually statewide. The maximum grant award is \$300,000.

Online resource: [www.dot.ca.gov/hq/tpp/grants.html](http://www.dot.ca.gov/hq/tpp/grants.html)

### **8.2.5. Highway Safety Improvement Program**

The Highway Safety Improvement Program funds are allocated to States as part of SAFETEA-LU. The goal of HSIP funds is to achieve a significant reduction in traffic fatalities and serious injuries on all public roads. As required under the Highway Safety Improvement Program (HSIP) California Department of Transportation has developed and is in the process of implementing a Strategic Highway Safety Plan (SHSP). A portion of the HSIP funds allocated to each state is set aside for construction and operational improvements on high-risk rural roads. If the state has a Strategic Highway Safety Plan, the

remainder of the funds may be allocated to other programs, including projects on pathways or trails and education and enforcement. The local match varies between 0 and 10 percent. The maximum grant award is \$900,000.

Caltrans issues an annual call for projects for HSIP funding. Projects must meet the goals of the Strategic Highway Safety Plan.

Federal HSIP online resource:

[www.fhwa.dot.gov/safetealu/factsheets/hsip.htm](http://www.fhwa.dot.gov/safetealu/factsheets/hsip.htm)

Caltrans HSIP online resource:

[www.dot.ca.gov/hq/LocalPrograms/hsip.htm](http://www.dot.ca.gov/hq/LocalPrograms/hsip.htm)

### **8.2.6. Land and Water Conservation Fund**

Land and Water Conservation Fund (LWCF) is a federally funded program, run through the National Park Service that provides grants for planning and acquiring outdoor recreation areas and facilities, including trails. The fund is administered by the California Department of Parks and Recreation. The fund has been reauthorized until 2015.

Cities, counties, and districts authorized to acquire, develop, operate, and maintain park and recreation facilities are eligible to apply. Applicants must fund the entire project, and will be reimbursed for 50 percent of costs. Property acquired or developed under the program must be retained in perpetuity for public recreational use.

On June 3, 2009, Secretary of the Interior Ken Salazar signed the LWCF 2009 Certificate of Apportionment, which distributes over \$27 million to the States, Territories, and the District of Columbia. Approximately \$2.3 million is available for projects in California.

National Park Service website: [www.nps.gov/lwcf/](http://www.nps.gov/lwcf/)

California LWCF website:

[www.parks.ca.gov/default.asp?page\\_id=21360](http://www.parks.ca.gov/default.asp?page_id=21360)

### **8.2.7. Wildlife Conservation Board Public Access Program**

The Wildlife Conservation Board (WCB) is a California State board that provides grants to public agencies and non-profit groups and organizations. The focus of the Board's grant funding program is the acquisition of lands or improvements that preserve wildlife habitat or provide recreational access for hunting, fishing, or other wildlife-oriented activities. Up to \$250,000 dollars are available per project. Applications are accepted quarterly. Projects eligible for funding

include interpretive trails, river access, and trailhead parking areas. The State of California must have a proprietary interest in the project. Local agencies are generally responsible for the planning and engineering phases of each project.

Wildlife Conservation Board online resource: [www.wcb.ca.gov/](http://www.wcb.ca.gov/)

### **8.2.8. Environmental Enhancement and Mitigation Funds**

The Environmental Enhancement Mitigation Program (EEMP) provides grant opportunities for projects that indirectly mitigate environmental impacts of new transportation facilities. Projects should fall into one of the following three categories: highway landscaping and urban forestry, resource lands projects, or roadside recreation facilities. Funds are available for land acquisition and construction. The local Caltrans District must support the project. The average award amount is \$350,000.

Online resource: <http://resources.ca.gov/eem/>

### **8.2.9. State Highway Operations & Protection Program**

The State Highway Operations and Protection Program (SHOPP) is a Caltrans funding source with the purpose of maintaining and preserving the investment in the State Highway System and supporting infrastructure. Projects typically fall into the following categories: collision reduction, major damage restoration, bridge preservation, roadway preservation, roadside preservation, mobility enhancement, and preservation of other transportation facilities related to the state highway system. In the past, SHOPP funds have been used to construct pedestrian projects, including curb ramps, overcrossings, paths, sidewalks, and signal upgrades to meet ADA requirements. Jurisdictions work with Caltrans' districts to have projects placed on the SHOPP list.

The total amount available for the four-year SHOPP period between 2010/11 and 2013/14 fiscal years is \$6.75 billion, which is a reduction in funding from prior SHOPP programs. Past project awards have ranged from approximately \$140,000 to \$4.68 million.

The American Recovery and Reinvestment Act (ARRA) granted funding to this program in California.

Online resource: [www.dot.ca.gov/hq/transprog/shopp.htm](http://www.dot.ca.gov/hq/transprog/shopp.htm)

### **8.2.10. Petroleum Violation Escrow Account (PVEA)**

In the late 1970s, a series of Federal court decisions against selected United States oil companies ordered refunds to the States for price overcharges on crude oil and refined petroleum products during a period of price control regulations. To qualify for PVEA funding, a project must save or reduce energy and provide a direct public benefit within a reasonable time frame. In the past, the PVEA has been used to fund programs based on public transportation, computerized bus routing and ride sharing, home weatherization, energy assistance and building energy audits, highway and bridge maintenance, and reducing airport user fees. In California, Caltrans administers funds for transportation-related PVEA projects. PVEA funds do not require a match and can be used as match for additional Federal funds.

Online resource:

[www.dot.ca.gov/hq/LocalPrograms/lam/prog\\_g/g22state.pdf](http://www.dot.ca.gov/hq/LocalPrograms/lam/prog_g/g22state.pdf)

### **8.2.11. Office of Traffic Safety (OTS) Grants**

Office of Traffic Safety grants are supported by federal funding under the National Highway Safety Act and SAFETEA-LU. In California, the grants are administered by the Office of Traffic Safety.

Grants are used to establish new traffic safety programs, expand ongoing programs or address deficiencies in current programs. Eligible grantees are governmental agencies, state colleges, state universities, local city and county government agencies, school districts, fire departments, and public emergency services providers. Grant funding cannot replace existing program expenditures, nor can traffic safety funds be used for program maintenance, research, rehabilitation, or construction. Grants are awarded on a competitive basis, and priority is given to agencies with the greatest need. Evaluation criteria to assess need include potential traffic safety impact, collision statistics and rankings, seriousness of problems, and performance on previous OTS grants.

The 2011 California application deadline was in February. There is no maximum cap to the amount requested, but all items in the proposal must be justified to meet the objectives of the proposal.

California OTS online resource: [www.ots.ca.gov/Grants/default.asp](http://www.ots.ca.gov/Grants/default.asp)

### **8.2.12. Community Development Block Grants**

The CDBG program funds projects and programs that develop viable urban communities by providing decent housing and a suitable living



environment and by expanding economic opportunities, principally for persons of low and moderate income. Federal Community Development Block Grant Grantees may use CDBG funds for activities that include (but are not limited to) acquiring real property; building public facilities and improvements, such as streets, sidewalks, and recreational facilities; and planning and administrative expenses, such as costs related to developing a consolidated plan and managing CDBG funds. The state makes funds available to eligible agencies (cities and counties) through a variety of different grant types. Grantees enter into a contract with the state. Eligible agencies are determined based on a formula, and are listed on the HUD website.

California received a \$42.8 million allocation for all CDBG programs in FY 2010. The maximum grant amount is \$800,000 for up to two eligible projects or \$400,000 for a public service program.

Online resource:

[www.hud.gov/offices/cpd/communitydevelopment/programs/index.cfm](http://www.hud.gov/offices/cpd/communitydevelopment/programs/index.cfm)

Eligible CDBG Agencies in California:

[www.hud.gov/local/ca/community/cdbg/#state](http://www.hud.gov/local/ca/community/cdbg/#state)

## 8.3. Local Funding Sources

Local funding sources are generally administered by Metropolitan Planning Organizations, Congestion Management Agencies, Transportation Improvement Authorities, or other regional agencies. Counties or cities may administer some funding sources. These funding sources are supported by federal, state, or local revenue streams.

### 8.3.1. Regional Surface Transportation Program

The Regional Surface Transportation Program (RSTP) is a block grant program that provides funding for pedestrian projects, among many other transportation projects. Under the RSTP, Metropolitan planning organizations, such as the Metropolitan Transportation Commission's (MTC), prioritize and approve projects that will receive RSTP funds. Metropolitan planning organizations can transfer funding from other federal transportation sources to the RSTP program in order to gain more flexibility in the way the monies are allocated. In California, 76 percent of RSTP funds are allocated to urban areas with populations of at least 200,000. The remaining funds are available statewide.

Online resource: [www.mtc.ca.gov/funding/STPCMAQ/](http://www.mtc.ca.gov/funding/STPCMAQ/)

### **8.3.2. Transportation for Livable Communities Program**

The Transportation for Livable Communities Program (TLC) provides grant monies to public agencies to encourage land use decisions that support compact, pedestrian-friendly development near transit hubs. MTC's Transportation Plan 2035 stipulates all eligible TLC projects to be within Priority Development Areas (PDAs), which focus growth around transit. MTC selects projects based on their status (planned or proposed) and their development intensity. MTC administers the TLC program with funds from the Regional Surface Transportation Project and caps grants at \$400,000. Funds may be used for capital projects or planning.

Online resource:

[www.mtc.ca.gov/planning/smart\\_growth/tlc\\_grants.htm](http://www.mtc.ca.gov/planning/smart_growth/tlc_grants.htm)

### **8.3.3. One Bay Area**

The One Bay Area Grant program is a new regional funding program. It will expand the amount of funding available and provide additional flexibility to jurisdictions by eliminating required program categories and combining funding for Transportation for Livable Communities, Bicycle, Local Streets and Roads Rehabilitation, and Safe Routes to School.

[http://apps.mtc.ca.gov/meeting\\_packet\\_documents/agenda\\_1701/2a\\_OneBayArea\\_GrantProposal.pdf](http://apps.mtc.ca.gov/meeting_packet_documents/agenda_1701/2a_OneBayArea_GrantProposal.pdf)

### **8.3.4. Transportation Fund for Clean Air**

Administered by the Bay Area Air Quality Management District (BAAQMD), the Transportation Fund for Clean Air (TFCA) is a grant program funded by a \$4 surcharge on motor vehicles registered in the Bay Area. This surcharge generates approximately \$22 million per year in revenue. TFCA's goal is to implement the most cost-effective projects in the Bay Area that will decrease motor vehicle emissions, and therefore improve air quality. Projects must be consistent with the 1988 California Clean Air Act and the Bay Area Ozone Strategy. TFCA funds covers a wide range of project types, including arterial management improvements to speed traffic flow on major arterials and smart growth.

Online resource: [www.baaqmd.gov/Divisions/Strategic-Incentives/Funding-Sources/TFCA.aspx](http://www.baaqmd.gov/Divisions/Strategic-Incentives/Funding-Sources/TFCA.aspx)

### **8.3.5. Safe Routes to Transit (SR2T)**

Regional Measure 2 (RM2), approved in March 2004, raised the toll on seven state-owned Bay Area bridges by one dollar for 20 years. This fee increase funds various operational improvements and capital projects that reduce congestion or improve travel in the toll bridge corridors.

MTC allocates the \$20 million of RM2 funding to the Safe Routes to Transit Program, which provides competitive grant funding for capital and planning projects that improve pedestrian access to transit facilities. Eligible projects must reduce congestion on one or more of the Bay Area's toll bridges. Transform and the East Bay Bicycle Coalition administer SR2T funding. Awarded in five \$4 million grant cycles, the first round of funding was awarded in December 2005. Future funding cycles will be in 2013.

Online resource:

[www.transcoalition.org/c/bikeped/bikeped\\_saferoutes.html](http://www.transcoalition.org/c/bikeped/bikeped_saferoutes.html)

### **8.3.6. TDA Article 3**

Transportation Development Act (TDA) Article 3 funds are state block grants awarded annually to local jurisdictions for transit, bicycle, and pedestrian projects in California. Funds originate from the Local Transportation Fund (LTF), which is derived from a quarter-cent of the general state sales tax. LTF funds are returned to each county based on sales tax revenues. MTC estimates allocating \$22 million in revenues to San Mateo County. San Mateo City/County Association of Governments (C/CAG) develops a list of TDA Article 3 projects for San Mateo County through a competitive process, and then receives funding from MTC to distribute to local agencies.

Eligible pedestrian projects include: construction and engineering for capital projects; maintenance of Class I bikeways, and development of comprehensive pedestrian facility plans. A city or county may apply for funding to develop or update pedestrian plans not more than once every five years. TDA funds may be used to meet local match requirements for federal funding sources. Two percent of the total TDA apportionment is available for bicycle and pedestrian funding.

Online resource: [www.mtc.ca.gov/funding/STA-TDA/](http://www.mtc.ca.gov/funding/STA-TDA/)

### **8.3.7. Measure A**

San Mateo County Voters approved Measure A in 1988, increasing local sales tax by one-half of one percent for transportation improvements designated in the Transportation Expenditure Plan. The measure's 2004 reauthorization extended it through 2033. The San

Mateo County Transportation Authority (TA) administers Measure A revenues to fund a wide variety of transportation-related projects and programs. In 2011, the TA will issue its first call for pedestrian projects funded through Measure A.

Online resource: [www.smcta.com/](http://www.smcta.com/)

### **8.3.8. Peninsula Traffic Congestion and Relief Alliance**

The Peninsula Traffic Congestion and Relief Alliance (The Alliance) is San Mateo County's Transportation Demand Management Agency. The Alliance's mission is to reduce the number of single occupancy vehicles traveling in, to, and through San Mateo County, reducing vehicle emissions resulting in improved air quality. The Alliance is funded by the C/CAG, the San Mateo County TA, the BAAQMD, and the MTC.

The Alliance provides small grants and cash incentives that allow communities and employers to provide commuter benefits that encourage transit and walking. Programs include the Commute Benefit Employer Incentive Program, which allows employers to provide employees with up to \$230 pre-tax for most commute expenses, free transit tickets, and a Bicycle and Pedestrian Safety Program.

Online resource: [www.commute.org](http://www.commute.org)

### **8.3.9. New Construction**

Future construction projects are a means of providing sidewalks, trails and other pedestrian facilities and amenities. To ensure that roadway construction projects provide facilities where needed and feasible, it is important that an effective review process be in place so that new roads meet the City's standards and guidelines for the development of pedestrian facilities. This Plan includes guidelines for development of pedestrian facilities that would apply to new development meeting certain minimum criteria.

### **8.3.10. General Funds**

One of the local revenue sources of cities, towns, and counties available for use on pedestrian improvements are general funds resulting from sales taxes, property taxes, and other miscellaneous taxes and fees. There are generally few restrictions on the use of these funds, which are utilized for a large variety of local budget needs. As such, there is typically high demand for these funds for numerous government services. Design and construction of pathways through use of this

funding source usually receives limited support from local governments unless their constituents lobby effectively for such use.

In some cases, a component of local general funds can be dedicated to transportation improvements including the construction and repair of pathways.

### **8.3.11. Special Improvement Districts**

Cities may establish special improvement districts to provide funding for specified public improvement projects within the designated district. Property owners in the district are assessed for the improvements and can pay the amount immediately or over a span of 10 to 20 years. Street pavement, curb and gutter, and streetlights are some of the common improvements funded by Special Improvement Districts. Business Improvement Districts and Special Assessment Districts are examples of special improvement districts.

### **8.3.12. Mello-Roos Community Facilities Act**

In 1982, California Legislature passed the Mello-Roos Community Facilities Act in response to reduced funding opportunities resulting from Proposition 13. The Mello-Roos Act allows any county, city, special district, school district, or joint powers of authority to establish a Community Facility Districts (CFD) for the purpose of selling tax-exempt bonds to fund public improvements within that district. CFDs must be approved by a two-thirds margin of qualified voters in the district. Property owners within the district are responsible for paying back the bonds. Construction and maintenance of pedestrian facilities are eligible for funding under CFD bonds.

### **8.3.13. Parks and Recreation Funds**

Local parks and recreation funds are generally derived from property and sales taxes and some fee revenues, and they are sometimes used directly for pathway or pathway-related facilities, including bathrooms, pocket parks, lighting, parking, and landscaping. Parks and recreation funds are also utilized to cover pathway maintenance costs incurred by these departments.

### **8.3.14. Integration into Larger Projects**

“Routine accommodation” policies at Caltrans and MTC require agencies to design, construct, operate, and maintain transportation facilities using best practices for pedestrians. Local jurisdictions can begin to expect that some portion of pedestrian facility project costs,



when they are built as part of larger transportation projects, will be covered in project construction budgets.

## **8.4. Other Sources**

### **8.4.1. Community Action for a Renewed Environment (CARE)**

CARE is a competitive grant program that offers an innovative way for a community to organize and take action to reduce toxic pollution in its local environment. Through CARE, a community creates a partnership that implements solutions to reduce releases of toxic pollutants and minimize people's exposure to them. By providing financial and technical assistance, EPA helps CARE communities get on the path to a renewed environment. Transportation and “smart-growth” types of projects are eligible. Grants range between \$75,000 and \$300,000.

Online resource: [www.epa.gov/care/](http://www.epa.gov/care/)

### **8.4.2. Volunteer and Public-Private Partnerships**

Local schools or community groups may use the pedestrian projects as a project for the year, possibly working with a local designer or engineer. Work parties may be formed to help clear the right-of-way where needed. A local construction company may donate or discount services. A challenge grant program with local businesses may be a good source of local funding, where corporations ‘adopt’ a trail or street and help construct, improve, and/or maintain the facility.

### **8.4.3. Kaiser Permanente Community Health Initiatives**

Public agencies may apply to Kaiser Permanente Community Health Initiatives grants. These grants support community investment. In the San Mateo area, Kaiser grants support increased physical activity, and programs that seek to help seniors remain physically active.

Online resource:

[http://info.kp.org/communitybenefit/html/grantmaking/global/grantmaking\\_1.html](http://info.kp.org/communitybenefit/html/grantmaking/global/grantmaking_1.html)

[http://info.kp.org/communitybenefit/html/our\\_communities/northern-california/sanmateo/index.html](http://info.kp.org/communitybenefit/html/our_communities/northern-california/sanmateo/index.html)

## 8.5. Funding Summary Tables

Table 8-1 presents acronyms and online resources for potential funding programs, and the jurisdictions operating in San Mateo. Table 8-2 presents a summary of potential funding sources.

Table 8-1: Funding Acronyms, Online Resources, and Government Jurisdictions

Acronyms	Online Resources
BAAQMD – Bay Area Air Quality Management District	Caltrans TEA-21 website - <a href="http://www.dot.ca.gov">www.dot.ca.gov</a>
Caltrans - California Department of Transportation	FHWA – SAFETEA-LU – website - <a href="http://www.fhwa.dot.gov/reauthorization">www.fhwa.dot.gov/reauthorization</a>
CMAQ - Congestion Mitigation and Air Quality	<a href="http://www.dot.ca.gov/hq/LocalPrograms/">www.dot.ca.gov/hq/LocalPrograms/</a>
CTC - California Transportation Commission	<a href="http://www.fhwa.dot.gov/environment/rectrails/">www.fhwa.dot.gov/environment/rectrails/</a>
FHWA - Federal Highway Administration	<a href="http://www.ccc.ca.gov/">www.ccc.ca.gov/</a>
RTPA - Regional Transportation Planning Agency	<a href="http://www.mtc.ca.gov/planning/smart_growth/">www.mtc.ca.gov/planning/smart_growth/</a>
State DPR - California Department of Parks and Recreation (under the State Resources Agency)	<a href="http://www.mtc.ca.gov/funding/STA-TDA/">www.mtc.ca.gov/funding/STA-TDA/</a>
SAFETEA – Safe Accountable Flexible, Efficient Transportation Equity Act: A Legacy for Users	<a href="http://www.baaqmd.gov/pln/grants_and_incentives/">www.baaqmd.gov/pln/grants_and_incentives/</a>
VTA: Valley Transportation Authority	<a href="http://www.dot.ca.gov/hq/LocalPrograms/saferoutes/saferoutes.htm">www.dot.ca.gov/hq/LocalPrograms/saferoutes/saferoutes.htm</a>
	<a href="http://transformca.org/campaign/sr2t">http://transformca.org/campaign/sr2t</a>
	<a href="http://www.hud.gov/offices/cpd/communitydevelopment/programs/index.cfm">www.hud.gov/offices/cpd/communitydevelopment/programs/index.cfm</a>
Jurisdictions for San Mateo	
Caltrans - Caltrans District 4	
Congressional District 12	
Assembly District 19	
Senate District 8	

Table 8-2: Funding Sources

Grant Source	Due Date	Granting Agency	Total Available	Matching Requirement	Eligible Applicants	Commute	Recreation	Safety/Ed	Comments
Federally-Administered Funding									
Transportation, Community and System Preservation Program	--	FHWA	\$204 m nationwide	20%	State, local, MPOs	--	--	--	Projects that improve system efficiency reduce environmental impacts of transportation, etc. Contact K. Sue Kiser, Regional FHWA office, (916) 498-5009
Rivers, Trails and Conservation Assistance Program	Aug. 1	NPS	--	None	Governments, communities	X	X	--	RTCA staff provide technical assistance to communities so they can conserve rivers, preserve open space, and develop trails and greenways. Contact NPS at (202) 354-6900.
National Scenic Byways Program	--	FHWA	\$3 m nationwide	20%	Individuals, governments, Indian tribes	X	X	X	Can be used to fund pedestrian facilities, intersection improvements, interpretive facilities, user maps and other publications.
Paul S. Sarbanes Transit in Parks Program	--	USDOT, DOI, USFS	\$40,000 - \$3 m per project	None	Local, state, and federal agencies and tribal groups that manage federal lands	X	X	--	Funding may be used for capital and planning expenses for new or existing alternative transportation systems in the vicinity of an eligible area.

Grant Source	Due Date	Granting Agency	Total Available	Matching Requirement	Eligible Applicants	Commute	Recreation	Safety/Ed	Comments
<b>State-Administered Funding</b>									
Federal Safe Routes to School (SRTS)	Early 2011	Caltrans	\$46 m	None	State, city, county, MPOs, RTPAs and other organizations that partner with one of the above	X	--	X	Construction, education, encouragement and enforcement program to encourage walking and bicycling to school. Contact Caltrans District 4 Transportation Planning and Local Assistance office at (510) 286-5226.
Recreational Trails Program (RTP)	Oct. 1	State DPR	\$1.3 m	12% match	Jurisdictions, special districts, non profits with management responsibilities over the land	--	X	--	For recreational trails to benefit bicyclists, pedestrians, and other users; contact State Dept. of Parks & Rec., Statewide Trails Coordinator, (916) 653-8803
California Conservation Corps	On-going	California Conservation Corps	Labor	None	Federal and state agencies, city, county, school district, NPO, private industry	X	X	--	Contact the Corps at (916) 341-3100.

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Grant Source	Due Date	Granting Agency	Total Available	Matching Requirement	Eligible Applicants	Commute	Recreation	Safety/Ed	Comments
Community Based Transportation Planning Grant Program	Nov.	Caltrans	\$4.5 m	20% local	MPO, RPTA, city, county	X	--	--	Projects that exemplify livable community concepts. Contact Leigh Levine, Caltrans, (916) 651-6012
California Safe Routes to School (SR2S)	July 15	Caltrans	\$48.5 m	10%	City, county	X	X	X	Primarily construction program to enhance safety of pedestrian and bicycle facilities. Contact Caltrans District 4, (510) 286-5598
Highway Safety Improvement Program	--	Caltrans	\$900,000 per project	0%-10%	City, county	X	X	--	Funds may be used for work on any publicly-owned roadway or bicycle/pedestrian pathway or trail that corrects or improves the safety for its users.
Land and Water Conservation Fund	Nov. 1	DPR	\$2.3 m in CA	50%	City, county, district	--	X	--	Funds may be used for statewide planning, and for acquiring and developing outdoor recreation areas and facilities.
Wildlife Conservation Board Public Access Program	Year round	WCB	\$250,000 per project	50% desirable	Federal, state, county, city, non-profit organization, public district, corporations	--	X	--	Funds public access for hunting, fishing, or other wildlife-oriented recreation.



Grant Source	Due Date	Granting Agency	Total Available	Matching Requirement	Eligible Applicants	Commute	Recreation	Safety/Ed	Comments
Environmental Enhancement and Mitigation Funds	Sept. 12	NRA and Caltrans	\$350,000 per project	None	State, local, federal or non-profit entity	X	X	--	Eligible projects include highway landscaping and urban forestry, resource lands projects, or roadside recreation facilities.
State Highway Operations and Protection Program	--	Caltrans	\$140,000-\$4.68 m per project		Local governments	X	X	X	Jurisdictions work with Caltrans' districts to have projects placed on the SHOPP list.
Petroleum Violation Escrow Account (PVEA)	On-going	Caltrans	\$0.5 m	--	City, county, transit operators	--	--	--	Bicycle and trail facilities have been funded with this program. Contact Caltrans Federal Resource Office, (916) 654-7287
Office of Traffic Safety (OTS) Grants	Feb.	OTS	No maximum	--	Governmental agencies; state colleges and universities; school districts; fire departments; public emergency services providers	--	--	X	Grants are used to establish new traffic safety programs, expand ongoing programs or address deficiencies in current programs.

Grant Source	Due Date	Granting Agency	Total Available	Matching Requirement	Eligible Applicants	Commute	Recreation	Safety/Ed	Comments
Community Development Block Grants	--	U.S. Dept. of Housing and Urban Development (HUD)	--	--	City, county	X	X	--	Funds local community development activities such as affordable housing, anti-poverty programs, and infrastructure development.
Funding Administered by Local Agencies									
Regional Surface Transportation Program (RSTP)	varies by RPTA	RTPAs, Caltrans	\$320 m	11.47% non-federal match	Cities, counties, transit operators, Caltrans, and MPOs	X	X	--	RSTP funds may be exchanged for local funds for non-federally certified local agencies; no match may be required if project improves safety. Contact Cathy Gomes, Caltrans, (916) 654-3271.
Transportation for Livable Communities Program	Jun. 23	MTC	\$16 m	None	City, neighborhood, transit agency, NPO	X	X	--	Program provides technical assistance and capital grants. TLC grants are capped at \$400,000. Contact MTC at (510) 817-5700.
Transportation Fund for Clean Air	--	TAM/BAAMQD	\$22 m	None	Public agencies within TAM jurisdiction	X	--	--	Projects must provide a nexus to improving air quality. Contact TAM (Dave Chan) at 415-226-0821

Grant Source	Due Date	Granting Agency	Total Available	Matching Requirement	Eligible Applicants	Commuter	Recreation	Safety/Ed	Comments
Safe Routes to Transit	Aug.	MTC	\$4 m	None	Public agencies	X	X	--	Eligible projects must have a bridge nexus (i.e., reduce congestion on one or more state toll bridges). Program is run by Transform (510-740-3150) and the East Bay Bicycle Coalition (510-533-7433).
Transportation Development Act (TDA) Article 3	Jan.	RPTA (MTC)	\$1.6 M for Santa Clara County (2010-2011)	None	City, county, joint powers agency	X	X	--	Projects must be included in either a detailed circulation element or plan included in a general plan or an adopted comprehensive bikeway plan and must be ready to implement within the next fiscal year. Contact MTC at (510) 817-5733.
Measure A	Mar.	TA	\$3.0 million	None; preference for 50%	Sponsored by San Mateo County or a City in the Count.	X	X	X	Eligible projects include but are not limited to: paths, trails, and bridges over roads and highways.
Peninsula Traffic Congestion and Relief Alliance	On-going	Alliance	Varies	None	Communities and employers	X	--	X	Programs include the Commute Benefit Employer Incentive Program, which allows employers to provide employees with up to \$230 pre-tax for most commute expenses, free transit tickets, and a Bicycle and Pedestrian Safety Program.

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Grant Source	Due Date	Granting Agency	Total Available	Matching Requirement	Eligible Applicants	Commute	Recreation	Safety/Ed	Comments
New Construction	--	City, county	--	--	--	X	X	--	Mitigation required during land use approval process.
General Funds	--	City	--	--	City, county	X	X	X	Funds from sales taxes, property taxes, and other miscellaneous taxes and fees.
Special Improvement Districts	--	City, county, joint powers authority	--	--	City, county, joint powers authority, private industry, neighborhoods, communities	X	X	X	A public-private partnership in which businesses in a defined area pay an additional tax or fee in order to fund improvements within the district's boundaries. Only those who benefit from the improvement may be taxed. Taxes should be tied to the amount of benefit received.
Mello-Roos Community Facilities Act	--	City, county, special district, school district, joint powers authority	--	--	City, county, special district, school district, joint powers authority	X	X	X	Property owners within the district are responsible for paying back the bonds.
Parks and Recreation Funds	--	City	--	--	City	X	X	X	Funds from property and sales taxes and some fee revenues
Integration into Larger Projects	--	City, county	--	--	--	X	X	--	Incorporated into development or design standards applicable to new development.

Grant Source	Due Date	Granting Agency	Total Available	Matching Requirement	Eligible Applicants	Commute	Recreation	Safety/Ed	Comments
Funding Administered by Local Agencies									
Community Action for a Renewed Environment (CARE)	Mar.	EPA	\$75,000 - \$300,000	None	Local government, non-profit organizations, others	X	--	X	Eligible projects include transportation and "smart-growth" types of projects.
Volunteer and Public-Private Partnerships	--	--	--	--	Public agency, private industry, schools, community groups	X	X	X	Community-based initiative to implement improvements.



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## **Appendix A. Pedestrian Design Guidelines**

The purpose of the Pedestrian Design Guidelines is to integrate existing resources and best practice ideas into one coherent set of guidelines aimed at further improving the pedestrian experience in San Mateo. The Pedestrian Design Guidelines include Americans with Disabilities Act (ADA) requirements and address accessibility needs for pedestrians with limited mobility or assistance devices. These guidelines can be used by policy makers, planners, and the public to guide decisions related to new construction and retrofitting existing infrastructure.

The pedestrian enhancements described throughout these guidelines provide street design best practice guidance, which can enhance the safety, convenience, and mobility for pedestrians. Potential treatments include different design options for pedestrian crossings, pedestrian amenities, and community vitality. The guidelines built upon the City of San Mateo's existing pedestrian-related planning, zoning, and engineering policies. In the cases where the City did not have an adopted policy, recommendations were made based on widely recognized best-practice guidelines and state and federal regulations. However, in all cases, engineering judgment is required in implementing specific projects.

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## A.1. Sidewalk Standards - Introduction

### Discussion

Sidewalks form the backbone of the pedestrian transportation network. Good street and sidewalk design can foster healthier communities by improving public safety, enhancing mobility, reducing environmental impacts, and building community character.

Sidewalks consist of one or several zones. The zones are named for the primary activity that occurs in the zone. Section A.2 describes the recommended sidewalk zones for San Mateo, which include through, planter/furniture, frontage, and flex-use zones. The presence and width of each zone along a given sidewalk depends on the adjoining roadway type and transportation needs, surrounding land uses, and community needs and desires.

The widths of sidewalks determine the types of pedestrian elements that can be installed and affect the pedestrian activities that occur there. In residential areas, sidewalks four to six feet wide are likely appropriate. In commercial settings with a mix of uses, wider sidewalks are sometimes essential for high pedestrian traffic and/or to accommodate amenities such as street furniture or newspaper stands. Streetscape elements can vary from a simple landscape strip in a residential setting to many elements such as street trees, pedestrian lighting with banners, and benches in areas with larger pedestrian traffic. These Pedestrian Design Guidelines establish eight sidewalk types with varying zones and widths. By standardizing streetscape design by land use, the guidelines ensure that future development of public rights-of-way in San Mateo's residential, commercial, and mixed use areas meet the City's vision for vibrant, healthy pedestrian environments. These guidelines seek to create places that are sensitive to the land use context, distinctive, attractive, and rich in amenities and that provide more convenience and choice for pedestrians. **Table A-1** lists the sidewalk types for residential, commercial, and mixed use land uses. Sections A.3 through A.10 present the different sidewalk types.



## A.2.Sidewalk Standards – Overview

### Sidewalk Zones

**Through Zone:** The open, accessible, unblocked right-of-way for pedestrian walkability, usually between the Planter/Furniture Zone and the Frontage Zone.

**Planter/Furniture Zone:** The portion of the sidewalk closest to the street that provides space for signage, street lights, newsracks, bus waiting areas, benches, parking pay stations, bike parking, street trees, and other sidewalk amenities.

**Frontage Zone:** The portion of sidewalk directly adjacent to the buildings, which is within City right-of-way but is available to be used by restaurants and businesses for food service seating, planting, or decorative outdoor sales.

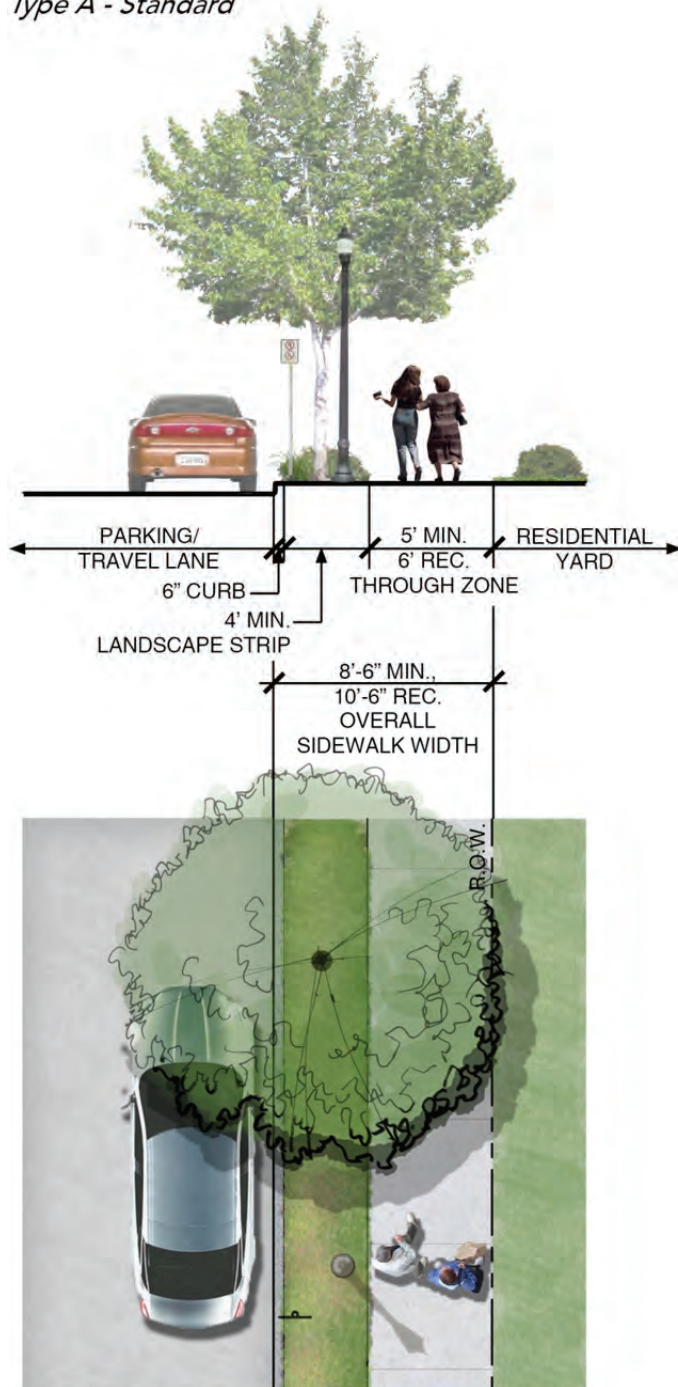
**Flex Use Zone:** Street parking stall or other unused asphalt recaptured to create space for outdoor seating, bike parking, planting, parklets, or other amenities.

Table A-1: Sidewalk Types and Key Characteristics for Residential, Commercial, and Mixed Use Land Uses

SIDEWALK TYPES	RESIDENTIAL	COMMERCIAL	MIXED USE
A - Standard	Landscape strip, parallel parking, small setback		
B - Constrained	Parallel parking, large setback		
C - New Development	Planter/furniture zone, parallel parking, large setback		
A - Sidewalk Along Parallel Parking		Planter/furniture, flex use, and frontage zones	
B - Sidewalk Along Angled Parking		Planter/furniture and flex use zones	
C - New Development		Planter/furniture, flex use, and frontage zones	
A - Mixed Use Zero-Setback Neighborhood			Planter/furniture and frontage zones, landscape strip, travel lane, no parking
B - Mixed Use with Street Parking			Planter/furniture and frontage zones, parallel parking

## A.3. Sidewalk Standards – Residential Type A Standard

*Type A - Standard*



### NOTES

- Applicable for neighborhoods with higher levels of traffic/speeds, or where small setbacks disallow tree planting in yard (i.e., apartment complex).

\*Graphics show recommended dimensions.

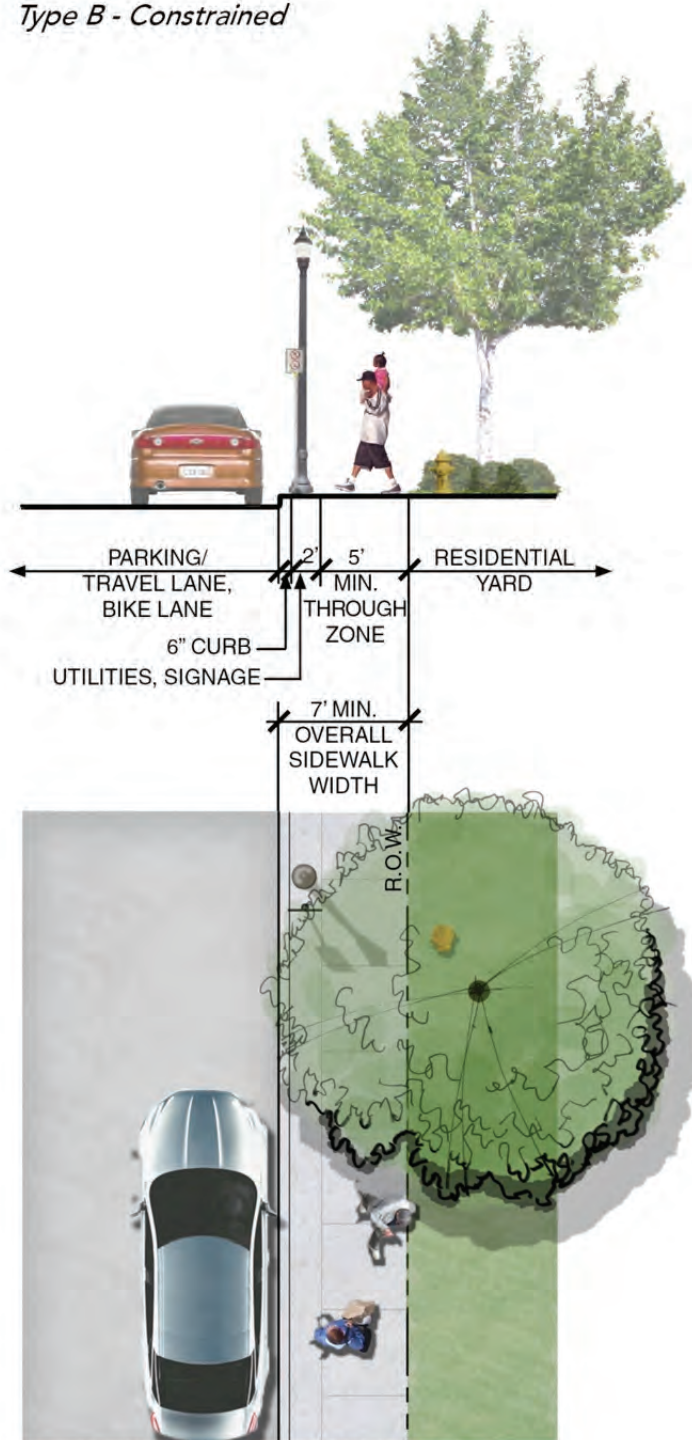
Callander Associates





## A.4.Sidewalk Standards – Residential Type B Constrained

*Type B - Constrained*



\*Graphics show recommended dimensions.

### NOTES

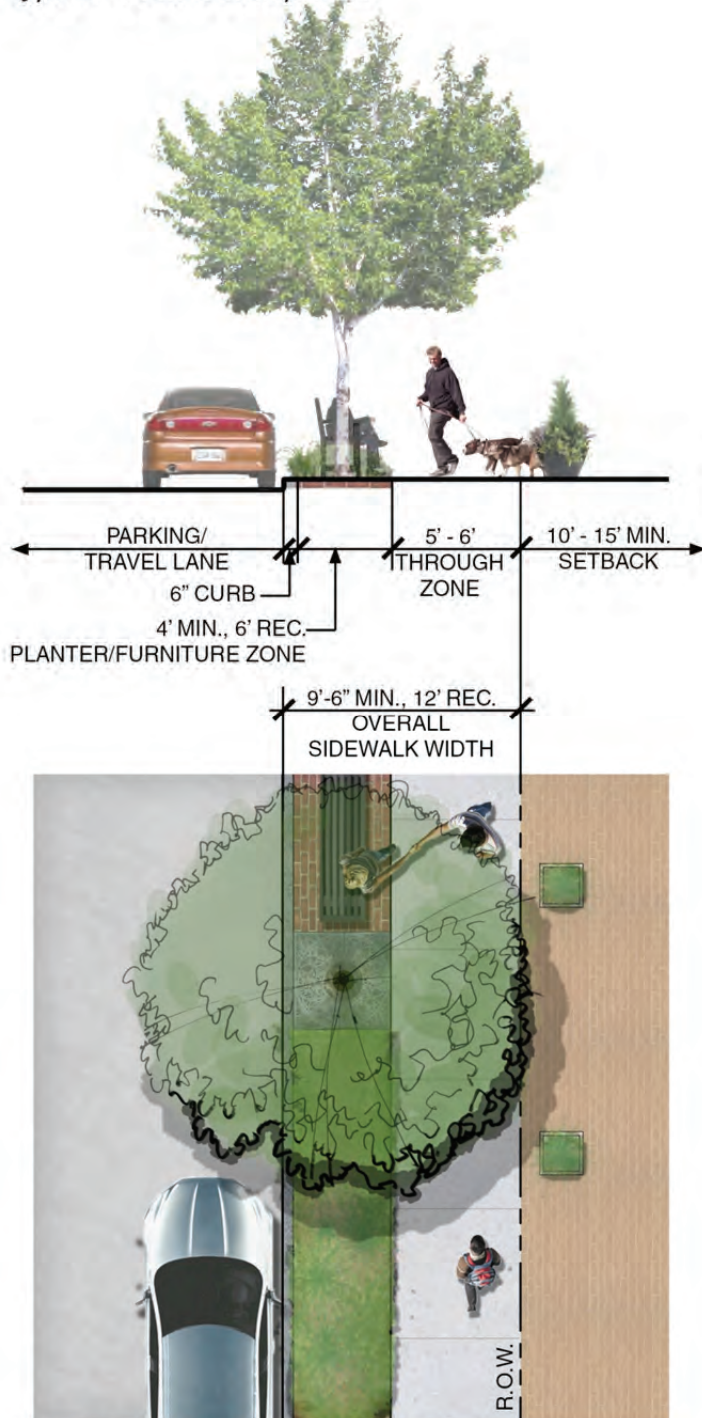
- Applicable for neighborhoods with less than 15 dwelling units per acre, minimum 10' building setback.
- Encourage street tree planting in residential yards
- Applicable to small infill projects or constrained rights of way.
- Due to minimum clearance requirements, utilities and/or signage may be located on the residential side of the through zone. If relocation is necessary, the minimum through zone width must be retained.

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## A.5. Sidewalk Standards – Residential Type C New Development

### *Type C - New Development*



\*Graphics show recommended dimensions.

### NOTES

- Application for new, higher density neighborhoods with minimum of 10'-15' setback required.
- Locate stormwater treatment features in planter/furniture zone.
- Locate street trees in tree grates within planter/furniture zone.

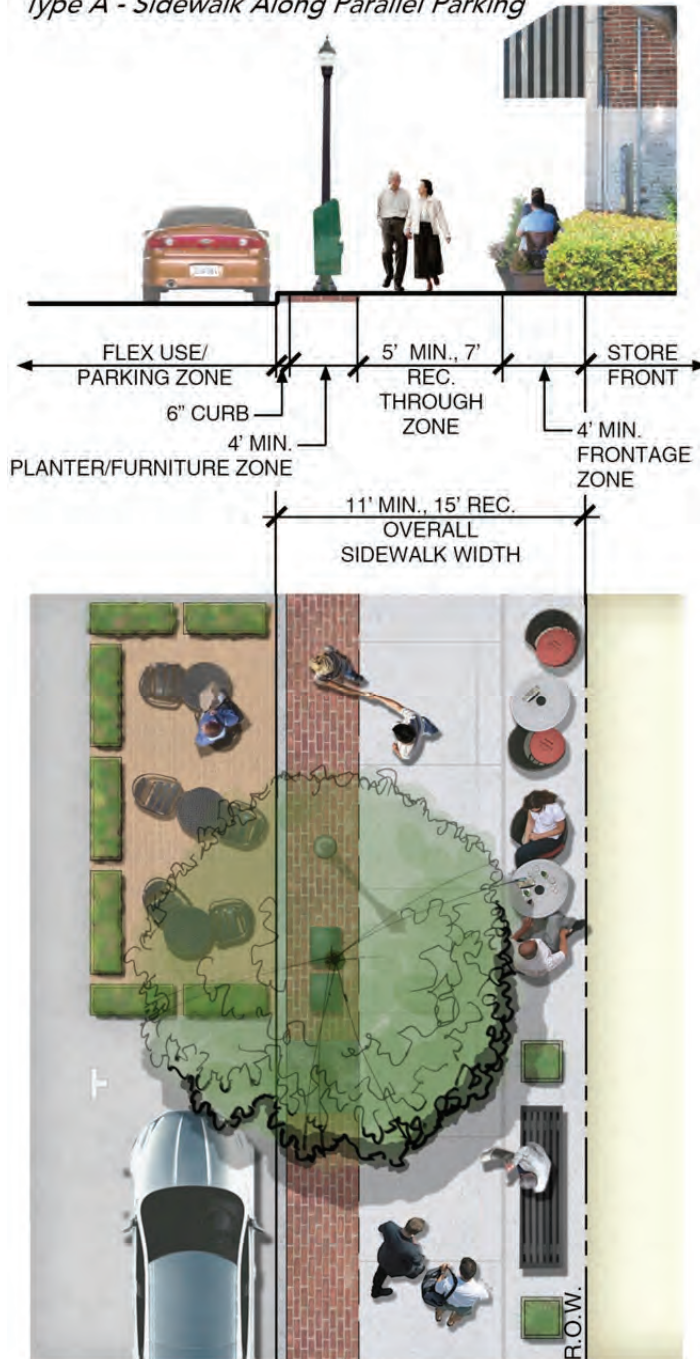
Callander Associates





## A.6. Sidewalk Standards – Retail/Commerical Type A Parallel Parking

*Type A - Sidewalk Along Parallel Parking*



\*Graphics show recommended dimensions.

### NOTES

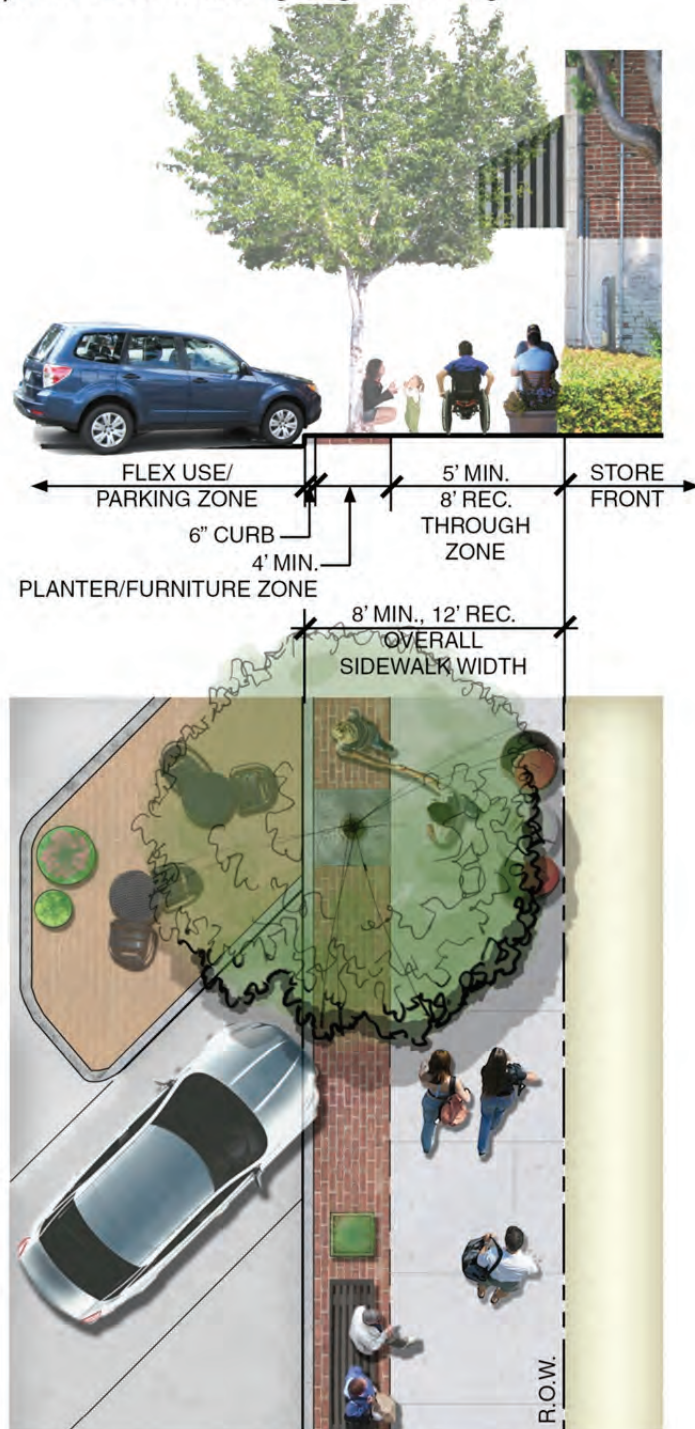
- Orient bike parking in planter/furniture zone parallel to sidewalk to remain clear of through zone.
- Amenities located in the planter/furniture zone may include signage, street lights, newsracks, bus waiting areas, benches, parking pay stations, bike parking, street trees, etc.
- Limit building awnings/overhangs to frontage zone depth.
- Utilize flex use zone for cafe seating (by permit).
- Example - East side of S. B St., between 5th and 7th Ave.

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## A.7. Sidewalk Standards – Retail/Commercial Type B Angled Parking

*Type B - Sidewalk Along Angled Parking*



\*Graphics show recommended dimensions.

