Town of Fairfax

PEDESTRIAN AND BICYCLE MASTER PLAN

February 2008 Update

Prepared by
Alta Planning + Design
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1. INTRODUCTION

The 2008 Fairfax Bicycle and Pedestrian Master Plan update provides for a town-wide network of bicycle paths, lanes and routes, along with bicycle-related programs and support facilities, intended to ensure bicycling becomes a viable transportation option for people who live, work and recreate in Fairfax. Current bikeway network information was gathered from meetings with the Fairfax Bicycle/Pedestrian Advisory Committee (BPAC) and Town staff, combined with information on proposed routes from the previously adopted Town of Fairfax Bicycle and Pedestrian Master Plan (2001). Relevant bikeway information was also gathered from the Marin County Unincorporated Area Bicycle and Pedestrian Master Plan (2001).

The purpose of this Bicycle and Pedestrian Master Plan is to improve bicycle and pedestrian transportation in Fairfax, in part by meeting the requirements of the California Bicycle-Transportation Act, which requirements are contained in Section 890 of the California Streets and Highways Code.

1.1. COMMUNITY PARTICIPATION

In the Spring of 1999, the Town Council of Fairfax created the first official Fairfax Bicycle and Pedestrian Advisory Committee (BPAC). In 2007 the BPAC was revived for the purpose of updating the Bicycle and Pedestrian Master Plan. The BPAC met four times from June to December of 2007 to discuss and complete updates to the 2001 Fairfax Bicycle and Pedestrian Master Plan. Meetings were noticed by Town Staff through distribution to the interested parties list of the Fairfax Bicycle/Pedestrian Advisory Committee. The meetings were agendized and properly noticed in accordance with the Brown Act and are open to the public. In addition, public input was received at three countywide public meetings, the Central Marin Countywide Bicycle and Pedestrian Master Plan Update Public Workshop (held Monday, November 13, 2006 at the San Rafael Community Center, San Rafael) and two Nonmotorized Transportation Pilot Program Public Workshops (held Thursday November 29, 2006 at the Embassy Suites Hotel, San Rafael and Monday March 12, 2007 at the San Rafael Community Center, San Rafael).

2. BICYCLE AND PEDESTRIAN MASTER PLAN GOALS & POLICIES

2.1. GOALS, OBJECTIVES, AND POLICY ACTIONS

GOALS

Goals provide the context for the specific objectives and policy actions discussed in the Bicycle and Pedestrian Master Plan. The goals provide the long-term vision and serve as the foundation of the
plan. Goals are broad statements of purpose that do not provide specific descriptions of the goal, while policy actions provide a bridge between general policies and actual implementation guidelines, which are provided in Section 5.

**GOAL 1 INCREASED BICYCLE AND PEDESTRIAN ACCESS**

Expand bicycle and pedestrian facilities and access in and between neighborhood areas, employment centers, shopping areas, schools, and recreational sites.

**GOAL 2 BICYCLE TRANSPORTATION**

Make the bicycle an integral part of daily life in Fairfax by implementing and maintaining a bikeway network, providing end-of-trip facilities, improving bicycle/transit integration, encouraging bicycle use, and making bicycling safer and more convenient.

**GOAL 3 PEDESTRIAN TRANSPORTATION**

Encourage walking as a daily form of transportation in Fairfax by completing a pedestrian network that services short trips and transit, improving the quality of the pedestrian environment, improving the health of all citizens, and increasing safety, convenience and access opportunities for all users.

**OBJECTIVES**

**OBJECTIVE A**

*Implement the Bicycle and Pedestrian Master Plan, which identifies existing and future needs, and provides specific recommendations for facilities and programs.*

**Objective A Policy Actions**

1. Update the Plan every five (5) years as required by Caltrans to reflect new policies and/or requirements for bicycle and pedestrian funding.

2. All Safe Routes to Schools travel plans should be reviewed by the Fairfax BPAC for consistency with the Fairfax Bicycle and Pedestrian Master Plan, with the authority to refer concerns to staff and council as necessary. Individual SR2S travel plans (or smaller plans packaged together) which involve a bid higher than $5,000 will be reviewed by the Town Council per current policy.

3. The Town of Fairfax will retain its BPAC to monitor implementation of this Bicycle and Pedestrian Master Plan, review roadway projects for bicycle and pedestrian needs, advise the town on the design of funded projects, ensure consistency with the update of the General Plan, and to assist with education and encouragement programs. The BPAC will also work with the Town on the next revision of the Bicycle and Pedestrian Master Plan which would take place by 2013.