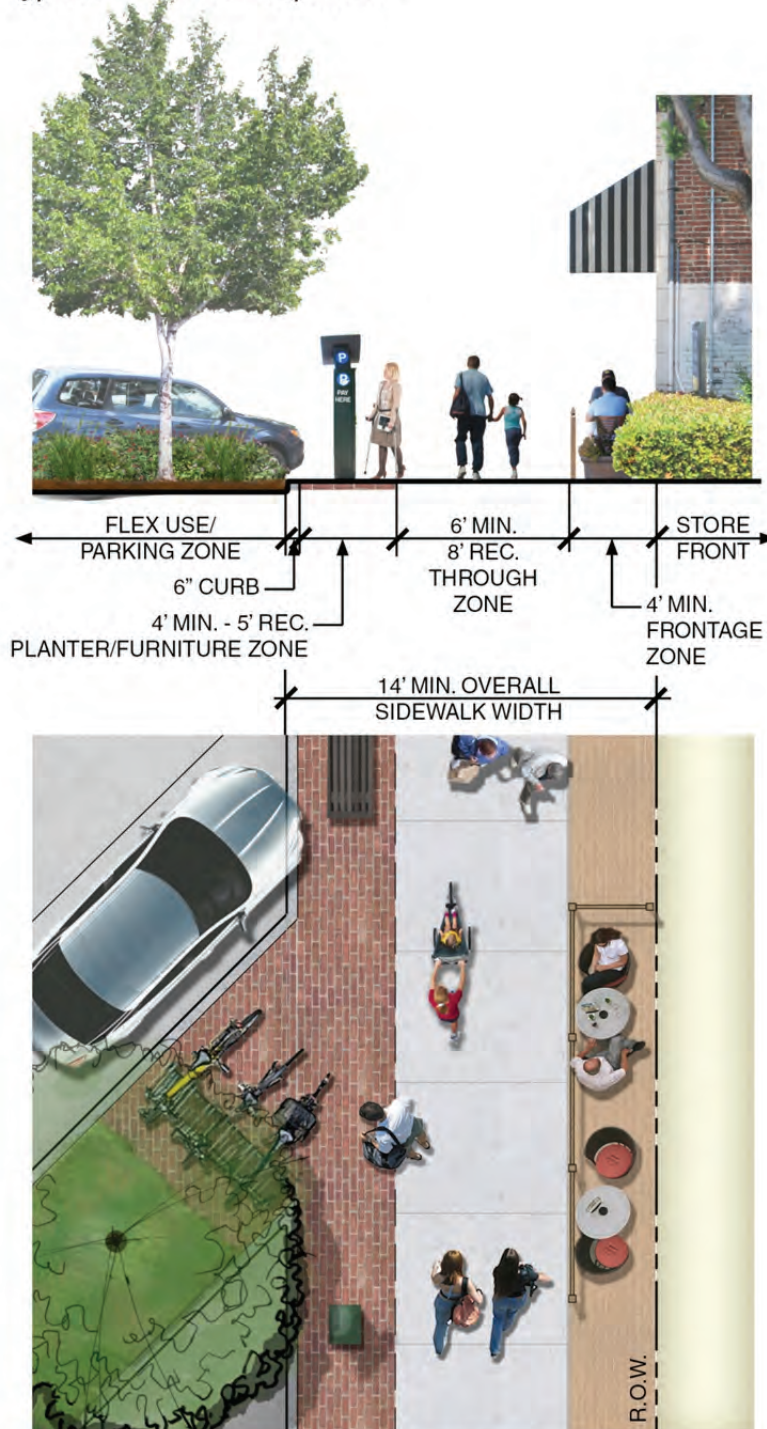
### NOTES

- If planter/furniture zone must be less than 4', limit amenities to narrow items such as signs, street lights, and newsracks.
- Place seating and planting in building alcoves and setbacks where available.
- Cafe seating up to 3' wide is allowable at sidewalk only where a minimum 5' through zone can be maintained exclusive of planter/furniture and frontage zones.
- Street trees may also be located in flex use zone.
- Example - East side of S. B Street, between 1st and 5th Avenue.



## A.8. Sidewalk Standards – Retail/Commercial Type C New Development

### Type C - New Development



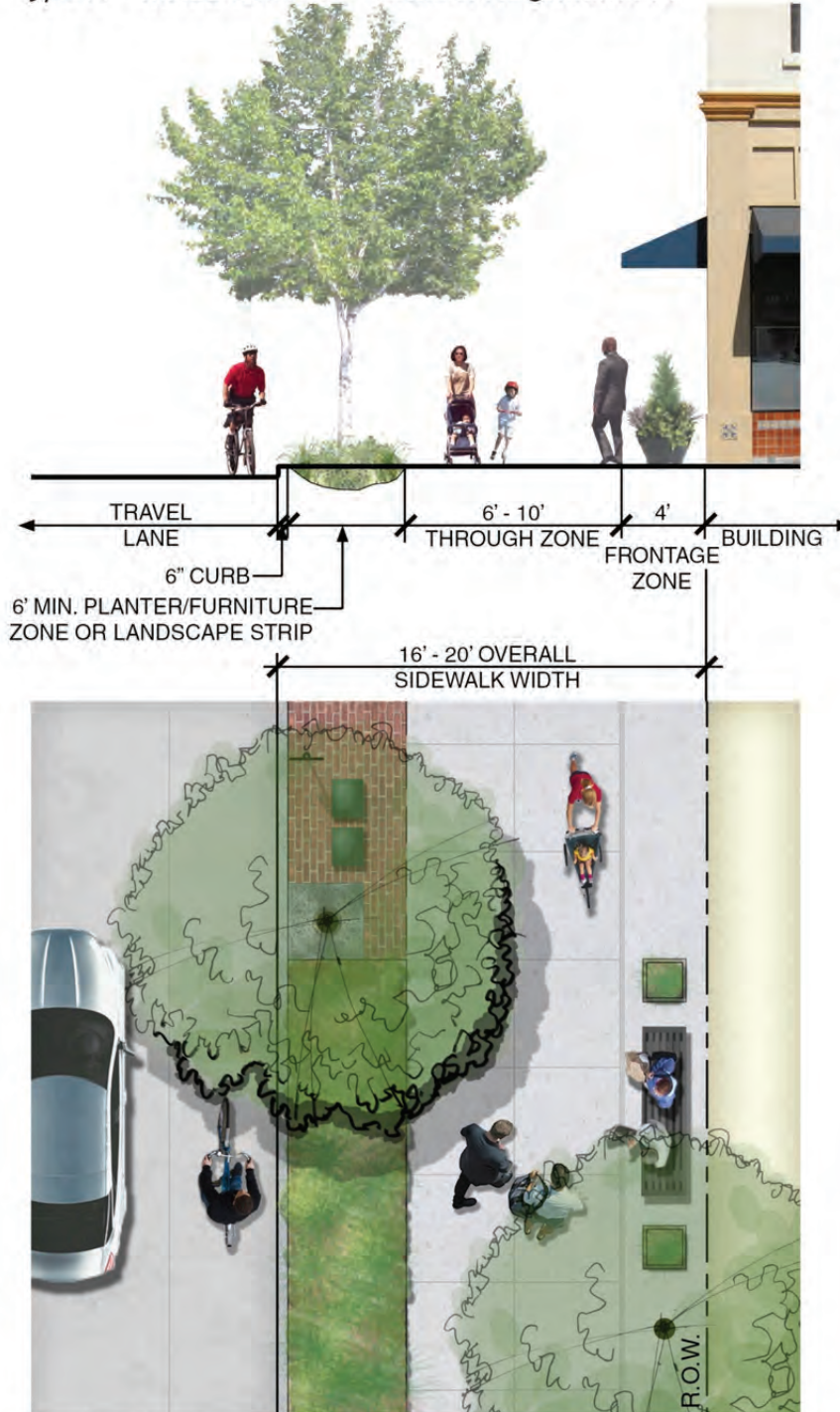
### NOTES

- Locate bike parking and street trees in flex use areas - bulbouts, parklets, etc. - where possible.
- Provide delineation between through and frontage zones through the use of railings, paving, planters, etc.

\*Graphics show recommended dimensions.

## A.9. Sidewalk Standards – Mixed Use Type A Zero Setback

*Type A - Mixed Use Zero - Setback Neighborhood*



\*Graphics show recommended dimensions.

### NOTES

- For blocks with no street parking.
- In areas of ground level retail, locate seating and planting amenities in frontage zone.
- Where landscape strip serves as stormwater treatment, strip must be a minimum of 8' wide.
- Street trees encouraged in frontage zone.

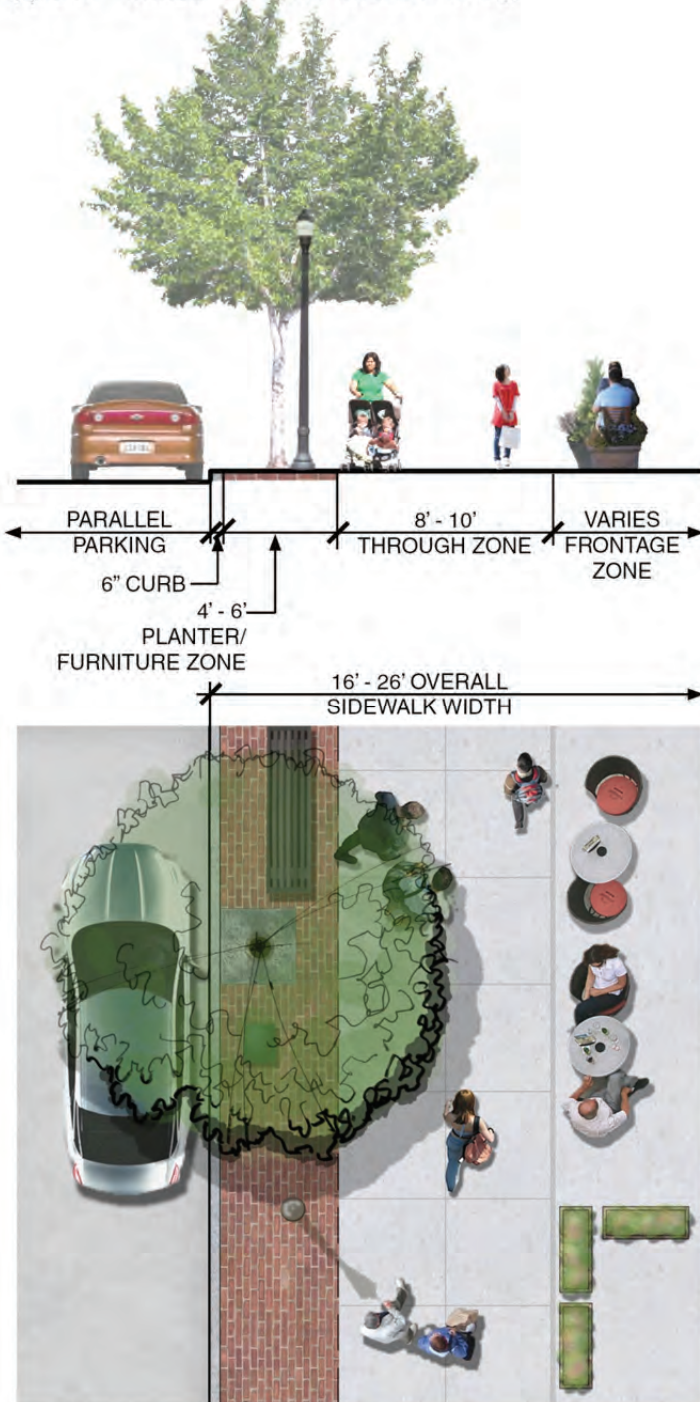
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## A.10. Sidewalk Standards – Mixed Use Type B Street Parking

*Type B - Mixed Use with Street Parking*



\*Graphics show recommended dimensions.

### NOTES

- Locate biofiltration planters and street trees in planter/furniture zone.
- Locate planters, seating, and building-specific amenities in frontage zone.

## A.11. Curb Ramps

### Discussion

Curb ramps are necessary for people who use wheelchairs to access sidewalks and crosswalks. ADA requires the installation of curb ramps in new sidewalks, as well as retrofitting existing sidewalks. Curb ramps may be placed at each end of the crosswalk (perpendicular curb ramps), or between crosswalks (diagonal curb ramps). The ramp may be formed by drawing the sidewalk down to meet the street level, or alternately building up a ramp to meet the sidewalk.

### Design Summary

#### Orientation and Alignment

Perpendicular curb ramps should be used at large intersections with consideration for curb radius. Curb ramps should be aligned with crosswalks, unless they are installed in as a retrofit and are in an area with low vehicular traffic.

#### Width

The minimum width of a curb ramp should be 36 inches, in accordance with Americans with Disabilities Act Accessibility Guidelines (ADAAG). Curb ramps should be designed to accommodate the level of use anticipated at specific locations, with sufficient width for the expected level of peak hour pedestrian volumes and other potential users.

#### Drainage

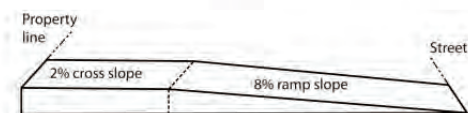
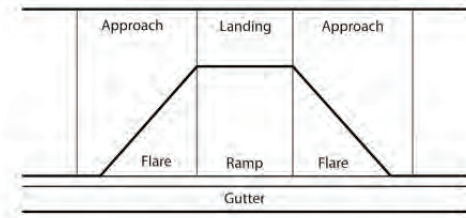
Adequate drainage should be provided to prevent flooding of curb ramps.

#### Detectable Warnings

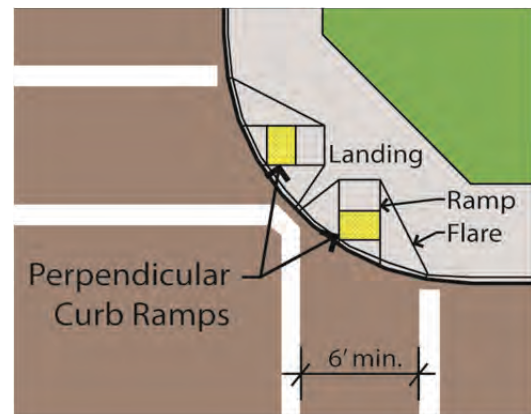
Tactile strips must be used to assist sight-impaired pedestrians in locating the curb ramp. Certain exemptions apply (see ADAAG Section 4.29 and the ADA Access Board Guidelines on Accessible Public Rights of Way).

Detectable warnings shall consist of raised truncated domes with a diameter of nominal 0.9 inches, a height of nominal 0.2 inches and a center-to-center spacing of nominal 2.35 inches and shall contrast visually with adjoining surfaces, either light-on-dark, or dark-on-light. The coefficient of friction of these plates should be at least 0.8 (ADAAG).

### Design Example



Curb Ramp Elements

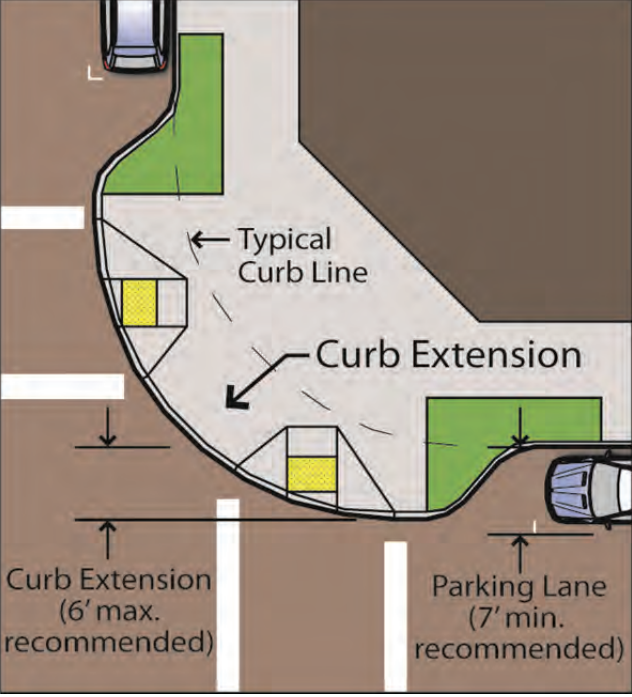


Perpendicular Curb Ramp

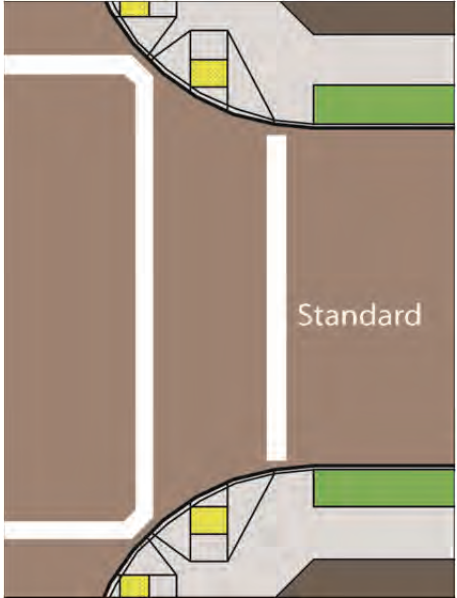


Parallel Curb Ramp

## A.12. Curb Extensions

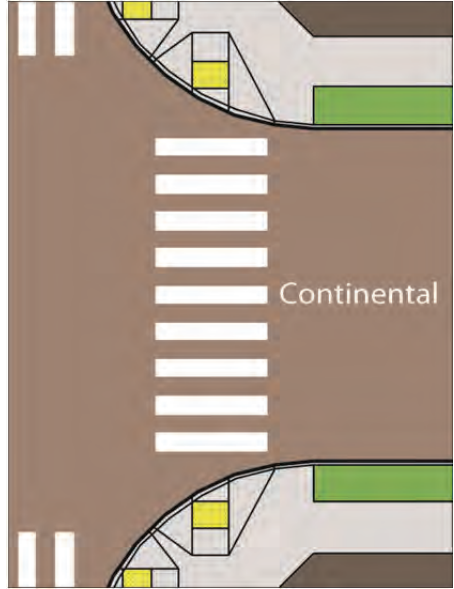
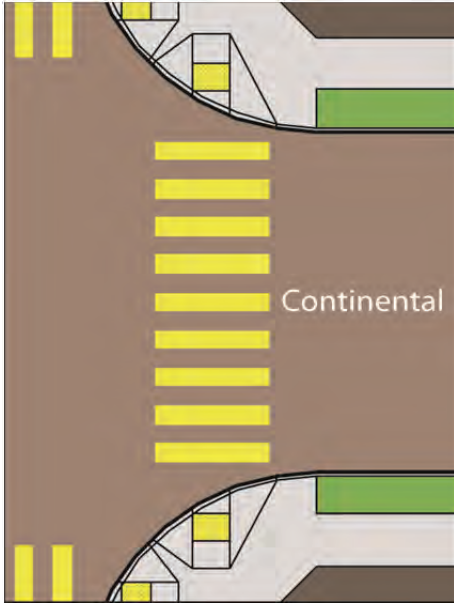
Discussion	Design Example
<p>Curb extensions are design elements that shorten pedestrian crossing distances and make the pedestrian more visible to roadway users. Curb extensions may be installed on one or both sides of a roadway. Curb extensions installed at alternating frequencies on both sides of a roadway create a “chicane” or “S” curve. Curb extension design should consider roadway drainage.</p>	 <p>Curb extensions can be used in a variety of locations to calm traffic speeds.</p>
<p><b>Design Summary</b></p> <ul style="list-style-type: none"> <li>Emergency vehicle operators should be consulted to ensure curb extensions do not negatively affect emergency response times.</li> <li>Curb extensions should be designed so they allow buses to complete turning movements and load and unload passengers safely.</li> <li>Mid-block installation with where pedestrians cross should consider raised crosswalks.</li> <li>May be used where there is on-street parking.</li> <li>Placement shall not encroach into bike lanes.</li> <li>Placement may impact drainage, requiring storm drainage re-engineering.</li> </ul>	

## A.13. Standard Crosswalks

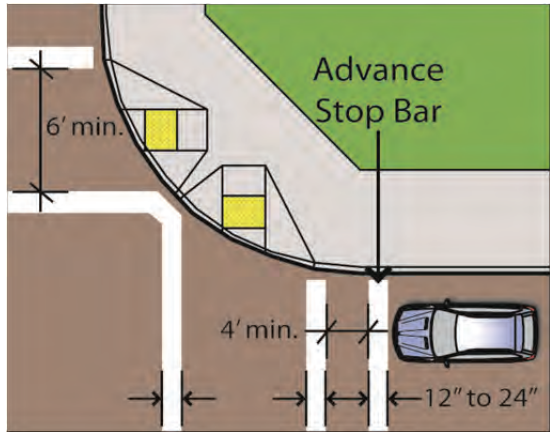
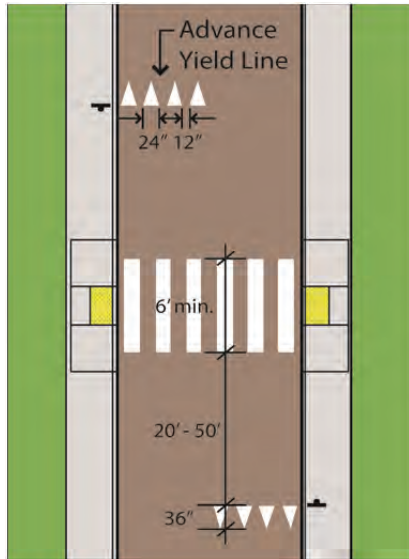
Discussion	Design Example
<p>Crosswalk markings guide pedestrians across roadways by defining and delineating the path of travel. Crosswalk markings also alert motorists and bicyclists of a pedestrian crossing point across roadways not controlled by highway traffic signals or STOP signs. There are a several types of crosswalk markings, including standard (or transverse) markings. Crosswalks may be placed at intersections and at mid-block locations.</p> <p>The following factors should be considered when determining whether to mark a crosswalk at a particular location:</p> <ul style="list-style-type: none"> <li>• Vehicular approach speeds from both directions.</li> <li>• Vehicular volume and density.</li> <li>• Vehicular turning movements.</li> <li>• Pedestrian volumes.</li> <li>• Roadway width.</li> <li>• Day and night visibility by both pedestrians and motorists.</li> <li>• Channelization is desirable to clarify pedestrian routes for sighted or sight impaired pedestrians.</li> <li>• Discouragement of pedestrian use of undesirable routes.</li> <li>• Consistency with markings at adjacent intersections or within the same intersection.</li> </ul> <p>Motorists generally do not expect mid-block pedestrian crossings. Mid-block crossings are discouraged unless, in the opinion of the engineer, there is strong justification in favor of installation. Particular attention should be given to roadways with two or more traffic lanes in one direction as a pedestrian may be hidden from view by a vehicle yielding the right-of-way to a pedestrian.</p>	 <p>Standard crosswalk.</p>
Design Summary	
<ul style="list-style-type: none"> <li>• Standard crosswalk lines shall consist of solid white lines not less than 12 inches or greater than 24 inches in width.</li> <li>• The gap between the lines should not be less than 6 feet.</li> <li>• Marked crosswalks in a roadway contiguous to a school building or school grounds must be yellow.</li> </ul>	



## A.14. High Visibility Crosswalks

Discussion	Design Example
<p>There are a number of types of high visibility crosswalks. This Plan recommends continental crosswalks as the City's preferred type. High visibility crosswalks should be used where there is existing or anticipated high pedestrian activity, where slower pedestrians are expected, at uncontrolled crossings, and where a high number of pedestrian-related collisions have occurred.</p> <p>Installation of high visibility crosswalks should be prioritized at the following location types:</p> <ul style="list-style-type: none"> <li>• Senior living facilities and senior centers (within 1/8 mile)</li> <li>• Adjacent to school buildings and grounds</li> <li>• Retail corridors</li> <li>• High pedestrian related collision areas</li> <li>• Uncontrolled crossings</li> </ul> <p>Retail corridors are places where there is existing and anticipated high pedestrian activity. The majority of pedestrian related collisions occurred Downtown and along El Camino Real, Alameda de las Pulgas, Delaware Street, East Poplar Avenue, and West Hillsdale Boulevard. The recommended locations for high visibility crosswalks are based on the collision data.</p>	 <p>Continental</p> <p>High visibility continental crosswalk.</p>  <p>Continental</p> <p>High visibility school area continental crosswalk.</p>
Design Summary	
<ul style="list-style-type: none"> <li>• Continental crosswalk markings are recommended for crosswalks within 1/8 mile of senior living and senior centers, adjacent to school buildings and grounds, retail corridors, high pedestrian related collision areas, at uncontrolled crossings.</li> <li>• Marked crosswalk in a roadway contiguous to a school building or school grounds be yellow.</li> <li>• Markings should be no less than six feet wide</li> <li>• All marked crosswalks at uncontrolled locations have high visibility striping.</li> </ul>	

## A.15. Advance Stop Bars and Advance Yield Lines

Discussion	Design Example
<p>Advance stop bars and advance yield lines should be considered at crosswalks where additional space between crosswalks and stopped motorists is desired. Advance stop bars and advance yield lines increase pedestrian visibility by stopping motor vehicles in advance of marked crosswalks.</p> <p>Advance stop bars consist of solid white lines extending across the approach lanes to indicate where vehicles should stop. Advance yield lines consist of a row of solid white isosceles triangles pointing toward approaching vehicles extending across approach lanes to indicate where vehicles should yield to pedestrians at uncontrolled locations. Advance yield lines should not place motorists in a position where sight lines are obstructed.</p>	 <p>Advance stop bars should be installed at least four feet in advance of a crosswalk at controlled intersections.</p>
Design Summary	
<ul style="list-style-type: none"> <li>• Advance stop bars should be installed at all controlled intersections.</li> <li>• Advance yield lines should be installed at all mid-block uncontrolled marked crossings.</li> <li>• If used, advance stop bars and advance yield lines should be placed a minimum of 4 feet in advance of the nearest crosswalk line at controlled intersections, except for advance yield lines at mid-block crosswalks. In the absence of a marked crosswalk, the advance stop bars and advance yield lines should be placed at the desired stopping or yielding point, but should not be placed more than 30 feet or less than 4 feet from the nearest edge of the intersecting traveled way.</li> <li>• At an unsignalized mid-block crosswalk, advance yield lines should be placed adjacent to the Yield Here to Pedestrians sign located 20 to 50 feet in advance of the nearest crosswalk line, and parking should be prohibited in the area between the advance yield line and the crosswalk.</li> <li>• Advance stop bars at mid-block signalized locations should be placed at least 40 feet in advance of the nearest signal indication.</li> </ul>	 <p>Advance yield lines should be installed 20-50 feet in advance of an uncontrolled crosswalk.</p>

## A.16. Uncontrolled, Mid-Block Crossing Placement and Design

### Discussion

The National MUTCD requires yield lines and “Yield Here to Pedestrians” signs at all uncontrolled crossings of a multi-lane roadway. Yield lines are not required by the CA MUTCD but are permitted. The National MUTCD includes a trail crossing sign (W11-15 and W11-15P), which may be used where both bicyclists and pedestrians might be crossing the roadway, such as at an intersection with a shared-use path.

The table at the end of A.16 is a summary for implementing at-grade roadway crossings. The number one (1) indicates a ladder style crosswalk with appropriate signage is warranted. (1/1+) indicates the crossing warrants enhanced treatments such as flashing beacons, or in-pavement flashers. (1+/3) indicates Pedestrian Light Control Activated (Pelican), Puffin, or Hawk signals should be considered.

### Design Summary

#### Placement

Mid-block crosswalks should be installed where there is a significant demand for crossing and no nearby existing crosswalks.

#### Advance Yield Lines

See Section A.15.

#### Warning Signs

The Pedestrian Warning (W11-2) sign alerts the road user to unexpected entries into the roadway by pedestrians, and other crossing activities that might cause conflicts.

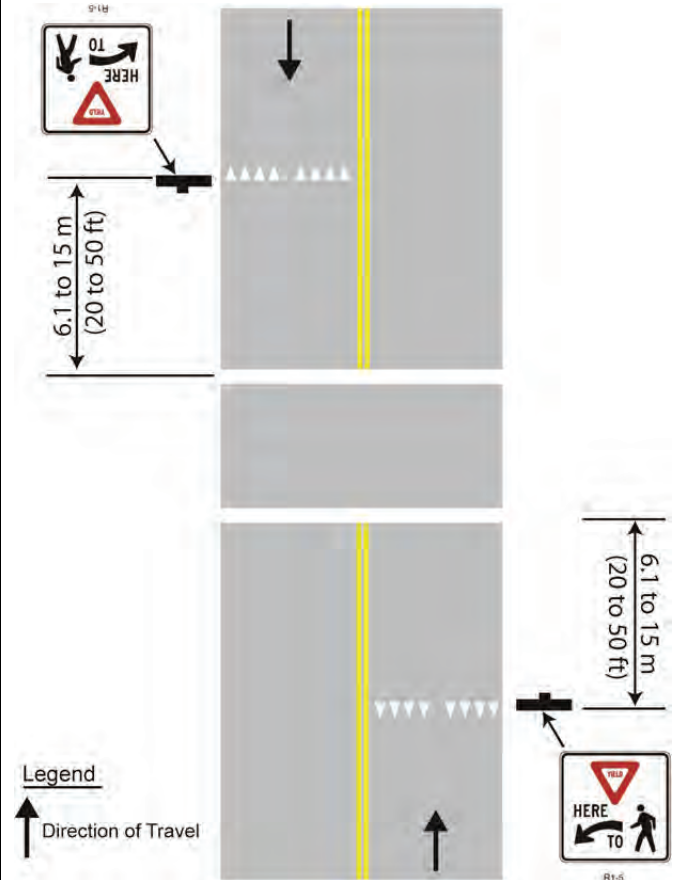
#### Pavement Markings

A high-visibility crosswalk should be used. Warning markings on the path and roadway should be installed.

#### Other Treatments

See table on the following page to determine if treatments such as raised median refuges, flashing beacons, or in-pavement flashers should be used.






### Design Example



Source: California MUTCD, Figure 3B-15



CA MUTCD Regulatory Signs

Design Example				Recommended Design (continued)											
				<div><div>  CA MUTCD Warning Signs (W11-2 and W16-7p)</div><div>  CA MUTCD School Signs (S1-1 and W16-7p)</div></div>											
Guidance				Cost											
<ul style="list-style-type: none"><li>Caltrans Highway Design Manual</li><li>MUTCD – California Supplement, Part 2</li><li>FHWA Safety Effects of Marked Versus Unmarked Crosswalks at Uncontrolled Locations</li></ul>				\$3,500 (thermoplastic for crosswalk and yield lines, two advance warning signs, two warning signs at crosswalk, two curb ramps)											
Treatment Type by ADT and Speed Limits															
Roadway Type (Number of Travel Lanes and Median Type)	Vehicle ADT < 9,000			Vehicle ADT (> 9,000 to 12,000)			Vehicle ADT >12,000 to 15,000			Vehicle ADT > 15,000					
	Speed Limit**														
	<30 MPH	35 MPH	40 MPH	<30 MPH	35 MPH	40 MPH	<30 MPH	35 MPH	40 MPH	<30 MPH	35 MPH	40 MPH			
2 Lanes	1	1	1/1+	1	1	1/1+	1	1	1+3	1	1/1+	1+3			
3 Lanes	1	1	1/1+	1	1/1+	1/1+	1/1+	1/1+	1+3	1/1+	1+3	1+3			
Multi-Lane (4 or more lanes ) with raised median***	1	1	1/1+	1	1/1+	1+3	1/1+	1/1+	1+3	1+3	1+3	1+3			
Multi-Lane (4 or more lanes) without raised median	1	1/1+	1+3	1/1+	1/1+	1+3	1+3	1+3	1+3	1+3	1+3	1+3			
<p>*General Notes: Crosswalks should not be installed at locations that could present an increased risk to bicyclists and pedestrians, such as where there is poor sight distance, complex or confusing designs, a substantial volume of heavy trucks, or other dangers, without first providing adequate design features and/or traffic control devices. Adding crosswalks alone will not make crossing safer, nor will they necessarily result in more vehicles stopping for bicyclists and pedestrians. Whether or not marked crosswalks are installed, it is important to consider other facility enhancements (e.g. raised median, traffic signal, roadway narrowing, enhanced overhead lighting, traffic-calming measures, curb extensions), as needed, to improve the safety of the crossing. These are general recommendations; good engineering judgment should be used in individual cases for deciding which treatment to use. For each trail-road way crossing, an engineering study is needed to determine the proper location. For each engineering study, a site review may be sufficient at some locations, while a more in-depth study of pedestrian volume, vehicle speed, sight distance, vehicle mix, etc. may be needed at other sites.</p> <p>**Where the speed limit exceeds 40 MPH (64.4 km/h), marked crosswalks alone should not be used at unsignalized locations.</p> <p>***The raised median or crossing island must be at least 4 ft (1.2 m) wide and 6 ft (1.8 m long) to adequately serve as a refuge area for pedestrians in accordance with MUTCD and American Association of State Highway and Transportation Officials (AASHTO) guidelines. A two-way center turn lane is not considered a median.</p> <p>1 = Type 1 Crossings. Ladder-style crosswalks with appropriate signage should be used.</p> <p>1/1+ = With the higher volumes and speeds, enhanced treatments should be used, including marked ladder style crosswalks, median refuge, flashing beacons, and/or in-pavement flashers. Ensure there are sufficient gaps through signal timing, as well as sight distance.</p> <p>1+3 = Carefully analyze signal warrants using a combination of Warrant 2 or 5 (depending on school presence) and equivalent adult units (EAU) factoring. Make sure to project usage based on future potential demand. Consider Pelican or Hawk signals in lieu of full signals. For those intersections not meeting warrants or where engineering judgment or cost recommends against signalization, implement Type 1 enhanced crosswalk markings with marked ladder style crosswalks, median refuge, flashing beacons, and/or in-pavement flashers. Ensure there are sufficient gaps through signal timing, as well as sight distance.</p>															



## A.17. Pedestrian Refuge Island

### Discussion

Pedestrian refuge islands are raised islands in the middle of the roadway that create a protected space where people may safely pause or wait while crossing a street. Pedestrian refuge islands should be placed at wide multi-lane roadways. Depending on the signal timing, median islands should be considered when the crossing distance exceeds 60 feet, but can be used at intersections with shorter crossing distances where a need has been recognized.

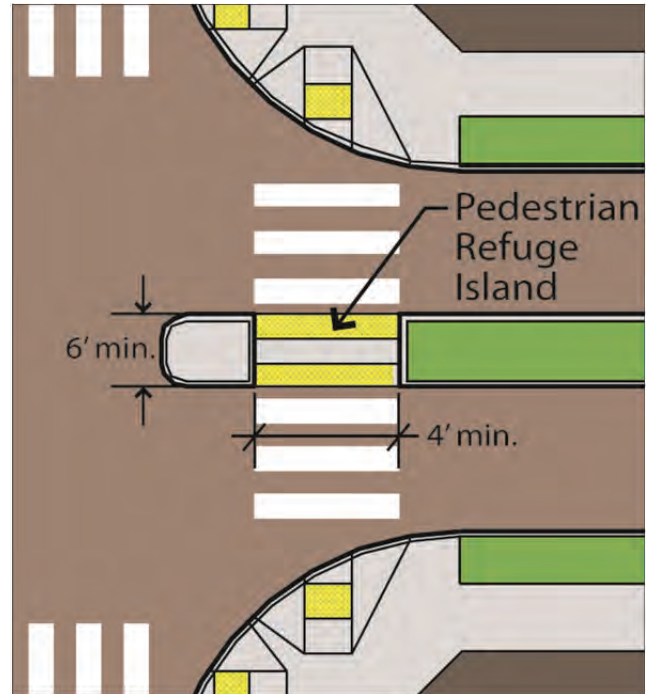
Median “noses” provide additional protection for pedestrians crossing at intersections. Median noses can also prevent vehicles from encroaching into the refuge area when making left turns. However, median noses may not be feasible to install due to potential turning movement restrictions. The CA MUTCD, Caltrans Highway Design Manual, and the ADA Access Board Guidelines do not have any requirement for median noses to be installed at intersection refuge islands. Pedestrian warning signs should be installed in advance of the crosswalk.

### Design Summary

ADA Access Board Guidelines on Accessible Public Rights of Way has a section on median islands. The following guidelines are applicable:

- Medians and pedestrian refuge islands in crosswalks shall contain a pedestrian access route, including passing space connecting to each crosswalk.
- Medians and pedestrian refuge islands shall be 6.0 ft minimum in length in the direction of pedestrian travel, wide enough to allow a sense of safety for pedestrians crossing the street.
- Ramped up and cut-through refuge islands should be permitted. Factors to consider include slope, drainage and width of the island. Median curb ramps can add difficulty to crossing for some users.
- Medians and refuge islands should have detectable warnings, with detectable warnings at cut-through islands separated by a 2-foot minimum length of walkway without detectable warnings.

### Design Example



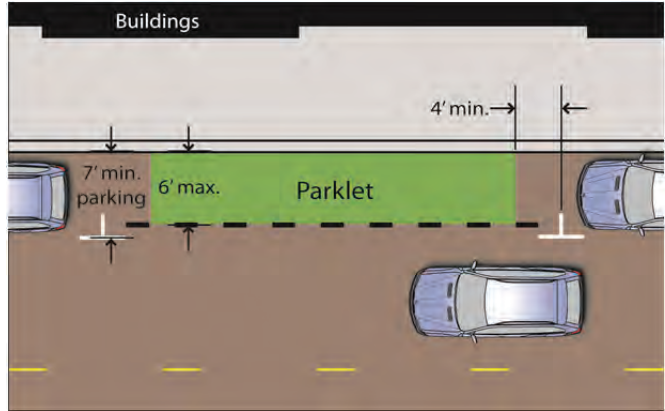

Pedestrian Refuge Islands



Median “nose”



## A.18. Flex Use Space Parklets

Discussion	Design Example
<p>Parklets are the temporary repurposing and transformation of on street parking spaces to extend the sidewalk and create more space for pedestrian amenities or outdoor seating for adjacent restaurants and cafes. The spaces are often in the public right-of-way between the curb and travel lanes in commercial and retail areas. The parklets are intended to increase public space, enhance the pedestrian environment, and improve corridor aesthetics.</p> <p>Parklets should be implemented only in areas that have limited public space (e.g., narrow sidewalks or far from parks). The areas should have existing conditions that will attract people to the space, such as retail and high pedestrian activity. The following characteristics are recommended for parklet locations:</p> <ul style="list-style-type: none"> <li>• Streets with speed limits under 25mph</li> <li>• Streets with parking lanes</li> <li>• Site is not in front of a fire hydrant or would restrict access to utility covers and valves</li> <li>• Site should be a minimum of two parking spaces or equivalent</li> </ul>	 <p>The diagram illustrates a parklet layout on a street. It shows a green rectangular area labeled 'Parklet' situated between a curb and a travel lane. Dimensions are indicated: '7' min. parking' for the area before the parklet, '6' max.' for the parklet width, and '4' min.' for the clearance from buildings. A car is shown parked in the travel lane.</p> <p><i>Parklet</i></p>  <p>The photograph shows a real-world example of a parklet in San Francisco. It features outdoor seating with red chairs and tables, trees, and planters. People are sitting at the tables, and a car is parked nearby.</p> <p><i>Parklet in San Francisco</i></p> <p><i>Image source:</i>  <a href="http://sfpavementtoparks.sfplanning.org/noe_valley_parklets.html">http://sfpavementtoparks.sfplanning.org/noe_valley_parklets.html</a></p>
Design Summary	
<ul style="list-style-type: none"> <li>• Maximum of six-foot width where there is parallel parking (angled parking areas should be considered on a case by case basis)</li> <li>• Deck should be flush with the curb, 1/2" gap maximum</li> <li>• Wheel stops should be placed four-feet from either end of the parklet and one-foot from the curb</li> <li>• Reflective hit-posts should be placed on the street side corners</li> <li>• Provide access to gutter area for cleaning</li> <li>• Provide access underneath the parklet for drainage</li> <li>• Outside or street side edge should be visually permeable, railing may be required</li> <li>• Public seating should be strongly encouraged.</li> </ul>	

## A.19. Flex Use Space Parklets Materials

### *Guidelines for Flex Use Space*




#### GUIDELINES

- Planter and/or railing to create separation of space between street and flex use space. Railing or fence to be powder coated black and 36" in height. Planter to be a minimum of 18" tall.
- Site furnishings to be owned by business and are movable to allow multi-use of space. Site furnishing materials are not to be plastic.

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## A.20. Guidelines for Regulatory Signage

Discussion	Design Example
<p>Caltrans categorizes signs into regulatory, warning, and school signs. Regulatory signs inform road users of selected traffic laws or regulations and indicate the applicability of the legal requirements. Pedestrian regulatory signs govern pedestrian and motorist movements, such as “Yield Here to Pedestrians.” The signs to the right provide examples of regulatory signs.</p>	 <p>The design example section displays six regulatory signs for pedestrians:</p> <ul style="list-style-type: none"> <li><b>R1-5:</b> A square sign with a red border, a red inverted triangle with the word "YIELD" inside, and a black arrow pointing left towards a pedestrian silhouette. Text below the arrow reads "HERE" and "TO".</li> <li><b>R1-5a:</b> A square sign with a red border, a red inverted triangle with the word "YIELD" inside, and a black arrow pointing left towards the text "TO PEDESTRIANS". Text above the arrow reads "HERE".</li> <li><b>R1-6:</b> A rectangular sign with a green background and a black border. It features a red inverted triangle with "YIELD" inside, followed by "TO" and a pedestrian silhouette. Text at the bottom reads "WITHIN CROSSWALK". Above the triangle, it says "STATE LAW".</li> <li><b>R9-1:</b> A rectangular sign with a white background and a black border. It contains the text "WALK ON LEFT FACING TRAFFIC" in large, bold, black capital letters.</li> <li><b>R9-2:</b> A rectangular sign with a white background and a black border. It contains the text "CROSS ONLY AT CROSS WALKS" in bold, black capital letters.</li> <li><b>R9-3:</b> A rectangular sign with a white background and a black border. It contains the text "NO PEDESTRIAN CROSSING" in bold, black capital letters.</li> </ul>
Design Summary	
<ul style="list-style-type: none"> <li>Regulatory signs shall be installed at or near where the regulations apply.</li> <li>Yield Here to Pedestrians signs should be installed at advance yield lines.</li> <li>In-street Yield to Pedestrian signs should be considered at non-controlled crosswalks where motorists frequently violate pedestrian right of way.</li> <li>In-street Yield to Pedestrian signs should be considered at non-controlled crosswalks where motorists frequently violate pedestrian right of way.</li> </ul>	



Design Example (continued)



R9-3a



R9-3b



R10-1



R10-2a



R10-3



R10-3a



R10-3b



R10-3c



R10-3d



R10-3e



R10-4



R10-4a




R10-4b

## A.21. Guidelines for Warning Signage


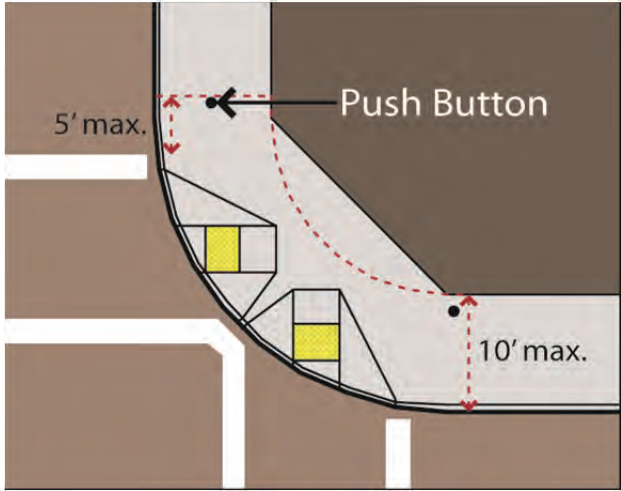
Discussion	Design Example
<p>Caltrans categorizes signs into regulatory, warning, and school signs. Warning signs call attention to unexpected conditions on or adjacent to a highway or street. Warning signs alert road users to conditions that might call for a reduction of speed or an action in the interest of safety and efficient traffic operations. Pedestrian warning signs should have a fluorescent yellow green background to call the attention from motorists. The signs to the right provide examples of warning signs.</p>	<div> </div> <p><i>Fluorescent yellow green warning sign (W11-2 and W16-7p)</i></p>
<p><b>Design Summary</b></p> <ul style="list-style-type: none"> <li>• Pedestrian warning signs should accompany all non-controlled crosswalks.</li> <li>• The use of warning signs shall be based on an engineering study or on engineering judgment.</li> </ul>	





## A.22. Guidelines for School Signage

Discussion	Design Example
<p>Caltrans categorizes signs into regulatory, warning, and school signs. School signs call attention to school area traffic controls. The signs to the right provide examples of school signs.</p>	
<p><b>Design Summary</b></p> <ul style="list-style-type: none"> <li>The signs used for school area traffic control shall be retroreflectorized or illuminated.</li> <li>Signs should be placed in positions where they will convey their messages most effectively without restricting lateral clearance or sight distances. Sign placement should consider highway design, alignment, vehicle speed, and roadside development.</li> <li>The School Crosswalk Warning Assembly B(CA) or E(CA) shall be posted at all yellow school crosswalks that are not controlled by a STOP (R1-1) sign, a YIELD (R1-2) sign or a traffic signal.</li> <li>The School Crosswalk Warning Assembly B (CA) or E(CA) shall not be used at marked crosswalks other than those adjacent to schools and those on established school pedestrian routes.</li> </ul>	

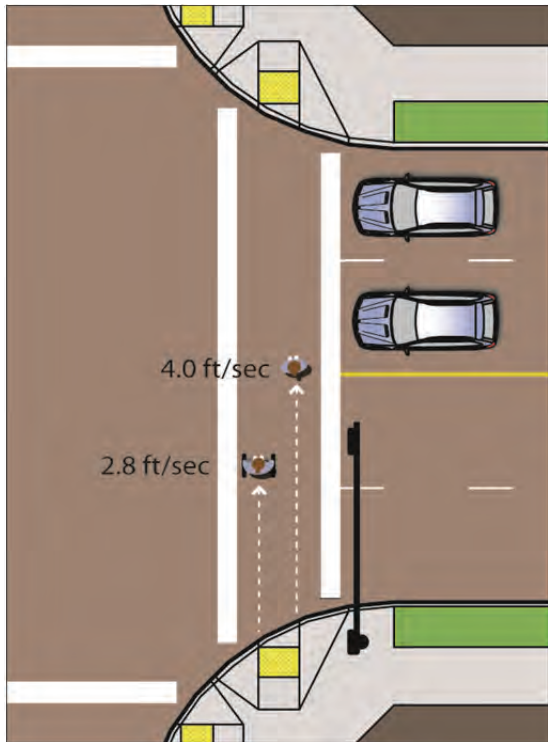
## A.23. Guidelines for Signalized Pedestrian Crossing

Discussion	Design Example
<p>Pedestrian pushbuttons should be used at any signalized intersection without a dedicated pedestrian phase. Push buttons allow pedestrians to actuate a walk phase.</p> <p>All new and modified traffic signals should include accessible pushbuttons that are large and vibrate during a walk phase for visually impaired pedestrians.</p>	
<p><b>Design Summary</b></p> <ul style="list-style-type: none"> <li>• Push buttons should be located within five feet outside of the transverse crosswalk line extended.</li> <li>• Push button location should be adjacent to an all weather surface to facilitate accessibility.</li> <li>• Push buttons should be installed within 10 feet of the curb unless impractical.</li> </ul>	 <p>Push button placement</p>

## A.24. Crossing Beacons

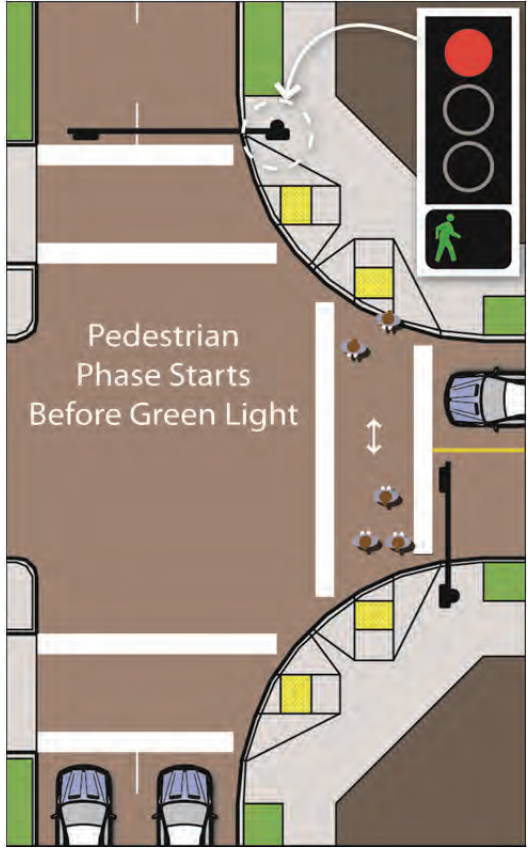
Discussion	Recommended Design
<p>Beacons enhance uncontrolled crosswalks by using devices that call attention to pedestrians. There are two types of crossing beacons recommended in this Plan: the pedestrian hybrid beacon and the rectangular rapid flash beacon.</p> <ul style="list-style-type: none"> <li>• Pedestrian hybrid beacons, also known as a HAWK (High intensity Activated crossWalk) Signal. It includes three signal sections, two red circular indications above one yellow circular indication (see upper photo). The signal is dark until activated. When activated, the signal flashes yellow to inform drivers to stop. The signal then becomes solid yellow followed by a dual solid red. It then flashes alternating red flashing as a pedestrian signal head flashes DON'T WALK. HAWK signals are experimental in California. Pedestrian hybrid beacons are FHWA approved and incorporated in the 2012 CA MUTCD.</li> <li>• Rectangular rapid flashing beacons are also pedestrian actuated devices; however they are mounted adjacent to the roadway (see lower photo). The beacon lights are rectangular LED lights installed below a pedestrian crosswalk sign that flash in an alternating pattern when activated. The beacon is dark when not activated. Caltrans has received approval from the Federal Highway Administration (FHWA) for use of RRFBs on a blanket basis at uncontrolled pedestrian and school crosswalk locations in California, including State highways and all local jurisdictions' roadways.</li> </ul>	 <p>Pedestrian Hybrid Beacon (HAWK)</p>  <p>Rectangular Rapid Flashing Beacon</p> <p>Image from:  <a href="http://mutcd.fhwa.dot.gov/resources/interim_approval/ia11/stpeter_sburgpt/intro.htm">http://mutcd.fhwa.dot.gov/resources/interim_approval/ia11/stpeter_sburgpt/intro.htm</a></p>
Design Summary	
<ul style="list-style-type: none"> <li>• Crossing beacons should be installed at all uncontrolled arterial crossing locations.</li> <li>• Crosswalk warning beacons should be actuated to maximize yield to pedestrian compliance.</li> </ul>	

## A.25. Signal Timing

Discussion	Design Example
<p>Pedestrian speed determines the duration of a pedestrian phase. CAMUTCD standard pedestrian speed for calculating pedestrian phasing is 4.0 feet per second. The following recommended speeds incorporate current and draft MUTCD recommendations and accommodate slow moving pedestrians such as children, seniors and people with disabilities:</p> <ul style="list-style-type: none"> <li>• <b>Citywide Signal Timing.</b> The Draft CAMUTCD and the National MUTCD recommend a standard signal crossing time of 3.5 feet per second as a pedestrian speed to accommodate slow moving pedestrians.</li> <li>• <b>Signal Timing Near Senior Living Facilities and Schools.</b> The US Department of Transportation (US DOT) and the Federal Highway Administration (FHWA) recommend in Older Driver Highway Design Handbook a signal timing of 2.8 feet per second to accommodate older pedestrians. The FHWA and the Metropolitan Transportation Commission recommend also recommend a slower crossing rate where concentrations of children are expected.</li> </ul> <p>El Camino Real is a community identified barrier and collision data shows it is the corridor with the most pedestrian related collisions in the City. Signal timing modification to 3.5 feet per second should be expedited at the following intersections: 3rd Avenue at El Camino Real, 5th Avenue at El Camino Real, 25th Avenue at El Camino Real, 31st Avenue at El Camino Real, and 37th Avenue at El Camino Real.</p> <p>Countdown pedestrian heads display the remaining time of a pedestrian phase, informing crossing pedestrians. Countdown heads are most applicable at multi-lane arterial roadways where pedestrians have a long distance to cross. If a median is provided, pedestrians may rest and wait for the next pedestrian phase to cross the remaining roadway.</p>	 <p>Standard pedestrian timing should be derived from 3.5 feet per second pedestrian speed.</p> <div> <b>Design Summary</b> </div> <ul style="list-style-type: none"> <li>• A pedestrian speed of 3.5 feet per second should be used as the standard pedestrian crossing speed (except as specified below).</li> <li>• Signal timing within an eighth of a mile (660 feet) of all senior centers, senior living facilities and schools should be 2.8 feet per second.</li> <li>• Countdown heads should be installed at multi-lane arterial roadway intersections.</li> <li>• Countdown head should incorporate audible instructions.</li> </ul>




## A.26. Leading Pedestrian Interval

Discussion	Design Example
<p>Leading pedestrian intervals provide a pedestrian phase two to four seconds in advance of a green light in the same direction. LPIs increase pedestrian visibility by permitting pedestrians to enter the crosswalk and motorist sight lines before motorists enter the intersection. Without LPIs, pedestrians are at greater risk of motor vehicle collision because they may enter the intersection at the same time as motorists and assume turning motorists can see them.</p> <p>LPIs are recommended from Tilton Avenue to 5<sup>th</sup> Avenue and from El Camino Real to Delaware Street; as well as at Delaware and 25<sup>th</sup> and 37<sup>th</sup> Avenues. A LPI along El Camino Real will require coordination with Caltrans.</p>	 <p>The diagram illustrates a street intersection with a Leading Pedestrian Interval. A pedestrian is shown crossing the street, with a dashed line indicating their path. A car is shown stopped at the intersection. A traffic light is shown with a red light and a green pedestrian signal. The text 'Pedestrian Phase Starts Before Green Light' is overlaid on the diagram. Below the diagram, the text 'Leading Pedestrian Interval' is written.</p>
Design Summary	
<ul style="list-style-type: none"> <li>• LPIs should provide two to four seconds of pedestrian phasing before a green light for parallel traffic.</li> <li>• LPIs should be considered where improved motorist visibility of pedestrians is needed.</li> </ul>	



## A.27. Pedestrian Wayfinding

Discussion	Design Example
<p>Wayfinding signage that guides pedestrians to destinations throughout the City, such as transit stations and Downtown, is an important feature that promotes connectivity between different travel modes. Wayfinding signage should orient and communicate in a clear, concise and functional manner. It should enhance pedestrian circulation and direct visitors and residents to important destinations. In doing so, the goal is to increase the comfort of visitors and residents while helping to convey a local identity.</p>	
<p><b>Design Summary</b></p> <ul style="list-style-type: none"> <li>Wayfinding signage should be considered in locations with a concentration of community destinations and moderate pedestrian activity.</li> </ul>	

Wayfinding and Signage

## A.28. Materials and Finishings: Street Trees

### Street Trees

Refer to the City of San Mateo Street Tree Master Plan for tree placement recommendations.