4. Maximize coordination between government agencies, schools, and community organizations to address bicycle and pedestrian issues of mutual concern.

5. Seek funding for bikeway and pedestrian projects through current local, regional, state, and federal funding programs and encourage multi-jurisdictional funding applications.
OBJECTIVE B

Complete a continuous network of bikeways that are feasible, fundable, and that serve bicyclists’ needs, especially for travel to employment centers, schools, commercial districts, transit stations, and institutions.

Objective B Policy Actions

1. Implement high priority projects, such as the Center Boulevard Bicycle Lanes and Safe Routes to Schools improvements.
2. Prioritize closing gaps in the east-west bikeway, such as the Broadway Avenue to Sir Francis Drake Boulevard connection, and others.
3. Require construction of relevant planned bikeways as an integral part of any transportation facility maintenance or construction project.
4. Construct a network that encourages bicycling to and for recreational purposes.
5. Work with adjacent government agencies and local community groups to ensure a complete and continuous network across jurisdictional boundaries.
6. At a minimum, construct all bikeways according to Caltrans Chapter 1000 Design Guidelines.

OBJECTIVE C

Complete a network of walkways that serves pedestrian needs, especially for short trips to employment centers, schools, commercial districts, transit stations, and institutions.

Objective C Policy Actions

1. Complete missing connections to make direct routes for walking, especially connections between residential neighborhoods and the downtown area.
2. Work to build walkways along existing and potential pedestrian rights-of-way.
3. Identify and mitigate impediments and obstacles to walking to school.
4. For new development or redevelopment projects, require construction of planned pedestrian facilities.
5. Work with transit authorities to ensure that pedestrian concerns are addressed in the design of transit stops.
6. Provide opportunities for walking for recreational purposes.

OBJECTIVE D

Maintain and improve the quality, operation, and integrity of bikeway and walkway network facilities.

Objective D Policy Actions:

1. Undertake routine maintenance of bikeway and walkway network facilities, such as sweeping bicycle lanes and sidewalks and removing vegetation which impinges on bicycle or pedestrian rights-of-way and forces them into the vehicle lanes of the roadway.
2. Undertake regular periodic maintenance of bicycle and pedestrian facilities such as striping, signing and surface condition to avoid safety issues for users including integrating into the existing Public Works maintenance process a regular inspection of the road, pathway or sidewalk for cracks and potholes that might affect cyclists and pedestrians.

3. Ensure that repair or construction of any transportation facility minimizes disruption to the cycling and walking environment and that safe, direct alternate routes clear of vegetation, debris or other safety hazards are signed for bicycling and walking through or around construction zones for the duration of the project. The alternate route should be clearly signed and communicated prior to start of construction, with signs notifying motorists of the presence of bicycles and/or pedestrians in the area. All projects by outside agencies should be coordinated with the Town to ensure compliance with this policy.

4. Ensure that repair or construction of any transportation facility does not result in the permanent removal of an existing bicycle or pedestrian facility.

5. Ensure that the pedestrian walkway network is accessible to, and usable by, persons with disabilities as technically feasible, in compliance with ADA requirements.

6. Enforce existing Town ordinances to ensure pedestrian walkways are unobstructed by illegally parked cars.

**OBJECTIVE E**

*Provide short- and long-term bicycle parking and end-of-trip facilities in employment and commercial areas, in multifamily housing, at schools, and at transit facilities.*

**Objective E Policy Actions:**

1. Require bicycle parking spaces as part of new development or redevelopment projects.

2. Encourage the installation of short- and long-term bicycle parking in the public right-of-way in the Downtown area.

3. Work with local elementary, middle, and high schools to promote bicycle commuting and to assist in purchasing and siting long- and short-term bicycle parking.

4. Require the provision of bicycle parking at all Town-permitted large events to help ease traffic and parking.

5. Pursue the development of a “bicycle station” for use by recreational and transportation riders with showers, lockers and secure storage, to encourage visitors to remain in town and patronize local businesses.

**OBJECTIVE F**

*Develop and implement safety, education and encouragement plans aimed at youth, adult cyclists, pedestrians, and motorists.*

**Objective F Policy Actions**

1. Develop and expand adult and youth bicycle and pedestrian education, encouragement and safety programs, particularly Share the Road programs aimed at reducing cyclist-motorist conflicts (see Section Five).

2. Promote the health and environmental benefits of walking and bicycling.
2.2. PLANNING CONTEXT

The following section provides context for this plan update in terms of past and ongoing planning efforts related to bicycling and walking. Infrastructure projects mentioned here are addressed in more detail in Sections 5 and 6 of this plan.