*Acer rubrum*



*Fraxinus oxycarpa*



*Koelreuteria paniculata*



*Ceratonia siliqua*



*Cercis canadensis*



*Ginkgo biloba* 'Autumn Gold'

### SPECIES LIST

*Acer davidii*  
*Acer platanoides* 'Schwedleri'  
*Acer rubrum*  
*Aesculus carnea*  
*Betula alba*  
*Carpinus betulus*  
*Casuarina stricta*  
*Celtis australis*  
*Celtis sinensis*  
*Ceratonina siliqua*  
*Cercis canadensis*  
*Cercis siliquastrum*  
*Cinnamomum camphora*  
*Crataegus phaenopyrum*  
*Dodonaea viscosa*  
*Dodonaea viscosa purpurea*  
*Eriobotrya deflexa*  
*Eucalyptus citriodora*  
*Eucalyptus ficifolia*  
*Eucalyptus nicholii*  
*Eucalyptus sideroxylon* 'Rosea'  
*Ficus nitida*  
*Fraxinus holotricha* 'Moraine'  
*Fraxinus oxycarpa* 'Raywood'  
*Fraxinus pennsylvanica* 'Marshall'  
*Geijera parviflora*  
*Ginkgo biloba*  
*Ginkgo biloba* 'Autumn Gold'  
*Gleditsia triacanthos*  
*Ilex aquifolium*  
*Koelreuteria paniculata*  
*Lagerstroemia indica* 'Muskogee'  
*Laurus nobilis* 'Saratoga'  
*Liriodendron tulipifera*  
*Magnolia grandiflora*  
*Magnolia* g. 'Russet'  
*Magnolia* g. 'Samuel Sommer'  
*Magnolia* g. 'San Marino'  
*Malus floribunda*  
*Maytenus boaria*  
*Melaleuca linariifolia*

Callander Associates





## A.29. Materials and Finishings: Street Trees (continued)

### Street Trees



*Lagerstroemia indica* 'Muskogee'



*Prunus serrulata* 'Kwanzan'



*Nyssa sylvatica*



*Pistacia chinensis*



*Pyrus calleryana*



*Quercus ilex*

### SPECIES LIST

*Myoporum laetum*  
*Nyssa sylvatica*  
*Pistacia chinensis*  
*Pittosporum undulatum*  
*Photinia fraseri*  
*Prunus blireiana*  
*Prunus caroliniana*  
*Prunus serrulata* 'Kwanzan'  
*Pyrus calleryana* 'Aristocrat'  
*Pyrus calleryana* 'Bradford'  
*Pyrus calleryana* 'Capital'  
*Pyrus calleryana* 'Chanticleer'  
*Pyrus kawakamii*  
*Quercus agrifolia*  
*Quercus coccinea*  
*Quercus ilex*  
*Quercus palustris*  
*Quercus rubra*  
*Quercus shumardii*  
*Quercus suber*  
*Quercus virginiana*  
*Rhus lancea*  
*Sapium sebiferum*  
*Schinus terebinthifolius*  
*Tilia cordata*  
*Tilia cordata* 'Greenspire'  
*Tilia cordata* 'Rancho'  
*Tristania laurina*

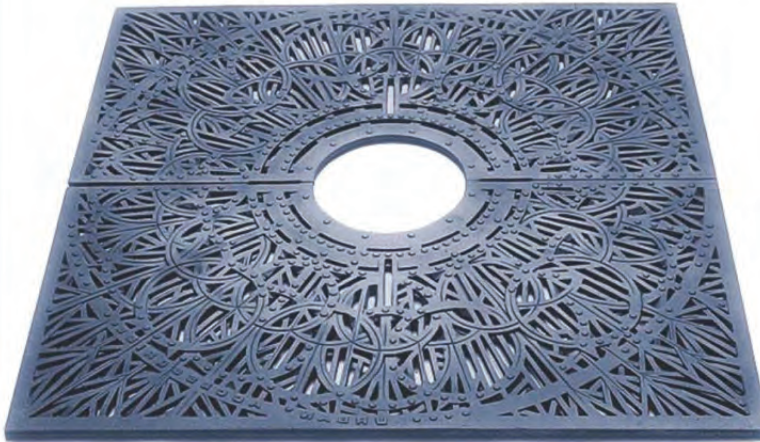
Callander Associates





## A.30. Materials and Finishings: Tree Grates

*Tree Grate*



### TECHNICAL INFORMATION

- Model:  
Urban Accessories  
- OT - Title 24, or  
approved equal

Dimensions: 4'x4'

Material: Standard  
Cast Iron

Color: Powdercoat  
RAL 6004 (Black)

Note: Customized to  
provide two 4" holes  
for bubbler access, tree  
stakes, and uplighting.



Callander Associates



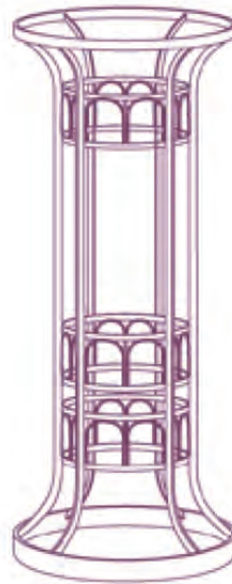
## A.31. Materials and Finishings: Tree Guards

### *Tree Guard*

1.



2.



#### TECHNICAL INFORMATION

1. Model:  
Urban Accessories - AD  
Tree Guard, or approved  
equal

Dimensions: 1'-7" x 5'-10"

Material: Steel

Color: Powdercoat RAL  
6004 (Black)

Note: For new sidewalk  
trees with grates only;  
bolt to tree grates

2. Model:  
Canterbury International  
- Tree Guards - #1900, or  
approved equal

Dimensions: 1' x 5'

Material: Steel

Color: Powdercoat RAL  
6004 (Black)

Callander Associates





## A.32. Materials and Finishings: Benches

*Bench*



### TECHNICAL INFORMATION

- Model:  
Wabash Valley - Estate  
Series - Slat Bench, or  
approved equal

Dimensions: 72" long

Materials: Steel

Mounting: Surface  
mount with mounting  
plate covers

Color: Black powder  
coat



## A.33. Materials and Finishings: Bollards

### *Bollard*

1.



2.



3.



4.



#### TECHNICAL INFORMATION

1. & 2. Model: Reliance Foundry Co. Ltd. - #R-7539 Bollard, or approved equal

Dimensions: 10" base x 36" height  
Material: Ductile Iron  
Color: Black semi

3. Model: Quick Crete - Sphere bollard - #QR-22SP, or approved equal

Dimensions: 22" diameter  
Material: Concrete  
Color: Charcoal Grey

4. Model: Reliance Foundry Co. Ltd. - #R-7530, or approved equal

Dimensions: 10" base x 39" height  
Material: Ductile Iron  
Color: Black semi

Callander Associates



## A.34. Materials and Finishings: Newsracks

### *Newsrack*



#### TECHNICAL INFORMATION

- Model: Kaspar Sho-Rack - Boulevard, or approved equal

Dimensions: Vary, depending on quantity of dispensers

Materials: Galvanized steel

Mounting: Surface mounted

Color: Green, to match existing

Callander Associates





## A.35. Materials and Finishings: Parking Pay Station

*Parking Pay Station*



### TECHNICAL INFORMATION

- Model: To match existing

Color: Green, to match existing

Callander Associates



## A.36. Materials and Finishings: Bike Rack

*Bike Rack*



### TECHNICAL INFORMATION

- Model: Secure Site Design, Cycle Sentry Series, BRWS-101, or approved equal

Capacity: 2 bikes

Material: 2-3/8 in. OD tubular steel pipe

Color: Black powder coat



Callander Associates





## A.37. Materials and Finishings: Table

*Table*



### TECHNICAL INFORMATION

- Model: Wabash Valley - TR110T - 30" Square Table with matching stool chairs, or approved equal

Dimensions: 30" x 30"

Materials: Steel

Mounting: Surface mount per manufacturer's recommendations

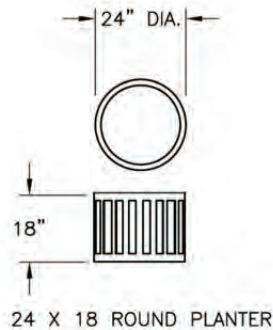
Color: Black powder coat

Callander Associates



## A.38. Materials and Finishings: Planter

### Planter



#### TECHNICAL INFORMATION

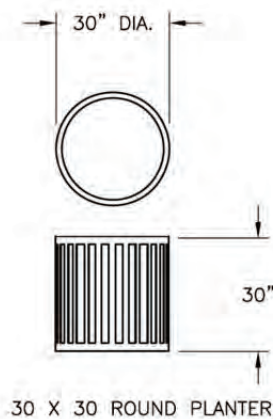
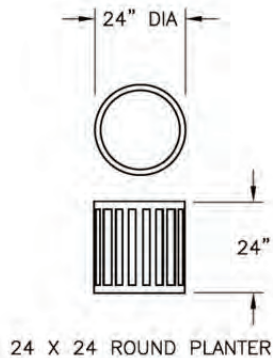
- Model: Wabash Valley - Round Planter #PL100 - #PL106, slat type, or approved equal

Dimensions: Height and width varies

Materials: Fabricated metal with poly-vinyl coating

Mounting: Secure per manufacturer's recommendations

Color: Black



Callander Associates

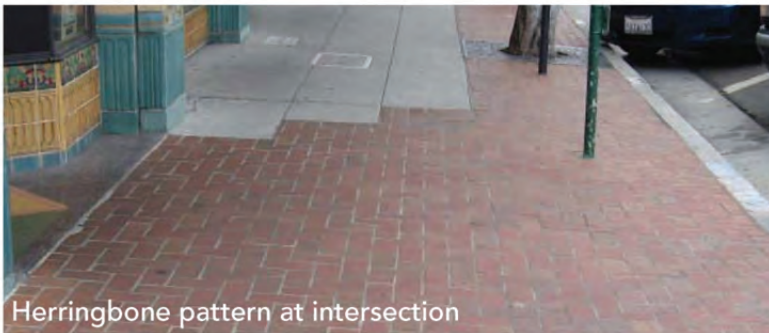


## A.39. Materials and Finishings Specialty Paving

### *Specialty Paving*



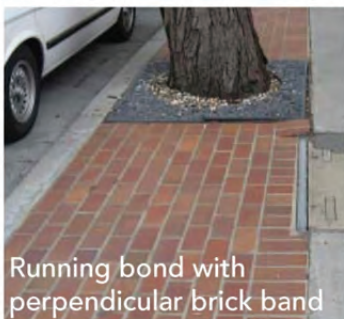
Herringbone pattern at intersection



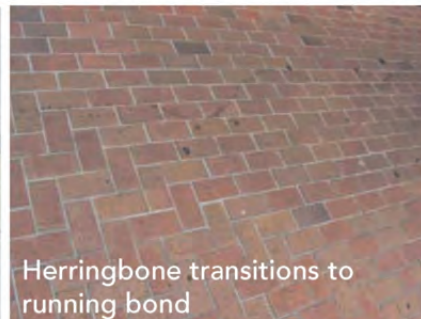
Herringbone pattern at intersection



Herringbone pattern at intersection



Running bond with perpendicular brick band



Herringbone transitions to running bond

### TECHNICAL INFORMATION

- Model: McNear Brick and Block - Commercial Series, or approved equal

Color: Tangiers

Pattern: Herringbone at intersections, transitions into running bond at mid-block

## A.40. Materials and Finishings: Standard Paving

### *Standard Paving*



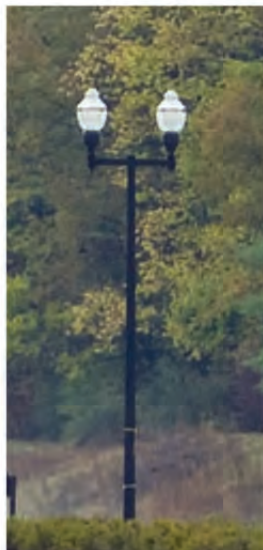
#### TECHNICAL INFORMATION

- Medium broom finish



## A.41. Materials and Finishings: Pedestrian Scale Lighting

### *Pedestrian Scale Lighting*



#### TECHNICAL INFORMATION

- Manufacturer: Holophane Washington Series, or approved equal
- Fixture: Post Top with full spin-on cover with standard finial; ribs; bands and medallions
- Color: Midnight Green
- Optics: 150 watt with Type III distribution
- Pole: 14' fluted North Yorkshire style cast aluminum pole, or approved equal
- Base: configured to fit City standard 11" bolt circle pattern, with 1" bolts
- Note: for certain installations as directed by City, pole may be fitted with double luminaires on cross-arms



## Appendix B. Survey

The intent of the City of San Mateo's pedestrian survey, presented on the following pages, was to gain a better understanding of existing travel behavior and walking levels in San Mateo and gather information on what residents see as obstacles and/or barriers to pedestrian travel. The survey also sought to identify residents' overall relative satisfaction with walking conditions in San Mateo, their preferred pedestrian facilities or amenities, and their most and least favorite places to walk and walking routes.

In total, the City received just over 475 responses. Chapter 4, Needs Analysis, presents a summary of the survey results.

City of San Mateo Pedestrian Survey																																																											
<p>The City of San Mateo is seeking input on community needs and concerns surrounding walking, jogging, running, and other pedestrian modes. This survey will be conducted on an annual basis. The information gathered from this survey will be used to plan and guide investment in new sidewalks, paths, street crossings, and related improvements. Please take a moment to complete the following survey and return it by March 1, 2011. Please submit only one survey per person.</p>																																																											
<p><b>1. Where do you live?</b>            Street _____ and _____            Cross Street _____            Or Zip Code: _____</p>																																																											
<p><b>2. What is your work zip code? (if applicable)</b>            _____</p>																																																											
<p><b>3. What is your school zip code? (if applicable)</b>            _____</p>																																																											
<p><b>4. Age group? (check only one)</b>  <input type="radio"/> Under 16      <input type="radio"/> 25-34      <input type="radio"/> 55-64  <input type="radio"/> 16-17      <input type="radio"/> 35-44      <input type="radio"/> 65 and over  <input type="radio"/> 18-24      <input type="radio"/> 45-54</p>																																																											
<p><b>5. Gender</b>  <input type="radio"/> Female      <input type="radio"/> Male</p>																																																											
<p><b>6. Do you use a mobility-assistive device? (examples in question 7)</b>  <input type="radio"/> Yes      <input type="radio"/> No (skip to question #7)</p>																																																											
<p><b>7. If you answered "yes" to question #6, what device do you use?</b>  <input type="radio"/> Cane      <input type="radio"/> Motorized scooter  <input type="radio"/> Walker      <input type="radio"/> Other (please specify) _____  <input type="radio"/> Wheelchair</p>																																																											
<p><b>8. When you make trips of less than one mile, how do you typically travel? (check only one)</b>  <input type="radio"/> Walk      <input type="radio"/> Drive alone  <input type="radio"/> Bicycle      <input type="radio"/> Carpool  <input type="radio"/> Transit      <input type="radio"/> Other: _____</p>																																																											
<p><b>9. When you make trips of less than five miles, but more than one mile, how do you typically travel? (check only one)</b>  <input type="radio"/> Walk      <input type="radio"/> Drive alone  <input type="radio"/> Bicycle      <input type="radio"/> Carpool  <input type="radio"/> Transit      <input type="radio"/> Other: _____</p>																																																											
<p><b>10. On a scale of 1 to 5, where 1 is "never" and 5 is "several times per week", how often do you walk?</b></p> <table border="1"> <thead> <tr> <th></th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> </tr> </thead> <tbody> <tr> <td>Commuting to work or school</td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> </tr> <tr> <td>Recreation</td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> </tr> <tr> <td>Exercise/for my health</td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> </tr> <tr> <td>Personal errands (to the store, post office, and so on)</td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> </tr> <tr> <td>Required for my job</td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> </tr> <tr> <td>Drop off/pick up someone</td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> </tr> <tr> <td>Visit a friend or relative</td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> </tr> <tr> <td>Walk the dog</td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> </tr> </tbody> </table>							1	2	3	4	5	Commuting to work or school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Recreation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Exercise/for my health	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Personal errands (to the store, post office, and so on)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Required for my job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Drop off/pick up someone	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Visit a friend or relative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Walk the dog	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Walk the dog	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																																						
<p><b>11. Please tell us about your walking experiences in San Mateo.</b></p> <table border="1"> <thead> <tr> <th></th> <th>Strongly Agree</th> <th>Agree</th> <th>Disagree</th> <th>Strongly Disagree</th> </tr> </thead> <tbody> <tr> <td>I can conveniently walk where I want</td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> </tr> <tr> <td>I feel safe from cars</td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> </tr> <tr> <td>Pedestrian facilities are free of tripping hazards and obstructions</td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> </tr> <tr> <td>Pedestrian walkways are well lit</td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> </tr> <tr> <td>I have enough time to cross roads</td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> </tr> <tr> <td>I feel safe and comfortable at SamTrans bus stops</td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> </tr> <tr> <td>I feel safe and comfortable at Caltrain stations</td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> </tr> </tbody> </table>							Strongly Agree	Agree	Disagree	Strongly Disagree	I can conveniently walk where I want	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I feel safe from cars	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Pedestrian facilities are free of tripping hazards and obstructions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Pedestrian walkways are well lit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I have enough time to cross roads	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I feel safe and comfortable at SamTrans bus stops	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I feel safe and comfortable at Caltrain stations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>														
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I feel safe from cars	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																																							
Pedestrian facilities are free of tripping hazards and obstructions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																																							
Pedestrian walkways are well lit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																																							
I have enough time to cross roads	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																																							
I feel safe and comfortable at SamTrans bus stops	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																																							
I feel safe and comfortable at Caltrain stations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																																							
<p><b>12. What is your starting point for most of your walking trips within San Mateo?</b>  <input type="radio"/> Home/residential location  <input type="radio"/> Work  <input type="radio"/> School  <input type="radio"/> Community center  <input type="radio"/> Park  <input type="radio"/> Downtown San Mateo  <input type="radio"/> Retail area/shopping center (other than Downtown)  <input type="radio"/> Caltrain  <input type="radio"/> Bus stop</p>																																																											
<p><b>13. Where do your walking trips usually end?</b>  <input type="radio"/> Home/residential location  <input type="radio"/> Work  <input type="radio"/> School  <input type="radio"/> Community center  <input type="radio"/> Park  <input type="radio"/> Downtown San Mateo  <input type="radio"/> Retail area/shopping center (other than Downtown)  <input type="radio"/> Caltrain  <input type="radio"/> Bus stop</p>																																																											
<p><b>14. When you walk, how far do you typically travel?</b>  <input type="radio"/> I don't walk  <input type="radio"/> 0-1 mile  <input type="radio"/> 1-2 miles  <input type="radio"/> More than 3 miles  <input type="radio"/> OR _____ minutes</p>																																																											
<p><b>15. What times do you make walking trips? (check ALL that apply)</b>  <input type="radio"/> Before 7:00 a.m.  <input type="radio"/> 7:00 a.m. to 9:00 a.m.  <input type="radio"/> 9:00 a.m. to 11:00 a.m.  <input type="radio"/> 11:00 a.m. to 1:00 p.m.  <input type="radio"/> 1:00 p.m. to 4:00 p.m.  <input type="radio"/> 4:00 p.m. to 6:00 p.m.  <input type="radio"/> After 6:00 p.m.  <input type="radio"/> Weekdays  <input type="radio"/> Weekends</p>																																																											
<p><b>16. Are there other types of transportation available to you that you could use instead of walking?</b>  <input type="radio"/> Yes  <input type="radio"/> No</p>																																																											
<p><b>17. If yes, what is the main reason that you choose to walk instead of some other form of transportation?</b>  <input type="radio"/> Walking is cheaper  <input type="radio"/> Walking is faster  <input type="radio"/> For exercise  <input type="radio"/> For recreation  <input type="radio"/> Parking my car is difficult  <input type="radio"/> I enjoy walking  <input type="radio"/> Other _____</p>																																																											
<p><b>18. What are your favorite places or routes to walk? Please note specific routes or destinations.</b>            _____            _____            _____</p>																																																											
<p><b>19. What are your LEAST favorite places or routes to walk? Please note specific routes or destinations.</b>            _____            _____            _____</p>																																																											

Please continue on other side. →

City of San Mateo Pedestrian Survey				
<b>20. What prevents you from walking more often? (check all that apply)</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Concerns about safety</li> <li><input type="checkbox"/> Sidewalks in poor condition</li> <li><input type="checkbox"/> Lack of sidewalks</li> <li><input type="checkbox"/> Obstructions on sidewalks</li> <li><input type="checkbox"/> Lack of curb ramps</li> <li><input type="checkbox"/> Not enough time</li> <li><input type="checkbox"/> Destinations are too far</li> <li><input type="checkbox"/> Insufficient lighting</li> <li><input type="checkbox"/> Bad weather</li> <li><input type="checkbox"/> Disability/other health impairment</li> </ul>				
<b>21. Please rank your preference for the following facility improvements:</b>				
	Desirable	Somewhat Desirable	Somewhat Undesirable	Undesirable
Wider sidewalks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trail/path improvements	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Crosswalks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pedestrian push buttons	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Corner curb ramps	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Route / wayfinding signs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lighting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Street trees	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other landscaping improvements	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Benches or other seating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Slowing traffic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Road pavement improvements	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>22. Rate the importance of improving walking access to the following locations:</b>				
	Very Important	Important	Somewhat Important	Not Important
Work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
School/campus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community centers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Parks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Downtown San Mateo	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Retail districts (other than Downtown)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Transit stops	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>23. When you take a child to school, how do you typically travel? (check only one)</b> <ul style="list-style-type: none"> <li><input type="radio"/> Walk</li> <li><input type="radio"/> Bicycle</li> <li><input type="radio"/> Transit</li> <li><input type="radio"/> Drive to school then home</li> <li><input type="radio"/> Drive to school then another location</li> <li><input type="radio"/> I don't take a child to school</li> </ul>				
<b>24. If any of the children in your household walk to school, how many days do they walk to school during a typical school week?</b> <ul style="list-style-type: none"> <li><input type="radio"/> There are no children in my household/The child(ren) in my household does (do) not walk to school</li> <li><input type="radio"/> 1 day</li> <li><input type="radio"/> 2 days</li> <li><input type="radio"/> 3 days</li> <li><input type="radio"/> 4 days</li> <li><input type="radio"/> 5 days</li> </ul>				
<b>25. If any of the children in your household DO NOT walk to school, what is the reason they do not?</b> <ul style="list-style-type: none"> <li><input type="radio"/> There are no children in my household</li> <li><input type="radio"/> School is too far/takes the bus/parents drive</li> <li><input type="radio"/> Takes too long</li> <li><input type="radio"/> Child is too young to cross streets alone</li> <li><input type="radio"/> No sidewalks</li> <li><input type="radio"/> Busy streets</li> <li><input type="radio"/> No crossing guard</li> <li><input type="radio"/> Weather is unpredictable or usually bad</li> <li><input type="radio"/> Not safe because _____</li> </ul>				
<b>26. The City intends to make improvements to enhance and encourage increased bicycle and pedestrian trips. May we email you for follow-up surveys to evaluate if the improvements have indeed increased your bicycle and/or pedestrian trips?</b> <ul style="list-style-type: none"> <li><input type="radio"/> No</li> <li><input type="radio"/> Yes</li> </ul>				
Email address: _____				
<b>Thank you!!!</b>				

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## Appendix C. Planning and Policy Review

This Citywide Pedestrian Master Plan's recommendations will be built on and consistent with local and regional goals and policies for increasing the number of people who walk in San Mateo. These goals include specific recommendations for streets, sidewalks and multi-use paths and also include policies to make San Mateo more sustainable by reducing the City's carbon footprint.

The following is a review of planning and policy documents relevant to this Citywide Pedestrian Master Plan. The review is organized by City, County, Regional, State and Federal documents and policies. This review is strategic, focusing on those sections and specific policies from each document that are most relevant here.

### C.1. City Documents

The City guides its land use and transportation development through a spectrum of plans with varying scopes. The General Plan guides future development citywide and sets a foundation for master and specific plans to follow. Master Plans, such as this Citywide Pedestrian Master Plan are focused on a particular planning initiative that influences a large area of the City. Specific Plans provide guidelines for the distribution and location of land use. Capital Improvement Plans identify capital projects for the City to construct within the next five years.

#### C.1.1. General Plan (2010)

The purpose of the General Plan is to guide future development through 2030. Pursuant to California law, the General Plan must address seven elements.<sup>1</sup> The most applicable element to pedestrian facilities is the Circulation Element, which plans the movement of goods and people in the city. The General Plan is supportive of creating and maintaining a walkable environment and the Circulation Element calls for a Citywide Pedestrian Master Plan to outline strategies for improving walking conditions in San Mateo, while raising the profile of walking as a mode of transportation. The City has a goal of increasing its mode share for pedestrian and bicycle travel to 30 percent by 2020 for trips of one-mile or less. Bicycle and pedestrian travel currently represents about three percent of all travel. The following goals and policies are extracted from the Circulation (C), Conservation/Open Space (C/OS), Land Use (LU), and Urban Design (UD) Elements.

- Circulation Goal 2: Maintain a street and highway system which accommodates future growth while maintaining acceptable levels of service.
  - Policy C2.4: Require new developments to pay for on-site improvements to meet the needs of development and their proportionate share of the costs for mitigating cumulative traffic impacts within the City of San Mateo. Utilize a Transportation Fee Ordinance to finance necessary off-site improvements equitably. The off-site improvements will include intersection and street improvements to maintain intersection levels of service, traffic safety improvements and improvements to reduce single occupant vehicle trips such as bicycle system enhancements, pedestrian improvements, and trip reduction measures.

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<sup>1</sup> California requires General Plans to address the following "elements": Land Use, Open Space, Conservation, Housing, Circulation, Noise, and Safety.



- Policy C2.8: Traffic Signal Installation. A development project may be required to fund signalization of off-site unsignalized intersections if warranted as a result of project generated traffic. In addition, existing conditions may warrant signalization of unsignalized intersections. A warrant analysis to determine the need for signalization shall include consideration of both existing and projected traffic and pedestrian volumes, traffic delays and interruptions, accident history, and proximity of sensitive land uses, such as schools.
  - Policy C2.12: Transportation Demand Management (TDM) Downtown. Establish and implement a TDM program, a Transportation Management Association (TMA), and other measures to reduce vehicle trips and encourage transit use and promote bicycle and pedestrian accessibility for development within one-half mile of the Downtown transit center.
- Circulation Goal 3: Support the provision of public transit services adequate to provide a viable alternative to automobile travel for all citizens and to provide a convenient means of transportation to the "transit dependent" population.
  - Policy C3.3: Hayward Park Station. Improve pedestrian and vehicular access to the station. Redevelop the surrounding area with mixed-use and transit-oriented development.
  - Policy C3.4: Hillsdale Station. In conjunction with Caltrain, relocate the Hillsdale Station northward to a new location in the vicinity of between 28th Avenue and 31st Avenue, allow parking lot expansion, improve vehicular circulation and pedestrian access, and facilitate direct on-site bus/train transfer. Establish a circulation system for Hillsdale Station that will safely meet the needs of the station as a major transit hub and heart of a transit village, and will efficiently accommodate the many modes of transit it will serve. Also, incorporate the concepts of transit-oriented development into the designs of the areas surrounding the station – i.e. mixed-use development, pedestrian friendly design, a variety of housing within walking distance, etc.
  - Policy C3.7: San Mateo Rail Corridor Transit-Oriented Development Plan (Corridor Plan). Improve east-west access via new grade-separated rail crossings at 28th and 31st Avenues.
- Circulation Goal 4: Develop and maintain a comprehensive bicycle and pedestrian circulation network which provide safe recreation opportunities and an alternative to automobile travel.
  - Policy C4.4: Pedestrian Circulation. Develop a pedestrian master plan and prioritized capital improvement program that creates and maintains a walkable environment in San Mateo and supports the City's Sustainable Transportation Actions.
  - Policy C4.5: Pedestrian Enhancements with New Development. Continue to require as a condition of development project approval the provision of sidewalks and wheelchair ramps where lacking and the repair or replacement of damaged sidewalks. Require that utility poles, signs, street lights, and street landscaping on sidewalks be placed and maintained to permit wheelchair access and pedestrian use. Increase awareness of existing trails and routes by promoting these amenities to residents.

- Policy C4.6: Wheelchair Access and Pedestrian Accessibility. Continue to assess and improve wheelchair access throughout the City. Install wheelchair ramps or take other corrective measures where most needed in accordance with the established Citywide Wheelchair Program.
- Policy C4.7: Pedestrian Safety. Pedestrian safety shall be made a priority in the design of intersection and other roadway improvements.
- Policy C4.8: Pedestrian and Bicycle Mobility Needs. Balance pedestrian mobility and bicycle accessibility and safety with vehicular congestion when considering intersection improvements to address level of service degradation.
- Policy C4.9: Pedestrian and Bicycle Connections. Implement an area-wide pedestrian and bicycle circulation plan which will result in convenient and direct connections throughout San Mateo. Implementing connections in the Rail Corridor Transit-Oriented Development Plan (Corridor Plan) area and into adjacent neighborhoods and districts is a priority.
- Policy C4.11: Citywide Bikeways and Pedestrian Master Plan. Develop a Citywide Bikeways and Pedestrian Master Plan to outline strategies for improving bicycling and walking conditions in San Mateo, while raising the profile of bicycling and walking as modes of transportation.
- Policy C4.12: Hillsdale Bicycle and Pedestrian Over Crossing. Construct a bicycle and pedestrian over crossing in the vicinity of Hillsdale Boulevard over US 101.
- Circulation Goal 6: Implement the transportation objectives of the Sustainable Initiatives Plan (SIP) adopted by the City Council and developed by the Sustainable Advisory Committee.
  - Policy C6.1: Modal Share. Increase mode share for pedestrian and bicycle travel, for trips of one mile or less, from 3% in 2005 to 30% by 2020 by introducing paid parking in other commercial areas outside of the downtown, improving pedestrian walkways and amenities within commercial areas and residential neighborhoods and by providing adequate, secure, covered parking for bicycles in city garages and for new multifamily and commercial development. Additional potential supportive actions to increase mode share are detailed in the SIP, Appendix K of the General Plan.
  - Policy C6.3: Travel to Schools. Reduce private automobile school trips by 50 percent before 2020 by working with private and public schools to increase the number of students walking or bicycling to school, implementing "walking pools" to schools, increasing carpooling for students, and making flexible local transit available for student travel.
- Policy C/OS9.3: Crystal Springs Road Access. Pursue safe pedestrian/bicycle access to San Francisco Water District lands via Crystal Springs Road through coordination with the Town of Hillsborough and with State and County assistance.
- Policy C/OS 9.4: Interjurisdictional Coordination. Support the coordination of adjacent jurisdictions in the development of bicycle and pedestrian trails, the connection of trails in San Francisco watershed lands, the development of the Bay Trail and Ridge Trail systems, and potential connections into the City of Belmont in the development of a trail system with Sugarloaf Mountain.

- Policy C/OS 11.1: Active and Healthy Lifestyles. Active living, physical development and a healthy body and mind are among the most critical elements of a fulfilled life. We provide the tools necessary to begin, sustain and expand active and healthy lifestyles and to incorporate health and wellness practices into everyday life.
- Policy C/OS 11.6: Aging Adults. Facilitate an aging-friendly community that meets the interests of older adults in the areas of housing, mobility and transportation, active and healthy living, lifelong learning, civic engagement and community connections, lifestyle planning, and information and resource support through direct city services, cooperative and collaborative partnerships, and encouraging services by other community service providers.
- Policy C/OS 14.3: Active Use Facilities. Provide sufficient active use facilities to support current needs and future trends including at least three new multi-use athletic turf areas; an evaluation of existing turf fields for possible conversion to synthetic turf; a tennis complex that optimizes revenue generation; and a system of pedestrian and bike trails that will provide interconnectivity between parks.
- Policy C/OS 16.6: Cooperative Service Delivery. Utilize opportunities for cooperative acquisition, development, operation, and programming with private organizations or other public agencies that will provide more effective or efficient service delivery.
- Policy LU4.3: Location of Critical Facilities. Encourage active, healthy lifestyles, by promoting pedestrian and bicycle connectivity between civic facilities. Avoid locating critical facilities, such as hospitals, schools, fire, police, emergency service facilities and utilities in areas subject to slope failure, flooding and other hazards as identified in the Safety Element, where feasible.
- Policy UD 1.7: Minor Corridors. Provide visual and pedestrian improvements on arterial streets such as Alameda de Las Pulgas, Peninsula Avenue, San Mateo Drive, Delaware Street, Norfolk Street and Mariner's Island Boulevard. Policy UD 2.6: Orient Buildings Toward the Street. Encourage commercial development to be located at the street in retail areas to encourage pedestrian activity and the use of on-street parking. Locate required parking towards the side and rear of parcels.
- Policy UD 2.9: Pedestrian Oriented Design. On retail commercial projects, designate pedestrian activity as a priority through the design and provision of adequate sidewalk widths, locating windows along ground floor street facades, trees and awnings, and human scale construction materials and features.
- Policy UD 2.11: Vendors. Encourage outdoor food and plant vendors in the Downtown.

### **C.1.2. Sustainable Initiatives Plan (2010)**

The City's Sustainable Initiatives Committee developed the Sustainable Initiatives Plan (SIP), adopted by City Council in 2010, to identify strategies to reduce CO<sub>2</sub> emissions within the city. The SIP includes recommendations and a list of potential actions and/or additional information in nine topic areas, including public outreach (PO) and transportation (T).

- Recommendation PO 1: Create a multi-phased information campaign to educate residents and businesses on this Plan and to spark behavioral changes in individual energy and water consumption, transportation mode choices, and recycling.

- Potential Supportive Action 1. Highlight the relationships between health, finances and choices relating to transportation modes or other environmental issues.
- Recommendation T 1: Increase mode share for pedestrian and bicycle travel to 30% for trips of one mile or less by 2020. Bicycle and pedestrian travel currently represents about 3% of all travel.
  - Potential Supportive Action 1. Improve pedestrian walkways and amenities within commercial areas and within residential neighborhoods and the connections between them.
  - Potential Supportive Action 2. Reduce crossing distances where pedestrians must cross arterial streets through the construction of bulb-outs or other methods.
  - potential Supportive Action 7. Work with private and public schools to increase the number of students walking or bicycling to school.
- Recommendation T 3: Reduce single purpose school trips made by private automobile by 50% by 2020.
  - Potential Supportive Action 1. Implement “walking pools” to schools.

The SIP also recommends “immediate actions” upon its approval by City Council, including the establishment of baseline information for pedestrian and bicycle travel within San Mateo using a transportation survey developed and implemented by the Alliance.

### **C.1.3. Green Building Ordinance (2010)**

On January 1, 2010 the City of San Mateo Green Building Ordinance went into effect, requiring new construction and remodel projects to meet the Leadership in Energy and Environmental Design (LEED) Building it Green standards, as identified in the Ordinance. LEED defines levels of compliance by awarding credits. Public transportation access is one source of credits in new construction and existing buildings. To obtain this credit, the project proponent must locate the project within 1/2-mile walking distance (measured from a main building entrance) of either 1) an existing or planned and funded commuter rail, light rail or subway station or 2) one or more stops for two or more public, campus, or private bus lines usable by building occupants. Additional points are available for development density and community connectivity that provides for pedestrian access.

### **C.1.4. Draft Crosswalk Policy and Treatment Toolbox (2008)**

The Draft Crosswalk Policy and Treatment Toolbox presents a crosswalk policy with respect to crosswalks in general, and specifically crosswalks at signalized and uncontrolled intersections. Development of pedestrian safety guidelines will guide the City in making decisions about where basic crosswalks (two stripes) can be marked; where crosswalks with special treatments, such as high visibility crosswalks, flashing beacons and other special features, should be employed; and where crosswalks will not be marked due to safety concerns resulting from volume, speed or sight distance issues. The Crosswalk Policy and Treatment Toolbox is intended to serve as a reference guide for staff, citizens, and developers. It should help the City accomplish two key goals: 1) ensure consistency in City staff’s approach to marking crosswalks and 2) make the City’s guidelines clear to residents.

### **C.1.5. Capital Improvement Plan (2008)**

The City's Capital Improvement Plan (CIP) identifies capital projects to be constructed by 2013. The following line items from the CIP relate to pedestrian improvements:

- Citywide Bicycle and Pedestrian Path Improvements, \$424,462
- Citywide Sidewalk Repair Program, \$6,110,000
- Congestion Mitigation and Air Quality (CMAQ) Pedestrian Improvement Project, \$449,970

### **C.1.6. North Central San Mateo Community-Based Transportation Plan (Draft December 2010)**

The North Central San Mateo Community-Based Transportation Plan (CBTP) examines the transportation needs of the North Central neighborhood in the City of San Mateo. This project is part of the Metropolitan Transportation Commission's (MTC) Community-Based Transportation Planning Program, a collaborative planning process to identify transportation needs in low-income communities in the Bay Area. Within the North Central neighborhood, the rates for carpooling, transit, and walk/bike are higher than those for the City or County. The CBTP analyzes existing roadway conditions, transit service, bicycle and pedestrian facilities, and commute patterns; identifies transportation needs; utilizes evaluation criteria to rank the transportation needs; and presents an action plan to implement the transportation strategies. The transportation strategies are organized into the three transportation need areas: access to places outside the Project Area, access to transit services and community facilities within the Project Area, and information and cost. The implementation matrix describes the implementation timeframe, funding sources, lead agencies and partner agencies identified for each of the CBTP strategies.

### **C.1.7. Bay Meadows Specific Plan (2009)**

The 1997 Bay Meadow Specific Plan, amended in 2005 and 2009, outlines a vision for the redevelopment of two primary areas: a 75 acre Phase I Redevelopment Area and the 83.3 acre main track area of Bay Meadows, which abuts the northwest corner of the Hillsdale Boulevard and Highway 101 interchange. The Specific Plan describes the distribution, location and extent of land uses, presenting a "transit village" scheme with 900,000 square feet of office space, 734 residential units, 150,000 square feet of retail space, and 2.8 acres of parks and open space. The plan's amendment discusses the project goals, including the goal to reduce reliance on the automobile by enhancing opportunities for transit ridership, walking and biking. The Specific Plan calls for identifiable points of arrival for pedestrians and extension of the Class I path along Franklin Boulevard westward to Pacific Boulevard and is described below.

- Urban Design Guideline 2. Create identifiable points of arrival to the pedestrian-oriented environment of the Specific Plan area. This guideline addresses two locations:
  - The signalized intersection at Franklin Parkway and the southbound off -ramp of U.S Route 101.
  - The intersection of Saratoga Drive and Hillsdale Boulevard.
- Urban Design Guideline 7. Enhance Pedestrian and Bicycle Connectivity: Extend the class one bicycle and pedestrian route along the southern edge of the Specific Plan across Saratoga Drive along Franklin Parkway to connect with Hillsdale Boulevard.



### **C.1.8. San Mateo Rail Corridor Transit-Oriented Development Plan (2005)**

The intent of the Rail Corridor Transit-Oriented Development (TOD) Plan is to encourage compact, mixed-use development around the Hillsdale and Hayward Park Caltrain Stations and increase station accessibility by all travel modes, including walking. Among the provisions set forth by the Rail Corridor TOD Plan are improved pedestrian access to Caltrain Stations, improved intersection safety for pedestrians, and creation of a transportation demand management (TDM) program that encourages walking. Relevant policies are listed below.

- Objective (C): Improve pedestrian and bicycle environment and connections to transit stations and throughout the Plan Area.
- Objective (F): Manage Traffic and Encourage Alternatives to Driving.
- Policy 4.6 Establish new street intersections that are efficient and safe for pedestrians, bicycles, and automobiles.
- Policy 4.8 Establish consistent, pedestrian friendly streetscape improvements throughout the Plan Area.
- Policy 4.9 Develop an area-wide pedestrian and bicycle circulation network which will result in convenient and direct connections throughout the plan area and into adjacent neighborhoods and districts.
- Policy 4.10 Establish safe and convenient pedestrian and bicycle routes where existing barriers currently prohibit connections.
- Policy 4.12 Provide a balanced street system in the plan area that safely connects Hillsdale and Hayward Park stations to the adjacent and greater community by providing for convenient access by a mix of modes of travel including pedestrians, bicycles, buses, and automobiles both on and off-site.
- Policy 6.7 Encourage the maximum potential of Hillsdale Station as a major transit hub that efficiently accommodates Caltrain, SamTrans buses, shuttles, bicycles, pedestrians, taxis, automobile drop-off and pick-up, and park and ride.
- Policy 6.9 Capitalize on the potential of Hayward Park Station as a local transit hub that efficiently accommodates Caltrain, SamTrans buses, shuttles, bicycles, pedestrians, taxis, automobile drop-off and pick-up, and park and ride.
- Policy 6.32 Create an interconnected street system that is safe and convenient for pedestrians, bicycles, and autos, and is based on San Mateo's traditional block and grid pattern.

### **C.1.9. Hillsdale Station Area Plan (2011)**

The Hillsdale Station Area Plan provides the regulatory framework for compact and sustainable development in the area surrounding the Hillsdale Caltrain Station (Station Area). The roughly 150-acre Station Area is generally the area within walking distance of the preferred location of the future relocated Caltrain Hillsdale Station, excluding the Bay Meadows Phase II project area which has already been planned and is currently under construction. The following six principles guide the Station Area Plan:

1. Promote Transit-Oriented Development
2. Enhance Connections and Station Access
3. Encourage Pedestrian-Oriented Development on El Camino Real
4. Ensure Quality Development

5. Improve the Identity of the Station Area
6. Provide a Range of Housing Choices

Chapter 6, Transportation, discusses the proposed circulation improvements in the Station Area, including pedestrian improvements. The Station Area Plan focuses on clear pedestrian routes from the Transit Center to surrounding residential and commercial development and recommends improvements designed to enhance off-site access and overcome barriers created by arterial streets, the train tracks, and lack of street connectivity.

#### **C.1.10. El Camino Real Master Plan (2001)**

The El Camino Real (ECR) Master Plan is a vision for the future of El Camino Real between Hwy 92 and the Belmont City boundary. The main features recommended by the ECR Master Plan include a landscaped median and "themed intersections," which provide pedestrian enhancements at intersections with the highest pedestrian volumes. Phase I includes installation of landscaped medians and pedestrian related improvements at the five themed intersections (20<sup>th</sup>, 25<sup>th</sup>, 31<sup>st</sup>, 37<sup>th</sup> and 42<sup>nd</sup> Avenues). The pedestrian improvements include a four to six foot wide pedestrian refuge median on at least one side of the intersection, distinctive El Camino Real signage and trees. Additional pedestrian amenities such as wider sidewalks, benches and redesigned transit shelters are described in the El Camino Real Master Plan Design Guidelines and are intended to be implemented with future redevelopment of the corner parcels.

#### **C.1.11. Laurelwood Park and Sugarloaf Mountain Open Space Management Plan and Mitigated Negative Declaration (2006)**

The Laurelwood Park and Sugarloaf Management Plan provides management policies for the 37-acre Laurelwood Park and the adjoining 188-acre Sugarloaf Mountain Open Space, located south of Hillsdale Boulevard between Arthur Younger Freeway (State Route 92) and Alameda De Las Pulgas in San Mateo. The Management Plan includes the site plans that identify site improvements and management zones, estimated implementation costs, and costs for operations and maintenance activities over a fifteen year period.

The parks include a hierarchy of trails from single-tracks to trails that double as maintenance/fire access roads. During the planning process, the public and City staff members identified opportunities for making regional trail connections for both pedestrians and bicyclists. Connecting new trails at Sugarloaf Mountain with other neighborhoods, City parks, and open spaces is a goal of the Parks and Recreation Department's Green Scheme Strategic Initiative. Two trails within the project site will be designated as multiuse trails. The Management Plan also includes park and trail accessibility design guidelines applicable to trails, trailheads, overlooks, signage, and other amenities and utilities.

#### **C.1.12. Shoreline Parks Master Plan and Mitigated Negative Declaration (2000)**

The Shoreline Parks Master Plan describes existing pedestrian improvements within the Shoreline Parks and provides an overview of the resource enhancement, public use, facility development, and management programs for the Shoreline Parks. The Parks comprise approximately 177.3 acres adjacent to the San Francisco Bay and a portion of San Mateo Creek. Except for Harborview Park and Ryder Park, trail-related activities account for the majority of recreational opportunities within the Shoreline Parks. Additional pedestrian amenities, such as benches, trash cans and drinking fountains, are available at Harborview Park, Ryder Park, and Seal Point Park/Bay Trail. Planned improvements include restrooms, new trails, trail/roadway crossing

improvements, bicycle parking, public telephones, interpretive signage, and lighting. Improvements to bicycle and pedestrian access connections are discussed generally on pages 2-4 and 2-5 and throughout the Specific Park Area and Facilities section. Trail and vehicular gateway locations are identified in Figure 5, including gateways along J. Hart Clinton Drive and the Bay Trail.

Most trail use involves individuals who either walk or bike to the Shoreline Parks from San Mateo and enter the Shoreline Parks from Coyote Park Recreation Area, or who park elsewhere along the Bay Trail and walk or ride to the Shoreline Parks. The Master Plan includes the following goal related to pedestrian access:

- **Goal #7: Access.** Development of the Shoreline Parks should be carried out such that through a comprehensive bicycle and pedestrian circulation network, residents are encouraged to use alternatives to automobile travel as a means of accessing the shoreline.

### **C.1.13. Aging Well, San Mateo Final Report (2009)**

The Aging Well, San Mateo Report is the first stage of a two-part effort to collect information on the needs of San Mateo's residents over 50 years of age and engage the local government and broader community to identify and plan initiatives that will serve this population. Indicative of a need for pedestrian services and facilities for older residents, most of San Mateo's residents over 50 want to stay in the City throughout their retirement; a substantial majority indicates that they are very likely (48 percent) and somewhat likely (30 percent) to remain. Residents who own their homes rate the city higher as a place to retire than those who are renters (72 percent versus 56 percent). Residents who are over age 65 feel more positively about San Mateo as a place to retire (78 percent) than those under age 65 (61 percent). This first stage report identifies potential services and programs within the purview of local government for older residents. The Report addresses a range of topics, including mobility and transportation and active and healthy living.

In regards to transportation characteristics, surveys conducted for the Report found that most of San Mateo's older residents travel by automobile. Ninety-four percent of survey respondents said they travel by "motorized vehicle by myself" at least one day a week, while 80 percent say that they walk at least one day a week, and 22 percent use some form of public transportation each week. More than half (52 percent) of survey respondents said they never use public transportation, while a third (33 percent) said just once or twice. The Report does not explore whether most people chose to drive because that is their preference or because the public transit options available to them are unsatisfactory. Though public transportation options exist, the Report found that most residents have little experience in using it, and it is questionable whether current routes serve their needs. According to one interviewee, the city has relatively good public transit options running north-south, but the options that run east-west are more limited. The Report concludes that people who live at a distance from shopping areas or from the main public transportation corridors may find themselves isolated when they stop driving, despite existing para-transit services. Volunteer-based transportation programs are identified as a potential means to supplement these services.

## **C.2. County Documents**

Similar to the City, San Mateo County is governed by a set of plans, including a General Plan, Transportation Plan, and Bike Routes Plan. These plans, while pertinent to only the County's jurisdiction, should be considered in order to better coordinate this Citywide Pedestrian Master Plan with County plan recommendations.

### **C.2.1. San Mateo County General Plan (1986)**

The San Mateo County General Plan describes pedestrian activity within the County and establishes the County's objectives concerning pedestrian travel. The General Plan notes that, in 1986, 8.2 percent of all trips were made by walking and that the elderly and young tend to walk to their destinations more frequently than other age groups. Goals and objectives contained in the Plan encourage a balanced transportation system, support interjurisdictional coordination around transportation planning, and promote implementation of pedestrian paths and bridges, as follows:

- Goal/Objective 12.3 Provide for a balanced and integrated transportation system in the County which allows for travel by various modes and easy transfer between modes.
- Goal/Objective 12.7 Coordinate transportation planning with adjacent jurisdictions.
- Goal/Objective 12.39 Pedestrian Paths. Encourage the provision of safe and adequate pedestrian paths in new development connecting to activity centers, schools, transit stops, and shopping centers.
- Goal/Objective 12.40 Pedestrian Bridges. Encourage Caltrans to provide pedestrian bridges and connections in areas where State highways have divided communities.
- Goal/Objective 12.46 Cooperation with Cities. Work with the cities of San Mateo County and with adjacent cities and counties on transportation issues of countywide concern, including east-west arterial roads, implementation of the Bikeways Plan, development of truck routes through adjoining jurisdictions, pavement maintenance of bike routes.

### **C.2.2. San Mateo County Trails Master Plan (2001)**

The County's Trails Plan includes an inventory of existing trails, proposed trail routes, County trails policies, design guidelines, and use and management guidelines. The County is currently updating this plan.

### **C.2.3. San Mateo County Trails Master Plan (Draft 2010)**

The County is in the process of updating their Trails Master Plan (2001) and drafts were not available at the time of this writing (December 2010). Among several goals, the Trails Plan Update seeks to review opportunities for linkages to other City, Special District, State, and other facilities and ensure that current ADA standards are met on designated accessible trails. As part of the Trails Master Plan effort, the County has identified potential Bay to Ocean multi-use trails, which include shared-use paths, on-street bicycle facilities and sidewalks.

### **C.2.4. Countywide Transportation Plan (2001)**

The goal of City/County Association of Government's (C/CAG/s) Countywide Transportation Plan (CTP) is to reduce traffic congestion in all jurisdictions of San Mateo County by increasing transit and non-motorized facility capacity, performance and demand, and increasing the performance of existing roadways. Toward that goal, the CTP presents policies that promote a transportation system with all modes working in synergy. The CTP's key policies related to pedestrian travel include: 1) encouraging cities to promote land use patterns amenable to walking, and 2) encouraging cities to identify and improve locations hazardous to pedestrians. The CTP is currently being updated.

### **C.2.5. Countywide Transportation Plan 2035 Bicycle and Pedestrian Goals and Policies (Draft 2010)**

C/CAG is currently updating the CTP 2010, and has developed draft vision, goals, objectives, and policies for pedestrian travel. The goals and policies include benchmarks for increasing the market share of walking trips for all purposes, and for commute trips, recommended prioritization criteria, and general policies relating to land use, urban design, safety, barriers, traffic calming, education, encouragement, and integration with public transit.

### **C.2.6. San Mateo County Comprehensive Bicycle and Pedestrian Plan (Draft 2011)**

C/CAG and the San Mateo County Transportation Authority (TA) updated the Comprehensive Bicycle and Pedestrian Plan (CBPP) in 2011. The CBPP reinforces the priorities of the region and cities and will aid C/CAG and the TA in prioritizing expenditure of transportation funding for pedestrian and bicycle projects. The CBPP provides analysis and review of regionally significant pedestrian issues and related priorities. It also provides cities and the County with design guidelines, program toolkits, and other resources to help design and install recommended projects. Pedestrian areas of focus identified in the CBPP include downtown area improvements, El Camino Real Corridor improvements, major barrier crossings, safe routes to school, safe routes to transit, and access to County/regional activity centers, and regional trails.

## **C.3. Regional Documents**

Regional planning and policy documents are far-reaching, presenting policies for all jurisdictions in a region or specific recommendations for jurisdictions running through or adjacent to the City of San Mateo, e.g. Metropolitan Transportation Commission (MTC) and Caltrain. MTC acts as the regional transportation planning, coordinating and financing agency for the region. The Association of Bay Area Governments (ABAG), made up of the nine counties surrounding the Bay, is the comprehensive planning agency for the region.

### **C.3.1. San Francisco Bay Trail Gap Analysis (2005)**

The San Francisco Bay Trail Gap Analysis Study is a continuation of the Bay Trail Plan (1989), which seeks to complete a continuous 500 mile trail around the San Francisco Bay. The City of San Mateo has completed the segments of the Bay Trail within its jurisdiction, in Coyote Point Park.

The following policies are from Bay Trail Plan, of which the Gap Analysis supports.

Trail alignment policies reflect the goals of the Bay Trail program—to develop a continuous trail which highlights the wide variety of recreational and interpretive experiences offered by the diverse bay environment and is situated as close as feasible to the shoreline, within the constraints defined by other policies of the plan.

Trail design policies underscore the importance of creating a trail which is accessible to the widest possible range of trail users and which is designed to respect the natural or built environments through which it passes. Minimum design guidelines for trail development are recommended for application by implementing agencies.

Transportation access policies reflect the need for bicycle and pedestrian access on Bay Area toll bridges, in order to create a continuous trail and to permit cross-bay connections as alternative trail routes.



Implementation policies define a structure for successful implementation of the Bay Trail, including mechanisms for continuing trail advocacy, oversight and management.

### **C.3.2. Grand Boulevard Multimodal Transportation Corridor Plan (2010)**

The Grand Boulevard Multimodal Transportation Corridor Plan seeks to facilitate smart growth development on the El Camino Real Corridor from Daly City to San Jose's Diridon Station. The Plan provides an overview of mobility issues and current policies affecting multimodal access and the design of capital improvement projects along the El Camino Real Corridor. While the Corridor Plan does not identify recommended improvements for specific locations, it does recommend an approach to network mobility planning that includes creating space within the right-of-way for multiple travel modes and providing the facilities needed to promote multimodal travel. The Plan's Street Design Guidelines provide a context sensitive approach for pedestrian related improvements including trees, lighting, paving and similar design treatments.

### **C.3.3. Grand Boulevard Initiative Multi-Modal Access Strategy Progress Report (2007)**

The Grand Boulevard Initiative Multi-Modal Access Strategy is the collaborative effort of 19 Cities, San Mateo and Santa Clara Counties, and local and regional agencies to improve El Camino Real as a street that creates "links between communities that promote walking and transit and improve the quality of life". The Initiative's guiding principles relevant to pedestrian planning and design are as follows:

- Guiding Principle 3. Create a pedestrian-oriented environment and improve streetscapes, ensuring full access to and between public areas and private developments.
- Guiding Principle 4. Develop a balanced multimodal corridor to maintain and improve mobility of people and vehicles along the corridor.
- Guiding Principle 8. Improve safety and public health.
- Guiding Principle 9. Strengthen bicycle and pedestrian connections within the corridor.

### **C.3.4. Transportation 2035 Plan for the San Francisco Bay Area (April 2009)**

The vision for MTC's Transportation 2035 Plan is to support a "prosperous and globally competitive Bay Area economy, provide for a healthy and safe environment, and promote equitable mobility opportunities for all residents". The Plan identifies how approximately \$218 billion in anticipated federal, state, and local transportation funds to be spent in the Bay Area over the next 25 years. Projects identified for San Mateo County include:

- Improvements to Caltrain stations (includes upgrades/relocation of platforms, new platforms, pedestrian tunnels, pedestrian crossings and parking improvements) (Project 21623)
- Improvements to SamTrans bus services (includes enhanced service levels, transit priority measures, signal timing and dedicated bus lanes) (Project 230192)
- Implementation of San Mateo's bicycle and pedestrian program (Project 230430)

### **C.3.5. Bay Area Pedestrian Districts Study (2006)**

The goal of MTC's Pedestrian Districts Study is to explore the use of pedestrian districts, defined as places where walking is prioritized as a mode of travel, as a concept for creating better pedestrian environments in

the Bay Area. The Study presents ten case studies of pedestrian districts, each with a different typology, located throughout the Bay Area. It also provides an approximate cost estimate for each district, both as a whole and by linear square foot.

## C.4. State Documents

State planning and policy documents are the most far-reaching, presenting policies and goals for RTPs and MPOs.

### C.4.1. State Assembly Bill 32: Global Warming Solutions (2006)

Signed into law in 2006, the Global Warming Solutions Act sets discrete actions for California to reduce greenhouse gas emissions to 1990 levels by 2020 and to 80 percent below 1990 levels by 2050. The discrete actions focus on reducing emissions by increasing motor vehicle and ship yard efficiency and other strategies involving refrigerants, landfills, and consumer products. While encouraging walking is a means for California to reach the target emission levels, AB 32 does not identify it as a strategy.

### C.4.2. State Assembly Bill 1358: Complete Streets (2008)

AB 1358 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”, e.g. pedestrians, bicyclists, transit riders, motorists, children, persons with disabilities and elderly persons. Beginning January 1, 2011, cities and counties must include accommodation of all street users in circulation element revisions.

### C.4.3. State Senate Bill 375: Sustainable Communities (2009)

Signed into law in 2008, SB 375 links land use planning with greenhouse gas emissions, first requiring the State Air Resources Board (ARB) to set emission reduction goals for metropolitan planning organizations (MPO) (ABAG is the MPO for the Bay Area) and then requiring ABAG to develop a land use plan to meet that goal. ABAG must make transportation funding decisions consistent with their new plan, namely by developing a Sustainable Communities Strategy (SCS) in the Regional Transportation Plan. The SCS must be consistent with the Regional Housing Needs Assessment (RHNA) allocation. ABAG has already implemented a similar strategy with its Priority Development Areas (PDA), which works with local jurisdictions to concentrate housing around transit stations. The City of San Mateo’s compliance with ABAG’s SCS and consequently SB 375 includes setting minimum density and development standards when rezoning an area. Aspects relevant to this Citywide Pedestrian Master Plan are listed below.

- ARB creation of regional targets for greenhouse gas emissions reduction tied to land use.
- Regional planning agencies must create a plan, including a SCS, to meet those targets.
- Regional transportation funding decisions must be consistent with this new plan.
- RHNA guiding local housing efforts that are informed by efficient use of the transportation system.

#### **C.4.4. Complete Streets—Integrating the Transportation System (DD 64-R1) (2008)**

Caltrans' Deputy Directive DD 64-R1, an update of the original 2001 Deputy Directive, establishes a routine accommodation policy for Caltrans. The policy "recognizes bicycle, pedestrian, and transit modes as integral elements of the transportation system" and addresses the needs of bicyclists, pedestrian users regardless of funding. Pedestrian travel is facilitated by creating complete streets beginning early in system planning and continuing through project delivery and maintenance and operations.

### **C.5. Federal Documents**

#### **C.5.1. Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations (March 2010)**

The US Department of Transportation/Federal Highway Administration's (USDOT/FHWA's) policy statement on integrating walking into transportation infrastructure establishes the agencies' support for the development of "fully integrated active transportation networks". The policy encourages, but does not require, public agencies and professional associations, among others, to "[commit] themselves to integrating bicycling and walking into the transportation mainstream."

## Appendix D. Walking Audit Memo

A walking audit is a walking workshop that examines a focused cluster of intersections in a neighborhood or along a corridor, typically in areas where traffic calming is being considered, near activities centers like schools, or in major pedestrian nodes like downtown areas. Walking audits are typically conducted as an initial step to improve the pedestrian environment within a selected area. Many individuals can participate: community residents, stakeholders, and affiliated individuals. During a walking audit, positive practices are observed and issues and opportunity areas are noted. Observations are based on how motorists are behaving around pedestrians and how pedestrians are behaving, especially at intersections (for example, if pedestrians are crossing at unmarked locations to avoid certain intersections). At specific locations along the route, participants discuss potential recommendations to address pedestrian safety concerns. Walking audits are highly interactive, with many observations explored during the walk. They are a means to observing and learning how to “see through the eyes of the pedestrian.”

Three daylong walking audits were conducted with City of San Mateo staff and key stakeholders on March 8, 9, and 10, 2011. A participant list is attached as an appendix. The City of San Mateo selected the following three walking routes (shown in Figures 1, 2, and 3):

**Route 1: Hillsdale Station Area** – Edison Street, W 39th Avenue, El Camino Real, and Hillsdale Boulevard

**Route 2: Downtown** – El Camino Real, Tilton Avenue, B Street, W 4th Avenue

**Route 3: North Central** – Monte Diablo Avenue, Delaware Street, E 3rd Avenue, Fremont Street

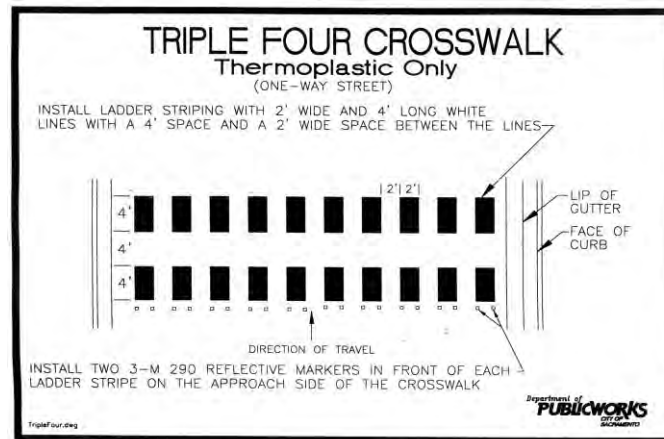
The City selected these three routes because they represent areas of the City with higher numbers of pedestrian-involved collisions over the most recent 10 years and also allowed the participants to focus on prototypical pedestrian conditions around the City. This memo summarizes the discussions that occurred during each walking audit and includes the site specific recommendations that the participant group identified at the end of each day.

Recommendations are based on field observations and best practices in pedestrian design and safety. Conditions may exist in the focus areas that were not observed and are not compatible with recommendations in this report. Before recommendations are implemented, City staff should conduct further analysis to ensure that the recommendations are contextually appropriate and do not inappropriately impact pedestrian safety or accessibility from issues including, but not limited to, vehicular traffic, physical characteristics, unsafe conditions, or improper implementation.

## GENERAL OBSERVATIONS AND RECOMMENDATIONS

The following general recommendations and themes were noted as appropriate for citywide implementation. In many cases these practices may be documented in the City's crosswalk policy:

- Use a high visibility crosswalk striping pattern at uncontrolled crosswalks and at high priority locations, such as schools and senior centers (the “triple four” is recommended).



- Ensure signal timings are adequate for pedestrians, especially seniors (a crossing speed of 2.8 feet per second is recommended in areas with a substantial number of senior or child pedestrians).
- Consider leading pedestrian intervals at signals with permitted left turns where protected left turns or split phasing are not feasible.
- Add advanced stop bars for controlled crossings.
- Add advanced yield lines, striped 20 to 40 feet in advance of the crosswalk, for multi-lane uncontrolled crossings.
- Install pedestrian countdown signal heads at all signalized intersections based upon priority process (most of the City has these already).
- Continue to provide a buffer between vehicles and pedestrians by separating sidewalks from the curb with landscaping.
- Prioritize traffic calming in residential neighborhoods through a neighborhood traffic management plan (update).
- Strive for “pedestrian-friendly” medians, which are wide enough (at least 6') for pedestrian refuge.
- Maintain ADA-compliant crossings (truncated domes, cross slopes, audible signals, etc.).
- Provide directional curb ramps, rather than diagonal ramps, where feasible.
- Enforce existing laws prohibiting sidewalk parking.
- Consider community benefit or business benefit parking districts to fund streetscape enhancements.
- Provide pedestrian accommodations during any construction project that requires sidewalk closures.
- Develop and use a checklist for pedestrian accommodation when reviewing transit station and bus stop plans and land use site plans.



## ROUTE 1: HILLSDALE STATION AREA

The Hillsdale Station route, shown in figure **Route 1**, is located in the southern portion of the City, west of El Camino Real and near the Hillsdale Shopping Center, Hillsdale Caltrain Station, and San Mateo County Hospital. The audit group started at the intersection of Hillsdale Boulevard/Edison Street, continued south along Edison Street to W 39th Avenue (near the San Mateo County Hospital), walked easterly along W 39th Avenue to El Camino Real, then walked north along El Camino Real to Hillsdale Caltrain Station.

The land uses in the area are primarily mixed-use commercial retail and medium- to high-density residential buildings. The San Mateo County Medical Center is a major employer and destination in the area. The Hillsdale Shopping Center is a regional shopping destination. The Hillsdale Caltrain Station and Hillsdale Shopping Center are major transit hubs for both local and regional transit, including Samtrans, AC Transit, and Caltrain.

The following corridor-wide themes emerged during the walking audit:

### Edison Street

- Edison Street is a two-lane residential collector roadway with moderately high vehicle and pedestrian volumes. The roadway runs from Hillsdale Shopping Center, to the north, to 42nd Avenue, to the south.
- Edison Street is a major pedestrian connection between the transit stops on Hillsdale Boulevard and the San Mateo County Medical Center.
- Sidewalk parking, made easy with a rolled curb, is a substantial barrier to walking in this corridor.
- Edison Street is narrow in some areas, and removal of raised centerline pavement markers (also known as “Botts’ Dots”) and enforcement of sidewalk parking could encourage more of a shared (“yield”) street concept by requiring vehicles to yield to on-coming traffic in narrow sections of the roadway. This type of operation is common in other residential areas of the City, especially where vertical curb, instead of rolled curb, is present.
- Transit vehicle maneuverability must be maintained along Edison Street between Hillsdale Boulevard and 37th Avenue. A yield street would not be recommended for portions of Edison Street that have transit service.

### W 39th Avenue

- W 39th Avenue is a two-lane collector roadway between El Camino Real and Alameda De Las Pulgas, and is one of two primary vehicle access points for the San Mateo County Medical Center.
- Vehicle speeds tended to be higher, and traffic calming could benefit local residents along the roadway as well as pedestrians walking between the Medical Center and bus stops on El Camino Real.

### El Camino Real

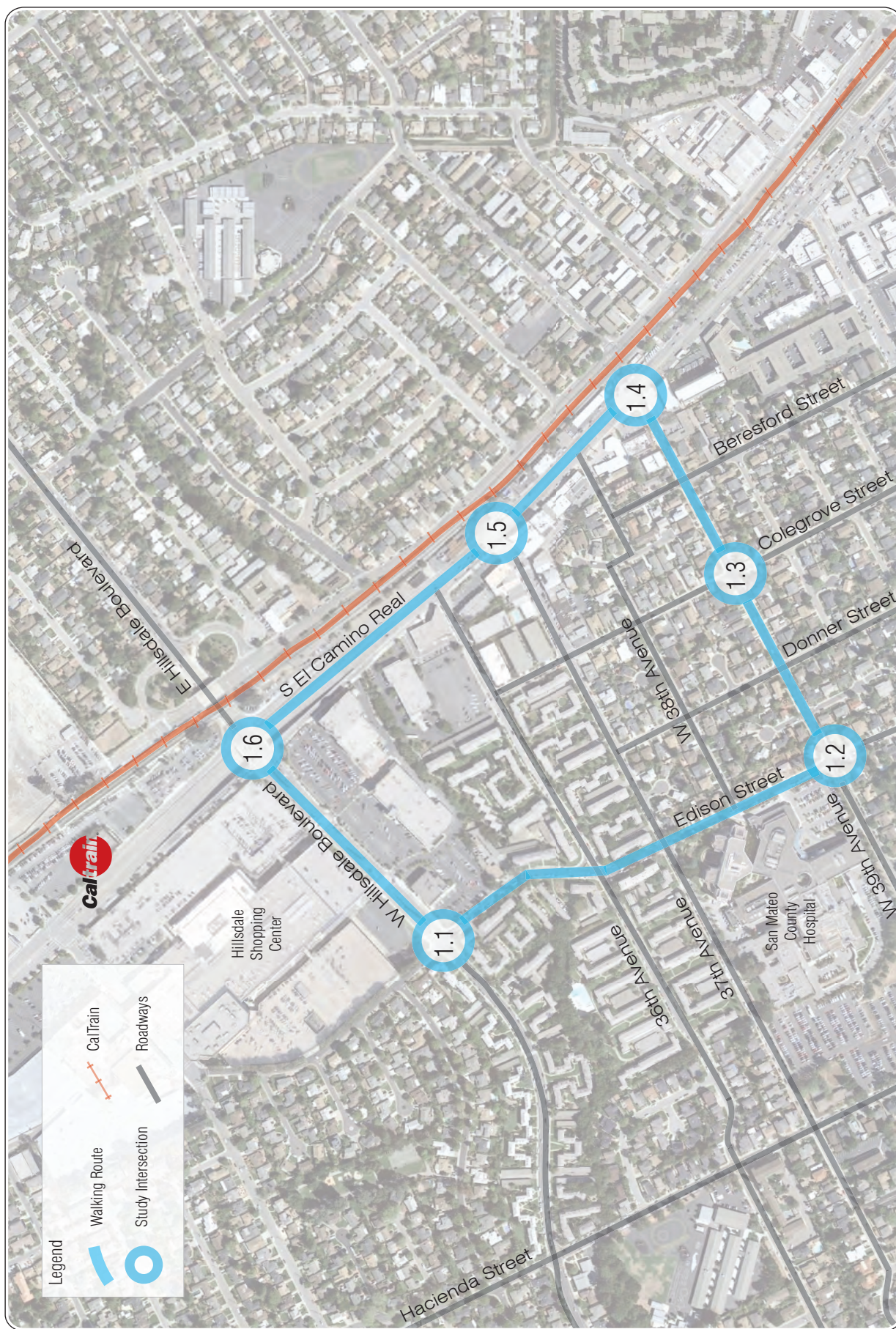
- El Camino Real is a major, six-lane arterial roadway through San Mateo County. The segment between Hillsdale Boulevard and W 39th Avenue is fronted by commercial uses.
- The property to the east of El Camino Real in this segment is owned by the Joint Powers Authority, which maintains short-term commercial leases for the properties.

- The sidewalk along the east side of El Camino Real in this segment is missing, even though Samtrans bus stops are present.
- Pedestrians were observed crossing at uncontrolled and unmarked locations to access businesses on the east side of the road.

The following six intersections were focus areas for the walking audit participants:

- 1.1. Edison Street/Hillsdale Boulevard
- 1.2. Edison Street/W 39th Avenue
- 1.3. Colegrove Street/W 39th Avenue
- 1.4. El Camino Real/W 39th Avenue
- 1.5. El Camino Real/37th Avenue
- 1.6. El Camino Real/Hillsdale Boulevard

A discussion of each of these areas follows the Route 1 figure.



Not to Scale



Route 1. Hillsdale Station Area

Figure 1



## ROUTE 1 SITE SPECIFIC RECOMMENDATIONS

The follow sections summarize the potential improvements and recommendations developed during the walking audits.

### Location 1.1 W Hillsdale Boulevard and Edison Street

General Considerations: W Hillsdale Boulevard is an east-west four to two lane, arterial roadway between Foster City and CA-92. Edison Street is a two-lane collector roadway between the Hillsdale Shopping Center and 42nd Avenue. In general, Hillsdale Boulevard experiences substantial traffic east of Edison, between El Camino Real and US 101. East of Edison Street, Hillsdale serves commercial uses; west of Edison, the street primarily serves residential areas and has Class II bicycle lanes. Edison Street is primarily a residential collector, with lower traffic volumes. This intersection is located adjacent to the Hillsdale Shopping Center and north of the San Mateo County Medical Center.



W Hillsdale Blvd and Edison St, looking northwest.

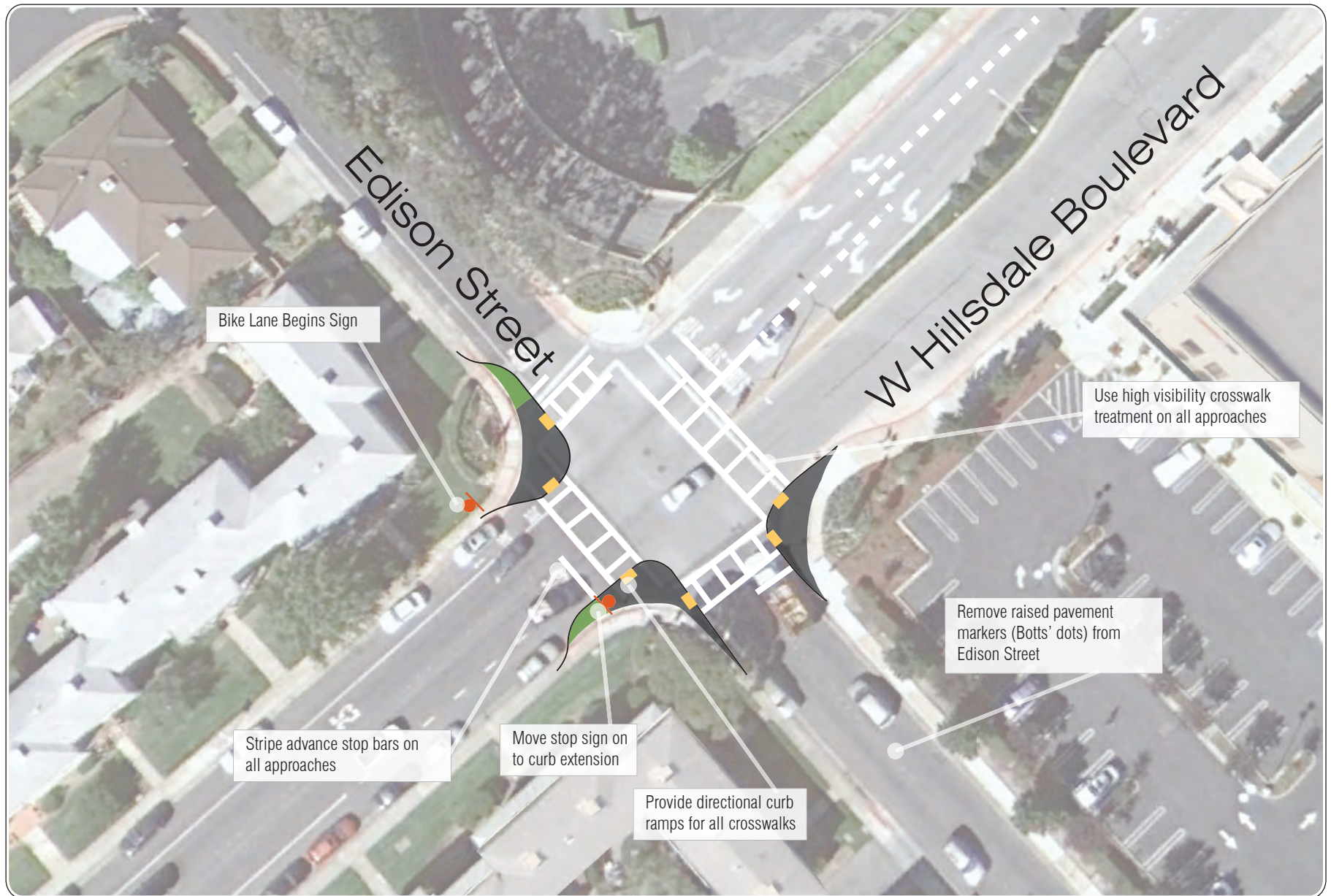
As a transition point between the commercial section of W Hillsdale Boulevard to the east and the residential section of Hillsdale Boulevard to the west, the walking audit participants in the group felt that this location should more effectively communicate the change in land uses.

*Specific Recommendations (shown on the following page):*

- Extend existing southeastern curb extension to reduce turning radius on corner.
- Construct curb extensions into Edison Street and W Hillsdale Boulevard on the northwestern corner and into Hillsdale Boulevard only on the southwestern corner. Ensure an adequate bus turning radius is provided.
- Relocate the southwestern stop sign into the curb extension
- Provide high-visibility crosswalks on all approaches.
- Provide advance stop bars on all approaches.
- Provide directional curb ramps on all corners.
- Consider removing raised pavement markers (Botts' dots) on Edison Street.



Botts Dots as a roadway centerline.



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Study Location 1.1: Edison Street at W Hillsdale Boulevard

Route 1. Hillsdale Station Area



## Location 1.2 West 39th Avenue and Edison Street

General Considerations: W 39th Avenue and Edison Street are both two-lane collector roadways that serve a predominately residential area of San Mateo. This intersection is located at the southeastern corner of the County Medical Center. This intersection was the site of a pedestrian fatality.

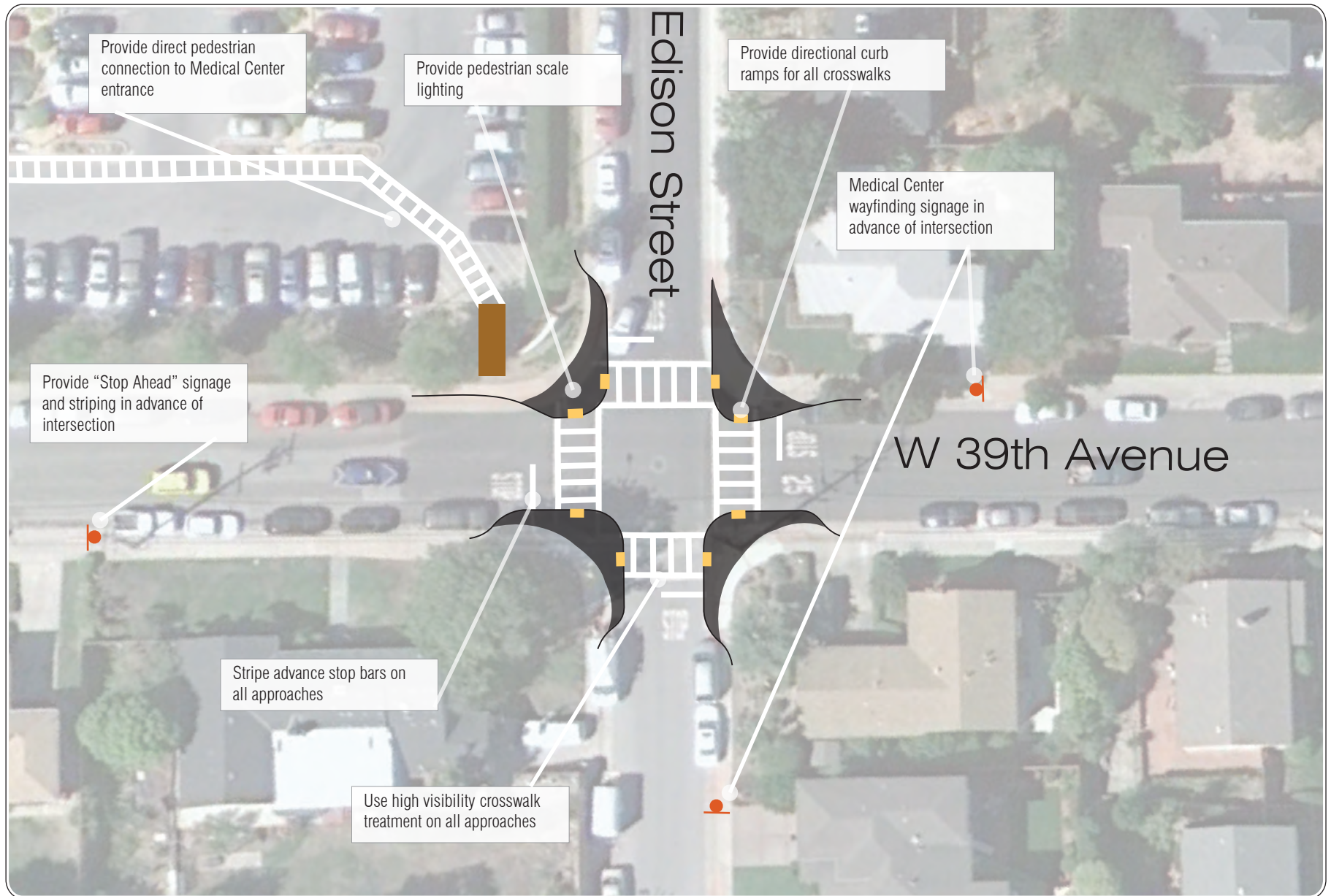
Two general themes emerged at this location. First, the intersection is located in a hilly area, which makes the eastbound stop sign difficult for drivers to see, particularly when larger vehicles park on the southwest corner. Both Edison Street and W 39th Avenue primarily serve residential uses besides the Medical Center. The lack of wayfinding to the Medical Center might be challenging for people unfamiliar with the area.



Looking northwest at West 39<sup>th</sup> Avenue and Edison Street

*Specific Recommendations (shown on the following page):*

- Provide a direct pedestrian path from intersection to hospital entrance through the parking lot.
- Provide additional wayfinding signage in advance to the intersection to allow drivers to decide movements before they get to the intersection.
- Construct a curb extension into both W 39th Avenue and Edison Street on the southwest corner to improve sight distance. In the interim: paint a red curb 10-15' in advance of the intersection and raise the stop sign.
- Construct curb extensions into both streets on the southeast, northwest, and northeast corners (as a lower priority).
- Provide advance stop bars on all approaches.
- Stripe/Sign "STOP AHEAD" on the eastbound approach.
- Provide pedestrian-scale lighting.
- Investigate an opportunity to provide a raised crosswalk on the eastbound approach if other improvements do not address safety concerns adequately.



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Study Location 1.2: Edison Street at W 39th Avenue

Route 1. Hillsdale Station Area

### Location 1.3 Colegrove Street and W 39th Avenue

General Considerations: W 39th Avenue and Colegrove Street are local residential streets east of the Medical Center. This segment of W 39th Avenue is a primary vehicle route to and from the Medical Center. The group observed speeding along W 39th Avenue, which is encourage by design with few stops between El Camino Real and Edison Street.

*Specific Recommendations (shown on the following page):*

Basic:

- Stripe crosswalks on all approaches.
- Provide advance stop bars on all approaches.

Advanced:

- Install curb extensions on all corners.
- Conduct speed surveys at other intersections along W 39th Avenue to determine if they qualify for additional traffic calming improvements. Improvements may include neighborhood curb extensions, medians, or traffic circles.



Looking northwest at Colegrove Street and West 39<sup>th</sup> Avenue





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Study Location 1.3: Colegrove Street at W 39th Avenue

Route 1. Hillsdale Station Area

#### Location 1.4 W 39<sup>th</sup> Avenue and El Camino Real

General Considerations: El Camino Real is a state highway (SR 82) through San Mateo County; this section of El Camino Real is six lanes wide, with a center left-turn lane and turn pockets at intersections. This three-legged unsignalized intersection is located approximately 800 feet from, and half way between, adjacent signalized intersections along El Camino Real. The intersection has a marked crosswalk on the south side that leads to a northbound Samtrans bus stop. No sidewalk (other than a short stretch at the bus stop) is present on the east side of El Camino Real. A southbound left-turn lane leads to a closed driveway (currently serving u-turns). Caltrans recently repaved El Camino Real and striped a continental crosswalk in place of the previous basic parallel line crosswalk.



Looking east across El Camino Real at W 39<sup>th</sup> Avenue

*Specific Recommendations (shown on the following page):*

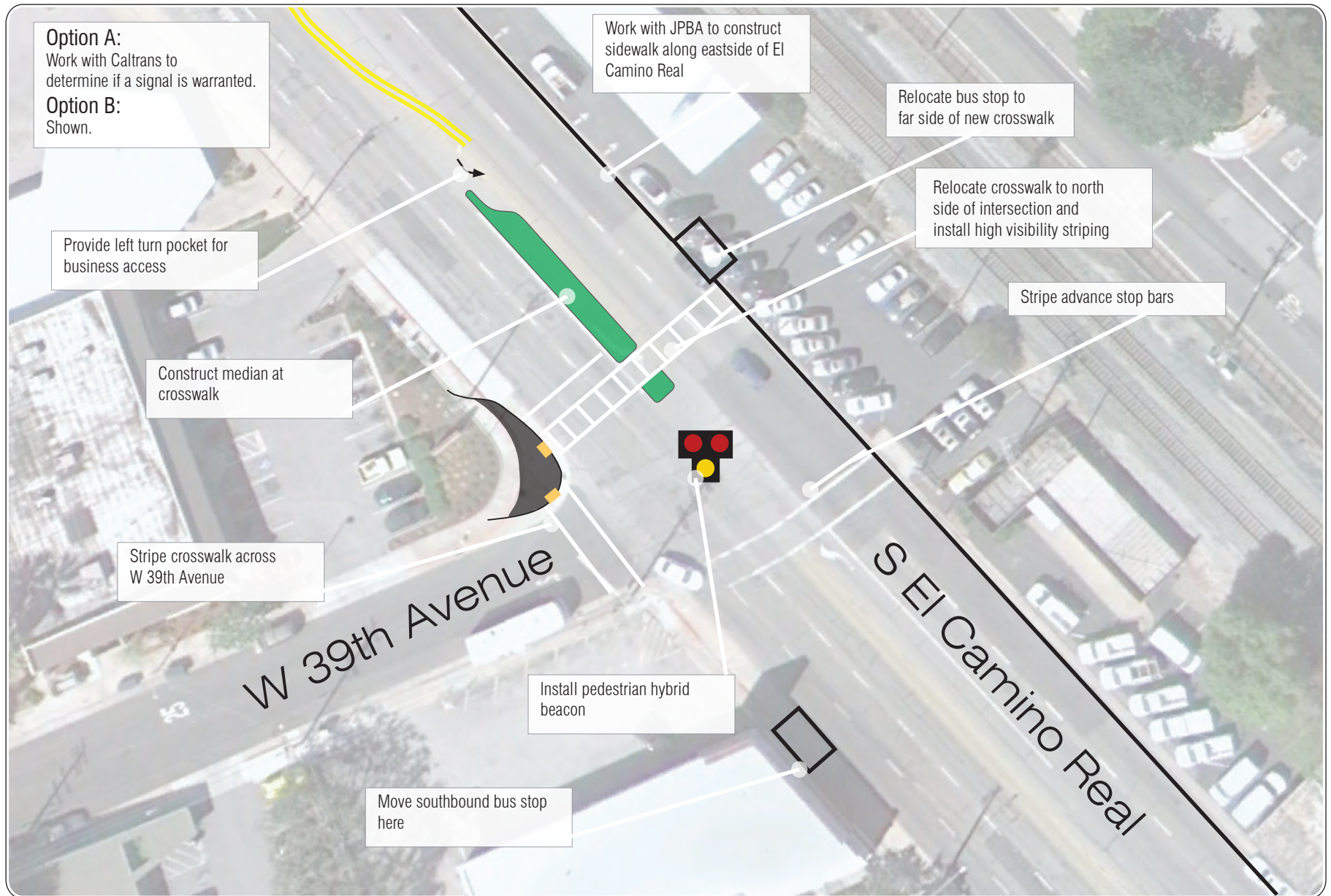
##### Option A

- Work with Caltrans and Joint Powers Authority to determine feasibility of a signal.

##### Option B

- Relocate marked crosswalk to north side of intersection and install a pedestrian hybrid beacon (note: this device is included in the 2009 MUTCD and is anticipated to be approved for use in California in the near term).
- Relocate southbound left-turn and provide a median refuge for the marked crosswalk.
- Extend sidewalk on the east side of the intersection.
- Restrict southbound u-turns and left-turns.
- If business needs a turn pocket, provide the pocket north of the crosswalk.
- Relocate bus stops to far sides of the crosswalk.
- Provide advance limit lines.
- Stripe a crosswalk across W 39<sup>th</sup> Avenue.





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Study Location 1.4: S El Camino Real at W 39th Avenue

Route 1. Hillsdale Station Area

### Location 1.5 37th Avenue and El Camino Real

**General Considerations:** This intersection is located immediately south of the El Camino Real on-and off-ramps from Hillsdale Boulevard. 37th Avenue is a collector street serving residential areas west of El Camino Real and is a primary access route to and from the County Medical Center. The eastbound approach at this intersection is a six-lane driveway for a carwash. Bus stops are present on the southbound and northbound approaches to the intersection. Marked crosswalks are provided on the west and south legs of the intersection.



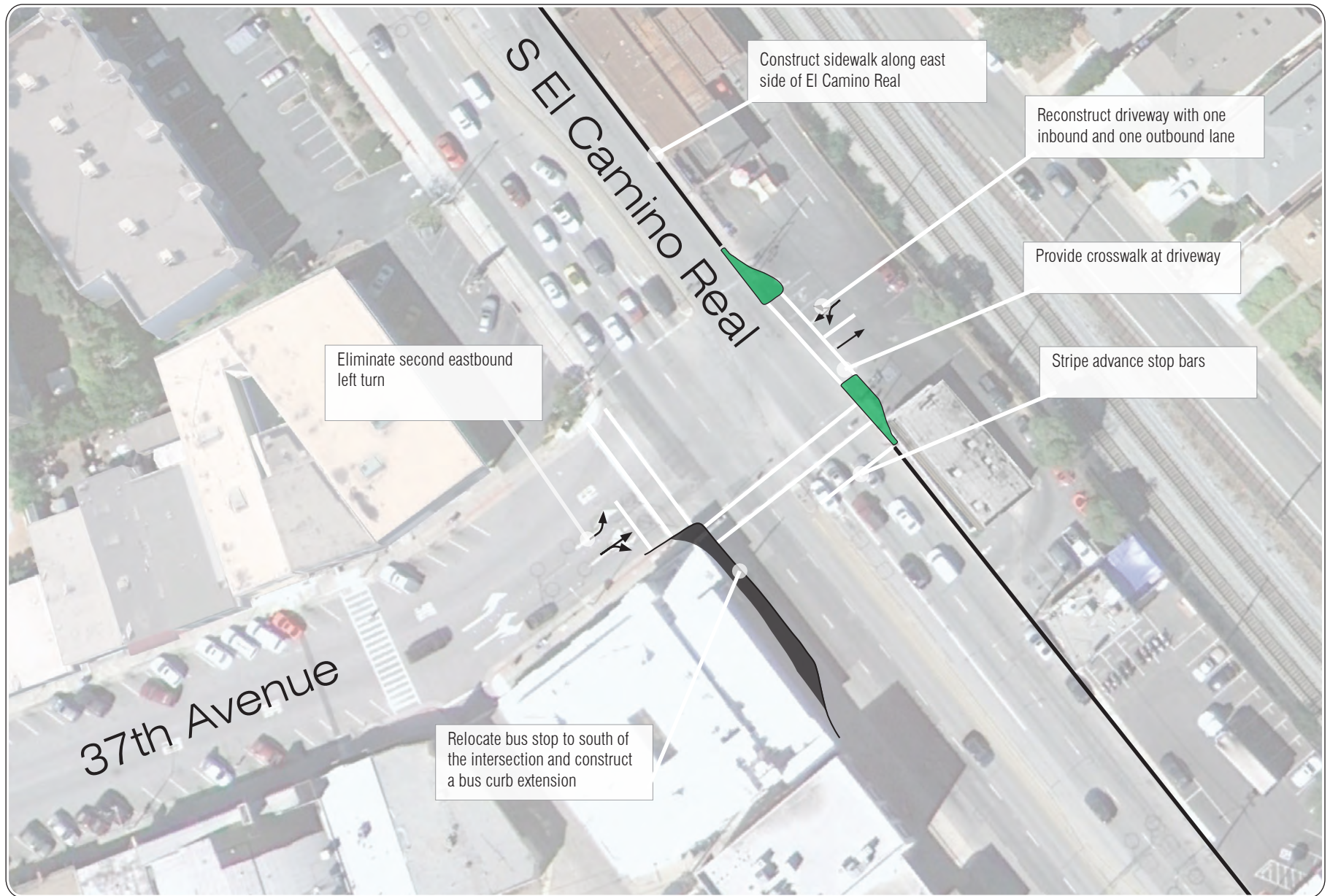
Looking east across El Camino Real at 37<sup>th</sup> Avenue

General recommendations for this location include narrowing and enhancing the eastbound approach to the intersection and providing better pedestrian facilities along the eastern edge of El Camino Real, particularly as parcels redevelop as part of the Hillsdale Station Area Plan.

*Specific Recommendations (shown on the following page):*

- Relocate the southbound bus stop to south of 37th Avenue.
- Consider constructing a bus bulb to accommodate bus stop furniture and shelter.
- Narrow eastbound approach to one-lane in and one lane out and stripe a crosswalk.
- Eliminate second westbound left turn by reconfiguring lane usage.
- Coordinate with the Hillsdale Station Area Plan to provide a new sidewalk to the Station east side of El Camino Real.





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Study Location 1.5: S El Camino Real at 37th Avenue

Route 1. Hillsdale Station Area

### Location 1.6 W Hillsdale Boulevard and El Camino Real

General Considerations: W Hillsdale Boulevard and El Camino Real is a grade-separated intersection, with El Camino Real passing under W Hillsdale Boulevard. Ramps to and from El Camino Real are signalized. The Hillsdale Caltrain Station is located immediately to the east of the intersection.

The group identified three key concerns during the walking audit. First, the northbound and westbound right turn lanes are unsignalized, and vehicles tended to make the turn at high speeds. Next, the western signal, which controls the northbound off-ramp from El Camino and the westbound approach of W Hillsdale Boulevard, does not have crosswalks for pedestrians wanting to cross Hillsdale Boulevard. Pedestrians are required to use the pedestrian overpass adjacent to the train tracks or walk up a hook ramp/interchange of Hillsdale Boulevard/Pacific Boulevard. Third, the northbound right-turn lane has limited sight distance and vehicles may not be able to see a pedestrian entering the crosswalk.

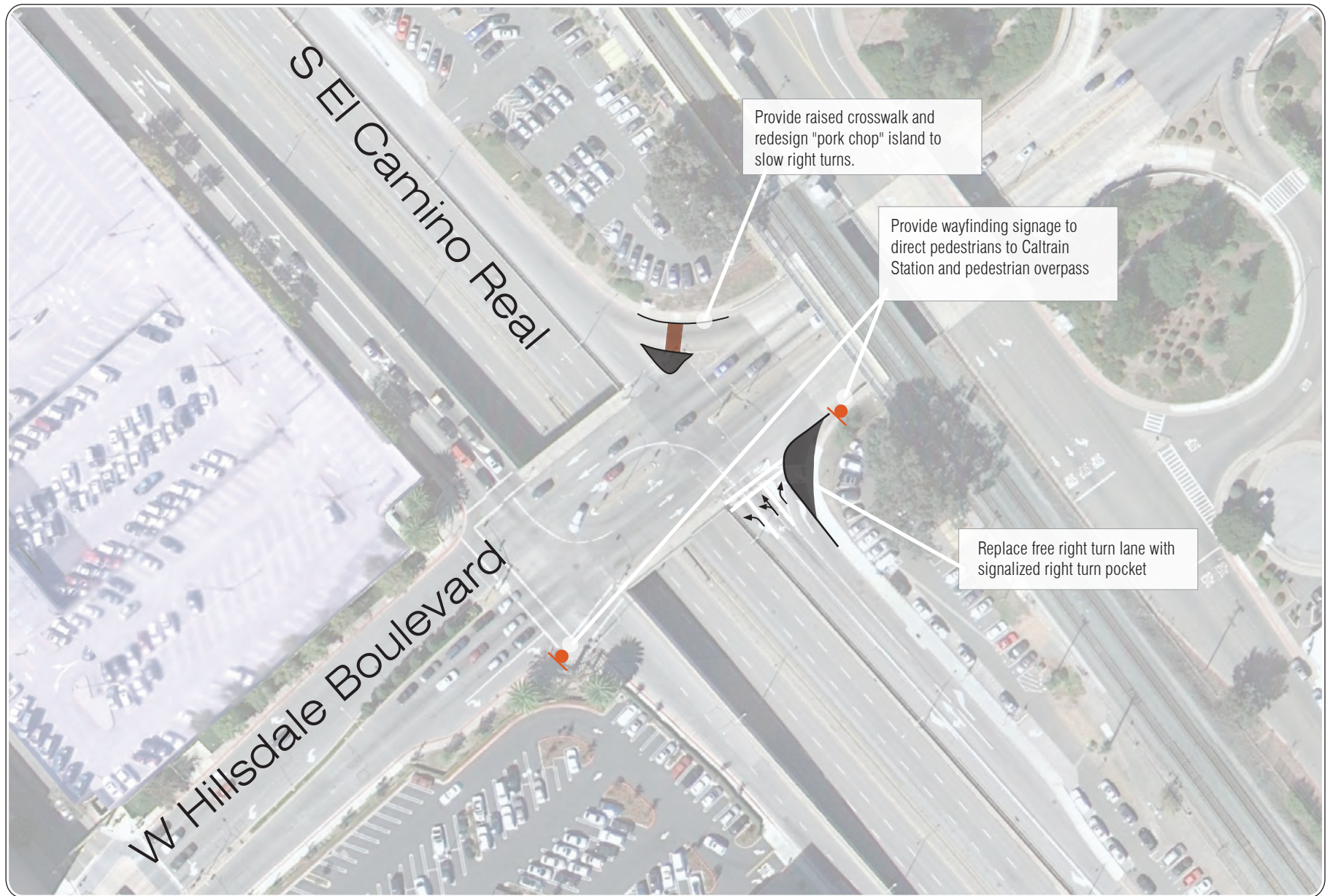


Looking east towards the Caltrain pedestrian overpass at W Hillsdale Blvd.

#### *Specific Recommendations (shown on the following page):*

- Install wayfinding signage to direct pedestrians to the Hillsdale Station entrances.
- Provide pedestrian-scale lighting.
- Study options to redesign intersection, including the feasibility of removing channelized right turns and replacing with standard right-turn pockets.
- If right-turn channels are needed, enhance channelized crosswalks and “pork chop” islands by enlarging islands, providing raised crosswalks, and/or signalizing the crosswalks. The recommendation figure illustrates a candidate improvement scenario.
- Coordinate improvements with Hillsdale Station Area Plan and High-Speed Rail planning efforts.





Not to Scale

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SF10-0522 San Mateo PMP



Study Location 1.6: S El Camino Real at W Hillside Boulevard

Route 1. Hillside Station Area



## ROUTE 2: DOWNTOWN

The Downtown route, shown in figure Route 2 on the following page, is located west of El Camino Real and east of the Caltrain tracks. The audit group started at the intersection of El Camino Real/2nd Avenue, continued northerly along El Camino Real to Tilton Avenue, then easterly along Tilton Avenue to B Street, then walked westerly along W 4th Avenue to El Camino Real. The group also observed the intersection of San Mateo Drive/2nd Avenue.

San Mateo's Downtown is primarily mixed-use commercial retail and office buildings. Several age-restricted senior housing facilities are located along El Camino Real between 2nd Avenue and Tilton Avenue. The San Mateo Caltrain Station is the major transit hub in the area, with Samtrans bus routes also present.

The following corridor-wide themes emerged during the walking audit:

### El Camino Real

- Senior housing along this section of El Camino Real may justify using a 2.8 feet per second walking speed when retiming traffic signals. This is consistent with the 2009 Federal Manual on Uniform Traffic Control Devices (MUTCD) update.
- At locations with permitted left-turns, protected left-turn or split phases should be considered, with leading pedestrian intervals provided where this is not feasible.
- El Camino Real transitions from a six-lane cross-section to a four-lane cross-section in this segment, and an edge line stripe could be an effective tool to reduce sidewalk parking by delineating the parking lane from the travel lane through the transition. The edge line stripe could also be a traffic calming tool, since it would visually narrow the roadway for drivers.
- Consider capacity reductions in portions of El Camino Real through the City that have excess capacity. These should be coordinated with the Grand Boulevard Initiative Transportation Study.

### B Street

- Leading pedestrian intervals should be applied throughout the Downtown area where permissive left turns are present.
- At high-volume intersections, consider using all-pedestrian phases to reduce conflicts and provide for diagonal pedestrian crossings.
- Bollards should be used on curb extensions with non-directional (full-corner) curb ramps to prevent vehicles from driving onto the sidewalk.
- Develop a routine treatment for mid-block crosswalks.
- Reduce the number of sidewalk obstructions, including signs, parking meters, and utility poles and boxes.
- Convert two parking spaces on each block to bicycle parking to reduce conflicts between vehicles exiting a parking space and backing into a crosswalk.