COMPLIANCE WITH LOCAL PLANS

The 2007 Fairfax Bicycle and Pedestrian Master Plan is consistent with the 1989 Fairfax General Plan – Circulation Element, the 2001 Marin County Unincorporated Bicycle and Pedestrian Master Plan, and the Metropolitan Transportation Commission’s (MTC) 2001 Regional Bicycle and Pedestrian Plan for the San Francisco Bay Area.

SAFE ROUTES TO SCHOOLS INFRASTRUCTURE PLANS

The Town of Fairfax, in partnership with TAM’s SR2S Program, the Ross Valley SR2S Task force and local volunteers have secured Measure A Safe Pathways funding and Office of Traffic Safety funds for several school access projects:

- Glen Drive/Mitchell Drive at Sir Francis Drake Crosswalk Improvements: This project proposes to install high visibility crosswalk and additional school warning lights on Sir Francis Drake Boulevard and provide signage and striping on Glen Drive at Mitchell Drive.
- Manor Drive Sidewalk: This project will install 125 feet of sidewalk along the east side of Oak Manor Drive beginning at Sir Francis Drake Boulevard, providing a connection to the school campus.
- Oak Tree Lane Crosswalk and Enhancements: This project proposes to install a new crosswalk on Sir Francis Drake Boulevard at Oak Tree Lane, connecting to the new Manor Bridge. Originally planned to include in-pavement flashing crosswalk lighted, the crosswalk was redesigned to potentially include an actuated overhead flashing signal beacon similar to the crosswalk at St. Rita’s School.

NONMOTORIZED TRANSPORTATION PILOT PROGRAM

Marin County is one of four communities nationally that has been selected by Congress to participate in a Nonmotorized Transportation Pilot Program and receive $25 million for improvements for walking and bicycling to demonstrate the impact that walking and bicycling can have on transportation mode share. Several Fairfax projects have been funded by this program, including:

- Parkade Improvements Study ($25,000): This study proposes to examine the area surrounding the downtown Parkade area in Fairfax in terms of improving bicycle and pedestrian safety and circulation. The Fairfax BPAC has identified the segment of Sir Francis Drake Boulevard between Klaus and Pacheco as an important area for improvements for bicycling and walking.
- San Rafael-Fairfax Corridor Study ($150,000): This study proposes to examine the corridor between Fairfax and San Rafael, with the goal of identifying improvements for bicycling and walking between the communities of Fairfax, San Anselmo and San Rafael. As a part of the
bicycle plan update process, all updated plans along the corridor are being coordinated to “set the stage” for this study. The current Fairfax bicycle plan update contains a number of preliminary options for the connection to San Anselmo which would need to be examined in more detail through this process.

- Pastori Avenue Sidewalk Construction ($50,000): This project proposes to build new sidewalk and crosswalk improvements along the segment of Pastori Avenue between Center Boulevard and Sir Francis Drake to provide connections to the bus stop on Sir Francis Drake Boulevard.

- Sir Francis Drake Sidewalk Construction ($80,000): This project proposes to build new sidewalk along the south side of Sir Francis Drake Boulevard between Claus Drive and Olema Road, connecting to existing sidewalks west of Olema Road recently constructed as part of a Safe Routes to Schools project.

**STEPS, LANES AND PATHS**

Steps, Lanes and Paths is a project that a number of Marin communities have undertaken in order to address the need for pedestrian connections in areas that are not easily served by conventional sidewalk networks. Challenges such as limited right of way, steep grades and narrow roads have made it difficult to connect residential neighborhoods to the downtown areas in many Marin cities and towns. Fairfax Volunteers have begun a project to address this challenge by documenting unused existing and potential historic pedestrian rights-of-way in the town.

This important project would help the Town achieve one of its pedestrian objectives to connect neighborhoods more directly to the downtown area, but faces significant challenges. Many of the potential rights-of-way were established decades ago at the time of laying out the parcel property lines and were never officially adopted or maintained by the Town. The exact condition and legal status of some of the rights-of-way is not known and many of these rights-of-way may currently be in use by adjacent property owners who are not aware of their history or status. Adoption of these rights-of-way by the Town could constitute a significant maintenance burden and the issue of ADA access would have to be resolved. The Town, in partnership with local volunteers, would need to address these challenges as the project moves forward. Currently, as these rights-of-way connection both to the downtown area as well as to open space, they are being treated as recreational trails and not as transportation facilities. The Town hopes to resolve both ADA and liability issues through this recreational trail classification. Please see Appendix D for an inventory of these rights-of-way.