W 4th Avenue

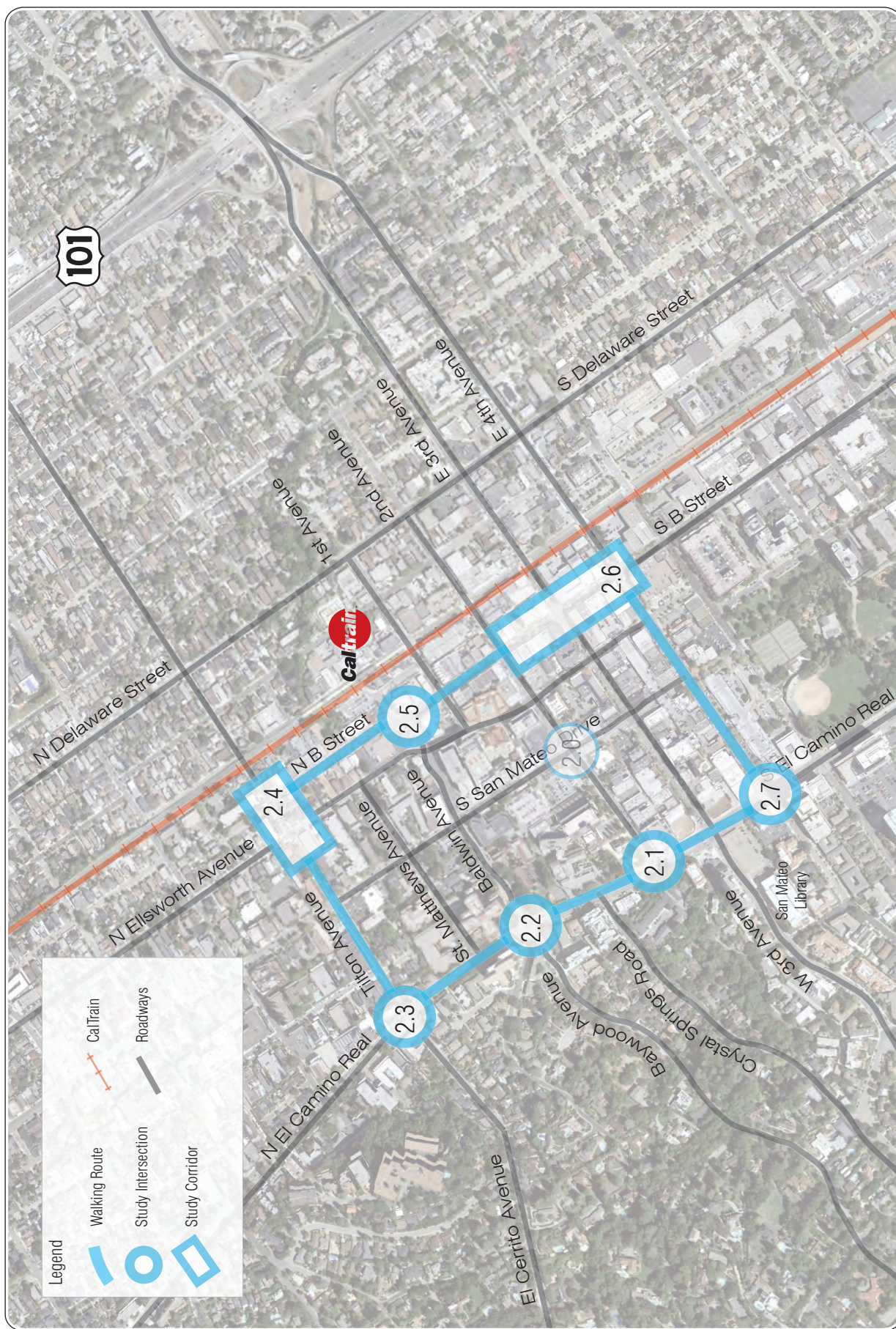
- Consider a road diet to change the existing four-lane cross-section to a three-lane or two-lane cross-section.
- Use leading pedestrian intervals at intersections with permitted left-turns.

The following eight intersections/corridors were focus areas for the group:

- 2.1 El Camino Real/2nd Avenue
- 2.2 El Camino Real/Baldwin Street-Baywood Avenue
- 2.3 El Camino Real/Tilton Avenue-El Cerrito Avenue
- 2.4 Ellsworth-B Street/Tilton Avenue
- 2.5 B Street/Baldwin Street
- 2.6 B Street (2nd Avenue to W 4th Avenue)
- 2.7 4th Avenue/El Camino Real
- 2.0 San Mateo Drive/2nd Avenue

These locations are discussed in more detail after the Route 2 figure.





Route 2. Downtown San Mateo

Figure 2



## ROUTE 2 SITE SPECIFIC RECOMMENDATIONS

The follow sections summarize the potential improvements and recommendations developed during the walking audits.

### Location 2.1 2nd Avenue and El Camino Real

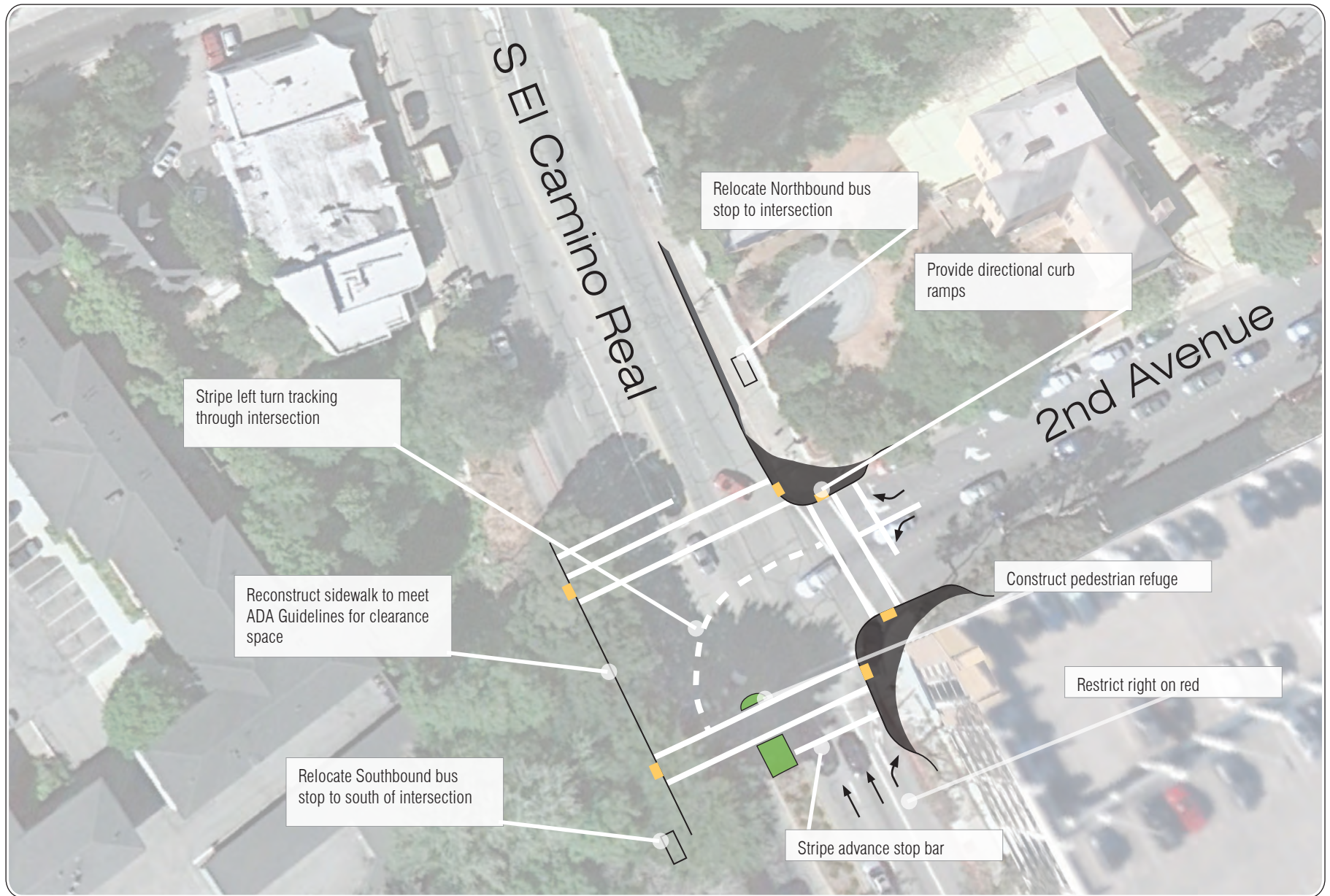
General Considerations: El Camino Real, north of W 3rd Avenue, has two lanes in each direction. 2nd Avenue is a collector roadway leading to downtown San Mateo. Bus stops are located on El Camino Real, immediately north of the intersection. The area is generally higher-density mixed use, similar to Downtown. The group made two key observations at this location. First, pedestrians in the south crosswalk conflicted with permitted left-turns from 2nd Avenue. Second, this location could be a good place to clearly indicate a transition between the six-lane and four-lane segments of El Camino Real.



Looking east across El Camino Real at 2<sup>nd</sup> Avenue

*Specific Recommendations (shown on the following page):*

- Relocate the southbound bus stop to south of the intersection.
- Relocate the northbound bus stop nearer to the intersection.
- Restripe the east leg crosswalk to create a 90-degree angle on southeast corner.
- Construct curb extensions on the east leg of intersection into 2nd Avenue.
- Construct thumbnail islands on El Camino Real.
- Paint track lines for westbound to southbound left turn movement.
- Reconstruct sidewalk along the west side of El Camino Real.
- Construct bus bulb on northbound side north of intersection.
- Restrict northbound right turn on red.
- Provide leading pedestrian interval for pedestrian crossing El Camino Real.



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Study Location 2.1: S El Camino Real at 2nd Avenue

Route 2. Downtown San Mateo



## Location 2.2 Baywood Avenue and El Camino Real

General Considerations: This intersection is a five-legged intersection surrounded by senior residential buildings and a school. Baywood Avenue is generally a two-lane local roadway between downtown and residential neighborhoods west of El Camino Real. The fifth leg of the intersection, De Sabla Road, is a local two-lane residential street. De Sabla Road technically meets Baywood Avenue and is stop-controlled; however, the configuration of the intersection, and the wide paved west leg, creates the sense that it is part of the signal at El Camino Real. The group discussed the need to accommodate seniors in particular at this intersection.



Looking east across El Camino Real at Baywood Avenue

*Specific Recommendations (shown on the following page):*

- Provide protected left turns on El Camino Real with left-turn pockets, if feasible.
- Construct extension on the northwest corner to make De Sabla Road meet Baywood Avenue at a 90-degree angle.
- Provide an edge line stripe along El Camino Real (and consider this throughout the City) to delineate the parking lane.
- Construct a curb extension on the southeast corner of the intersection into Baldwin Avenue.
- Construct a curb extension into El Camino Real on the southwest corner.
- Provide a “keep clear” zone on Baywood Avenue adjacent to the existing driveway on southwest corner.
- Retime the signal to accommodate a walking speed of 2.8 feet per second in the pedestrian clearance interval for seniors.



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Study Location 2.2: N El Camino Real at Baldwin Avenue-Baywood Avenue

Route 2. Downtown San Mateo

### Location 2.3 Tilton-El Cerrito Avenue and El Camino Real

**General Considerations:** This intersection is located in a predominately residential area north of Downtown San Mateo. Tilton Avenue is a two-lane collector roadway that runs from US 101 to El Camino Real. West of El Camino Real, Tilton Avenue becomes El Cerrito Avenue and provides access to Hillsborough. Bus stops are present on both sides of El Camino on the north side of the intersection.

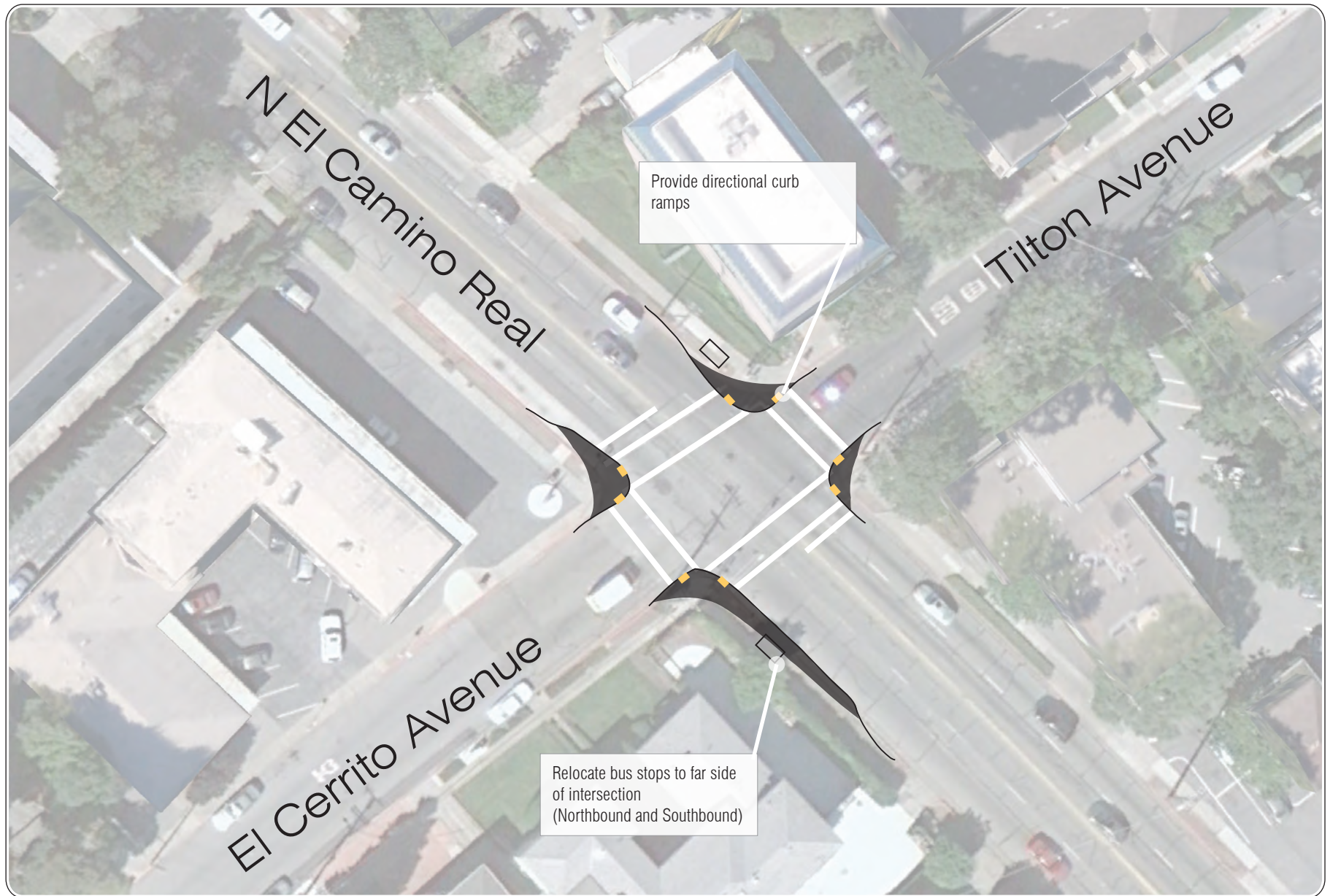
*Specific Recommendations (shown on the following page):*

- Relocate bus stops to the far sides of the intersection. Provide bus bulbs.
- Construct curb extensions on corners without bus stops.
- Add countdown signal timers (may be installed as of March 2011 – DPW to confirm).
- Add a leading pedestrian interval (basic) or add a split phase on Tilton/El Cerrito Avenue approaches to address pedestrian/left turning vehicle conflict.



Looking west across El Camino Real at Tilton Avenue





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Study Location 2.3: N El Camino Real at Tilton Avenue-El Cerrito Avenue

Route 2. Downtown San Mateo

## Location 2.4 N Ellsworth Avenue/B Street and Tilton Avenue

**General Considerations:** This segment of Tilton Avenue is located on the northern edge of Downtown San Mateo and in a primarily residential area. A religious institution is located west of N Ellsworth Avenue and commercial storefronts are present on B Street. The group noted potential speed issues along Tilton Avenue. The intersection of Ellsworth Street/Tilton Avenue is all-way stop controlled. The intersection of B Street/Tilton Avenue is side-street stop controlled, with the northbound approach of B Street stopping for traffic on Tilton Avenue.



Looking east across B Street at Tilton Avenue

*Specific Recommendations (shown on the following page):*

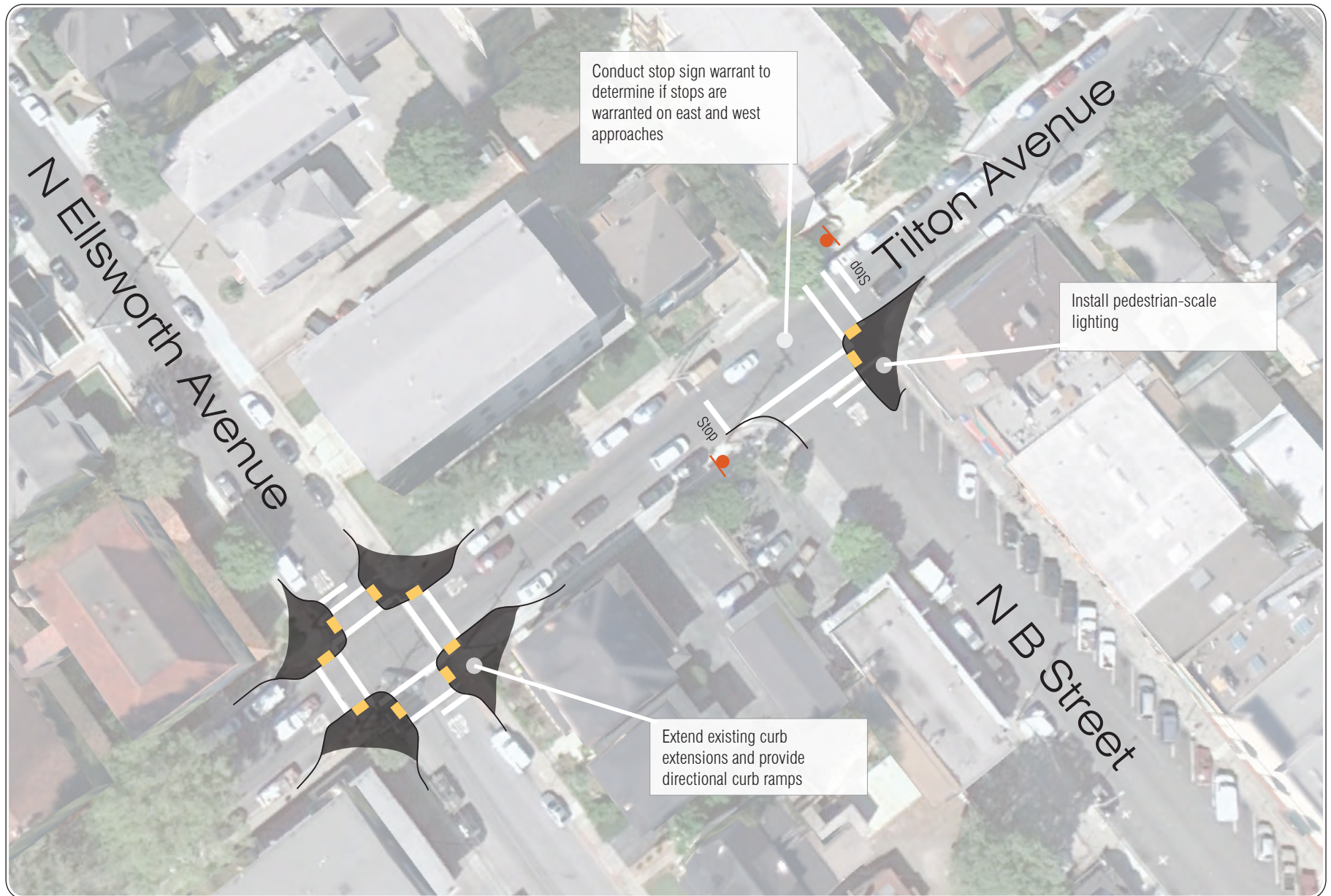
### N Ellsworth Avenue

- Reconstruct curb extensions on all corners of N Ellsworth Avenue/Tilton Avenue to improve visibility of stop signs.
- Provide advance stop bars on all approaches.

### B Street

- Construct curb extensions on the southeast corner into B Street.
- Stripe a crosswalk across the south leg.
- Provide pedestrian-scale street lighting.
- Study feasibility of an all-way stop sign.
- If stop signs are warranted on all approaches:
  - o Stripe crosswalks on south leg and east leg pending traffic study to determine turning movements at the intersection.





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Study Location 2.4: Tilton Avenue Corridor (N B Street to N Ellsworth Avenue)

Route 2. Downtown San Mateo

### Location 2.5 Baldwin Avenue and B Street

**General Considerations:** This intersection is located at the northern end of the commercial shopping district along B Street and approximately 25 feet south of the main driveway to the Downtown San Mateo Caltrain Station. In general, the intersection is very wide on all approaches. Participants noted that the exit from the Caltrain Station experiences congestion during the PM peak hour.

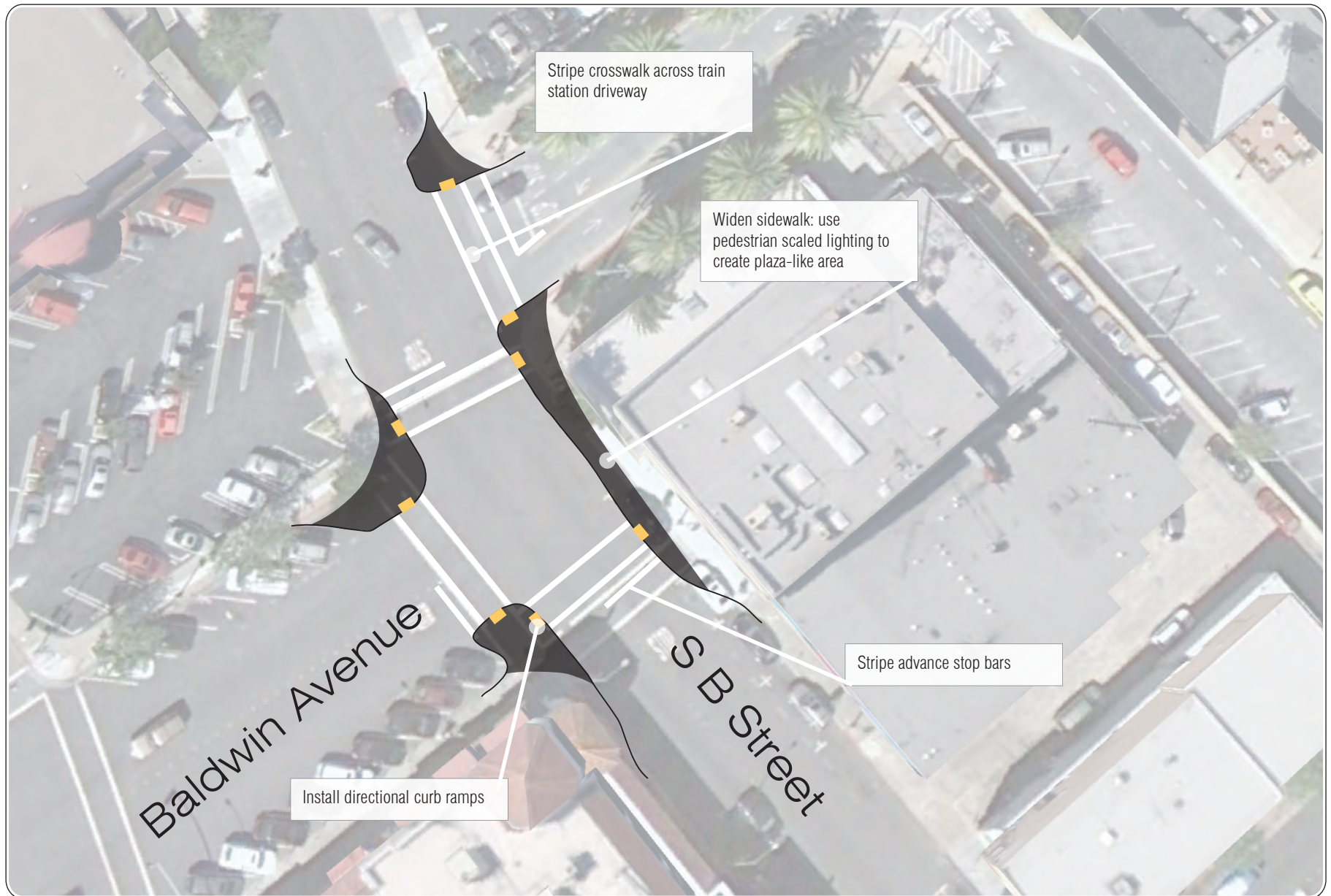


Looking north along B Street at Baldwin Avenue

*Specific Recommendations (shown on the following page):*

- Construct curb extensions into both Baldwin Avenue and B Street on western corners.
- Construct curb extension along east side of intersection between train entrance and southern crosswalk.
- Construct curb extension into B Street on northeast corner of train station driveway.
- Provide advance stop bars.
- Stripe crosswalk across Caltrain driveway.
- Study the feasibility for reconfiguring train station driveway to right in/ right out.
- Develop a potential long-term solution for intersection configuration when Trag's is redeveloped.
- Restrict parking near crosswalks with red curb paint.
- Consider signalization.





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Study Location 2.5: S B Street at Baldwin Avenue

Route 2. Downtown San Mateo

### Location 2.6 B Street (2nd Avenue to W 4th Avenue)

General Considerations: B Street is one of the primary commercial streets in Downtown San Mateo. Between 2nd Avenue and W 4th Avenue, streetscape enhancements have already been constructed, including corner curb extensions, mid-block crosswalks at key destinations, and street trees. While these enhance the pedestrian experience Downtown, the area still has sidewalks that are effectively narrowed because of parking meters, utility poles, and trees. Several pedestrian-involved collisions have occurred in this area in recent years. During peak times of day, the area has substantial vehicle and pedestrian traffic, and signal timing coordinated with the Caltrain tracks is a limiting factor when considering signal modifications, including pedestrian-only phases (scrambles) and leading pedestrian intervals.



Looking east across B Street at W 3<sup>rd</sup> Avenue

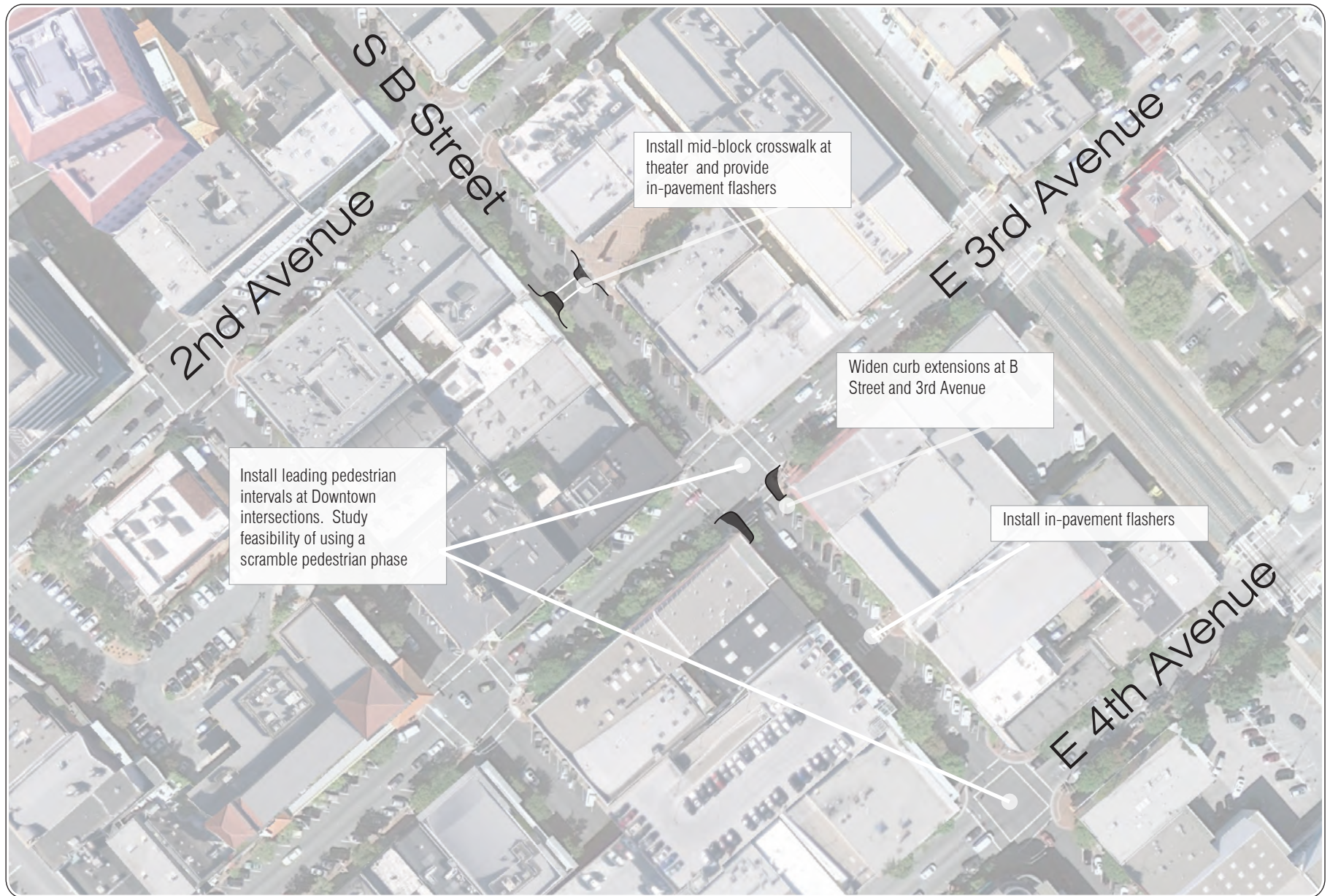
*Specific Recommendations (shown on the following page):*

- Provide some protection (bollards) for pedestrians in the diagonal curb ramp.
- Provide a mid-block crosswalk in front of the theater on B Street with curb extensions.
- Provide a passenger loading zone adjacent to the theater on B Street if drop off problems develop in front of theater with the new crosswalk.
- At W 3rd Avenue/B Street, provide curb extensions on the southeast and southwest corners.
- Provide a leading pedestrian interval or scramble, or consider split phases at signals.
- Install in-pavement flashers at existing mid-block crosswalk between W 3rd Avenue and W 4th Avenue and the new crosswalk at the theater.
- Remove diagonal parking spaces that cause vehicles to back into crosswalks and replace with bicycle parking.



Sidewalk café seating in Downtown San Mateo





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Study Location 2.6: S B Street Corridor (E 4th Avenue to 2nd Avenue)

Route 2. Downtown San Mateo



## Location 2.7 E 4th Avenue/El Camino Real

General Considerations: This intersection is one of the gateways into Downtown. The street and pedestrian environment has already been enhanced along E 4th Avenue, including a mid-block crosswalk and corner curb extensions. Although the street environment is improved, pedestrian safety concerns remain at many intersections along W 4th Avenue because of left-turn conflicts and long crossing distances.



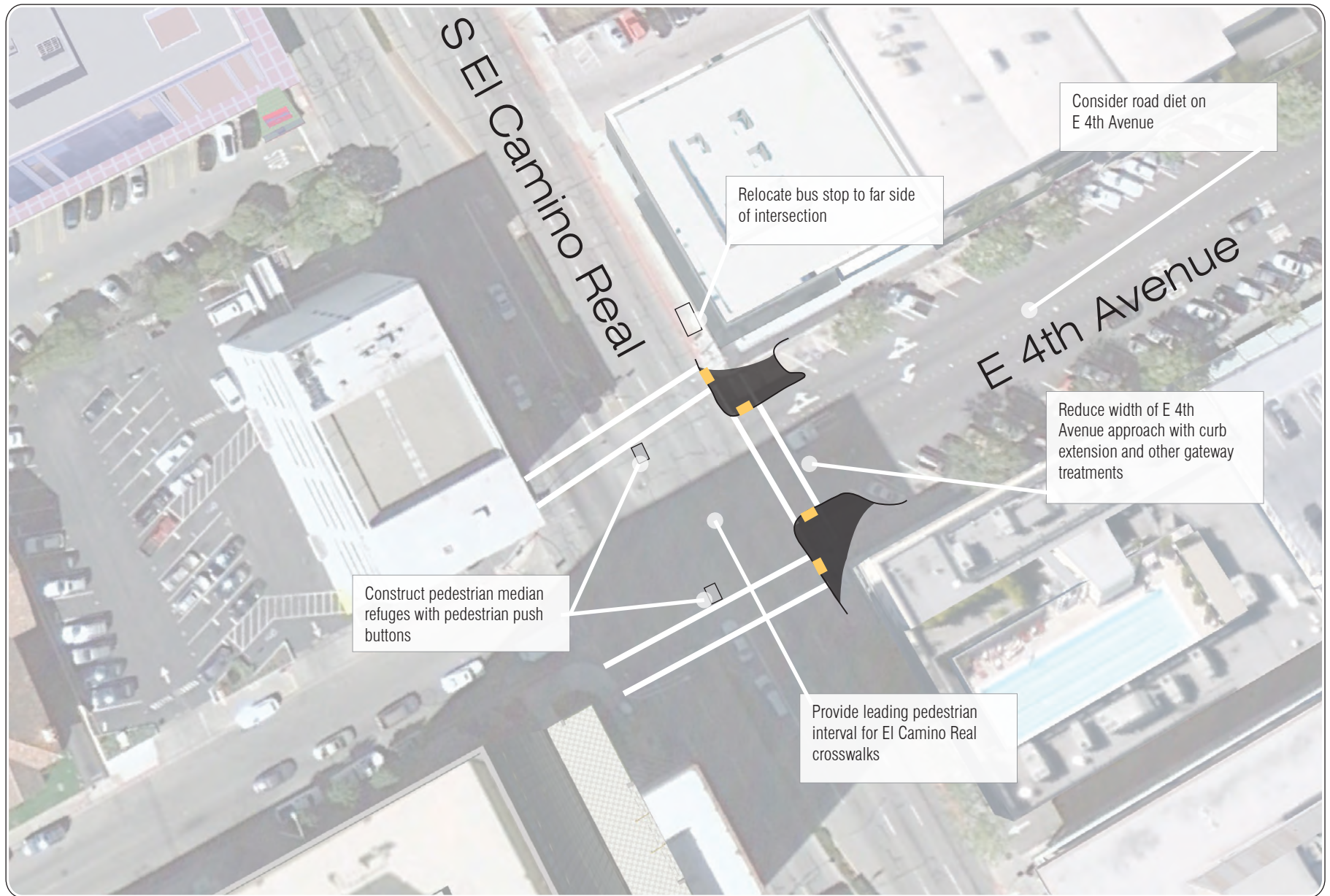
Looking east across El Camino Real at E 4<sup>th</sup> Avenue

*Specific Recommendations (shown on the following page):*

- Complete a road diet (lane number reduction) on E 4th Avenue to provide a three-lane cross section.
- Construct curb extensions into E 4th Avenue and El Camino Real.
- Relocate bus stops on El Camino Real to far sides of the intersection.
- Provide leading pedestrian intervals.
- Construct thumbnail median noses with pedestrian push buttons.



Mid-block crosswalk on E 4<sup>th</sup> Avenue



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Study Location 2.7: S El Camino Real at E 4th Avenue

Route 2. Downtown San Mateo

**Location 2.0 2nd Avenue/San Mateo Drive**

General Considerations: This intersection is located in Downtown San Mateo adjacent to the Medical Center. This intersection is slightly offset and wide. In particular, sight distance is limited for motorists making a northbound right turn to the eastern crosswalk. The wide angles at the intersection also encourage high speed turns.

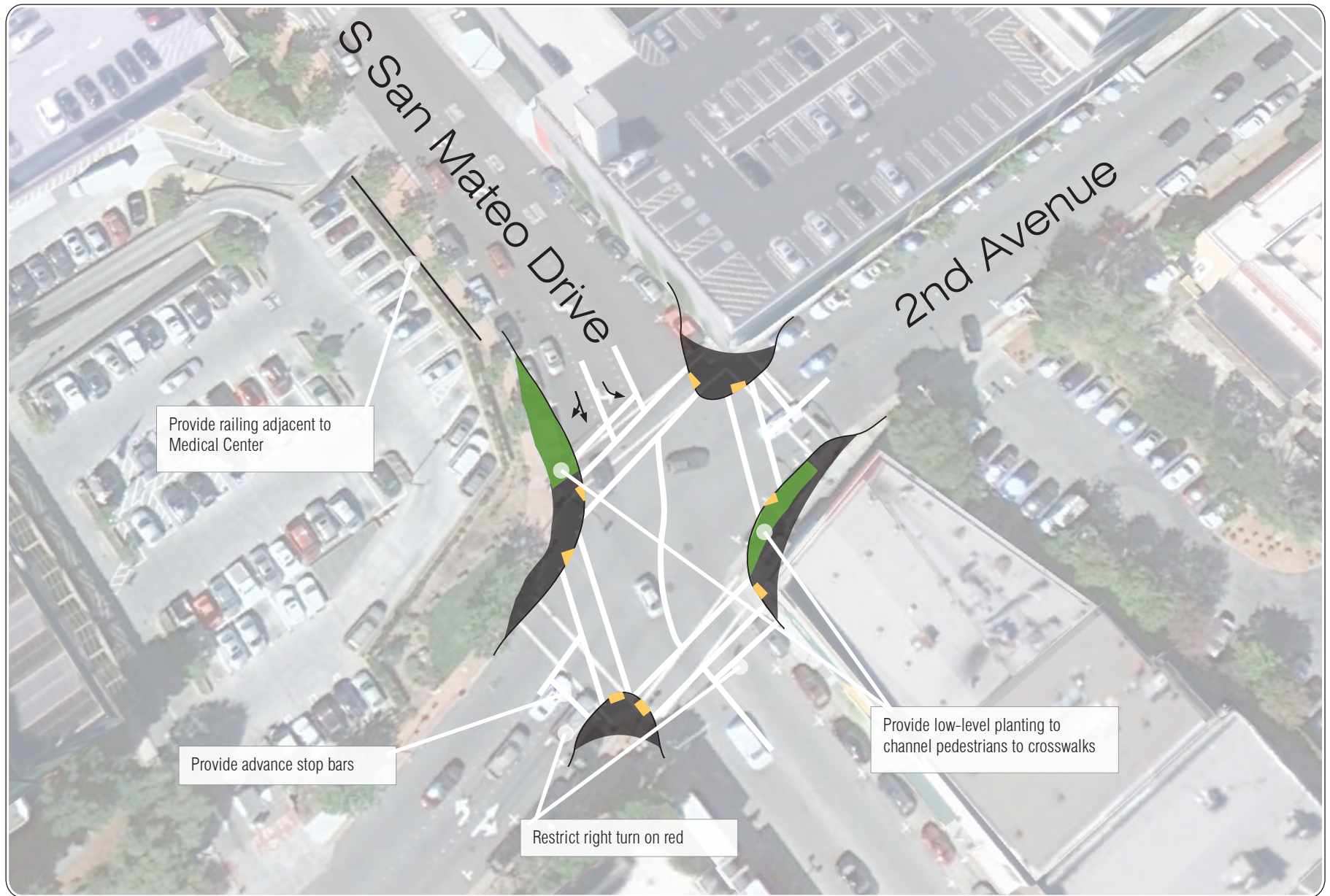


*Specific Recommendations (shown on the following page):*

Looking east across 2<sup>nd</sup> Avenue at San Mateo Drive

- Near-term (not shown): remove two parking spaces on the southeast corner of the intersection.
- Construct curb extensions on the northwest and northeast corners to reduce the intersection skew.
- Construct curb extensions on the southeast and southwest corners to shorten crossing distances.
- Install a railing on the northwestern sidewalk adjacent to the medical center to prevent falls.
- Provide protected left-turn phasing.





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Optional Location 2.0: S San Mateo Drive at 2nd Avenue

Route 2. Downtown San Mateo

## ROUTE 3: NORTH CENTRAL

The North Central route, shown in the Route 3 figure on the following page, is located east of Downtown and the Caltrain tracks. The audit group started at the intersection of Delaware Street/Monte Diablo Avenue, continued southerly along Delaware Street to E 3rd Avenue, then easterly along E 3rd Avenue to Fremont Street, and northerly along Fremont Street to Monte Diablo Avenue/King Recreation Center. The North Central area is comprised primarily of single family or low-rise multifamily residential buildings. The area was noted for having a large Spanish-speaking population. One member of the walking group noted that illegal dumping is a problem in this area at the creekside locations.

The following corridor-wide themes emerged during the walking audit:

### Delaware Street

- Delaware Street is an arterial street, with transit service, which limits the traffic calming tools that can be used on the street.
- The block between 1st Avenue and Tilton Avenue is long and had higher vehicle speeds.
- North of 1st Avenue, the four-lane cross-section drops to a two-lane cross-section. This creates a bottleneck. Consider a road-diet on Delaware Street south of 1st Avenue to remove this bottleneck, shorten pedestrian crossings, and slow vehicle speeds. This strategy requires further engineering analysis before implementation.

### E 3rd Avenue

- E 3rd Avenue has many pedestrian enhancements due to newer development; however, the roadway still serves as an arterial between US 101 and Downtown, leading to frequent pedestrian/vehicle conflicts.
- Consider expanding the streetscape features along this portion of E 3rd Avenue for the length of the corridor, including street lighting and landscaping features.

### Fremont Street

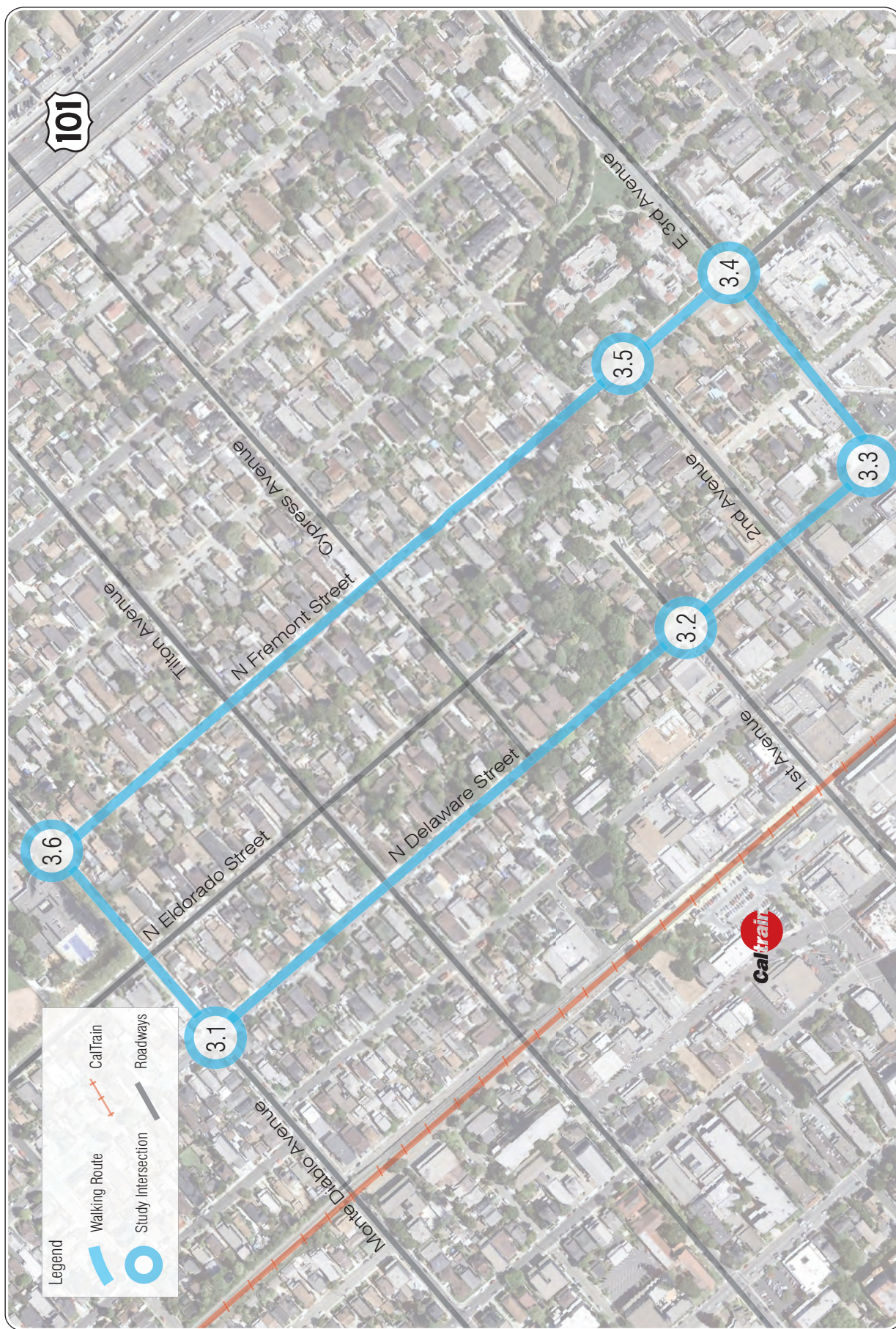
- Fremont Street is a local residential street that could benefit from neighborhood traffic calming.

The following six intersections were focus areas for the group:

- 3.1 Delaware Street/Monte Diablo Avenue
- 3.2 Delaware Street/1st Avenue
- 3.3 Delaware Street/3rd Avenue
- 3.4 Fremont Street/3rd Avenue
- 3.5 Fremont Street/2nd Avenue
- 3.6 Fremont Street/Monte Diablo Avenue

Each of these locations is discussed in more detail after the Route 3 figure on the following page.





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Route 3. North Central

Figure 3

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## ROUTE 3 SITE SPECIFIC RECOMMENDATIONS

The follow sections summarize the potential improvements and recommendations developed during the walking audits.

### Location 3.1 Delaware Street and Monte Diablo Avenue

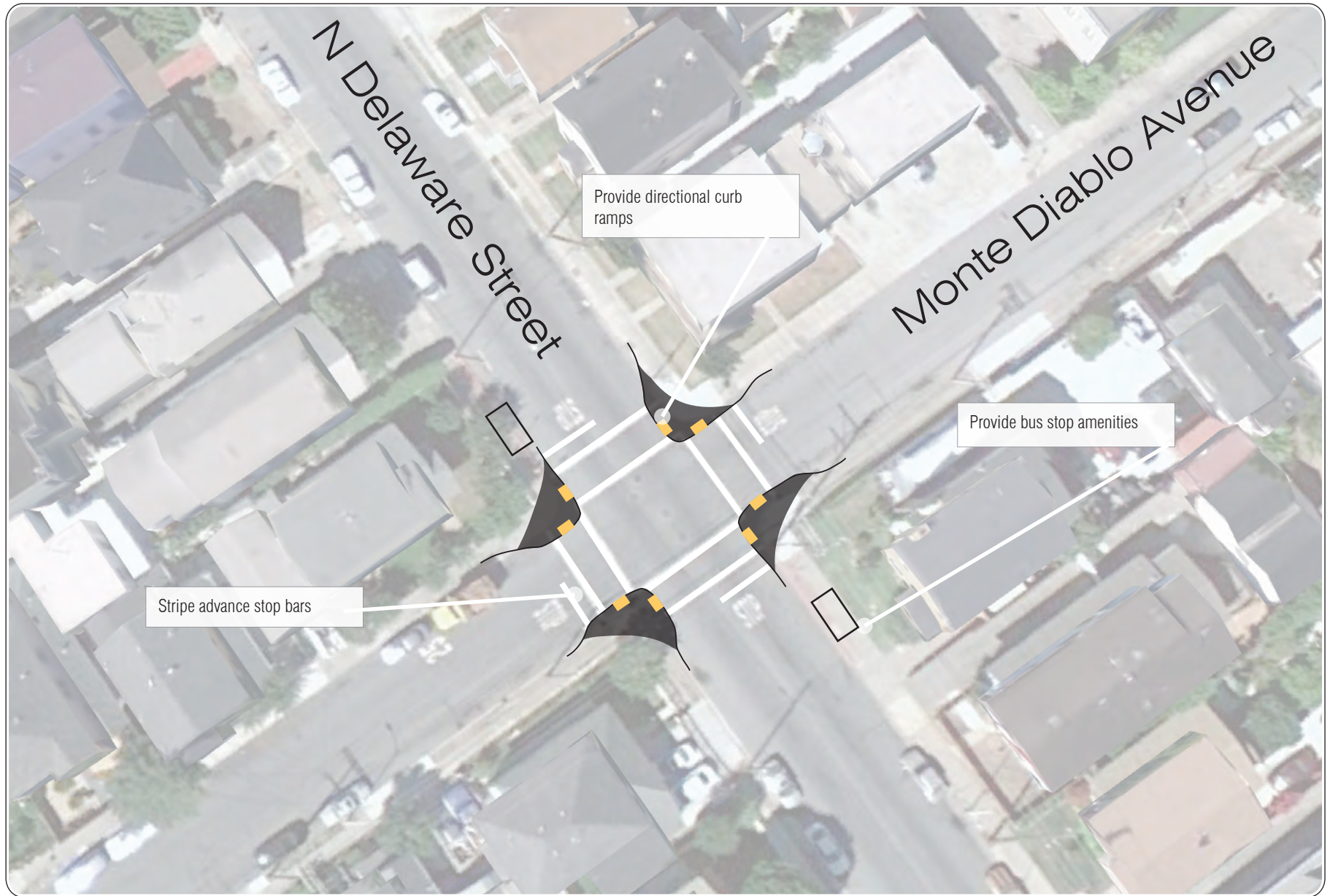
**General Considerations:** This intersection is located in the North Central residential neighborhood, immediately east and north of Downtown San Mateo. Delaware Street is a north-south arterial with transit service. Monte Diablo Avenue is a local roadway. Both streets have two-lanes with on-street parking generally permitted. Bus stops are located on the north side of the intersection. In general, traffic volumes and speeds along Delaware Street tended to be higher than Monte Diablo Avenue. This was particularly noteworthy, since Delaware Street is fronted by residential buildings north of 1st Avenue.



Looking north along Delaware Street at Monte Diablo Avenue

*Specific Recommendations (shown on the following page):*

- Construct curb extensions into both streets on northeast and southwest corners.
- Construct curb extensions into Monte Diablo Avenue on southeast and northwest corners.
- Stripe advance stop bars on all approaches.
- Enhance the lighting at the intersection.
- Reconstruct all curb ramps.
- Consider bus bulbs and provide bus stop amenities.



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Study Location 3.1: N Delaware Street at Monte Diablo Avenue

Route 3. North Central

### Location 3.2 Delaware Street and 1st Avenue

**General Considerations:** This intersection is located east of Downtown and the Caltrain Station. North of 1st Avenue, Delaware Street is predominately residential. The areas south and west of the intersection are generally commercial. The intersection was recently signalized and has a high volume of northbound left turns onto 1st Avenue. Samtrans buses make an eastbound left turn and a northbound left turn at this intersection; however, the nearest bus stop is located approximately 400 feet north of the intersection.



Looking south along Delaware Street at 1<sup>st</sup> Avenue

*Specific Recommendations (shown on the following page):*

- Construct a full curb extension on all four corners.
- Relocate existing bus stop between 1st Avenue and Cypress Avenue to this intersection pending redevelopment and access management opportunities.
- Install leading pedestrian intervals.
- Consider additional gateway treatments to visually indicate the transition of Delaware Street from commercial to residential.

At bus stop to the north:

- Install curb extensions and median island at bus stop as a traffic calming feature.
- Consider installing a mid-block, high visibility crosswalk pending the completion of an engineering study focused on speed and crossing demand at the location.