**CENTER BOULEVARD PROJECT**

The Town of Fairfax has received funding to rehabilitate the segment of Center Boulevard between Pastori Avenue and Pacheco Avenue. The project proposes a number of bicycle and pedestrian improvements such as new and wider sidewalks, curb extensions, new and improved crosswalks, driveway consolidation, repaving the roadway surface, bicycle lanes, intersection treatments for bicycle safety such as carrying the bicycle lane through the intersection and improved lighting.

**2.3. BTA COMPLIANCE CHECKLIST**

In order to meet the California Bicycle-Transportation Act requirements, the 2007 Fairfax Bicycle and Pedestrian Master Plan must include the following provisions:
Table 2-1
Fairfax BTA Compliance Checklist

<table>
<thead>
<tr>
<th>BTA 891.2</th>
<th>Required Plan Elements</th>
<th>Location Within the Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>The estimated number of existing bicycle commuters in the plan area and the estimated increase in the number of bicycle commuters resulting from implementation of the plan.</td>
<td>Table 4-1; page 22. Table 4-2; page 23.</td>
</tr>
<tr>
<td>(b)</td>
<td>A map and description of existing and proposed land use and settlement patterns which shall include, but not be limited to, locations of residential neighborhoods, schools, shopping centers, public buildings, and major employment centers.</td>
<td>Figure 4-1; page 21.</td>
</tr>
<tr>
<td>(c)</td>
<td>A map and description of existing and proposed bikeways.</td>
<td>Figure 3-1; page 9. Figure 5-1; page 33. Tables 3-1 through 3-4 pages 11 and 12. Tables 5-1, through 5-4; pages 25-28. Text, pages 7-13, 29 and 30.</td>
</tr>
<tr>
<td>(d)</td>
<td>A map and description of existing and proposed end-of-trip bicycle parking facilities. These shall include, but not be limited to, parking at schools, shopping centers, public buildings, and major employment centers.</td>
<td>Figure 3-1, page 9. Figure 5-1, page 33. Table 6-4, page 53. Text, pages 13 and 29 and 30.</td>
</tr>
<tr>
<td>(e)</td>
<td>A map and description of existing and proposed bicycle transport and parking facilities for connections with and use of other transportation modes. These shall include, but not be limited to, parking facilities at transit stops, rail and transit terminals.</td>
<td>Figure 3-1, page 9. Figure 5-1, page 33. Table 6-4, page 53. Text, pages 13 and 29.</td>
</tr>
<tr>
<td>(f)</td>
<td>A map and description of existing and proposed facilities for changing and storing clothes and equipment. These shall include, but not be limited to, locker, restroom, and shower facilities near bicycle parking facilities.</td>
<td>Figure 3-1, page 9. Figure 5-1, page 33. Text, pages 13, and 30.</td>
</tr>
<tr>
<td>(g)</td>
<td>A description of bicycle safety and education programs conducted in the area included within the plan, efforts by the law enforcement agency having primary traffic law enforcement responsibility in the area to enforce provisions of the Vehicle Code.</td>
<td>Text, pages 16-18.</td>
</tr>
<tr>
<td>(h)</td>
<td>A description of the extent of citizen and community involvement in development of the plan.</td>
<td>Text, page 1.</td>
</tr>
<tr>
<td>(i)</td>
<td>A description of how the bicycle transportation plan has been coordinated and is consistent with other local or regional transportation, air quality, or energy conservation plans.</td>
<td>Text, pages 4-7.</td>
</tr>
<tr>
<td>(j)</td>
<td>A description of the projects proposed in the plan and a listing of their priorities for implementation.</td>
<td>Text, pages 25-53.</td>
</tr>
<tr>
<td>(k)</td>
<td>A description of past expenditures for bicycle facilities and future financial needs for projects that improve safety and convenience for bicycle commuters in the plan area.</td>
<td>Table 3-5, page 15. Tables 6-1 through 6-5, pages 51-53.</td>
</tr>
</tbody>
</table>

3. EXISTING CONDITIONS

In the years since the adoption of the 2001 Fairfax Bicycle and Pedestrian Master Plan, significant progress has been made in improving conditions for bicycling and walking. This section of the plan describes the existing conditions in Fairfax in terms of bikeways, bicycle parking and pedestrian facilities as well as education, encouragement and enforcement activities.