Not to Scale



### Location 3.3 Delaware Street and 3rd Avenue

General Considerations: South of 1st Avenue at 3rd Avenue, Delaware Street widens to become a four-lane roadway. 3rd Avenue is a main route from US 101 to Downtown San Mateo and is one-way westbound east of this intersection. West of Delaware Street, 3rd Avenue is a two-way street with two lanes in each direction. During peak times, this area becomes congested, particularly with vehicles traveling to and from the freeway. Due to signal timing constraints, the southern crosswalk is given WALK time at the same time as westbound left turns from 3rd Avenue. Gas stations are present on both north side corners; a commercial strip development is located on the southeast corner.



Looking south along Delaware Street at 3<sup>rd</sup> Avenue

*Specific Recommendations (shown on the following page):*

- Study feasibility for a road diet on Delaware Street between 2nd Avenue and 5th Avenue.
- Construct a curb extension into 3rd Avenue on the southeast corner.
- Construct a pedestrian median thumbnail on the westbound approach.
- Stripe tracking lines through the intersection.
- Install a leading pedestrian interval for the south crosswalk.



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Study Location 3.3: N Delaware Street at E 3rd Avenue

Route 3. North Central

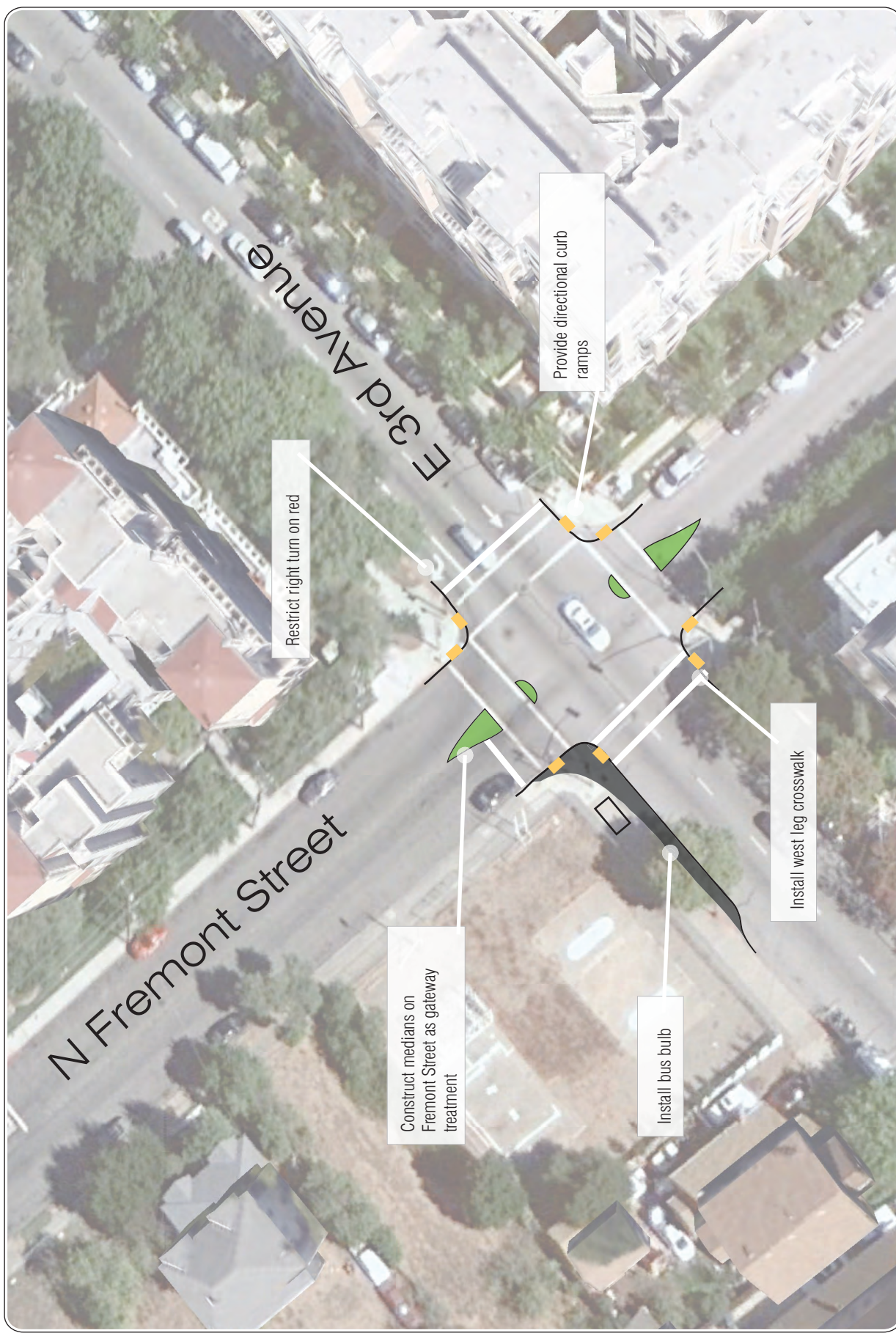
**Location 3.4 Fremont Street and 3rd Avenue**

General Considerations: Fremont Street is a residential local street. The section of 3rd Avenue east of Delaware Street has been improved with streetscape enhancements part of residential development projects, including a planted buffer between the roadway and the sidewalk. A bus stop is located on the northwest corner of the intersection; however, the western crosswalk is not striped at this intersection.

*Specific Recommendations (shown on the following page):*

- Construct ramps and crosswalks on west leg of intersection.
- Provide advance stop bars on all approaches.
- As redevelopment occurs on the northwest parcel, reduce or eliminate all curb cuts.
- Construct medians on north and south legs of intersection (of Fremont Street).
- Consider restricting westbound right turn on red.





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Study Location 3.4: N Fremont Street at E 3rd Avenue

Route 3: North Central

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### Location 3.5 2nd Avenue and Fremont

General Considerations: Both 2nd Avenue and Fremont Street are local residential streets. The intersection is offset at Fremont, with the eastern portion of 2nd Avenue slightly north of the western segment. Some members of the group noted that 2nd Avenue is a cut-through route in the neighborhood. The southern intersection is all-way stop controlled. The northern intersection is side-street stop controlled. Anecdotally, vehicle speeds on the eastern portion of 2nd Avenue were high for a local street. The western segment of 2nd Avenue is excessively wide.



Looking north across Fremont Street at 2<sup>nd</sup> Avenue

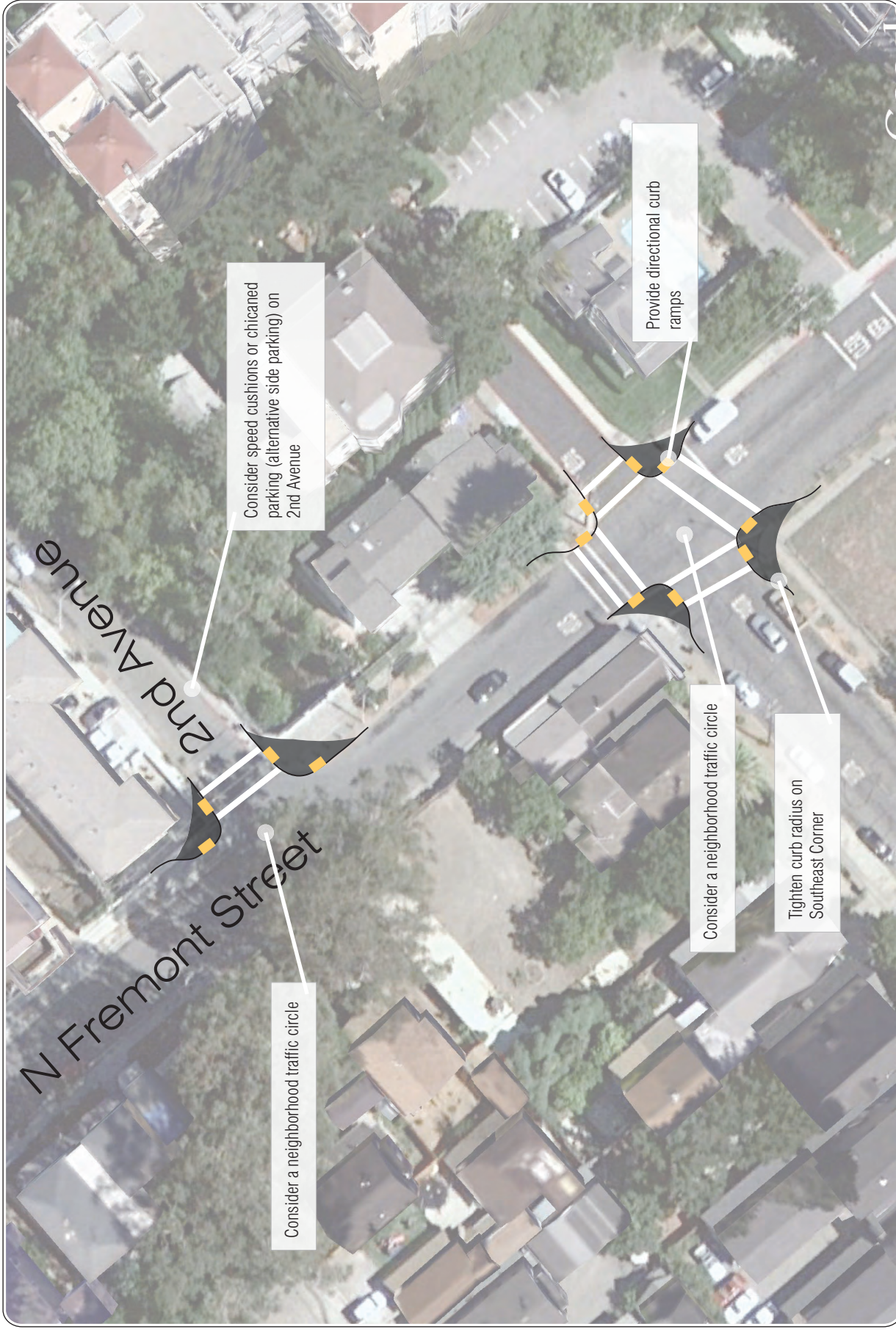
*Specific Recommendations (shown on the following page):*

- Provide a tighter turn radius on the southeast corner of intersection.
- Conduct a speed survey on 2nd Avenue. Consider a speed cushion or use alternating parking sides to create a chicane (traffic calming) effect on 2nd Avenue between Fremont Avenue and Humboldt Avenue.
- Consider curb extensions into 2nd Avenue on the western corners of the intersection.
- For corridor-wide traffic calming, consider a neighborhood traffic circle at the north and south intersections.



Looking east along 2<sup>nd</sup> Avenue at Fremont





Not to Scale



### Location 3.6 Monte Diablo Avenue and Fremont Street

General Considerations: This intersection is a three-way stop controlled intersection primarily surrounded by residential uses. The King Recreation Center is a major destination and is located on the north side of the intersection. Although curb ramps are provided on the north side of the intersection next to the Recreation Center, no crosswalks are striped at the intersection.

*Specific Recommendations (shown on the following page):*

- Stripe crosswalks on all approaches.
- Provide directional curb ramps for all crosswalks.
- Improve pedestrian lighting at intersection.
- Provide advance stop bars.
- Consider a curb extension along Recreation Center.
- Consider high-visibility crosswalks.





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Study Location 3.6: N Fremont Street at Monte Diablo Avenue

Route 3. North Central

## Appendix E. PEDIndex Methodology

Table E-1 summarizes the eighteen indicators selected to estimate potential walking activity.

Table E-1: Table of Ped INDEX Variables and Weightings

Variable	Score	Rating	Processing Steps	Weighting
Population Density (per acre)	0 – 3	0	Calculate population density per census tract	9/100
	3 - 6	20	Assign value to street centerline file	
	6- 9	40		
	9 - 12	60		
	12 - 15	80		
	15 +	100		
Employment Density (per acre)	0 – 3	0	Calculate employment density per census tract	9/100
	3 - 6	20	Assign value to street centerline file	
	6- 9	40		
	9 - 12	60		
	12 - 15	80		
	15 +	100		
Land Use Mix	1	0	Aggregate zoning to 6 types in new field	9/100
	2	25	Assign a value based on number of land use types	
	3	50	per census tract	
	4	75		
	5 +	100		
Proximity				
Parks (distance in feet)	0 - 330	100	Using street centerline file and spatial selection	4/100
	330 - 660	75	buffer, assign a value based on distance to nearest	
	660 - 1320	50	park	
	1320 - 2640	25		
	2640 +	0		
Social and Recreational Destinations (distance in feet)	0 - 330	100	Using street centerline file and spatial selection	3/100
	330 - 660	75	buffer, assign a value based on distance to nearest	
	660 - 1320	50	senior center or other major recreational	
	1320 - 2640	25	destination	
	2640 +	0		
Schools (distance in feet)	0 - 330	100	Using street centerline file and spatial selection	5/100
	330 - 660	75	buffer, assign a value based on distance to nearest	
	660 - 1320	50	school	
	1320 - 2640	25		
	2640 +	0		
Bus Transit stops (distance in feet)	0 - 330	100	Using street centerline file, assign a value based on	4/100
	330 - 660	60	distance to nearest bus stop up to ¼ mile	
	660 - 1320	30		
	1320 +	0		
Rail Transit stops (distance in feet)	0 - 330	100	Using street centerline file, assign a value based on	6/100
	330 - 660	75	distance to nearest rail stop, up to ½ mile	
	660 - 1320	50		
	1320 - 2640	25		
	2640 +	0		
Employment Centers (distance in feet)	0-400	100	Using street centerline file, assign a value based on	5/100
	400 +	0	streets within 400 ft of a employment center	
Neighborhood/ Downtown Shopping	0 - 400	100	Using street centerline file, assign a value based on	5/100
	400 – 2640	50	streets within 400 ft of a commercial area, within ½	



## Appendix E | High Visibility Crosswalk and Pedestrian Scale Lighting Locations

Variable	Score	Rating	Processing Steps	Weighting
Districts (distance in feet)	2640 +	0	mile, and then everything which does not fall within these two areas.	
Senior Residences (distance in feet)	0 - 330	100	Using street centerline file and spatial selection buffer, assign a value based on distance to nearest senior residence	5/100
	330 - 660	75		
	660 - 1320	50		
	1320 - 2640	25		
	2640 +	0		
<b>Socio-Economic</b>				
Age (% under 18 and over 55)	0 - 30	0	Calculate percentage of walking age population (below 18 or over 55)	5/100
	30 - 35	25		
	35 - 40	50	Assign percentage to street centerline file	
	40 - 43	75		
	43+	100		
Income (% below poverty level)	0 - 2	0	Calculate percentage of population with income below poverty level (according to US Census Bureau definition)	5/100
	2 - 4	20		
	4 - 5	40	Assign percentage to street centerline file	
	5 - 8	60		
	8 - 11	80		
	11 +	100		
Vehicle accessibility (% households with 1 or less vehicles)	0 - 10	0	Calculate percentage of households with access to 1 or less vehicles	5/100
	10 - 20	20		
	20 - 30	40	Assign percentage to street centerline file	
	30 - 40	60		
	40 - 50	80		
	50 +	100		
Priority Development Areas	In corridor	100	Using street centerline file, assign a value based on streets within corridor and not in corridor	3/100
	Not in Corridor	0		
<b>Street Permeability / Accessibility</b>				
Block Length	0 - 300	100	Select street segments that are pedestrian accessible (exclude highway segments where pedestrians cannot walk)	4/100
	300 - 600	75		
	600 - 900	50	Calculate street segment length	
	900 - 1200	25	Assign values based on scoring criteria	
	1200 +	0		
Intersection Density (per square mile)	200 +	100	Calculate average number of intersections per square mile for each census tract	12/100
	150 - 200	75	Assign value to street centerline file	
	100 - 150	50		
	50 - 100	25		
	< 50	0		
Street Connectivity (connectivity score)	Cul-de-sac	0	Calculate intersection junctions with 1 or less connected ends	2/100
	Street connected both ends	100	Assign score to cul de sac and connected streets	
	1320 - 2640	25		
	2640 +	0		

Source: Fehr & Peers, 2011

## Appendix F. High Visibility Crosswalk and Pedestrian Scale Lighting Locations

Table F-1 presents the recommended locations for high visibility crosswalks in San Mateo.

Table F-1: Recommended Locations for High Visibility Crosswalks

Intersection	High Visibility Crosswalk Color	Need Addressed
Alameda de las Pulgas & 26th Ave	White	School/Senior Facility
Alameda de las Pulgas & 28th Ave	White	Senior Facility
Alameda De Las Pulgas & Parkside Wy	White	School/Senior Facility
Alameda De Las Pulgas & Portola Wy	White	School/Senior Facility
Aragon Blvd & El Camino Real	White	School/Senior Facility
B St & 4th Ave	White	Senior Facility
B St & 5th Ave	White	Senior Facility
B St & 8th Ave	White	Senior Facility
B St & 1st Ave	White	High Demand/ Conflict Area
B St & 2nd Ave	White	High Demand/ Conflict Area
B St & 3rd Ave	White	High Demand/ Conflict Area
Baldwin Ave & B St	White	High Demand/ Conflict Area
Baldwin Ave & Ellsworth Ave	White	High Demand/ Conflict Area
Bresford St & 41 <sup>st</sup> Ave	White	High Demand/ Conflict Area
Claremont St & 2nd Ave	White	High Demand/ Conflict Area
Claremont St & 3rd Ave	White	High Demand/ Conflict Area
Claremont St & 4th Ave	White	High Demand/ Conflict Area
De Sabla Rd & Baytree Wy	White	Senior Facility
Delaware St & 2nd Ave	White	High Demand/ Conflict Area
Delaware St & 3rd Ave	White	High Demand/ Conflict Area
Delaware St & 4th Ave	White	High Demand/ Conflict Area
Edison & W 39th Ave	White	High Demand/ Conflict Area
El Camino Real & 17th Ave	White	High Demand/ Conflict Area
El Camino Real & 25th Ave	White	Senior Facility
El Camino Real & 27th Ave	White	Senior Facility
El Camino Real & 2nd Ave	White	Senior Facility
El Camino Real & 3rd Ave	White	High Demand/ Conflict Area
El Camino Real & 41st Ave	White	Senior Facility
El Camino Real & 4th Ave	White	High Demand/ Conflict Area
El Camino Real & 5th Ave	White	Senior Facility
El Camino Real & 9th Ave	Yellow	School/Senior Facility
El Camino Real & Baldwin Ave	White	School/Senior Facility
El Camino Real & Baywood Ave/Baldwin Ave	White	High Demand/ Conflict Area

## Appendix F | High Visibility Crosswalk and Pedestrian Scale Lighting Locations

Intersection	High Visibility Crosswalk Color	Need Addressed
El Camino Real & Bovet Rd	White	At or Adjacent to Freeway Ramps
El Camino Real & Crystal Springs Rd	White	School/Senior Facility
El Camino Real & Hillsdale Blvd	White	At or Adjacent to Freeway Ramps
El Camino Real & Hobart Ave	White	High Demand/ Conflict Area
El Camino Real & Seville Way	Yellow	Adjacent to school
El Camino Real Eastbound at Hwy 92	White	At or Adjacent to Freeway Ramps
El Camino Real Westbound at Hwy 92	White	At or Adjacent to Freeway Ramps
El Dorado St & 3 <sup>rd</sup> Ave	White	High Demand/ Conflict Area
El Dorado St & 4 <sup>th</sup> Ave	White	High Demand/ Conflict Area
Ellsworth Ave & 1St Ave	Yellow	Adjacent to school
Ellsworth Ave & 2nd Ave	White	High Demand/ Conflict Area
Ellsworth Ave & 3rd Ave	White	High Demand/ Conflict Area
Ellsworth Ave & 4th Ave	White	High Demand/ Conflict Area
Ellsworth Ave & 5th Ave	White	Senior Facility
Ensenada Wy & Falda Ave	Yellow	Adjacent to school
Ensenada Wy & Parkside Wy	White	School/Senior Facility
Flores & 25th Ave	White	Senior Facility
Flores St & 27th Ave	White	Senior Facility
Flores St & 28th Ave	White	Senior Facility
Garfield St & 27th Ave	Yellow	Adjacent to school
Garfield St & 28th Ave	White	School/Senior Facility
Grant St & 3 <sup>rd</sup> Ave	Yellow	Adjacent to school
Grant St & 4 <sup>th</sup> Ave	White	High Demand/ Conflict Area
Hacienda St & 25th Ave	White	Senior Facility
Hacienda St & 26th Ave	White	Senior Facility
Hacienda St & 27th Ave	Yellow	Adjacent to school
Hacienda St & 28th Ave	White	School/Senior Facility
Hwy 101 Ramp & 3 <sup>rd</sup> St	White	At or Adjacent to Freeway Ramps
Isabelle Ave & 27th Ave	White	School/Senior Facility
Laurel Ave & 5th Ave	White	Senior Facility
Laurel Ave & 6th Ave	White	Senior Facility
Laurel Ave & 7th Ave	White	Senior Facility
Laurel Ave & 8th Ave	White	Senior Facility
Laurel Ave & 9th Ave	White	Senior Facility
Pacific Blvd & 39th Ave	White	Senior Facility
Pacific Blvd & 40th Ave	White	Senior Facility
Pacific Blvd & 41st Ave	White	Senior Facility
Palm Ave & 12th Ave	White	High Demand/ Conflict Area
Palm Ave & 17th Ave	White	High Demand/ Conflict Area
Palm Ave & 9th Ave	White	High Demand/ Conflict Area

Intersection	High Visibility Crosswalk Color	Need Addressed
Palm Ave & South Blvd	White	High Demand/ Conflict Area
Palm Ave & Hayward Ave	White	Senior Facility
Patricia Ave & James Ct	White	Senior Facility
Peninsula Ave & Prospect Row	White	Senior Facility
Railroad Ave & 2nd Ave	White	High Demand/ Conflict Area
Railroad Ave & 3rd Ave	White	High Demand/ Conflict Area
Railroad Ave & 4th Ave	White	High Demand/ Conflict Area
Railroad Ave & 5th Ave	White	High Demand/ Conflict Area
Rosewood Dr & 9th Ave	White	High Demand/ Conflict Area
San Mateo Dr & 2nd Ave	White	High Demand/ Conflict Area
San Mateo Dr & 3rd Ave	White	High Demand/ Conflict Area
San Mateo Dr & 4th Ave	White	Senior Facility
San Mateo Dr & 5th Ave	White	Senior Facility
San Mateo Dr & Bellevue Ave	White	Senior Facility
San Mateo Dr & Poplar Ave	White	Senior Facility
St Matthews Ave & San Mateo Dr	Yellow	Adjacent to school / Senior Facility
Tilton Ave & Ellsworth Ave	White	Senior Facility
Tilton Ave & San Mateo Dr	White	Senior Facility
W Hillsdale Blvd & Edison St	White	High Demand/ Conflict Area

Table F-1 presents the recommended locations for pedestrian scale lighting.

Table F-2: Recommended Locations for Pedestrian Scale Lighting

Location	Start	End	Length (Miles)
1st Ave	Delaware St	Ellsworth Ave	0.22
20th Ave	Alameda de las Pulgas	Railroad Ave	0.78
25th Ave	Alameda de las Pulgas	Delaware St	0.75
28th Ave	Alameda de las Pulgas	El Camino Real	0.58
2nd Ave	El Camino Real	Delaware St	0.43
36th Ave	Alameda de las Pulgas	Hacienda St	0.24
37th Ave	Hacienda St	El Camino Real	0.50
39th Ave	Edison St	El Camino Real	0.32
3rd Ave	Humboldt St	Loops around to Norfolk St	1.47
41st Ave	Edison St	El Camino Real	0.32
4th Ave	Dartmouth Rd	Hwy 101 Overpass	0.99
5th Ave	El Camino Real	Humboldt St	0.70
9th Ave	El Camino Real	B St	0.26
Alameda De Las Pulgas	Crystal Springs Rd (Northern City Limits)	La Casa Ave (Southern City Limits)	3.03
Aragon Blvd	Alameda de las Pulgas	El Camino Real	0.62



## Appendix F | High Visibility Crosswalk and Pedestrian Scale Lighting Locations

Location	Start	End	Length (Miles)
B St	Baldwin Ave	9th Ave	0.54
Baldwin Ave	El Camino Real	B St	0.24
Bay Meadows	Saratoga Dr	Existing Class I Along Bay Meadows	0.39
Dartmouth Rd	5th Ave	4th Ave	0.11
Delaware St	Peninsula Ave	Bay Meadows	3.08
Edison St	41st Ave	Hillsdale Blvd	0.54
El Camino Real	Peninsula Ave (Northern City Limits)	Rith Ave (Southern City Limits)	4.42
Ellsworth Ave	Baldwin Ave	5th Ave	0.31
Fashion Island Blvd	Norfolk St	Mariners Island Blvd	0.36
Grant St	3rd Ave	19th Ave	1.48
Hacienda St	36th Ave	37th Ave	0.06
Hacienda St	25th Ave	25th Ave (jog in Hacienda)	0.02
Hayward Ave	Palm Ave	El Camino Real	0.12
Hillsdale Blvd	Alameda de las Pulgas	Saratoga Dr	1.20
Humboldt St	5th Ave	Peninsula Ave	1.32
Hwy 101 Undercrossing	Saratoga Dr	Norfolk St	0.58
Bay to Transit Trail Feasibility Study	Hayward Park Caltrain Station	Anchor Rd	1.82
Laurel Ave	9th Ave	5th Ave	0.23
Mariners Island Blvd	Fashion Island Blvd	Reef Dr	0.79
Monte Diablo Ave	Rochester St	El Camino Real	1.30
Norfolk St	Hillsdale Blvd	Huron Ave	2.75
Palm Ave	25th Ave	9th Ave	1.35
Peninsula Ave	El Camino Real	Bay Trail	1.42
Poinsettia Ave	Saratoga Dr	Branson Dr	0.20
Poplar Ave	Humboldt St	El Camino Real	0.80
Railroad Ave	3rd Ave	5th Ave	0.12
San Mateo Dr	5th Ave	Peninsula Ave	1.35
Saratoga Dr	Hillsdale Blvd	Poinsettia Ave	0.06
Total Miles			38.16

## **Appendix G. Recommendations Summary**

This appendix includes a summary of all the engineering, policy and code revisions, study recommendations, and programmatic recommendation in this Plan. They are presented in this appendix as a quick reference.

## G.1.Greenway Pedestrian Corridor Network

Figure G-1 presents a recommended Greenway Pedestrian Corridor Network (Greenway Network): a connected network of streets intended to improve pedestrian connections to neighborhood destinations, transit and recreational opportunities and to serve high volumes of existing or expected pedestrian activity. The Greenway Network is intended to provide a distinguished pedestrian friendly network.

The network is based, in part, on the PedINDEX model presented in the Needs Analysis Chapter and includes corridors that have the following characteristics:

- Neighborhood shopping districts
- Transit
- Schools
- Parks and community centers
- Higher density residential development
- Libraries
- Community centers
- Senior centers or senior living facilities

### **Recommendations**

The Greenway Network is a starting point for a pedestrian priority corridor network designed to focus improvements where people are most likely to walk most often. The network should provide high quality pedestrian connections to residential areas, transit, recreation, and retail. The City should consider additional street trees, plantings, wide sidewalks, and public art on many of these corridors.

The City should prioritize pedestrian travel on this network and consider implementation of pedestrian improvements with roadway and planning projects along these corridors.

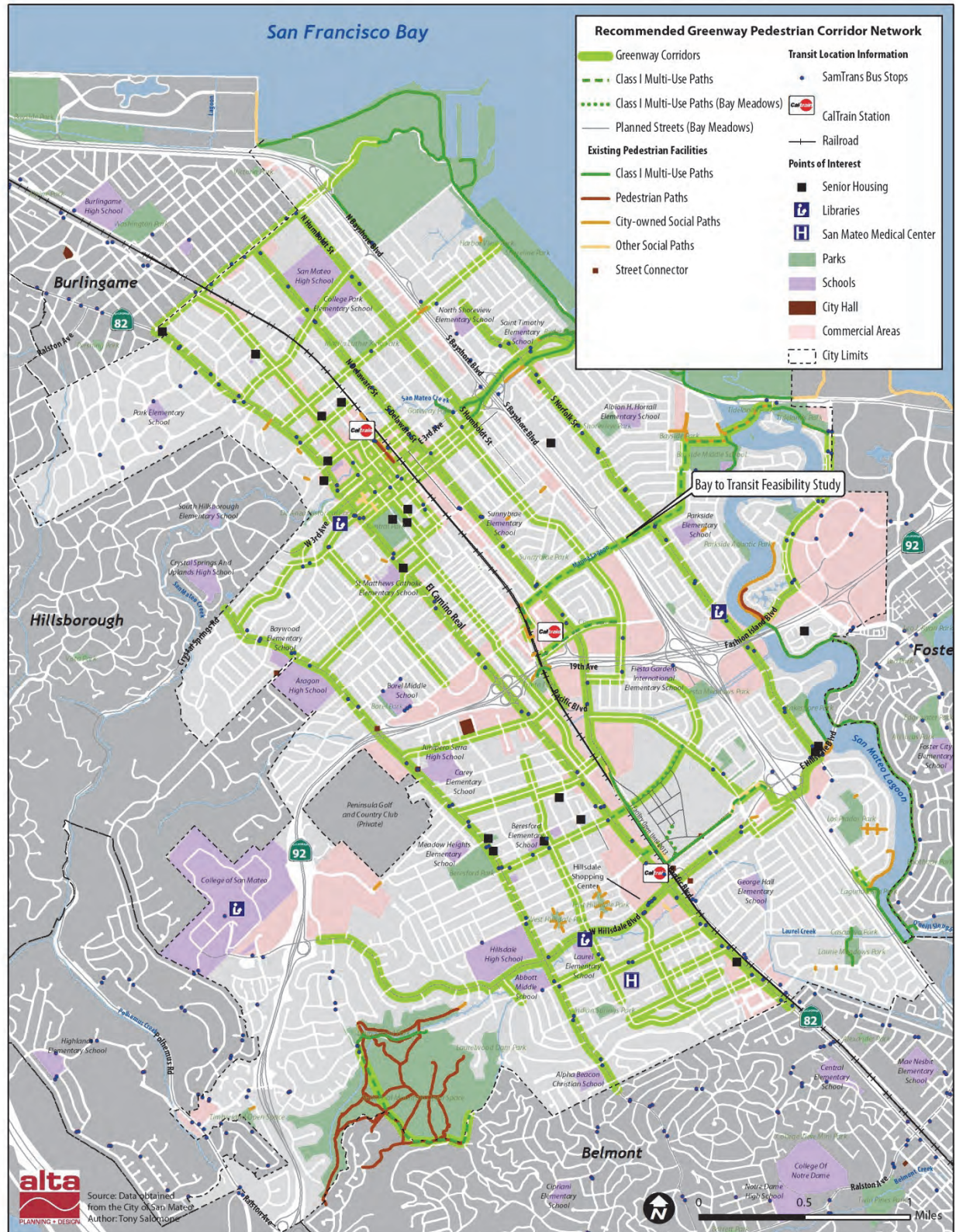


Figure G-1: Greenway Pedestrian Corridor Network



## G.2. Major Infrastructure Improvements

### G.2.1. Sidewalk Standards

Standardizing streetscape design by land use can ensure that future development of public rights-of-way in San Mateo's residential, commercial, and mixed use areas meet the City's vision for vibrant, healthy pedestrian environments. With its recommended sidewalk standards, the City seeks to create places that are sensitive to the land use context, distinctive, attractive, and rich in amenities. The Pedestrian Design Guidelines (see Appendix A) present sidewalk types for residential, commercial, and mixed use land uses. The sidewalk zones and widths vary by land use, transportation needs, and community needs and desires.

### G.2.2. Green Streets

This Plan recommends the City of San Mateo implement green street design where feasible on projects identified in this Plan. The San Mateo Countywide Water Pollution Prevention Program published the San Mateo County Sustainable Green Streets and Parking Lot Design Guidebook (2009) and can serve as a valuable reference for the City.

### G.2.3. Sidewalk Installation

This Plan recommends the City prioritize sidewalk installation citywide. As a first priority, the City should install sidewalks identified in Table G-1. The recommended streets are through streets that would benefit from separating pedestrians from vehicle traffic. While it is recommended sidewalks be installed on both sides of the identified segments, available space and parking concerns suggest installation of sidewalks may be feasible on only one side of the roadway. In addition, the City should install sidewalks with all new development projects and as requested by the community.

Table G-1: Recommended Locations for Sidewalk Installation

Street	Start	End	Description/Need
El Camino Real (northbound)	39 <sup>th</sup> Ave	37 <sup>th</sup> Ave	Bus stop
Hacienda St	Louise Ln	31 <sup>st</sup> Ave	High traffic volume, Community identified need
Pacific Ave	19th Ave	New Development	Transit access
41 <sup>st</sup> Ave	Hacienda St	Colegrove St	Through street
40 <sup>th</sup> Ave	Hacienda St	Beresford St	Through street

### G.2.4. Paths

The San Mateo Bicycle Master plan includes a number of recommended Class I Bicycle Paths. These facilities will also serve and enhance the pedestrian environment and are incorporated in to this Plan. Also recommended is improvement to an existing paved path to the Hayward Park Caltrain Station from 17<sup>th</sup> Avenue. Though a walk area exists, it is not easily accessible to those who use assistive devices. Additionally, it does not have pedestrian friendly supportive features including pedestrian scale lighting. Table G-2 lists recommended paths.

Table G-2: Recommended Locations for Pedestrian Paths

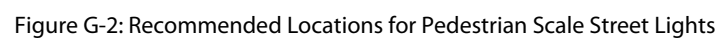
Facility Type	Location	From	To	Length (Miles)
Class I	28th Ave Extension	El Camino Real	New Delaware St	0.09
Class I	31st Ave Extension	El Camino Real	Caltrain	0.22
Class I	Bay to Transit Path Feasibility Study	17th Ave	Anchor Rd	1.82
Class I	Concar Dr	Pacific Blvd	S Grant St	0.43
Class I	Franklin Path	Pacific Boulevard	Hillsdale Boulevard	0.17
Class I	Laguna Vista Path	Los Prados	Laguna Vista	0.10
Class I	Laurel Woods/ Sugarloaf Park Path	Laurelwood Dr	Laurel Creek Rd	0.88
Pedestrian Path	Hayward Park Caltrain Station	17 <sup>th</sup> Ave	Caltrain Station	0.21
Crossing	Hillsdale Overcrossing	S. Norfolk Street	Hillsdale Boulevard	0.33
<b>Total Path Miles</b>				<b>4.25</b>

### G.2.5. Rolled Curb to Vertical Curb

This Plan recommends the City consider the conversion of rolled curbs to vertical curbs during roadway reconstruction projects. This conversion shall only occur following an engineering analysis to determine if there is ample roadway width.

### G.2.6. Pedestrian Scale Lighting

This Plan recommends the City install pedestrian scale lighting along the corridors presented in Figure G-2. A detailed table of recommended corridors is presented in Appendix F.





### G.2.7. Flexible Zone Parklet Pilot Program

Parklets are the temporary repurposing and transformation of on- street parking spaces to extend the sidewalk and create more room for pedestrian amenities or outdoor seating for adjacent restaurants and cafes. The spaces are often in the public right-of-way between the curb and travel lanes in commercial and retail areas. They occupy on-street parking spaces and excess roadway area. The parklets are intended to increase public space, enhance the pedestrian environment, and improve corridor aesthetics.

Parklets have been implemented successfully in New York City and San Francisco (Figure G-3).



Figure G-3: Parklet in San Francisco

Image source: [http://sfpavementtoparks.sfplanning.org/noe\\_valley\\_parklets.html](http://sfpavementtoparks.sfplanning.org/noe_valley_parklets.html)

#### Recommended Parklet Locations

Parklets should be implemented only in areas that have limited public space, narrow sidewalks, or no parks. The areas should have existing conditions that will attract people to the space, such as retail and high pedestrian activity. Parklets can be sponsored and implemented by community benefit districts, storefront business owners, non-profit institutions, and community organizations.

In addition to areas that lack public space and have the potential for open space demand, the following characteristics are recommended for parklet locations:

- Streets with speed limits under 25 mph
- Streets with parking lanes
- Site is not in front of fire hydrant or would restrict access to utility covers and valves
- Site should be a minimum of two parking spaces or equivalent

#### Parklet Design Requirements

The parklet design should be an aesthetic improvement to the streetscape and be made of durable high quality materials. Other design requirements include:

- Maximum of six-foot width where there is parallel parking (angled parking areas should be considered on a case by case basis) (see Figure G-4)
- Deck should be flush with the curb, half-inch gap maximum
- Wheel stops should be placed four-feet from either end of the parklet and one-foot from the curb
- Reflective hit-posts should be placed on the street side corners
- Provide access to gutter area for cleaning



- Provide access underneath the parklet for drainage
- Outside or street side edge should be visually permeable, railing may be required
- Public seating should be strongly encouraged.

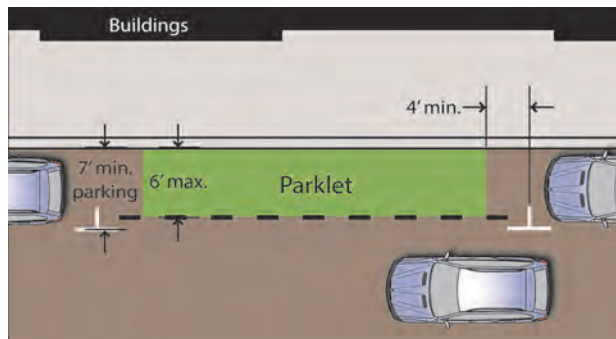


Figure G-4: Example Parklet Plan

### Parklet Implementation Steps

San Francisco and Oakland permit parklets through an encroachment permit application process. Applicants must submit the permit application, site plans and programming, construction schedule and documented community support. Additionally, the applicant must pay for the permit, removal of any parking meters, site inspection, and annual permit renewal fees.

Applications must also provide insurance, maintenance, and oversight over movable items. Permit holders in San Francisco must provide:

- Evidence of at least \$1 million in liability insurance (the same requirements as sidewalk café tables and chairs), naming the City as an additional insured.
- Maintenance agreement noting they will keep all plants in good health and the parklet free of debris and grime. The permit holder must also rinse out the area underneath at least once a week.
- Oversight of movable items. Movable items must be either locked down or taken inside at night.

The City of San Mateo should develop a permit process for parklets and modify its encroachment permit process to outline the steps needed to receive a permit.

### Pilot Parklet Locations

The following locations presented in Table G-3 are recommended for pilot parklet locations. Other locations in Downtown may be considered on a case by case basis.

Table G-3: Recommended Locations for Pilot Parklets

Location	Description and Need
3 <sup>rd</sup> Avenue between B Street and Ellsworth Avenue	Narrow sidewalks; Limited public space; High pedestrian activity.
25 <sup>th</sup> Avenue between Flores Street and Hacienda Street	Narrow sidewalks; Limited public space.; Improve corridor aesthetics.
B Street between Baldwin and 4th Street	Angled parking spaces; Limited public space.; High pedestrian activity.; Retail outlets that would benefit from additional space for customers.

## G.2.8. Americans with Disabilities Act Transition Plan

The City of San Mateo has an inventory of curb ramps and installs curb ramps as part of larger roadway improvement projects. The City has initiated the process to develop an ADA Transition Plan and this Citywide Pedestrian Master Plan supports the development.

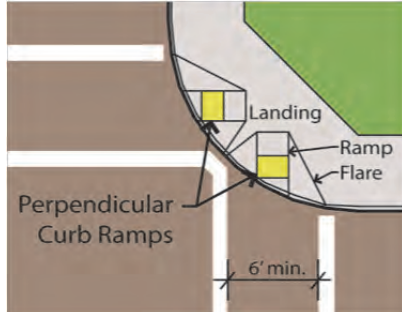


Figure G-5: Perpendicular Curb Ramp



Truncated domes are pads on the ramp of curb return that have raised bumps to warn pedestrians with visual impairments that they are entering the roadway. California state requirements call for 70% contrast between dome panels and adjacent concrete

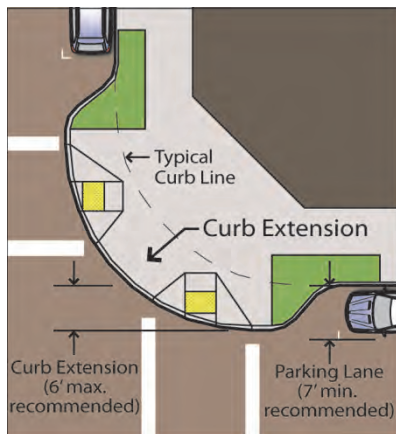


Figure G-6: Curb Extensions

### G.2.1. Pedestrian Safety Assessment

In 2011, the City conducted a pedestrian safety assessment in conjunction with Pedestrian Master Plan. The assessment includes a guide suggesting additional ways to improve pedestrian safety.

This Plan recommends the City support the guidelines and spot improvements in this assessment.

## G.3. Intersection and Crossing Improvements

### G.3.1. All Intersections

#### Curb Ramps

This Plan recommends the City adopt perpendicular curb ramps (Figure G-5) as its preferred standard and install curb ramps citywide. As a first priority, perpendicular curb ramps should be installed on community identified locations and City collector and arterial streets. Priority should be given to locations near senior facilities. Although the City is not required to install truncated domes on existing curb ramps constructed prior to 2002, this Plan recommends the City install these devices on all the Greenway Corridors described in Section G.1.

#### Curb Extensions

This Plan recommends the City institute a policy to install curb extensions at uncontrolled marked crosswalks citywide. It is also recommended the City prioritize installation of curb extensions at the locations presented in Table G-4. The locations were selected based on a number of factors, including pedestrian related collision history, vehicle volume, and pedestrian demand.

Table G-4: Recommended Locations for Curb Extensions

Intersection	Corner	Number of Curb Extensions
W Hillsdale Blvd & Edison St	All	3
W 39 <sup>th</sup> Ave & Edison St	All	4
39 <sup>th</sup> Ave & El Camino Real	Northwest	1
37 <sup>th</sup> Ave & El Camino Real	Southwest	1
2 <sup>nd</sup> Ave & El Camino Real	Northeast Southeast	2
3 <sup>rd</sup> & El Camino Real	All	4
El Camino Real & Baywood Ave/Baldwin Ave	Northwest Southwest Southeast	3
N Ellsworth Ave & Tilton Ave	All	4
El Camino Real & El Cerrito/Tilton Ave	All	4
B Street & Tilton Ave	Southeast	1
B Street & Baldwin Ave/Caltrain Entrance	All	4
B St & 3 <sup>rd</sup> Ave	Southeast Southwest	2
El Camino Real & 4 <sup>th</sup> Ave	Northeast Southeast	2
San Mateo Dr & 2 <sup>nd</sup> Ave	All	4
N Delaware St & Monte Diablo Ave	All	4
N Delaware St & 1 <sup>st</sup> Ave	All	4
N Delaware St & 3 <sup>rd</sup> Ave	Southeast	1
N Fremont St & 2 <sup>nd</sup> Ave (north)	Northeast Southeast	2
N Fremont St & 2 <sup>nd</sup> Ave (south)	All	4
N Fremont St & 3 <sup>rd</sup> Ave	Northwest	1
Monte Diablo Ave & N Fremont St	North leg	1

## High Visibility Crosswalks

This Plan recommends the City adopt a single high visibility crosswalk design. This Plan recommends the continental crosswalk (Figure G-7 and Figure G-8) as the standard. This Plan also recommends the city prioritize installation of high visibility crosswalks at the location types listed in Table G-5. Figure G-9 maps the locations and a detailed table is presented in Appendix F.

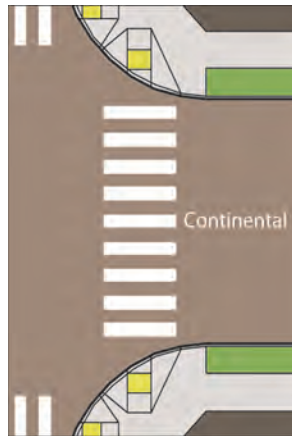


Figure G-7: High Visibility Continental Crosswalk

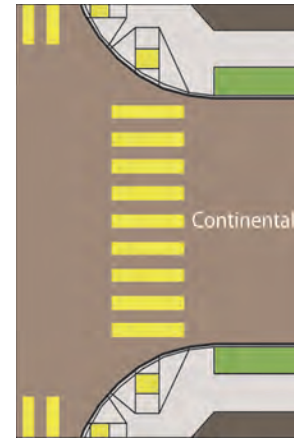


Figure G-8: High Visibility School Area Continental Crosswalk

Table G-5: Recommended High Visibility Crosswalk Locations

Location	Rationale
Senior living facilities and senior centers)	Seniors do not walk as quickly as others and high visibility crosswalks near senior living facilities and senior centers will improve senior visibility.
Retail corridors	Retail corridors are places where there is existing and anticipated high pedestrian activity. As presented in the Existing Conditions and Needs Analysis chapters, the majority of pedestrian related collisions occurred Downtown and along El Camino Real, Alameda de las Pulgas, Delaware Street, East Poplar Avenue, and West Hillsdale Boulevard. The recommended locations for high visibility crosswalks are based on the collision data.
Uncontrolled crossings	Studies show that marked crosswalks at uncontrolled locations have a higher frequency of pedestrian collisions on roadways with more than two travel lanes. <sup>1</sup> This Plan recommends all marked crosswalks at uncontrolled locations have high visibility striping.
Adjacent to school buildings and grounds	California law requires a marked crosswalk in a roadway contiguous to a school building or school grounds be yellow. This Plan recommends these crosswalks be high visibility to improve student visibility.
High pedestrian related collision areas	High numbers of pedestrian collisions in comparison to locations citywide can indicate the need for improved visibility of pedestrians among motorists.

<sup>1</sup> Zegeer, C., Stewart, J., and Huang, H. Safety Effects of Marked vs. Unmarked Crosswalks at Uncontrolled Locations. Report No.FHWA-RD-01-142, Federal Highway Administration, McLean, VA, May 2001.



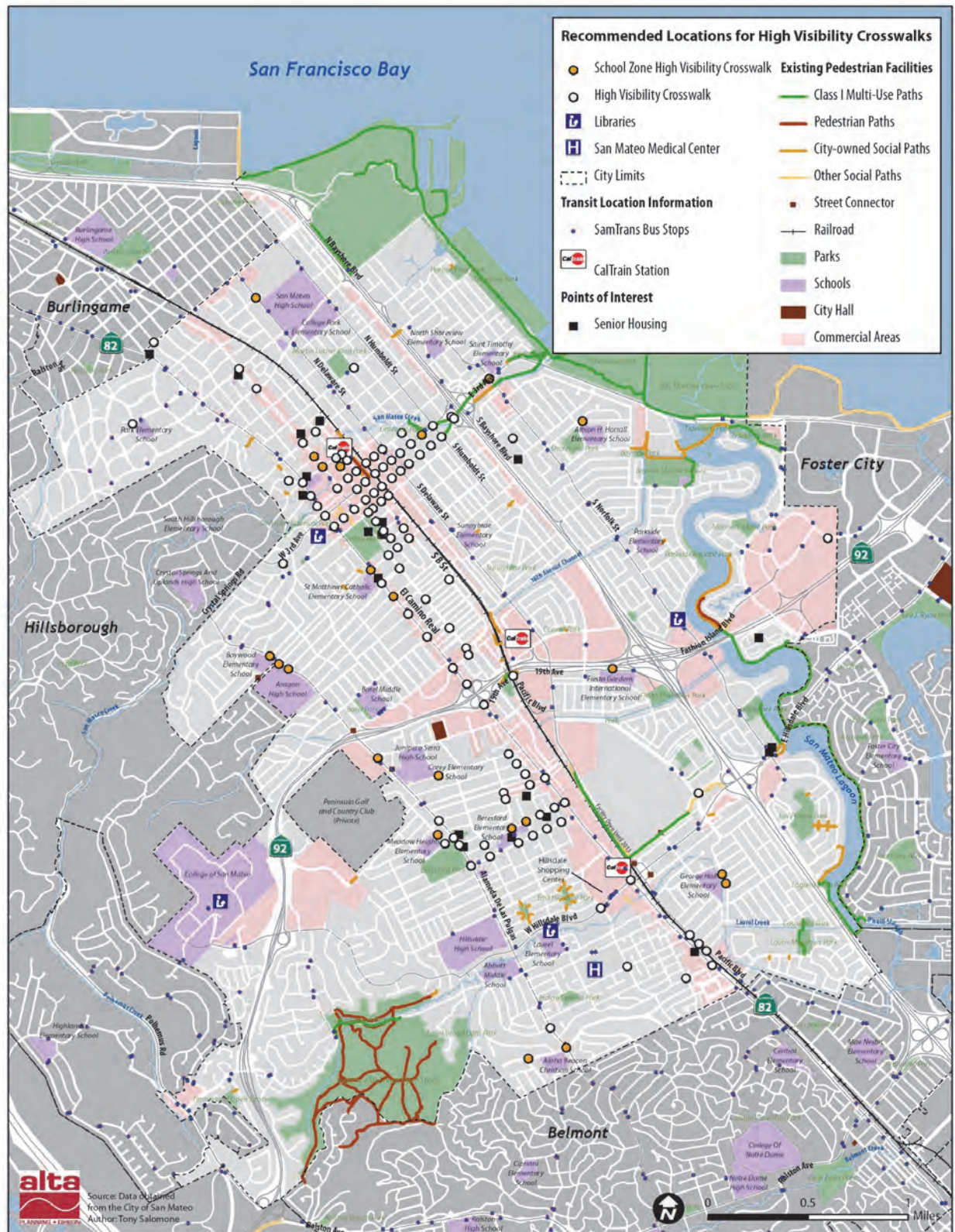


Figure G-9: Recommended Locations for High Visibility Crosswalks

### Pedestrian Refuge Island Design Standards

Pedestrian refuge islands (Figure G-10) are raised islands in the middle of the roadway that create a protected space where people may safely pause or wait while crossing a street.

Pedestrian refuge islands should be considered:

- Along streets with high pedestrian activity
- Where crossing distances are long (60 feet or greater)
- Near and within retail areas, civic and institutional uses, schools, senior housing, and senior centers
- At unsignalized intersections serving a large number of pedestrian trips

### Minimum Dimensions

A pedestrian refuge island shall be a minimum of four feet wide and six feet long. It may be appropriate to construct a wider median, commensurate with high traffic speeds and volumes, in addition to accommodating public transit and anticipated future needs.

This Plan recommends the City adopt a refuge island standard design. The design should meet the Caltrans standard minimums.

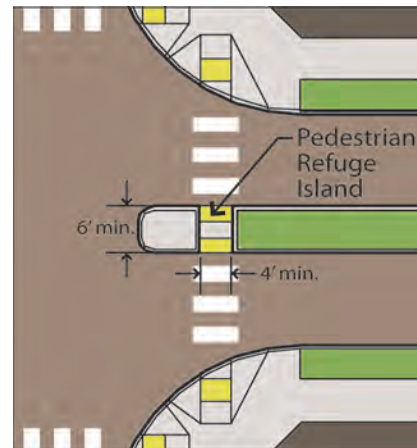


Figure G-10: Refuge Island

## G.3.2. Controlled Intersections

### Audible Signals

Audible signals emit sounds to guide visually impaired pedestrians by indicating when to cross. Different audible signals are usually used to also indicate crossing direction.

This Plan recommends the City consider audible signals near senior centers and living facilities and near homes of those who are visually impaired.

### Advance Stop Bars

Advance stop bars increase pedestrian visibility by stopping motor vehicles in advance of marked crosswalks at stop controlled or signalized intersections. Figure G-11 illustrates an advance stop bar.

This Plan recommends the City install advance stop bars at all stop controlled or signalized intersections in Downtown and along retail corridors including 25<sup>th</sup>, 37<sup>th</sup>, and 41<sup>st</sup> Avenues. The City should prioritize installation of advance stop bars at intersections with high pedestrian activity and those with a history of pedestrian related collisions. The recommended priority locations are presented in Table G-6.

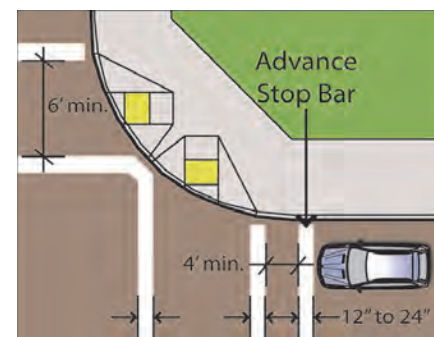
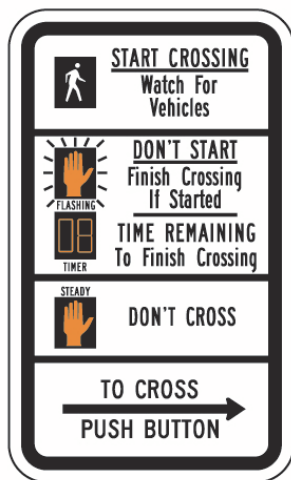


Figure G-11: Advance Stop Bar

Table G-6: Recommended Locations for Advance Stop Bars

Intersection	Travel Direction	Number of Bars
W Hillsdale Blvd & Edison St	All	4
W 39 <sup>th</sup> Ave & Edison St	All	4
W 39 <sup>th</sup> Ave & Colegrove St	All	4
37 <sup>th</sup> Ave & El Camino Real	Northbound Westbound	2
2 <sup>nd</sup> Ave & El Camino Real	All	3
El Camino Real & Baywood Ave/Baldwin Ave	Northbound Southbound Westbound	3
El Camino Real & El Cerrito/Tilton Ave	Northbound Southbound	2
El Camino Real & 39 <sup>th</sup> Ave	Northbound Southbound	2
B Street & Tilton Ave	Northbound	1
B Street & Baldwin Ave/Caltrain Entrance	All	4
San Mateo Dr & 2 <sup>nd</sup> Ave	All	4
N Delaware St & Monte Diablo Ave	All	4
N Delaware St & 1 <sup>st</sup> Ave	All	4
N Delaware St & 3 <sup>rd</sup> Ave	All	4
N Fremont St & E 3 <sup>rd</sup> Ave	All	4
Monte Diablo Ave & N Fremont St	All	3



R10-3e

Figure G-12: Pedestrian R10-3e Sign

### Regulatory Signage at Signalized Intersections

The use of regulatory pedestrian signs, such as MUTCD sign R10-3e, can help educate or remind pedestrians how to properly interpret the symbols on pedestrian countdown signal heads.

This Plan recommends installation of MUTCD sign R10-3e or other comparable sign immediately above or incorporated in pedestrian pushbutton units. See Figure G-12 for an illustration of this sign.

### G.3.3. Citywide Signal Timing

Traffic signal timing is the amount of time each phase of a signal is allotted for vehicles, bicycles, and pedestrians to cross. The City of San Mateo currently employs a standard walking speed of four feet per second. The 2012 *California Manual on Uniform Traffic Control Devices* (CA MUTCD) and the *National MUTCD* permit a signal crossing time of 3.5 feet per second, which would increase the time for the walking phase.

This Plan recommends the City of San Mateo adopt a standard signal timing of 3.5 feet per second except at certain locations described below.



### Signal Timing Near Senior Living Facilities and Schools

Seniors and young children do not walk as quickly as others. It is anticipated that by 2017, over 35 percent of San Mateo's population will be age 50 or over. The City's *Aging Well, San Mateo* (2009) report found the likelihood of being able to drive decreases with age. Maintaining mobility for seniors will be an important goal in the coming years.

This Plan recommends the City adjust signal timing within an eighth of a mile (660 feet) of all senior centers, senior living facilities and schools to 2.8 feet per second. **Table G-9** presents the intersections recommended for this timing adjustment.

### Signal Timing on El Camino Real

El Camino Real is a major north-south corridor and bisects the City of San Mateo. The corridor bounds downtown San Mateo, and is adjacent to transit and many local retail districts. El Camino Real is a community identified barrier and collision data shows it is the corridor with the most pedestrian related collisions in the City. Caltrans has jurisdiction over El Camino Real and any improvements to this roadway must be approved by Caltrans.

This Plan recommends the City work with Caltrans to expedite signal timing modification to 3.5 feet per second at the intersections along El Camino Real identified in **Table G-9**.

## G.3.4. Uncontrolled Intersections

### Advance Yield Lines

Advance yield lines indicate the point where vehicles should yield at uncontrolled locations. **Figure G-13** illustrates the yield line.

This Plan recommends installation of advance yield lines at all midblock uncontrolled marked crossings.

### Crossing Beacons

Studies show pedestrian crossing beacons improve driver yield rates and reduce the number of pedestrian related collisions at marked crosswalks at uncontrolled locations.<sup>2</sup> There are two types of crossing beacons recommended for use in the City of San Mateo: the pedestrian hybrid beacon and the rectangular rapid flash beacon.

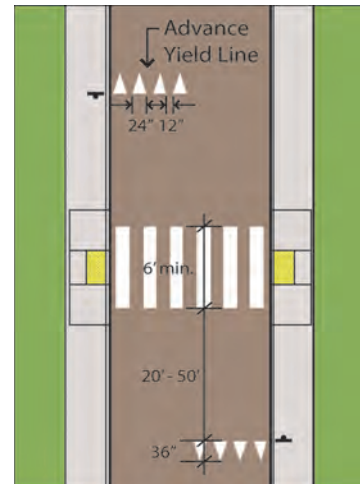


Figure G-13: Advance Yield Line



Figure G-14: Pedestrian Hybrid Beacon (HAWK)



Figure G-15: Rectangular Rapid Flashing Beacon (RRFB)

<sup>2</sup> FHWA. *Safety Effectiveness of the HAWK Pedestrian Crossing Treatment*. July 2010.



Pedestrian hybrid beacons, also known as a HAWK (High intensity Activated crossWalk) Signal includes three signal sections, two red circular indications above one yellow circular indication (Figure G-14). The signal is dark until activated. When activated, the signal flashes yellow to inform drivers to stop. The signal then becomes solid yellow followed by a dual solid red. It then displays alternating red flashing as the pedestrian signal head reads DON'T WALK. Pedestrian hybrid beacons have been approved by the Federal Highway Administration (FHWA) and incorporated into the 2012 CA MUTCD.

Rectangular rapid flashing beacons (RRFB) are also pedestrian actuated devices; however they are mounted adjacent to the roadway (Figure G-15). The beacon lights are rectangular LED lights installed below a pedestrian crosswalk sign that flash in an alternating pattern when activated. The beacon is dark when not activated. Caltrans has received approval from the Federal Highway Administration (FHWA) for use of RRFBs on a blanket basis at uncontrolled pedestrian and school crosswalk locations in California, including State highways and all local jurisdictions' roadways.<sup>3</sup>

**Recommendations**

This Plan recommends installation of crossing beacons at all uncontrolled arterial crossing locations. The intersections listed in Table G-7 should be prioritized for implementation as an interim improvement. Section 5.5.5 recommends signal warrant studies for both intersections.

Table G-7: Recommend Locations for Pedestrian Beacons		
Location	Improvement	Description and Need
El Camino Real at 22 <sup>nd</sup> Avenue	Pedestrian Hybrid Beacon	Uncontrolled marked crosswalk on major arterial. Nearest controlled crossings at 20 <sup>th</sup> and 25 <sup>th</sup> Avenues.
El Camino Real at 39 <sup>th</sup> Avenue	Pedestrian Hybrid Beacon	Uncontrolled marked crosswalk on major arterial. Nearest controlled crossings at 37 <sup>th</sup> and 41 <sup>st</sup> Avenues. SamTrans bus stop. Access to San Mateo Medical Center

**G.3.5. Midblock Crossing Improvements**

Midblock crossing improvements can help increase the visibility of pedestrians to motorists and improve the pedestrian experience. Where there are no marked midblock crossings, these improvements can provide better pedestrian visibility. The City has a number of existing marked crosswalks at uncontrolled midblock locations as well as a need for new midblock crossings.

**Recommendations**

A number of the existing midblock crosswalks are not located in the pedestrian desired path of travel which may result in pedestrian activity outside the marked crosswalks. Others were identified by the community as having poor visibility. Table G-8 presents the recommend midblock crossing improvements.

<sup>3</sup> Approval number IA-11-83-RRBF-California Statewide.

Table G-8: Recommended Locations for Uncontrolled Midblock Crossing Improvements

Location	Improvement	Description and Need
1 <sup>st</sup> Avenue between B St and Claremont St	High Visibility Crosswalk Advance Yield Line	Important connection to Caltrain.
B Street between 2 <sup>nd</sup> and 3 <sup>rd</sup> Ave	High Visibility Crosswalk Advance Yield Line Curb Extensions In-Pavement Flashers	No existing crossing; however important connection between theater and retail.
W. Hillsdale Blvd between Hacienda St and Edison St	In-Pavement Flashers In-Pavement Pedestrian Yield Sign Advance Yield Line	Uncontrolled crossing on an arterial street. Community identified challenge area.
25th Avenue between Hacienda St and Flores St	High Visibility Crosswalk Curb extensions In-Pavement Flashers In-Pavement Pedestrian Yield Sign Advance Yield Line	Curb extensions, in-pavement flashers, and signage will improve visibility.
37th Ave between El Camino Real and Colegrove St	Relocate crossing 150 feet to west Curb extensions In-Pavement Flashers In-Pavement Pedestrian Yield Sign Advance Yield Line	Existing crosswalk is 120 feet from another along El Camino Real. Existing potential for crowding from cars queued at El Camino Real traffic signal.

## G.4.Zoning Code Revisions

The following lists revisions to the San Mateo Zoning Code. Deletions are shown with a strike-through and additions are underlined. These revisions are intended to improve pedestrian mobility, safety and environment.

### Revision to 27.38 CBD Districts - Central Business District

27.38.090 OPEN SPACE REQUIREMENTS. Open space shall be provided in an amount equal to one percent of the nonresidential floor area of the project, not including parking, provided that there shall be no requirement for open space where the resulting open space would be less than ~~500~~ 200 square feet.

This required open space shall be usable open space located at ground level directly accessible to a public sidewalk with a minimum width along the sidewalk of twenty-five feet (25'). Fifty percent (50%) of the required open space shall be unshaded between noon and 2:00 p.m. at the Spring and Fall equinox except where the open space is already shaded by an existing building and no other opportunities exist on the site. This open space area shall include provisions for public use facilities, such as seating for the public in the public areas. (Ord. 2001-28 § 1, 2001; Ord. 1986-14 § 1 (part), 1986).

### Revision to 27.64 Off-street Parking and Loading

27.64.023 PARKING -- PROHIBITED ON LAWNS, FLOWERS, SIDEWALK. It shall be unlawful to park a motor vehicle, trailer, unmounted camper or boat (1) upon any lawn or landscaped area, including an area of flowers or shrubs, (2) upon an area of decorative rocks, stones, chips, bark, or the like, unless such area of decorative rocks, stones, chips or bark was in place and used for parking of a motor vehicle, trailer, unmounted camper or boat prior to July 19, 1993, or (3) upon the sidewalk, thereby impeding the pedestrian right of way. Nothing herein shall be construed to prohibit parking on a driveway. For this section, a Driveway shall mean that the area from the street property line to the garage or carport which traverses the curb but (or rolled curb) and which is identical to width to the curb cut (or rolled curb) or such area that is approved as a driveway pursuant to this Code. This provision shall apply to parcels being used for single family or duplex residences. (Ord. 1993-11 § 1, 1993).

### Revision to 27.84 Fences, Trees and Hedges

27.84.040 FENCE OR HEDGE -- BRANCH EXTENSION. No person shall permit branches or trees or shrubs to extend ~~within eight (8) feet from the ground~~ over any portion of the public sidewalk unless providing a minimum eight (8) foot vertical clearance. No person shall permit branches or trees or shrubs to extend ~~or within twelve (12) feet from the ground~~ over any portion of a ~~residential~~ public street ~~abutting the property on which the tree is growing, or within~~ unless providing a minimum fourteen (14) feet ~~foot~~ clearance ~~on streets designated as truck routes, except that portion within three (3) feet from the curb line of any of the foregoing.~~ No person shall permit branches or shrubs to horizontally extend over the sidewalk rendering the sidewalk width is less than 4 feet. (Ord. 1992-16 § 19 (part), 1992).

### Revision to 27.87 Outdoor Restaurant Seating and Merchandise Display

Sections:

27.87.010 Purpose.

27.87.020 Requirements.

27.87.030 Development standards and conditions of use.

27.87.040 Off-street parking and loading.

27.87.010 PURPOSE. The purpose of this chapter is to regulate the use of public sidewalks for restaurant seating and the use of private property for outdoor display of merchandise accessory to existing businesses. This chapter is not intended to regulate outdoor restaurant seating on private property or the use of public right-of-way for street fairs or other events otherwise regulated under Section 17.08.120 of the Municipal Code. (Ord. 1994-24 § 1 (part), 1994).

27.87.020 REQUIREMENTS.

(a) Restaurant seating on public sidewalks. Restaurant seating located on public sidewalks (in the public right-of-way) are allowed in ~~Neighborhood Commercial (C1) and Central Business (CBD)~~ all Zoning Districts for legally permitted restaurants, subject to meeting the development standards and conditions listed below and approval of an encroachment permit from the Department of Public Works. Nothing is intended to prevent the placement of conditions on the encroachment permit as deemed appropriate.

(b) Outdoor merchandise display. Outdoor display of merchandise accessory to an existing business which occupies a building is permitted on private property in Neighborhood Commercial (C1) and Central Business (CBD) Districts. Such display is not permitted in the public right-of-way. (Ord. 1994-24 § 1 (part), 1994).

### **Revision to 27.87.030 DEVELOPMENT STANDARDS AND CONDITIONS OF USE.**

(a) Restaurant seating. Restaurant seating located on public sidewalks must meet the following standards and conditions of use:

(1) Clearance. The physical extent of the seating encroachment must be located so as to permanently maintain a minimum sidewalk ~~clearance~~ pedestrian through zone of ~~5-4~~ feet, free and clear between: A) the outer boundary of the seating area and any physical obstruction, such as light standards, parking meters, news racks, trees, curb or other barrier, and B) the entryways or display window of adjacent businesses, unless authorized by the adjacent business.

(2) Physical delineation of seating area. The physical extent of the seating encroachment may be clearly delineated by physical means, which, if either required or voluntarily placed, shall be approved as part of the encroachment permit and designed to be decorative, durable, removable and minimize tripping hazards.

(3) Other limitations. Tables, seating and any approved physical barriers to delineate the seating area are the only items permitted to be located ~~within the public right-of-way~~ on the sidewalk. These items shall be removed from the public sidewalk at the close of business each day. Other items, such as busing stations, are not permitted on public sidewalks.

(4) Liability insurance. Applicants for restaurant seating ~~within the public right-of-way~~ on the public sidewalk shall provide liability insurance providing endorsements showing the City of San Mateo as additional insured on the policy, in an amount determined by the City Attorney's Office. Encroachment permits issued under authority of this Chapter shall be valid only during the term of liability insurance coverage.

(5) Site maintenance. Sidewalk seating areas shall be maintained free of litter, refuse and debris. The area shall be scrubbed and mopped to remove any food or drink stains on a daily basis. Such cleaning shall be performed in accordance with the City's Storm Water Management and Discharge Control Program, which prohibits any



## Appendix G | Summary Recommendations

discharge other than storm water into the storm water drainage system. The applicant shall post maintenance security in a form and amount determined upon issuance of the encroachment permit. Failure to maintain the site shall be cause for termination of the encroachment permit.

(6) Encroachment fee. The applicant shall pay an annual fee in the amount set forth in the Comprehensive Fee Schedule.

(b) Merchandise display. Merchandise display on private property must meet the following standards:

(1) Private property. Outdoor merchandise display shall be maintained completely on private property in the immediate vicinity of the store entryway, such as in recessed entryways or along storefronts.

(2) Accessibility. Merchandise display areas shall maintain accessibility requirements for the disabled. (Ord. 1994-24 § 1 (part), 1994).

### **Revision to 27.87.040 OFF-STREET PARKING AND LOADING.**

Off-street parking and loading ~~shall not be~~ is not required for: 1) outdoor restaurant seating in the public right-of-way, and 2) ~~and~~ outdoor merchandise display on private property. (Ord. 1994-24 § 1 (part), 1994).

## G.5. Projects and Studies

While the major infrastructure, intersection and crossing improvements will improve pedestrian mobility and comfort in San Mateo, additional projects and studies are needed to fully address needed pedestrian improvements. The following projects further accommodate pedestrians, and in the case of infrastructure improvements, need additional study.

### G.5.1. Downtown Streetscape Master Plan

This Plan recommends the City of San Mateo develop a Downtown Streetscape Master Plan that includes focus on enhancing the pedestrian environment.

### G.5.2. San Mateo Medical Center Neighborhood Pedestrian Access and Circulation Study

Pedestrian access and circulation studies examine pedestrian mobility challenges and opportunities to and within a designated area. The San Mateo Medical Center neighborhood is a diverse neighborhood with a number of pedestrian attractors and generators. The San Mateo County Medical Center and hospital is the City's second largest employer, which results in a high number of pedestrian related trips. The adjacent Hillsdale Garden Apartments, a high density residential complex, and the nearby Hillsdale Shopping Center add to the neighborhood's pedestrian destination points. A SamTrans transit hub at the Hillsdale Shopping Center also generates a high number of pedestrian trips from the hub to the Medical Center for patients, visitors and employees. Pedestrian concerns in this neighborhood relate to high traffic volumes, narrow streets, and rolled curbs. Cars often park rolled on to the sidewalk, blocking pedestrian access.

#### **Recommendation**

This plan recommends the City conduct a pedestrian access and circulation study to improve pedestrian conditions to and through the area.

### G.5.3. Utility Boxes in the Public ROW Best Practices

Utility boxes house telecommunications equipment for television, phones, internet, and traffic signal controls and are often in the public right-of-way on the sidewalk. While these services are valued by the San Mateo community, the utility boxes typically reduce the pedestrian travel through zone and can detract from the streetscape aesthetic.

#### **Recommendation**

This plan recommends the City conduct a best practices review of how to integrate utility boxes in the public right-of-way.

### G.5.4. Suggested Routes to School Maps

Suggested routes to school maps provide school officials, parents, and students with a tool to help plan the walking and bicycling routes to and from school. There are over 11,000 K-12 students enrolled in San Mateo schools and these types of maps will encourage more families and students to walk and bike to school rather than drive. Communities throughout the San Francisco Bay Area including Los Altos, Milpitas and San Rafael have used these maps as part of comprehensive Safe Routes to School programs to increase the number of students walking and biking to school.

### Recommendation

As shown in Figure G-16, this Plan recommends the City develop suggested routes to school maps that include identification of suggested routes, crossing locations, traffic controls, crossing guard locations, and the presence of sidewalks, paths and bikeways along routes to each school.

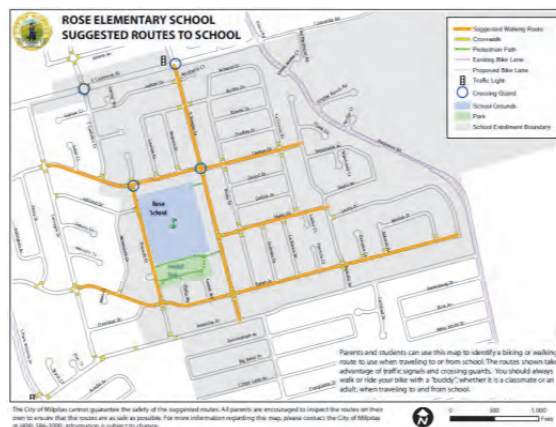


Figure G-16: Example Suggested Routes to School Map (Milpitas, CA)

### G.5.5. Development and Work Zone Regulations

The Plan recommends that the City provide a handout for development projects and road construction activities to ensure pedestrian accessibility guidelines are met.

### G.5.6. Traffic Calming Considerations

Traffic coalmining is a key aspect of the City's Neighborhood Traffic Management Plan (NTMP). The goal of that Plan is to make San Mateo neighborhood streets more livable by reducing speed and traffic volumes. Installation of traffic calming devices identified in the NTMP require a traffic study to determine if the following criteria are met:

- Average speed is seven (7) miles over the posted speed limit
- 1,000 or more cars travel on the road per day

This Plan recommends, in addition to the above mentioned criteria, that the City should also consider pedestrian safety and pedestrian related traffic collision data when evaluating appropriateness for traffic calming devices.

### G.5.7. Requirements for Large Scale Development Projects

While the City of San Mateo has had a number of large scale development projects, it has no citywide pedestrian design standards for these project types.

The City should establish citywide requirements for the improvement of the public right-of-way associated with large-scale development projects by developing and adopting a pedestrian design toolkit. The requirements will ensure that the public right-of-way is safe, accessible, convenient and attractive to pedestrian use and travel. The pedestrian design toolkit would govern the design, location, and dimensions of all pedestrian and streetscape items in the public right-of-way, including but not limited to sidewalks, crosswalks, curb ramps, refuge islands, street trees, lighting, and site furnishings. Together, these elements

can create a streetscape that is vibrant, colorful, and visually interesting; a comfortable and usable space for people; and with ecological benefits.

The toolkit should be consistent with and build upon the sidewalk development standards contained in this Citywide Pedestrian Master Plan. The design and placement of pedestrian elements would also be required to meet applicable Caltrans, MUTCD, and ADA standards.

The City should identify the types of development projects subject to the implementation of the toolkit by establishing applicable minimum thresholds through consultation with the public. Project proponents that meet these thresholds should be required to submit a streetscape plan to the Planning Division. The Planning Division, Public Works and Parks and Recreation would ensure compliance with these thresholds and how these elements relate to proposed new construction and site work on the developed properties.

As a model, the City of San Francisco requires development projects to include streetscape and pedestrian improvements on all publicly accessible rights-of-way directly fronting the property. In San Francisco, the required improvements vary by district and improvement type.

#### ***Recommendation***

This Plan recommends the City develop and adopt a pedestrian design toolkit for improvements of the public right-of-way associated with large-scale development projects.

### **G.5.8. Bay to Transit Trail Feasibility Study**

The Bay to Transit Trail project envisions development of a paved two-mile pedestrian and bicycle pathway along the existing city-owned creek drainage channel from the Hayward Park Caltrain Station to the regional San Francisco Bay Trail (see **Figure G-17**). The project addresses a variety of issues regarding pedestrian and bicycle network connectivity and increasing access to transit, schools and recreational opportunities near the San Francisco Bay. The project would serve a historically underserved area and would include a multi-lingual outreach effort to collect public input regarding the design of the path.

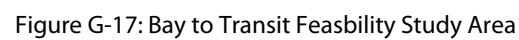
#### ***Recommendation***

This Plan recommends that the City conduct a feasibility study in order to study potential issues, including:

- Right of way
- Site engineering
- Safety
- Security
- Delivery of emergency vehicles
- Maintenance/ operations
- Community interests/needs
- Privacy

The feasibility study can address these issues, and other unknown variables associated with the development of trail.





### **G.5.9. Lead Pedestrian Interval**

Many of the pedestrian related collisions reviewed as part of this plan occurred when the pedestrian was in a marked crosswalk in downtown and on El Camino Real adjacent to Downtown and at 25<sup>th</sup> and 37<sup>th</sup> Avenues. This indicates a need for improved pedestrian visibility. One method to improve pedestrian visibility is to implement a lead pedestrian interval (LPI). A lead pedestrian interval is a tool where traffic signals are programmed to give pedestrians a walk indication before vehicles and receive the green light to proceed. Crossing with this “head start” allows pedestrians to be more visible to motorists approaching the intersection. LPI signal timing typically allows pedestrians to start 2-4 seconds before vehicles.

#### ***Recommendation***

This Plan recommends the City study the feasibility of installing LPI's at Downtown intersections from Tilton Avenue to 5<sup>th</sup> Avenue and from El Camino Real to Delaware Street; as well as at Delaware and 25<sup>th</sup> and 37<sup>th</sup> Avenues. A LPI along El Camino Real will require coordination with Caltrans.

### **G.5.10. Downtown Pedestrian Recall Study**

Most, but not all traffic signals in Downtown currently have a pedestrian recall phase, meaning pedestrians are automatically given a walk phase with each cycle of the light and do not need to push a button to request a walk phase. Given the high volume of pedestrian activity observed in Downtown San Mateo during preparation of this Plan, all signals within Downtown should include a pedestrian recall phase.

#### ***Recommendation***

This Plan recommends the City conduct a study to include a pedestrian recall phase at all signalized intersections in Downtown. MUTCD sign R10-2a should be installed at all signalized intersections with a pedestrian recall phase, replacing MUTCD sign R10-4 (Figure G-18).

### **G.5.11. B Street Closure Study**

The Plan recommends a study of alternatives for a car-free B Street, either on a temporary basis – for instance, after certain hours, on holidays, weekend and/or during special events – or permanently 3rd Avenue &

### **G.5.12. Norfolk Street Intersection Improvement Study**

The 3<sup>rd</sup> Avenue Median Path entrance at Norfolk Street had a high number of pedestrian related collisions in the past eight years (2001-2009). The path entrance is in the center of the roadway and requires bicyclists and pedestrians to awkwardly enter or leave the path using a number of turning movements.

#### ***Recommendation***

The recommended improvement for this intersection is to initiate a study to improve access to the path entrance. Possible improvements may include signage and striping. The improvement study may review similar intersection configurations with median paths, including in Brooklyn, New York.



Figure G-18: MUTCD sign R10-4

### G.5.13. El Camino Real at 22nd and 39th Avenues Traffic Signal Warrant Studies

El Camino Real has uncontrolled marked crosswalks at 22<sup>nd</sup> and 39<sup>th</sup> Avenues. The 22<sup>nd</sup> Avenue crossing connects pedestrians to commercial businesses on both the east and west sides of El Camino Real. The nearest controlled crossings are at 20<sup>th</sup> and 25<sup>th</sup> Avenues. The 39<sup>th</sup> Avenue crossing connects pedestrians to SamTrans bus stops as well as to the San Mateo Medical Center. The nearest controlled crossings are at 37<sup>th</sup> and 41<sup>st</sup> Avenues.

#### **Recommendation**

This Plan recommends the City coordinate with Caltrans and conduct a traffic signal study to determine the impact of a traffic signal installation at El Camino Real and 22<sup>nd</sup> Avenue and at El Camino Real and 39<sup>th</sup> Avenue.

Should the 22<sup>nd</sup> and/or 39<sup>th</sup> Avenue crossing locations not meet signal warrant requirements, other recommendations may be considered. Potential crossing improvements at the 39<sup>th</sup> Avenue/El Camino Real intersection are detailed in Appendix D and include relocating the crosswalk to the north side of the intersection, installation of a pedestrian hybrid beacon, and installation of a pedestrian refuge island.

### G.5.14. Peninsula Avenue and Bayshore Boulevard Intersection Improvement Study

The Peninsula Avenue/Bayshore Boulevard intersection has limited sidewalks and one marked crosswalk. Pedestrians cannot directly cross Bayshore Boulevard from the south side of Peninsula Avenue, which is the desired path of travel for both eastbound and southbound pedestrians.

#### **Recommendation**

This Plan recommends a study to improve access and pedestrian circulation at the intersection. Possible improvements include a marked crosswalk on south leg of the intersection and installation of a sidewalk on the unpaved southeast corner. Opportunities to incorporate stormwater treatment and drought-tolerant landscaping could also be explored.

### **G.5.15. Highway 92 Crossing Study**

Highway 92 is a barrier to pedestrian travel between El Camino Real and Alameda de las Pulgas and prevents pedestrian north-south access across the City west of El Camino Real.

#### ***Recommendation***

This Plan recommends the City conduct a feasibility study to determine the opportunities and challenges of a crossing near Edinburgh Street.

### **G.5.16. Railroad Crossing Study**

The rail tracks that run through the City are a community identified barrier. Pedestrian crossings are limited between 9<sup>th</sup> Avenue and Highway 92 and between Highway 92 and 42<sup>nd</sup> Avenue. The lack of crossings limits east-west activity and access to retail and employment.

#### ***Recommendation***

The City should consider additional pedestrian crossings between 9<sup>th</sup> and 42<sup>nd</sup> Avenues. Crossings may be considered with the current configuration and with any future development proposals.

### **G.5.17. El Camino Real Sidewalk Width Study**

El Camino Real is an important pedestrian corridor with potential for significant walking activity; however, it is also a community identified challenge area. One challenge is the existing narrow sidewalks.

#### ***Recommendation***

The City should consider a study to widen sidewalk width on El Camino Real within City limits. This study will require coordination with Caltrans.

## G.6. Infrastructure Improvements

Table G-9 contains the accumulated recommendations for all infrastructural pedestrian improvements throughout the City of San Mateo. The previous chapters of Appendix H provide an ample toolkit for implementation of all projects listed. Some projects call for an intense capital investment, while others are very simple interventions. Nonetheless, each recommended site for infrastructural improvement represents a step towards making San Mateo a safer, more enjoyable place to walk. This guide will provide a working list of potentially impactful project for years to come.

Table G-9: Infrastructure Improvements

Location	Type	Limits	Quantity	Unit	Cost Estimate
<b>1st Ave</b>					
1st Ave	Pedestrian Scale Lighting	B St to Delaware St	0.17	Miles	\$369,900
1st Ave	Pedestrian Scale Lighting	Ellsworth Ave to B St	0.05	Miles	\$99,700
<b>1st Ave at Delaware St</b>					
1st Ave at Delaware St	Curb Extension with Stop Bar		4		\$100,800
<b>1st Ave at Ellsworth Ave</b>					
1st Ave at Ellsworth Ave	Signal Timing		3		\$3,000
<b>1st Ave Between B St at Claremont St</b>					
1st Ave Between B St at Claremont St	Midblock Crossing		1		\$2,400
<b>2nd Ave</b>					
2nd Ave	Pedestrian Scale Lighting	El Camino Real to Delaware St	0.43	Miles	\$942,700
<b>2nd Ave at El Camino Real</b>					
2nd Ave at El Camino Real	Signal Timing		4		\$4,000
<b>2nd Ave at Ellsworth Ave</b>					
2nd Ave at Ellsworth Ave	Signal Timing		4		\$4,000
<b>2nd Ave at San Mateo Dr</b>					
2nd Ave at San Mateo Dr	Signal Timing		4		\$4,000
<b>3rd Ave</b>					
3rd Ave	Bike Lane	Crystal Springs Rd to Parrott Dr	0.10	Miles	\$64,300
3rd Ave	Parklet	B St to Ellsworth Ave	0.06	Miles	\$300
3rd Ave	Pedestrian Scale Lighting	Humboldt St to J Hart Clinton Dr	0.93	Miles	\$2,025,800
3rd Ave	Pedestrian Scale Lighting	Dartmouth Rd to El Camino Real	0.13	Miles	\$272,600
3rd Ave	Sidewalk Installation	Crystal Springs Rd to Parrott Dr	0.00	Miles	\$0
<b>3rd Ave at B St</b>					
3rd Ave at B St	Curb Extension		2		\$50,000
<b>3rd Ave at Delaware St</b>					
3rd Ave at Delaware St	Curb Extension with Stop Bar		1		\$25,200
<b>3rd Ave at Fremont St</b>					
3rd Ave at Fremont St	Curb Extension with Stop Bar		4		\$100,800
<b>3rd Ave at Hwy 101 Southbound Off-</b>					



Location	Type	Limits	Quantity	Unit	Cost Estimate
<b>ramp</b>					
3rd Ave at Hwy 101 Southbound Off-ramp	High-Visibility Crosswalk		2		\$2,400
3rd Ave at Hwy 101 Southbound Off-ramp	High-Visibility Crosswalk		2		\$2,400
<b>3rd Ave at Norfolk St</b>					
3rd Ave at Norfolk St	School Zone Crosswalk		4		\$4,800
<b>3rd Ave at S. Norfolk St</b>					
3rd Ave at S. Norfolk St	Advance stop bars		4		\$600
3rd Ave at S. Norfolk St	Pedestrian Countdown Signals		10		\$0,000
3rd Ave at S. Norfolk St	Signage		1		\$300
3rd Ave at S. Norfolk St	Signal Timing		2		\$20,000
3rd Ave at S. Norfolk St	High-Visibility Crosswalk		4		\$4,800
<b>3rd Ave at Parrott Dr</b>					
3rd Ave at Parrott Dr	Advance stop bars		1		\$200
3rd Ave at Parrott Dr	Advance yield lines		2		\$600
3rd Ave at Parrott Dr	High-Visibility Crosswalk		2		\$2,400
3rd Ave at Parrott Dr	Neighborhood Mini Park		1		\$155,000
3rd Ave at Parrott Dr	Signage		5		\$1,500
3rd Ave at Parrott Dr	Stripe Standard Crosswalk		1		\$1,000
3rd Ave at Parrott Dr	Curb Extension		1		\$25,000
3rd Ave at Parrott Dr	Bike Lane		1		\$400
3rd Ave at Parrott Dr	Landscape strip		1		\$10,000
<b>3rd Ave at Virginia Ave</b>					
3rd Ave at Virginia Ave	Curb Extension		3		\$75,000
3rd Ave at Virginia Ave	Directional curb ramp		6		\$24,000
3rd Ave at Virginia Ave	Stripe Standard Crosswalk		1		\$1,000
<b>4th Ave</b>					
4th Ave	Pedestrian Scale Lighting	El Camino Real to Hwy 101	0.86	Miles	\$1,874,300
4th Ave	Pedestrian Scale Lighting	Dartmouth Rd to El Camino Real	0.13	Miles	\$272,900
<b>44 4th Ave</b>					
44 4th Ave	High-Visibility Crosswalk		1		\$1,200
<b>4th Ave at Caltrain Tracks</b>					
4th Ave at Caltrain Tracks	In-pavement flashers		1		\$75,000
<b>4th Ave at El Camino Real</b>					
4th Ave at El Camino Real	Curb Extension		4		\$100,000
<b>4th Ave at Grant St</b>					
4th Ave at Grant St	High-Visibility Crosswalk		3		\$3,600
<b>4th Ave at San Mateo Dr</b>					
4th Ave at San Mateo Dr	Signal Timing		4		\$4,000
<b>5th Ave</b>					
5th Ave	Pedestrian Scale Lighting	El Camino Real to Delaware St	0.43	Miles	\$938,800
5th Ave	Pedestrian Scale Lighting	Delaware St to Humboldt St	0.27	Miles	\$582,300

## Appendix G | Summary Recommendations

Location	Type	Limits	Quantity	Unit	Cost Estimate
<b>5th Ave at B St</b>					
5th Ave at B St	Signal Timing		4		\$4,000
<b>5th Ave at El Camino Real</b>					
5th Ave at El Camino Real	Signal Timing		4		\$4,000
<b>5th Ave at San Mateo Dr</b>					
5th Ave at San Mateo Dr	Signal Timing		4		\$4,000
<b>6th Ave at Laurel Ave</b>					
6th Ave at Laurel Ave	High-Visibility Crosswalk		2		\$2,400
<b>7th Ave at Laurel Ave</b>					
7th Ave at Laurel Ave	High-Visibility Crosswalk		1		\$1,200
<b>9th Ave</b>					
9th Ave	Pedestrian Scale Lighting	El Camino Real to B St	0.26	Miles	\$567,500
<b>9th Ave at El Camino Real</b>					
9th Ave at El Camino Real	High-Visibility Crosswalk		3		\$3,600
9th Ave at El Camino Real	Signal Timing		4		\$4,000
<b>9th Ave at Laurel Ave</b>					
9th Ave at Laurel Ave	High-Visibility Crosswalk		3		\$3,600
<b>9th Ave at Palm Ave</b>					
9th Ave at Palm Ave	High-Visibility Crosswalk		2		\$2,400
<b>19th Ave at Fashion Island Blvd</b>					
19th Ave at Fashion Island Blvd	School Zone Crosswalk		2		\$2,400
19th Ave at Fashion Island Blvd	Signal Timing		4		\$4,000
<b>19th Ave at Ginnever St</b>					
19th Ave at Ginnever St	Signal Timing		4		\$4,000
<b>20th Ave</b>					
20th Ave	Pedestrian Scale Lighting	Alameda de las Pulgas to Palm Ave	0.74	Miles	\$1,601,800
20th Ave	Pedestrian Scale Lighting	Palm Ave to Leslie St	0.04	Miles	\$89,300
<b>22nd Ave at Flores St</b>					
22nd Ave at Flores St	High-Visibility Crosswalk		2		\$2,400
<b>23rd Ave at Flores St</b>					
23rd Ave at Flores St	High-Visibility Crosswalk		2		\$2,400
<b>24th Ave at Flores St</b>					
24th Ave at Flores St	High-Visibility Crosswalk		2		\$2,400
<b>25th Ave</b>					
25th Ave	Parklet	Flores St to Hacienda St	0.13	Miles	\$800
25th Ave	Pedestrian Scale Lighting	El Camino Real to Delaware St	0.15	Miles	\$323,600
25th Ave	Pedestrian Scale Lighting	Hacienda St to El Camino Real	0.22	Miles	\$478,300
25th Ave	Pedestrian Scale Lighting	Alameda de las Pulgas to Hacienda St	0.38	Miles	\$830,300
<b>140 25th Ave</b>					
140 25th Ave	In-Pavement Pedestrian Yield Sign		2		\$600
140 25th Ave	Midblock Crossing		1		\$2,400

Location	Type	Limits	Quantity	Unit	Cost Estimate
<b>27th Ave at Edison St</b>					
27th Ave at Edison St	High-Visibility Crosswalk		2		\$2,400
<b>28th Ave</b>					
28th Ave	Pedestrian Scale Lighting	Alameda de las Pulgas to El Camino Real	0.58	Miles	\$1,255,100
<b>28th Ave at Edison St</b>					
28th Ave at Edison St	High-Visibility Crosswalk		2		\$2,400
<b>28th Ave at Isabelle Ave</b>					
28th Ave at Isabelle Ave	High-Visibility Crosswalk		2		\$2,400
<b>28th Ave Extension</b>					
28th Ave Extension	Class I Path	EL Camino Real to New Delaware St	0.10	Miles	\$67,400
<b>28th Ave Extension Path</b>					
28th Ave Extension Path	Pedestrian Scale Lighting	Saratoga Dr to Bay Meadows Alt	0.39	Miles	\$853,800
<b>31st Ave Extension</b>					
31st Ave Extension	Class I Path	EL Camino Real to Caltrain	0.08	Miles	\$52,100
<b>36th Ave</b>					
36th Ave	Pedestrian Scale Lighting	Alameda de las Pulgas to Hacienda St	0.24	Miles	\$528,600
<b>37th Ave</b>					
37th Ave	Pedestrian Scale Lighting	Hacienda St to El Camino Real	0.50	Miles	\$1,098,700
<b>37th Ave at Hillsdale Gardens</b>					
37th Ave at Hillsdale Gardens	Crossing Beacon		2		\$30,000
<b>37th Ave Between El Camino Real and Colegrove St</b>					
37th Ave Between El Camino Real and Colegrove St	Midblock Crossing		1		\$2,400
<b>39th Ave</b>					
39th Ave	Pedestrian Scale Lighting	Edison St to El Camino Real	0.32	Miles	\$687,000
<b>40th Ave</b>					
40th Ave	Sidewalk Installation	Hacienda St to Beresford St	0.47	Miles	\$256,100
<b>41st Ave</b>					
41st Ave	Pedestrian Scale Lighting	Edison St to El Camino Real	0.32	Miles	\$707,300
41st Ave	Sidewalk Installation	Hacienda St to Colegrove St	0.43	Miles	\$231,000
<b>41st Ave at Beresford St</b>					
41st Ave at Beresford St	High-Visibility Crosswalk		1		\$1,200
<b>41st Ave at El Camino Real</b>					
41st Ave at El Camino Real	Signal Timing		4		\$4,000
<b>Alameda De Las Pulgas</b>					
Alameda De Las Pulgas	Pedestrian Scale Lighting	Crystal Springs Rd to S of La Casa Ave	3.03	Miles	\$6,592,100

Location	Type	Limits	Quantity	Unit	Cost Estimate
<b>Alameda De Las Pulgas Road Diet</b>					
Alameda De Las Pulgas	Restriping	Crystal Springs Rd to Barneson Ave			\$14,700
Alameda de las Pulgas	Sidewalk Installation	Crystal Springs Rd to Barneson Ave	0.00		\$51,000
<b>Alameda De Las Pulgas at 20th Ave</b>					
Alameda de las Pulgas at 20th Ave	Advance stop bars		2		\$400
Alameda de las Pulgas at 20th Ave	Tighten curb radii		2		\$50,000
Alameda de las Pulgas at 20th Ave	Directional curb ramp		8		\$32,000
Alameda de las Pulgas at 20th Ave	School Zone Crosswalk		4		\$4,800
Alameda de las Pulgas at 20th Ave	Pedestrian refuge		1		\$15,000
Alameda De Las Pulgas at 20th Ave	Signal Timing		4		\$4,000
<b>Alameda De Las Pulgas at 26th Ave</b>					
Alameda De Las Pulgas at 26th Ave	High-Visibility Crosswalk		4		\$4,800
<b>Alameda De Las Pulgas at 28th Ave</b>					
Alameda De Las Pulgas at 28th Ave	High-Visibility Crosswalk		4		\$4,800
<b>Alameda De Las Pulgas at 42nd Ave</b>					
Alameda De Las Pulgas at 42nd Ave	School Zone Crosswalk		4		\$4,800
<b>Alameda de las Pulgas at Fernwood St</b>					
Alameda de las Pulgas at Fernwood St	High-Visibility Crosswalk		1		\$1,200
<b>Alameda De Las Pulgas at Parkside Wy</b>					
Alameda De Las Pulgas at Parkside Wy	High-Visibility Crosswalk		1		\$1,200
<b>Alameda De Las Pulgas at Portola Wy</b>					
Alameda De Las Pulgas at Portola Wy	High-Visibility Crosswalk		1		\$1,200
<b>Alley</b>					
Alley	Pedestrian Scale Lighting	Norfolk St to J Hart Clinton Dr	0.41	Miles	\$886,300
<b>Aragon Blvd</b>					
Aragon Blvd	Pedestrian Scale Lighting	Alameda de las Pulgas to El Camino Real	0.62	Miles	\$1,355,900
<b>Aragon Blvd at Alameda De Las Pulgas</b>					
Aragon Blvd at Alameda De Las Pulgas	Signal Timing		3		\$3,000
<b>Aragon Blvd at El Camino Real</b>					
Aragon Blvd at El Camino Real	High-Visibility Crosswalk		2		\$2,400
<b>B St</b>					
B St	Parklet	Baldwin Ave to 4th Ave	0.25	Miles	\$1,500
B St	Pedestrian Scale Lighting	Baldwin Ave to 9th Ave	0.54	Miles	\$1,165,600
<b>B St at 12th Ave</b>					
B St at 12th Ave	High-Visibility Crosswalk		2		\$2,400
<b>B St at 1st Ave</b>					

Location	Type	Limits	Quantity	Unit	Cost Estimate
B St at 1st Ave	High-Visibility Crosswalk		4		\$4,800
<b>B St at 2nd Ave</b>					
B St at 2nd Ave	High-Visibility Crosswalk		4		\$4,800
<b>B St at 3rd Ave</b>					
B St at 3rd Ave	Curb Extension		2		\$50,000
B St at 3rd Ave	High-Visibility Crosswalk		4		\$4,800
B St at 3rd Ave	Leading pedestrian interval		2		\$2,000
B St at 3rd Ave	Midblock Crossing with In-Pavement Flashers		2		\$154,800
<b>B St at 4th Ave</b>					
B St at 4th Ave	High-Visibility Crosswalk		4		\$4,800
B St at 4th Ave	Leading pedestrian interval		4		\$4,000
<b>B St at 5th Ave</b>					
B St at 5th Ave	High-Visibility Crosswalk		4		\$4,800
<b>B St at 8th Ave</b>					
B St at 8th Ave	High-Visibility Crosswalk		2		\$2,400
<b>B St at Baldwin Ave</b>					
B St at Baldwin Ave	High-Visibility Crosswalk		3		\$3,600
<b>B St at Central Garage</b>					
B St at Central Garage	In-pavement flashers		1		\$75,000
<b>B St at Train Station Drway</b>					
B St at Train Station Drway	Stripe Standard Crosswalk		1		\$1,000
<b>B St Between 2nd and 3rd Ave</b>					
B St Between 2nd and 3rd Ave	Midblock Crossing		1		\$2,400
<b>Baldwin Ave</b>					
Baldwin Ave	Pedestrian Scale Lighting	El Camino Real to San Mateo Dr	0.24	Miles	\$528,200
<b>Baldwin Ave at B St</b>					
Baldwin Ave at B St	Curb Extension with Stop Bar		4		\$100,800
Baldwin Ave at B St	Directional curb ramp		4		\$16,000
<b>Baldwin Ave at Ellsworth Ave</b>					
Baldwin Ave at Ellsworth Ave	Signal Timing		4		\$4,000
<b>Baldwin Ave at San Mateo Dr</b>					
Baldwin Ave at San Mateo Dr	Signal Timing		4		\$4,000
<b>Bay To Transit Feasibility Study</b>					
Bay To Transit Feasibility Study	Class I Path	17th Ave to Anchor Rd	1.82	Miles	\$1,168,300
<b>Bay To Transit Path</b>					
Bay To Transit Path	Pedestrian Scale Lighting	17th Ave to Anchor Rd	2.40	Miles	\$5,217,300
<b>Baywood Ave/De Sabla Rd/Baldwin Ave at El Camino Real</b>					
Baywood Ave/De Sabla Rd/Baldwin Ave at El Camino Real	Signal Timing		4		\$4,000
<b>Bermuda Dr</b>					
Bermuda Dr	Pedestrian Scale Lighting	Grant St to Delaware St	0.16	Miles	\$354,200



## Appendix G | Summary Recommendations

Location	Type	Limits	Quantity	Unit	Cost Estimate
<b>Bettina Ave at 42nd Ave</b>					
Bettina Ave at 42nd Ave	School Zone Crosswalk		1		\$1,200
<b>Boral Creek Path</b>					
Boral Creek Path	Pedestrian Path	Saratoga Dr to Fiesta Gardens Elementary School	0.38	Miles	\$241,500
<b>Castilian Wy at Alameda De Las Pulgas</b>					
Castilian Wy at Alameda De Las Pulgas	School Zone Crosswalk		1		\$1,200
<b>Chess Dr at Bridgepointe Shopping Center</b>					
Chess Dr at Bridgepointe Shopping Center	High-Visibility Crosswalk		2		\$2,400
Chess Dr at Bridgepointe Shopping Center	Advance Yield Lines		2		\$600
Chess Dr at Bridgepointe Shopping Center	Crossing Beacon		4		\$60,000
Chess Dr at Bridgepointe Shopping Center	Path through Median		1		\$25,000
Chess Dr at Bridgepointe Shopping Center	Warning Signage		2		\$600
Chess Dr at Bridgepointe Shopping Center	Curb ramps		2		\$8,000
<b>Claremont St at 2nd Ave</b>					
Claremont St at 2nd Ave	High-Visibility Crosswalk		4		\$4,800
<b>Claremont St at 3rd Ave</b>					
Claremont St at 3rd Ave	High-Visibility Crosswalk		4		\$4,800
<b>Claremont St at 4th Ave</b>					
Claremont St at 4th Ave	High-Visibility Crosswalk		4		\$4,800
<b>Colegrove St at 39th Ave</b>					
Colegrove St at 39th Ave	Curb Extension with Stop Bar		4		\$100,800
Colegrove St at 39th Ave	Stripe Standard Crosswalk		4		\$4,000
Colegrove St at 39th Ave	Stripe Standard Crosswalk		4		\$4,000
<b>Concar Dr</b>					
Concar Dr	Class I Path	S Delaware St to Pacific Blvd	0.20	Miles	\$129,800
Concar Dr	Class I Path	S Grant St to S Delaware St	0.23	Miles	\$144,800
<b>Crescent Ave at Pinecrest Terrace</b>					
Crescent Ave at Pinecrest Terrace	High-Visibility Crosswalk		1		\$1,200
<b>Crystal Springs Rd at El Camino Real</b>					
Crystal Springs Rd at El Camino Real	Signal Timing		3		\$3,000
<b>Cupertino Wy at Orinda Dr</b>					
Cupertino Wy at Orinda Dr	School Zone Crosswalk		1		\$1,200
<b>Dartmouth Rd</b>					
Dartmouth Rd	Pedestrian Scale Lighting	4th Ave to 5th Ave	0.11	Miles	\$240,400
<b>De Sabla Rd at Baytree Wy</b>					

Location	Type	Limits	Quantity	Unit	Cost Estimate
De Sabla Rd at Baytree Wy	High-Visibility Crosswalk		1		\$1,200
<b>Delaware St</b>					
Delaware St	Pedestrian Scale Lighting	Peninsula Ave to 25th Ave	2.99	Miles	\$6,503,700
Delaware St	Pedestrian Scale Lighting	25th Ave to Bay Meadows Alt	0.10	Miles	\$207,000
<b>Delaware St at 2nd Ave</b>					
Delaware St at 2nd Ave	High-Visibility Crosswalk		4		\$4,800
<b>Delaware St at 3rd Ave</b>					
Delaware St at 3rd Ave	High-Visibility Crosswalk		4		\$4,800
Delaware St at 3rd Ave	Leading pedestrian interval		4		\$4,000
Delaware St at 3rd Ave	Pedestrian refuge		4		\$120,000
<b>Delaware St at 4th Ave</b>					
Delaware St at 4th Ave	High-Visibility Crosswalk		4		\$4,800
<b>Delaware St at State St</b>					
Delaware St at State St	School Zone Crosswalk		3		\$3,600
<b>Edison St</b>					
Edison St	Pedestrian Scale Lighting	Hillsdale Blvd to 41st Ave	0.54	Miles	\$1,178,100
<b>Edison St at 39th Ave</b>					
Edison St at 39th Ave	"Stop Ahead" Signage and Striping		1		\$1,100
Edison St at 39th Ave	Curb Extension with Stop Bar		4		\$100,800
Edison St at 39th Ave	High-Visibility Crosswalk		4		\$4,800
<b>Edison St at Hillsdale Blvd</b>					
Edison St at Hillsdale Blvd	High-Visibility Crosswalk		4		\$4,800
<b>El Camino Real</b>					
El Camino Real	Pedestrian Scale Lighting	Peninsula Ave to North Rd	4.42	Miles	\$9,632,000
El Camino Real	Sidewalk Reconstruction	at 2nd Ave	0.01	Miles	\$7,600
<b>El Camino Real (Northbound)</b>					
El Camino Real (Northbound)	Sidewalk Installation	37th Ave to 39th Ave	0.15	Miles	\$83,400
<b>El Camino Real at 12th Ave</b>					
El Camino Real at 12th Ave	Signal Timing		4		\$4,000
<b>El Camino Real at 17th Ave</b>					
El Camino Real at 17th Ave	High-Visibility Crosswalk		3		\$3,600
El Camino Real at 17th Ave	Signal Timing		4		\$4,000
<b>El Camino Real at 20th Ave</b>					
El Camino Real at 20th Ave	Signal Timing		4		\$4,000
<b>El Camino Real at 22nd Ave</b>					
El Camino Real at 22nd Ave	Crossing Beacon		2		\$30,000
El Camino Real at 22nd Ave	Curb Extension		2		\$50,000
El Camino Real at 22nd Ave	Directional curb ramp		2		\$8,000
El Camino Real at 22nd Ave	Advance Yield Lines		2		\$600
El Camino Real at 22nd Ave	Pedestrian signage		2		\$600
<b>El Camino Real at 25th Ave</b>					
El Camino Real at 25th Ave	High-Visibility Crosswalk		3		\$3,600

Location	Type	Limits	Quantity	Unit	Cost Estimate
El Camino Real at 25th Ave	Signal Timing		4		\$4,000
<b>El Camino Real at 27th Ave</b>					
El Camino Real at 27th Ave	High-Visibility Crosswalk		2		\$2,400
El Camino Real at 27th Ave	Signal Timing		4		\$4,000
<b>El Camino Real at 28th Ave</b>					
El Camino Real at 28th Ave	Signal Timing		4		\$4,000
<b>El Camino Real at 2nd Ave</b>					
El Camino Real at 2nd Ave	Advance stop bars		1		\$200
El Camino Real at 2nd Ave	Curb Extension with Stop Bar		2		\$50,400
El Camino Real at 2nd Ave	Directional curb ramp		1		\$4,000
El Camino Real at 2nd Ave	High-Visibility Crosswalk		3		\$3,600
El Camino Real at 2nd Ave	Pedestrian refuge		1		\$30,000
El Camino Real at 2nd Ave	Strip edge line along ECR to delineate parking		1		\$100
El Camino Real at 2nd Ave	Stripe left turn tracking		1		\$100
<b>El Camino Real at 31st Ave</b>					
El Camino Real at 31st Ave	Signal Timing		4		\$4,000
<b>El Camino Real at 37th Ave</b>					
El Camino Real at 37th Ave	Advance stop bars		2		\$400
El Camino Real at 37th Ave	Curb Extension		1		\$25,000
El Camino Real at 37th Ave	Curb Extension with Stop Bar		4		\$100,800
El Camino Real at 37th Ave	Signal Timing		4		\$4,000
El Camino Real at 37th Ave	Stripe Standard Crosswalk		1		\$1,000
<b>El Camino Real at 39th Ave</b>					
El Camino Real at 39th Ave	Advance stop bars		1		\$200
El Camino Real at 39th Ave	Crossing Beacon		2		\$30,000
El Camino Real at 39th Ave	High-Visibility Crosswalk		1		\$1,200
El Camino Real at 39th Ave	Left Turn Pocket		1		\$15,000
El Camino Real at 39th Ave	Median		1		\$30,000
El Camino Real at 39th Ave	Stripe Standard Crosswalk		1		\$1,000
<b>El Camino Real at 3rd Ave</b>					
El Camino Real at 3rd Ave	Curb Extension		4		\$100,000
El Camino Real at 3rd Ave	Signal Timing		4		\$4,000
<b>El Camino Real at 41st Ave</b>					
El Camino Real at 41st Ave	High-Visibility Crosswalk		2		\$2,400
<b>El Camino Real at 42nd Ave</b>					
El Camino Real at 42nd Ave	Signal Timing		4		\$4,000
<b>El Camino Real at 4th Ave</b>					
El Camino Real at 4th Ave	Curb Extension		2		\$50,000
El Camino Real at 4th Ave	High-Visibility Crosswalk		4		\$4,800
El Camino Real at 4th Ave	Leading pedestrian interval		4		\$4,000
El Camino Real at 4th Ave	Pedestrian refuge		4		\$120,000
El Camino Real at 4th Ave	Signal Timing		4		\$4,000
<b>El Camino Real at Baldwin Ave</b>					
El Camino Real at Baldwin Ave	Curb Extension with Stop		2		\$50,400

Location	Type	Limits	Quantity	Unit	Cost Estimate
Bar					
El Camino Real at Baldwin Ave	High-Visibility Crosswalk		4		\$4,800
<b>El Camino Real at Baldwin Ave/Baywood Ave</b>					
El Camino Real at Baldwin Ave/Baywood Ave	Signal Timing		1		\$1,000
<b>El Camino Real at Barneson Ave</b>					
El Camino Real at Barneson Ave	High-Visibility Crosswalk		3		\$3,600
El Camino Real at Barneson Ave	Signal Timing		3		\$3,000
<b>El Camino Real at Bellevue Ave</b>					
El Camino Real at Bellevue Ave	Signal Timing		4		\$4,000
<b>El Camino Real at Bovet Rd</b>					
El Camino Real at Bovet Rd	High-Visibility Crosswalk		1		\$1,200
<b>El Camino Real at Crystal Springs Rd</b>					
El Camino Real at Crystal Springs Rd	High-Visibility Crosswalk		2		\$2,400
<b>El Camino Real at Hillsdale Blvd</b>					
El Camino Real at Hillsdale Blvd	High-Visibility Crosswalk		6		\$7,200
<b>El Camino Real at Hobart Ave</b>					
El Camino Real at Hobart Ave	High-Visibility Crosswalk		4		\$4,800
<b>El Camino Real at Peninsula</b>					
El Camino Real at Peninsula	Signal Timing		4		\$4,000
<b>El Camino Real at Poplar Ave</b>					
El Camino Real at Poplar Ave	Signal Timing		4		\$4,000
<b>El Camino Real at Seville Wy</b>					
El Camino Real at Seville Wy	High-Visibility Crosswalk		1		\$1,200
<b>El Camino Real at Tilton Ave</b>					
El Camino Real at Tilton Ave	Curb Extension with Stop Bar		4		\$100,800
El Camino Real at Tilton Ave	Signal Timing		4		\$4,000
<b>El Camino Real at Hwy 92 Off-ramps</b>					
El Camino Real at Hwy 92 Off-ramp	High-Visibility Crosswalk		8		\$9,600
El Camino Real Hwy 92 Off-ramp	Signage		4		\$1,200
El Camino Real Hwy 92 Off-ramp	Pedestrian Scale Lighting		32		\$288,000
<b>El Dorado St at 3rd Ave</b>					
El Dorado St at 3rd Ave	High-Visibility Crosswalk		2		\$2,400
<b>El Dorado St at 4th Ave</b>					
El Dorado St at 4th Ave	High-Visibility Crosswalk		2		\$2,400
<b>Ellsworth Ave</b>					
Ellsworth Ave	Pedestrian Scale Lighting	Baldwin Ave to 5th Ave	0.31	Miles	\$684,600
<b>Ellsworth Ave at 1st Ave</b>					
Ellsworth Ave at 1st Ave	High-Visibility Crosswalk		3		\$3,600
<b>Ellsworth Ave at 2nd Ave</b>					
Ellsworth Ave at 2nd Ave	High-Visibility Crosswalk		4		\$4,800
<b>Ellsworth Ave at 3rd Ave</b>					
Ellsworth Ave at 3rd Ave	High-Visibility Crosswalk		4		\$4,800

## Appendix G | Summary Recommendations

Location	Type	Limits	Quantity	Unit	Cost Estimate
<b>Ellsworth Ave at 4th Ave</b>					
Ellsworth Ave at 4th Ave	High-Visibility Crosswalk		4		\$4,800
<b>Ellsworth Ave at 5th Ave</b>					
Ellsworth Ave at 5th Ave	High-Visibility Crosswalk		2		\$2,400
<b>Ellsworth Ave at Baldwin Ave</b>					
Ellsworth Ave at Baldwin Ave	High-Visibility Crosswalk		4		\$4,800
<b>Ensenada Wy at Falda Ave</b>					
Ensenada Wy at Falda Ave	High-Visibility Crosswalk		1		\$1,200
<b>Ensenada Wy at Parkside Wy</b>					
Ensenada Wy at Parkside Wy	High-Visibility Crosswalk		1		\$1,200
<b>Fairfax Ave</b>					
Fairfax Ave	Pedestrian Scale Lighting	Alameda de las Pulgas, continuing on Franklin to D	0.60	Miles	\$1,299,700
<b>Fashion Island Blvd</b>					
Fashion Island Blvd	Pedestrian Scale Lighting	Norfolk St to Mariners Island Blvd	0.36	Miles	\$778,500
<b>Fashion Island Blvd at Hwy 101</b>					
Fashion Island Blvd at Hwy 101	Signal Timing		4		\$4,000
<b>Fernwood St</b>					
Fernwood St	Sidewalk Installation	Hillsdale Blvd to Kingridge Dr	0.14	Miles	\$74,400
<b>Flores St at 25th Ave</b>					
Flores St at 25th Ave	High-Visibility Crosswalk		4		\$4,800
<b>Flores St at 27th Ave</b>					
Flores St at 27th Ave	High-Visibility Crosswalk		4		\$4,800
<b>Flores St at 28th Ave</b>					
Flores St at 28th Ave	High-Visibility Crosswalk		2		\$2,400
<b>Franklin Dr at Saratoga Dr</b>					
Franklin Dr at Saratoga Dr	High-Visibility Crosswalk		1		\$1,200
Franklin Dr at Saratoga Dr	Signal phase study		1		\$15,000
<b>Franklin Path</b>					
Franklin Path	Class I Path	Pacific Boulevard to Hillsdale Boulevard	0.17	Miles	\$106,100
<b>Fremont St at 2nd Ave</b>					
Fremont St at 2nd Ave	Curb Extension		4		\$100,000
Fremont St at 2nd Ave	Curb Extension		4		\$100,000
Fremont St at 2nd Ave	Directional curb ramp		2		\$8,000
<b>Fremont St at 3rd Ave</b>					
Fremont St at 3rd Ave	Curb Extension		4		\$100,000
Fremont St at 3rd Ave	High-Visibility Crosswalk		3		\$3,600
Fremont St at 3rd Ave	Median		2		\$60,000
Fremont St at 3rd Ave	Stripe Standard Crosswalk		1		\$1,000
Fremont St at 3rd Ave	Stripe Standard Crosswalk		2		\$2,000
<b>Fremont St at 4th Ave</b>					
Fremont St at 4th Ave	High-Visibility Crosswalk		3		\$3,600
<b>Fremont St at Lawrence Rd</b>					



Location	Type	Limits	Quantity	Unit	Cost Estimate
Fremont St at Lawrence Rd	High-Visibility Crosswalk		1		\$1,200
<b>Fremont St at Monte Diablo Ave</b>					
Fremont St at Monte Diablo Ave	Curb Extension with Stop Bar		1		\$25,200
Fremont St at Monte Diablo Ave	High-Visibility Crosswalk		1		\$1,200
Fremont St at Monte Diablo Ave	High-Visibility Crosswalk		0.01	Miles	\$0
<b>Garfield St at 27th Ave</b>					
Garfield St at 27th Ave	High-Visibility Crosswalk		4		\$4,800
<b>Garfield St at 28th Ave</b>					
Garfield St at 28th Ave	High-Visibility Crosswalk		3		\$3,600
<b>Georgetown Ave at Alameda De Las Pulgas</b>					
Georgetown Ave at Alameda De Las Pulgas	School Zone Crosswalk		1		\$1,200
<b>Grant St</b>					
Grant St	Pedestrian Scale Lighting	3rd Ave to Bermuda Dr	1.58	Miles	\$3,437,400
<b>Grant St at 3rd Ave</b>					
Grant St at 3rd Ave	High-Visibility Crosswalk		4		\$4,800
<b>Hacienda St</b>					
Hacienda St	Pedestrian Scale Lighting	36th Ave to 37th Ave	0.09	Miles	\$187,100
Hacienda St	Pedestrian Scale Lighting	39th Ave to 22nd Ave	1.24	Miles	\$2,702,200
Hacienda St	Sidewalk Installation	31st Ave to Louise Ln	0.13	Miles	\$72,200
<b>Hacienda St at 25th Ave</b>					
Hacienda St at 25th Ave	High-Visibility Crosswalk		3		\$3,600
<b>Hacienda St at 26th Ave</b>					
Hacienda St at 26th Ave	High-Visibility Crosswalk		1		\$1,200
<b>Hacienda St at 27th Ave</b>					
Hacienda St at 27th Ave	High-Visibility Crosswalk		4		\$4,800
<b>Hacienda St at 28th Ave</b>					
Hacienda St at 28th Ave	High-Visibility Crosswalk		4		\$4,800
<b>Hacienda St at Briar Ln</b>					
Hacienda St at Briar Ln	Curb Extension with Stop Bar		1		\$25,200
<b>Hayward Ave</b>					
Hayward Ave	Pedestrian Scale Lighting	El Camino Real to Palm Ave	0.12	Miles	\$252,300
<b>Hayward Park Caltrain Path</b>					
Hayward Park Caltrain Path	Pedestrian Path	Concar Dr to Caltrain crossing	0.05	Miles	\$64,200
Hayward Park Caltrain Path	Pedestrian Scale Lighting	Concar Dr to Caltrain crossing	7		\$63,000
Hayward Park Caltrain Path	Curb ramps		2		\$8,000
Hayward Park Caltrain Path	Landscaping				\$320,000
Hayward Park Caltrain Path	Wayfinding				\$300
<b>Hillsdale Blvd</b>					
Hillsdale Blvd	Pedestrian Scale Lighting	Alameda de las Pulgas to Hillsdale	1.14	Miles	\$2,487,100

## Appendix G | Summary Recommendations

Location	Type	Limits	Quantity	Unit	Cost Estimate
Hillsdale Blvd					
Hillsdale Blvd	Pedestrian Scale Lighting	Split to Saratoga Dr	0.06	Miles	\$120,600
Hillsdale Blvd	Pedestrian Scale Lighting	Alameda del las Pulgas to Campus Dr	1.27	Miles	\$2,776,700
<b>Hillsdale Blvd at Clearview Wy</b>					
Hillsdale Blvd at Clearview Wy	Signal Timing		4		\$4,000
<b>Hillsdale Blvd at Hwy 101 Off Ramp</b>					
Hillsdale Blvd at Hwy 101 Off Ramp	Signal Timing		7		\$7,000
<b>Hillsdale Blvd at Norfolk St</b>					
Hillsdale Blvd at Norfolk St	Signal Timing		4		\$4,000
<b>Humboldt St</b>					
Humboldt St	Pedestrian Scale Lighting	Peninsula Ave to 5th Ave	1.32	Miles	\$2,870,800
<b>Humboldt St at 3rd Ave</b>					
Humboldt St at 3rd Ave	High-Visibility Crosswalk		3		\$3,600
<b>Humboldt St at 4th Ave</b>					
Humboldt St at 4th Ave	High-Visibility Crosswalk		4		\$4,800
<b>Hwy 92 Eastbound Pm-Ramp at Alameda De Las Pulgas</b>					
Hwy 92 Eastbound Pm-Ramp at Alameda De Las Pulgas	Signal Timing		3		\$3,000
<b>Isabelle Ave at 27th Ave</b>					
Isabelle Ave at 27th Ave	High-Visibility Crosswalk		4		\$4,800
<b>J Hart Clinton Dr/ 3rd Ave at Norfolk St</b>					
J Hart Clinton Dr/ 3rd Ave at Norfolk St	Signal Timing		4		\$4,000
<b>J. Hart Clinton Dr at Norfolk St</b>					
J. Hart Clinton Dr at Norfolk St	High-Visibility Crosswalk		4		\$4,800
<b>Kentucky Ave at Alameda De Las Pulgas</b>					
Kentucky Ave at Alameda De Las Pulgas	Signal Timing		3		\$3,000
<b>Laguna Vista Path</b>					
Laguna Vista Path	Class I Path	Los Prados to Laguna Vista	0.10	Miles	\$66,400
<b>Laurel Ave</b>					
Laurel Ave	Pedestrian Scale Lighting	5th Ave to 9th Ave	0.23	Miles	\$495,900
<b>Laurel Ave at 5th Ave</b>					
Laurel Ave at 5th Ave	High-Visibility Crosswalk		2		\$2,400
<b>Laurel Ave at 8th Ave</b>					
Laurel Ave at 8th Ave	High-Visibility Crosswalk		1		\$1,200
<b>Maple St</b>					
Maple St	Pedestrian Scale Lighting	5th Ave to Borel Ave	0.83	Miles	\$1,811,800
<b>Mariners Island Blvd</b>					
Mariners Island Blvd	Pedestrian Scale Lighting	Reef Dr to Fashion Island Blvd	0.79	Miles	\$1,730,700
<b>Monte Diablo Ave</b>					
Monte Diablo Ave	Pedestrian Scale Lighting	El Camino Real to Bay	1.30	Miles	\$2,827,800

Location	Type	Limits	Quantity	Unit	Cost Estimate
Landing					
<b>Monte Diablo Ave at Delaware St</b>					
Monte Diablo Ave at Delaware St	Curb Extension with Stop Bar		4		\$100,800
<b>Nash Dr at Cottage Grove Ave</b>					
Nash Dr at Cottage Grove Ave	School Zone Crosswalk		1		\$1,200
<b>Nevada Ave at Alameda De Las Pulgas</b>					
Nevada Ave at Alameda De Las Pulgas	Signal Timing		4		\$4,000
<b>Norfolk St</b>					
Norfolk St	Pedestrian Scale Lighting	J Hart Clinton/3rd Ave to Hillsdale Blvd	2.37	Miles	\$5,152,100
Norfolk St	Pedestrian Scale Lighting	Huron Ave to 3rd Ave/J Hart Clinton Dr	0.38	Miles	\$836,900
<b>Orinda Dr at Del Rosa Wy</b>					
Orinda Dr at Del Rosa Wy	School Zone Crosswalk		2		\$2,400
<b>Pacific Boulevard at 19<sup>th</sup> Avenue</b>					
Pacific Boulevard at 19 <sup>th</sup> Avenue	High-Visibility Crosswalk		2		\$2,400
<b>Pacific Blvd at 39th Ave</b>					
Pacific Blvd at 39th Ave	High-Visibility Crosswalk		1		\$1,200
<b>Pacific Blvd at 40th Ave</b>					
Pacific Blvd at 40th Ave	High-Visibility Crosswalk		1		\$1,200
<b>Pacific Blvd at 41st Ave</b>					
Pacific Blvd at 41st Ave	High-Visibility Crosswalk		1		\$1,200
<b>Pacific Boulevard</b>					
Pacific Boulevard	Pedestrian Scale Lighting	19th Ave to New Development	0.18	Miles	\$402,400
Pacific Boulevard	Sidewalk Installation	19th Ave to Caltrain	0.18	Miles	\$18,400
<b>Palm Ave</b>					
Palm Ave	Pedestrian Scale Lighting	9th Ave to 25th Ave	1.35	Miles	\$2,947,000
<b>Palm Ave at 12th Ave</b>					
Palm Ave at 12th Ave	High-Visibility Crosswalk		1		\$1,200
<b>Palm Ave at 15th Ave</b>					
Palm Ave at 15th Ave	High-Visibility Crosswalk		1		\$1,200
<b>Palm Ave at 17th Ave</b>					
Palm Ave at 17th Ave	High-Visibility Crosswalk		4		\$4,800
<b>Palm Ave at Hayward Ave</b>					
Palm Ave at Hayward Ave	High-Visibility Crosswalk		1		\$1,200
<b>Palm Ave at South Blvd</b>					
Palm Ave at South Blvd	High-Visibility Crosswalk		2		\$2,400
<b>Parrott Dr</b>					
Parrott Dr	Planting	3rd Ave Intersection	300.00	s.f.	\$6,000
<b>Patricia Ave at James Ct</b>					
Patricia Ave at James Ct	High-Visibility Crosswalk		1		\$1,200
<b>Peninsula Ave</b>					

## Appendix G | Summary Recommendations

Location	Type	Limits	Quantity	Unit	Cost Estimate
Peninsula Ave	Pedestrian Scale Lighting	El Camino Real to Humboldt St	0.88	Miles	\$1,925,400
Peninsula Ave	Pedestrian Scale Lighting	Humboldt St east	0.53	Miles	\$1,160,800
<b>Peninsula Ave at Prospect Row</b>					
Peninsula Ave at Prospect Row	High-Visibility Crosswalk		3		\$3,600
<b>Poinsettia Ave</b>					
Poinsettia Ave	Pedestrian Scale Lighting	Saratoga Dr to Branson Dr	0.20	Miles	\$433,800
<b>Poplar Ave</b>					
Poplar Ave	Pedestrian Scale Lighting	El Camino Real to Humboldt St	0.80	Miles	\$1,739,800
<b>Poplar Ave at Delaware St</b>					
Poplar Ave at Delaware St	Signal Timing		4		\$4,000
<b>Poplar Ave at Humboldt St</b>					
Poplar Ave at Humboldt St	Signal Timing		4		\$4,000
<b>Poplar Ave at San Mateo Dr</b>					
Poplar Ave at San Mateo Dr	Signal Timing		4		\$4,000
<b>Railroad Ave</b>					
Railroad Ave	Pedestrian Scale Lighting	3rd Ave to 4th Ave	0.12	Miles	\$262,000
<b>Railroad Ave at 2nd Ave</b>					
Railroad Ave at 2nd Ave	High-Visibility Crosswalk		5		\$6,000
<b>Railroad Ave at 3rd Ave</b>					
Railroad Ave at 3rd Ave	High-Visibility Crosswalk		3		\$3,600
<b>Railroad Ave at 4th Ave</b>					
Railroad Ave at 4th Ave	High-Visibility Crosswalk		2		\$2,400
<b>Railroad Ave at 5th Ave</b>					
Railroad Ave at 5th Ave	High-Visibility Crosswalk		2		\$2,400
<b>Rosewood Dr at 9th Ave</b>					
Rosewood Dr at 9th Ave	High-Visibility Crosswalk		1		\$1,200
<b>S. Norfolk St at Parkside Plaza</b>					
S. Norfolk St at Parkside Plaza	Crossing Beacon		4		\$60,000
S. Norfolk St at Parkside Plaza	Lamp		2		\$18,000
S. Norfolk St at Parkside Plaza	Pedestrian refuge		1		\$30,000
. Norfolk St at Parkside Plaza	Advance yield lines		2		\$600
. Norfolk St at Parkside Plaza	Signage		2		\$600
. Norfolk St at Parkside Plaza	Bike lane				\$1,00
<b>San Mateo Dr</b>					
San Mateo Dr	Pedestrian Scale Lighting	Poplar Ave to 5th Ave	1.35	Miles	\$2,933,600
<b>San Mateo Dr at 2nd Ave</b>					
San Mateo Dr at 2nd Ave	Curb Extension with Stop Bar		4		\$100,800
San Mateo Dr at 2nd Ave	High-Visibility Crosswalk		4		\$4,800
San Mateo Dr at 2nd Ave	Planting		300	s.f.	\$6,000
San Mateo Dr at 2nd Ave	Railing		80		\$8,000
<b>San Mateo Dr at 4th Ave</b>					
San Mateo Dr at 4th Ave	High-Visibility Crosswalk		4		\$4,800
<b>San Mateo Dr at Baldwin Ave</b>					

Location	Type	Limits	Quantity	Unit	Cost Estimate
San Mateo Dr at Baldwin Ave	School Zone Crosswalk		4		\$4,800
<b>San Mateo Dr at Bellevue Ave</b>					
San Mateo Dr at Bellevue Ave	High-Visibility Crosswalk		2		\$2,400
<b>San Mateo Dr at Poplar Ave</b>					
San Mateo Dr at Poplar Ave	High-Visibility Crosswalk		4		\$4,800
<b>Saratoga Dr</b>					
Saratoga Dr	Pedestrian Scale Lighting	Hillsdale Blvd to Poinsettia Ave	0.06	Miles	\$127,900
Saratoga Dr	Pedestrian Scale Lighting	Franklin Dr to Delaware St	0.85	Miles	\$1,845,000
<b>Sonora Dr at Alameda De Las Pulgas</b>					
Sonora Dr at Alameda De Las Pulgas	School Zone Crosswalk		1		\$1,200
<b>St Matthews Ave at San Mateo Dr</b>					
St Matthews Ave at San Mateo Dr	High-Visibility Crosswalk		2		\$2,400
<b>Stratford Wy at 22nd Ave</b>					
Stratford Wy at 22nd Ave	School Zone Crosswalk		2		\$2,400
<b>Sugarloaf Mountain Path</b>					
Sugarloaf Mountain Path	Class I Path	Laurelwood Dr to Laurel Creek Rd	0.88	Miles	\$567,900
<b>Tilton Ave</b>					
Tilton Ave	Pedestrian Scale Lighting	El Camino Real to Rail	0.30	Miles	\$648,300
<b>Tilton Ave at B St</b>					
Tilton Ave at B St	Curb Extension with Stop Bar		1		\$25,200
Tilton Ave at B St	Lamp		2		\$6,200
<b>Tilton Ave at Ellsworth Ave</b>					
Tilton Ave at Ellsworth Ave	Advance stop bars		4		\$800
Tilton Ave at Ellsworth Ave	Curb Extension		4		\$100,000
Tilton Ave at Ellsworth Ave	High-Visibility Crosswalk		4		\$4,800
<b>Tilton Ave at San Mateo Dr</b>					
Tilton Ave at San Mateo Dr	High-Visibility Crosswalk		4		\$4,800
Tilton Ave at San Mateo Dr	Signal Timing		4		\$4,000
<b>W Hillsdale Blvd at Edison St</b>					
W Hillsdale Blvd at Edison St	Curb Extension with Stop Bar		4		\$100,800
<b>W Hillsdale Blvd Between Hacienda St and Edison St</b>					
W Hillsdale Blvd Between Hacienda St and Edison St	Midblock Crossing		1		\$2,400
<b>W. Hillsdale Boulevard at Hillside Garden Apartments</b>					
W. Hillsdale Boulevard at Hillside Garden Apartments	Crossing Beacon		2		\$30,000



## G.7. Encouragement

Everyone from young children to elderly residents can be encouraged to increase their rates of walking or to try walking instead of an alternative travel mode. Currently, San Mateo residents benefit from encouragement programs administered or funded by numerous organizations, including the Peninsula Traffic Congestion Relief Alliance (Alliance), City/County Association of Governments (C/CAG), San Mateo County Transportation Authority (SMCTA), Metropolitan Transportation Commission, the Bay Area Air Quality Management District, the California Office of Traffic and Safety, the County of San Mateo, and the City of San Mateo. The new and expanded encouragement programs should build on the successes of these programs and promote the role of walking in contributing positively to community life in San Mateo. The following additional programs are each designed to increase rates of walking in the City, increase safety for residents traveling by foot, and raise awareness of the benefits of walking. *Walk Score* is a relatively new online tool that measures the “walkability” of an area. Walkscore approximates the frequency of amenities that are within walking distance within an examined region.

As **Table G-10** shows, San Mateo’s walkscore is very high compared to other Bay Area cities. This is indicative a very high concentration of amenities and destinations that are highly accessible to pedestrians.

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*Physical inactivity costs California \$13.3 billion per year in medical care, workers’ compensation and lost productivity. Employers shoulder most of the burden. If California’s residents improved their physical activity and lose weight by 5 percent over the next 5 years, it will save more than \$1.3 billion per year.*

*David Chenworth for the Cancer Section and Nutrition Section of the California Department of Health Services. 2005. “The Economic Costs of Physical Activity, Obesity and Overweight in California Adults During the Year 2000: A Technical Analysis.” p. 27-29.*

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Table G-10: Bay Area Walk Scores

City	Walk Score
Oakland	68
<b>San Mateo</b>	<b>67</b>
Burlingame	67
Mountain View	66
Palo Alto	63
Redwood City	62
Belmont	59
San Bruno	58
San Jose	55
San Carlos	52
Foster City	52

### **G.7.1. Local Transportation Demand Management**

The Peninsula Traffic Congestion Relief Alliance (Alliance) is the transportation demand management agency for San Mateo County. The Alliance is funded by the City/County Association of Governments, San Mateo County Transportation Authority, Metropolitan Transportation Commission and the Bay Area Air Quality Management District. The Alliance administers a range of programs that work to reduce the number of single-occupancy drivers and commuters, including a step-by-step guide to commute planning and as well as a pedestrian safety program ([www.commute.org](http://www.commute.org)).

#### **Recommendation**

The City of San Mateo should support the Alliance's pedestrian related programs.

### **G.7.2. Safe Routes to School Program**

A Safe Routes to School (SRTS) program can be an effective way to increase the number of students walking to and from local schools. SRTS programs generally try to increase rate of walking by funding infrastructure projects that remove the barriers that currently prevent students from doing so and adding encouragement and education programs to support these efforts. SRTS programs are usually run by a coalition of city government, school and school district officials, teachers, parents, students, and neighbors.

There are two separate Safe Routes to School grant programs administered by Caltrans: the State-legislated program referred to as SR2S and the federal program referred to as SRTS. The SRTS program includes grant funding for education and encouragement programs for kindergarten through eighth grade.

#### **Recommendation**

The City does not currently have a SRTS program and this Plan recommends the City work with the San Mateo – Foster City School District to institute a Safe Routes to School program.

### **G.7.3. Safe Routes to Transit Program**

Walking and transit are complementary modes that together can provide transportation for a significant number of commuters, students, shoppers, and other travelers. The purpose of a Safe Routes to Transit (SR2T) program would be to evaluate existing pedestrian conditions near Caltrain stations and bus and shuttle stops and to recommend ways to improve the safety and convenience of walking to transit.

The program is funded by Regional Measure 2, and is administered by TransForm and the East Bay Bicycle Coalition. Four million will be available for the nine-county Bay Area region for programming in Cycle IV (2011) to facilitate walking and bicycling to regional transit.

#### **Recommendation**

The City does not currently have a SR2T program. This Plan recommends the City work with Caltrain, SamTrans and San Mateo County to institute a SR2T program.

### **G.7.4. International Walk to School Day**

International Walk to School Day was created to increase awareness of the need for communities to be walkable but has since evolved into a large-scale international event encouraging safe walking to school. The day is held annually and is next planned for October 5th, 2011([www.walktoschool.org](http://www.walktoschool.org)). In 2010, Beresford Elementary School participated in International Walk to School Day and created four walking bus routes to

celebrate. In addition, Baywood Elementary School held an extravaganza with a D.J. and snacks for its student walkers on this day.

**Recommendation**

This Plan recommends the City work with the San Mateo – Foster City School District to expand International Walk to School Day events.

**G.7.5. Streets Alive San Mateo County**

Streets Alive is a county-wide program to encourage people to be active on streets in their own communities. The goal of the program is to transform San Mateo County to make everyday active transportation easy for everyone. Streets Alive is made possible through the cooperative effort of each participating city's staff and volunteers including the City of San Mateo.



Streets Alive San Mateo County is an annual event promoting healthy outdoor activity

**Recommendation**

This Plan recommends the City of San Mateo continue to participate in the Streets Alive San Mateo County program.

**G.7.6. Walkable Community Events**

With its transit access and compact street network, Downtown San Mateo is an opportune site to host community walking events. One local example of a community walking event is the San Mateo Wine Walk, which the Downtown San Mateo Association, a non-profit organization representing more than 800 businesses in Downtown San Mateo, hosted from 1984 to 2009.

**Recommendation**

This Plan recommends the City work with the Downtown San Mateo Association to reinstate the San Mateo Wine Walk or a similarly walkable event in Downtown.

**G.7.7. Walk Friendly Community Designation**

Walk Friendly Communities (WFC) is a national recognition program developed to encourage towns and cities across the U.S. to establish or recommit to a high priority for supporting safer walking environments. The WFC program recognizes communities that have shown a commitment to improving walkability and pedestrian safety, mobility, access and comfort through comprehensive programs, plans and policies. Communities can apply to the program to receive recognition in the form of a Bronze, Silver, Gold, or Platinum designation. There is no cost to apply for a WFC designation although it is estimated to take approximately 20–60 hours of time to complete an application. Further information is available at [www.walkfriendly.org](http://www.walkfriendly.org). Questions about the program can be directed to [info@walkfriendly.org](mailto:info@walkfriendly.org). The WFC program is maintained by the University of North Carolina Highway Safety Research Center's Pedestrian and Bicycling Information Center, with support from a number of national partners.

**Recommendation**

This Plan recommends the City pursue a Walk Friendly Community designation.

### G.7.8. Encouraging Seniors Program

It is anticipated that by 2017, over 35 percent of San Mateo's population will be age 50 or over. Seniors have a clear need for safe pedestrian environments that are designed with consideration of their rates of movement, sight, and reaction time. Opportunities exist to create programs for seniors that encourage them to start or increase their walking. An example of a successful program is *Sound Steps* operated by the Seattle Parks and Recreation Department. They created a volunteer-supported walking program for adults age 50 and up: [www.seattle.gov/parks/seniors/SoundSteps.htm](http://www.seattle.gov/parks/seniors/SoundSteps.htm). It is a free, year-round community-based walking program designed to get older adults active and provides connections to other walkers, tools to measure progress, a number of weekly walks from various locations, monthly hikes, and training for longer walking events.

Another example is City of Sacramento Parks and Recreation Department 50+ Wellness Program ([www.cityofsacramento.org/parksandrecreation/ohs/50+.htm](http://www.cityofsacramento.org/parksandrecreation/ohs/50+.htm)) that encourages walking for health. It includes the Neighborhood Walk program which organizes walking groups in locations where the participants live, removing the need for transportation to and from the activity and strengthening community. The concept of walking in a group also encourages older residents who might otherwise not walk either because of safety concerns or lack of motivation.

Another way to address the needs of seniors is to start a Safe Routes for Seniors program. Seniors often experience limitations in mobility as they age, and are often left out of recreation programs. A Senior Strolls program will help seniors maintain physical fitness, improve health, and enjoy opportunities for social interaction. Senior Strolls can be organized as a walking and bicycling program that may include any of the following components:

- Group walks and/or bicycle rides
- Walk/bike maps at senior centers
- Senior participation in Safe Routes to Schools (e.g. crossing guard or Walking School Bus volunteer)
- Targeted infrastructure investments aimed at solving senior mobility problems
- Policy and traffic operations changes to assist seniors (such as LPI (leading pedestrian interval) and increasing walk cycle time)

Sample Programs:

- City of Seattle Sound Steps Program:  
<http://www.seattle.gov/parks/seniors/soundsteps.htm>
- City of Sacramento Parks and Recreation Department 50+ Wellness Program:  
[www.cityofsacramento.org/parksandrecreation/ohs/50+.htm](http://www.cityofsacramento.org/parksandrecreation/ohs/50+.htm)
- New York City DOT Safe Streets for Seniors Program:  
[www.nyc.gov/html/dot/html/sidewalks/safeseniors.shtml](http://www.nyc.gov/html/dot/html/sidewalks/safeseniors.shtml)

#### **Recommendation**

This Plan recommends the City develop an Encouraging Seniors Program.

### G.7.9. Pedestrian Advisory Committee

The City does not currently have a Pedestrian Advisory Committee. Such committees are typically composed of community members that advise the local government on pedestrian issues on an ongoing basis.

**Recommendation**

The City should consider forming a Pedestrian Advisory Committee as need arises. The committee would be made up of local residents representing a range of pedestrian interests and experiences and could meet monthly at a public facility.

The charges of the PAC may include some or all of the following:

- Review and provide citizen input on capital project planning and design as it affects walking (e.g., corridor plans, street improvement projects, signing or signal projects, and parking facilities)
- Review and comment on changes to zoning, development code, comprehensive plans, and other long-term planning and policy documents
- Participate in the development, implementation, and evaluation of Citywide Pedestrian Master Plan and pedestrian facility standards
- Provide a formal liaison between local government, staff, and the public
- Develop and monitor goals and benchmarks related to walking
- Promote walking, including safety and education
- Because PAC members are volunteers, it is essential to have strong staffing supporting the committee in order for it to be successful.

The committee should be created through an enacting City Council resolution that calls it into being and defines the committee's charge, responsibilities, member composition, how members are chosen/appointed, what the decision making structure is, and how often the committee meets.

**G.7.10. Volunteer Source**

Volunteers play a key role in the successful operation and maintenance of pedestrian facilities and can get involved in several ways. Formalized maintenance agreements, such as adopt-a-trail programs, between the City and local businesses or organizations can improve the conditions of local facilities. Work parties may be formed to help clear the right-of-way where needed. Local schools or community groups, such as a scout group, may choose to adopt a facility project. Advantages of utilizing volunteers include increased community pride and personal connections to the City's pedestrian networks. The City's Volunteer Source program connects residents with opportunities to improve San Mateo.



**Recommendation**

The City should continue its Volunteer Source Program and consider using it to organize volunteers for light sidewalk and trail maintenance, such as garbage collection, pruning; conducting annual pedestrian counts; and identifying larger improvement opportunities.



**G.7.11. Pedestrian Coordinator**

A pedestrian coordinator works with local elected officials, public officials, business leaders, media, law enforcement, health officials, transit providers and the general public to build partnerships providing leadership and vision so these groups may embrace and implement facilities and programs that increase the number of residents safely bicycling and walking. The pedestrian coordinator can provide clarity of vision and a clear plan for how to proceed in the community. They can also assist with the encouragement aspects of the pedestrian program. Many new programs may require community outreach or coordination with existing agencies or businesses and may benefit from having a full- or part-time staff person dedicated to implementing the community vision.

***Recommendation***

This Plan recommends the City designate a Pedestrian Coordinator position.

**G.7.12. Positive Publicity and Media**

Local media have a high level of interest in stories related to public welfare, community successes and pedestrian safety. There are many opportunities for local agencies to gain publicity for pedestrian-related programs and safety issues. Developing and maintaining relationships with local media outlets can assist with publicizing pedestrian encouragement and safety programs. The media can be alerted to pedestrian-related efforts through press releases and invitations to staged publicity-related events. Positive stories such as ribbon cuttings or community walking events can encourage residents to participate as well as increase awareness and support for on-going efforts. Such local outlets as the San Mateo Patch can actively report on what is happening in the community (<http://sanmateo.patch.com/>).

***Recommendation***

This Plan recommends the City pursue publicity for pedestrian encouragement and safety programs.

## **G.8. Education**

Education programs are important for teaching safety rules and laws as well as increasing awareness regarding walking opportunities and existing facilities. Education programs may need to be designed to reach groups at varying levels of knowledge and there may be many different audiences: pre-school age children, elementary school students, teenage and college students, workers and commuters, families, retirees, the elderly, new immigrants and non-English speakers. Education plays a key role for all these groups in reducing risk and the number of crashes involving pedestrians.

### **G.8.1. Traffic Safety Campaign**

On a citywide scale, the City could start a StreetSmarts media campaign, similar to those in San Jose, Marin County, Davis and other California cities. Developed by the City of San Jose, StreetSmarts uses print media, radio spots and television spots to educate people about safe driving, bicycling, skateboarding and walking behavior. More information about StreetSmarts can be found at [www.getstreetsmarts.org](http://www.getstreetsmarts.org).

Local resources for conducting a StreetsSmarts campaign can be maximized by assembling a group of local experts, law enforcement officers, businesspeople, civic leaders and dedicated community volunteers. These allies could assist with a successful safety campaign goals based on the local concerns and issues. It may be necessary to develop creative strategies for successful media placement in order to achieve campaign goals.

The Federal Highway Administration provides a resource on their website detailing the elements required to conduct a successful local safety campaign ([http://safety.fhwa.dot.gov/local\\_rural/pedcampaign/guide.htm#2](http://safety.fhwa.dot.gov/local_rural/pedcampaign/guide.htm#2)).

#### ***Recommendation***

This Plan recommends the City consider implementation of a traffic safety program such as StreetsSmarts.

### **G.8.2. Pedestrian Safety Workshops**

San Mateo's top ten employers employ more than 11,000 people. These employees constitute a large number of potential pedestrians. The Peninsula Traffic Congestion Relief Alliance (Alliance) offers employers free one-hour pedestrian safety workshops at their business. The workshop includes information encouraging walking as a safe, stress-relieving commute mode, as well as instruction about traffic laws for pedestrians and other road users. Additional information including how to request a workshop is available at [www.commute.org](http://www.commute.org).

#### ***Recommendation***

This Plan recommends the City work the Alliance to host pedestrian safety workshops at City Hall and encourage additional workshops in San Mateo.

### **G.8.3. Pedestrian Resource Website**

A valuable local low-cost tool can be the creation of a Pedestrian Resource Center website. The site can include a variety of resources and information about walking for all ages and levels of expertise. Topics can include safety issues, important laws and policies, how to incorporate walking into trips to work or school, places to walk, special events, as well as walking trail maps. Maps are a tremendously useful resource for people who want to give walking a try.

With the increasing popularity of handheld mobile devices such as smart phones, the opportunity to create a multimodal trip planner could make it simpler to provide walking directions. Such tools as Google maps allow local pedestrian trip planning and provide detailed information through *Streetview*

(<http://maps.google.com/help/maps/streetview/>).

There are a number of free web resources that have been developed to support local agencies in their efforts to increase walking in their communities and may be considered as links on a resource website. These sites provide on-going information about new findings and model programs as well as free webinars on a range of issues:

- Pedestrian and Bicycling Information Center [www.walkinginfo.org](http://www.walkinginfo.org)
- Safe Routes National Partnership [www.saferoutespartnership.org](http://www.saferoutespartnership.org)
- Federal Highway Pedestrian & Bicycle Safety [http://safety.fhwa.dot.gov/ped\\_bike](http://safety.fhwa.dot.gov/ped_bike)
- Association of Pedestrian and Bicycling Professionals [www.apbp.org](http://www.apbp.org)
- American Public Health Association [www.apha.org](http://www.apha.org)

#### **Recommendation**

This Plan recommends the City create a Pedestrian Resource Center website.

### **G.8.4. Diversion Classes**

Diversion classes are classes offered to first-time offenders of certain traffic violations, such as running a stoplight. The classes can be aimed at pedestrians, bicyclists, and/or motorists. In lieu of a citation and/or fine, individuals can take a one-time, free or inexpensive class. For example, in Marin County ([www.marinbike.org/Campaigns/ShareTheRoad/Index.shtml#StreetSkills](http://www.marinbike.org/Campaigns/ShareTheRoad/Index.shtml#StreetSkills)), interested citizens can take the class even if they did not receive a ticket.

This program is a good way to educate road users about rights and responsibilities, and can also increase public acceptance of enforcement actions against pedestrians.

#### **Recommendation**

This Plan recommends the City consider offering diversion classes for first-time offenders of minor traffic violations.

### **G.8.5. City Walking Map**

City Walking Maps can help to make pedestrians more aware of existing opportunities and facilities for walking within the City of San Mateo.

#### **Recommendation**

The Plan recommends the City provide a walking map that includes major destinations, trails, major hills, and approximate walking times between locations. The map could be made available on the City website and offered for sale in local retail stores.

## **G.9.Enforcement**

Enforcement programs enforce legal and respectful use of the transportation network. The pedestrian safety analysis and community identified needs indicate enforcement programs will help educate both motorists and pedestrians about the rules and responsibilities of the road.

The following outlines recommended enforcement programs.

### **G.9.1. Traffic Enforcement**

The City of San Mateo Police Department is responsible for enforcing the California Vehicle Code. This includes ticketing for red light violations, jaywalking, and other activities that potentially impact pedestrian safety. In addition to vehicular patrols, the Police Department deploys up to two bicycle patrol officers in the Downtown area on an as needed basis which increase the officer mobility in dense areas.

#### ***Recommendation***

This Plan recommends the City continue its traffic enforcement programs.

### **G.9.2. Targeted Police Enforcement**

Targeted enforcement consists of focused efforts of police officers to enforce traffic laws in specific locations with a history of traffic violations. Enforcement campaigns designed to increase yielding behavior can produce a marked and sustained improvements in driver behavior depending on the length of the campaign.

Partnering with the Police Department on targeting drivers that fail to yield to pedestrians can help to raise awareness of the law.

#### ***Recommendation***

This Plan recommends that the City coordinate with the Police Department to conduct targeted enforcement at locations known for noncompliance with traffic laws and at high conflict or high pedestrian collision areas.

### **G.9.3. Speed Feedback Signs**

Higher speed traffic discourages walking, making pedestrians feel uncomfortable. At higher speeds, motorists are less likely to see and react to a pedestrian, and even less likely to actually stop in time to avoid a crash. Higher speed crashes are also much more lethal to pedestrians. Speed feedback signs display the speed of passing motor vehicles, with the intent that motorists will slow down if they are made aware of their speed.

#### ***Recommendation***

This Plan recommends the Police Department and Public Works continue to operate mobile speed feedback signs.

#### **G.9.4. Parking Enforcement**

It is illegal to block the sidewalk or crosswalks with a motor vehicle. Vehicles parked on sidewalks or crosswalks impede pedestrian travel, particularly those who use wheelchairs and strollers, and force pedestrians to travel in the street to pass. In San Mateo, parking on the sidewalks is a particular issue because of rolled curbs in many areas which enable drivers to easily mount the curb.

##### ***Recommendation***

This Plan recommends the City increase its parking enforcement efforts. On a neighborhood level, distributing flyers letting offenders know that this practice is illegal may be enough of an education effort to solve the problem. In addition, residents can be encouraged to call local parking enforcement officials to request ticketing of repeat offenders.

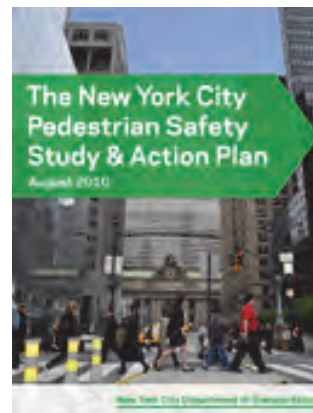


## G.10. Evaluation

Evaluation programs help the City measure how well it is meeting the goals of this Plan, the General Plan and the Sustainable Initiatives Plan and evaluation is a key component of any engineering or programmatic investment. It is also a useful way to communicate success with elected officials as well as local residents.

### G.10.1. Annual Pedestrian Counts and Survey Program

Evaluation programs measure and evaluate the impact of projects, policies, and programs. Data collected through these efforts can serve as a baseline each year and would be a key part of an annual performance report. Typical evaluation programs range from a simple year over year comparison of US Census Journey to Work data to pedestrian counts and community surveys. Pedestrian counts and community surveys act as methods to evaluate not only the impacts of specific pedestrian improvement projects but can also function as way to measure progress towards City goals such as increased pedestrian travel for trips one mile or less.



#### **Recommendation**

This Plan recommends an annual pedestrian related community survey and an annual pedestrian count program.

The New York City Mayor's Management Report tracks implementation of pedestrian improvements, collision data, and performance statistics

The community survey will allow San Mateo to be on the pulse of its pedestrian environment, knowing the top concerns as generated by community input. Before/after pedestrian counts provide invaluable evaluation information about pedestrian activity corresponding with physical improvements to the pedestrian environment. This data can show to what extent, physical improvements impact pedestrian behavior. Table G-II and Figure G-19 present the recommended count locations. Count locations are presented in two tiers. Tier 1 count locations are high priority locations and are near attractor land uses such as schools, commercial areas, and transit. Tier 2 locations are recommended as volunteers are available.

Goals outlined in the Sustainable Initiative Plan include increasing pedestrian and bicycle mode share for trips under one mile and five miles in length, respectively. The pedestrian and bicycle surveys conducted as part of this Plan and the Bicycle Master Plan can serve as benchmarks for measuring pedestrian and bicycle activity. The pedestrian and bicycle survey recommended as part of this Plan would help measure progress toward this goal as additional facility improvements and programs are carried out.

The City may also produce an annual report or 'report card' on walking. Annual reports developed from count and survey efforts can help the City measure its success toward the goals of this Plan as well rate the overall quality or effectiveness of the ongoing efforts to increase walking in the City. In addition to pedestrian counts, the City could include measurements such as crash rates (both on- and off-road), fatality and injury rates, and school walking mode share.

Table G-11: Recommended Annual Pedestrian Count Locations

ID	Location	Rationale
Tier 1		
	17 <sup>th</sup> Avenue at El Camino Real	This location is an important connector to retail, offices and the Hayward Park Caltrain Station.
	25 <sup>th</sup> Avenue at El Camino Real	This corridor is a neighborhood serving retail district, and is a connector to the Event Center and Bay Meadows.
	31 <sup>st</sup> Avenue at El Camino Real	This location is an important connector to regional retail and transit.
	37 <sup>th</sup> Avenue at Edison Street	This location is an important connector to transit and the County Medical Center.
	3 <sup>rd</sup> Avenue at Delaware Street	This location serves as an important gateway to Downtown.
	3 <sup>rd</sup> Avenue at El Camino Real	This location serves as an important gateway to Downtown.
	3 <sup>rd</sup> Avenue at Norfolk Street	This location is a well-traveled crossing over US 101. It connects eastern San Mateo with Downtown and has been identified as a potential area for improvement.
	4 <sup>th</sup> Avenue at El Camino Real	This location serves as an important gateway to Downtown.
	9 <sup>th</sup> Avenue at Palm Avenue	This location serves as an important gateway to Downtown.
	Alameda De Las Pulgas at West Hillsdale Boulevard	This intersection is adjacent to Hillsdale High School, Abbott Middle School and Laurel Elementary.
	Concar Drive at Delaware Street	This location is a connector to Caltrain and planned transit-oriented development.
	Franklin Parkway at Saratoga Drive	This location will serve as an important connection to the planned Hillsdale Overcrossing.
	Hillsdale Boulevard at El Camino Real	This location provides access to both the Hillsdale Shopping Center and to the Hillsdale Caltrain Station.
	Hillsdale Boulevard at Norfolk Street	This location is an important north-south connector and will serve as a connector to the planned Hillsdale Overcrossing.
	Kehoe Avenue at Van Buren Street	This is a connector to Bayside Middle School and the proposed Bay to Transit Trail.
	Monte Diablo Avenue US 101 Bicycle and Pedestrian Bridge	This is an important pedestrian and bicycle connection over US 101.
	Poplar Avenue at San Mateo Drive	This is an important connection between the residential areas to the west and commercial activities to the east.
	Portola Drive at Alameda de las Pulgas	This is a connector to Beresford Park and Recreation Center and the San Mateo Senior Center.
	Saratoga Avenue at Pacific Boulevard	This location will serve the Bay Meadows 2 development project.
	Tilton Avenue at San Mateo Drive	This location serves as an important gateway to Downtown.
Tier 2		
	25 <sup>th</sup> Avenue at Hacienda Street	This corridor is a neighborhood serving retail district, and is a connector to the Event Center and Bay Meadows.
	37 <sup>th</sup> Avenue at El Camino Real	This corridor is a neighborhood serving retail district and is a connector to the County Medical Center.
	37 <sup>th</sup> Avenue at Colegrove Street	This corridor is a neighborhood serving retail district and is a connector to the County Medical Center.
	41 <sup>st</sup> Avenue at El Camino Real and Beresford Street	This corridor is a neighborhood serving retail district.
	4 <sup>th</sup> Avenue at Humboldt Street	This location serves as an important gateway to Downtown.
	Downtown San Mateo Caltrain Station	This location was a part of the Bicycle Master Plan counts (which also counted pedestrian activity).
	Fashion Island Boulevard at Mariners Isl and Boulevard	This location is a key area of high density residential, commercial uses and retail.
	Hayward Park Caltrain Station	This location was a part of the Bicycle Master Plan counts (which also counted pedestrian activity).
	Hillsdale Caltrain Station	This location was a part of the Bicycle Master Plan counts (which also counted pedestrian activity).
	Laurie Meadows Drive at Pacific Boulevard	This location is an important connection from residential to retail.