The bicycle map which accompanies this Plan designates Fairfax’s bicycle facilities and those in adjacent unincorporated areas by Class I, II, or III in accordance with Chapter 1000 of the
California Department of Transportation, Highway Design Manual – Bikeway Planning and Design. Class I Bikeways serve the exclusive use of bicycles and pedestrians. Class II Bikeways serve as a designated space for bicycles to operate on established lanes on paved streets. Class III Bikeways serve bicycles on streets which serve as routes connecting Class I or Class II bikeways or where bicycle lanes or paths are not feasible.

### 3.1. EXISTING CONDITIONS FOR BICYCLING

#### DEFINITION OF BIKEWAYS

The three types of bikeways identified by Caltrans in Chapter 1000 of the Highway Design Manual are as follows.

**Class I Bikeway.** Typically called a “bike path,” a Class I bikeway provides bicycle travel on a paved right-of-way completely separated from any street or highway.

**Class II Bikeway.** Often referred to as a “bike lane,” a Class II bikeway provides a striped and stenciled lane for one-way travel on a street or highway.

**Class III Bikeway.** Generally referred to as a “bike route,” a Class III bikeway provides for shared use with motor vehicle traffic and is identified only by signing. Optional Shared Roadway Bicycle Marking pavement stencils are also available for use on Class III bikeways.

It is important to note that bicycles are permitted on all roads in the State of California and in Fairfax (with the exception of access-controlled freeways). As such, Fairfax’s entire street network is effectively the Town’s bicycle network, regardless of whether or not a bikeway stripe, stencil, or sign is present on a given street. The designation of certain roads as Class II or III bicycle facilities is not intended to imply that these are the only roadways intended for bicycle use. Rather, the designation of a network of Class II and III on-street bikeways recognizes that certain roadways are optimal bicycle routes, for reasons such as directness or access to significant destinations, and allows the Town of Fairfax to then focus resources on building out this primary network. Fairfax’s existing network of designated bikeways is shown in Figure 3-1. Specific facility segments are discussed in more detail below.

#### EXISTING BIKEWAY FACILITIES

The town’s existing bikeway system is composed of approximately 3.5 miles of Class I Multi-use Pathways, Class II Bicycle Lanes and Class III Bicycle Routes. The primary bicycling corridor serves the east-west route from the border with San Anselmo through downtown to the unincorporated area at the base of White’s Hill. Table 3-1 provides a summary of existing bikeways.
Table 3-1
Existing Bikeway Mileage by Type

<table>
<thead>
<tr>
<th>Class</th>
<th>Bikeway Type</th>
<th>Total Mileage</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Multi-Use Path</td>
<td>0.18</td>
</tr>
<tr>
<td>II</td>
<td>Striped Bicycle Lanes</td>
<td>1.38</td>
</tr>
<tr>
<td>III</td>
<td>Signed Bicycle Routes</td>
<td>1.90</td>
</tr>
<tr>
<td></td>
<td><strong>All Bikeways</strong></td>
<td><strong>3.42</strong></td>
</tr>
</tbody>
</table>

There are three existing segments of Class I Pathway. A short segment of pathway traverses the Manor Bridge connecting Sir Francis Drake Boulevard to Bothin Road. Another short pathway serves as a cut-through connection between Mono Lane and Napa Avenue in downtown. The longest pathway connects Olema Road to Broadway Boulevard parallel to Sir Francis Drake Boulevard in front of the Fairfax Library.

Table 3-2
Existing Pathways Inventory

<table>
<thead>
<tr>
<th>Segment Name</th>
<th>Begin</th>
<th>End</th>
<th>Class</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairfax Library Pathway</td>
<td>Olema Rd.</td>
<td>Broadway Blvd.</td>
<td>I</td>
<td>0.13</td>
</tr>
<tr>
<td>Manor Bridge</td>
<td>Bothin Rd.</td>
<td>Sir Francis Dr.</td>
<td>I</td>
<td>0.03</td>
</tr>
<tr>
<td>Mono-Dominga Connector</td>
<td>Mono Ln.</td>
<td>Napa Ave.</td>
<td>I</td>
<td>0.02</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>0.18</strong></td>
</tr>
</tbody>
</table>

The only existing Class II bicycle lanes are on Sir Francis Drake Boulevard between Claus Drive and Shadow Creek Court, with a short gap in the eastbound direction between Olema Road and Claus Drive. The relatively small number of streets with Class II bicycle lanes is explained by narrow roadway widths with a lack of opportunity for widening combined with overall heavy use of on-street parking.

Table 3-3
Existing Bicycle Lanes Inventory

<table>
<thead>
<tr>
<th>Segment Name</th>
<th>Begin</th>
<th>End</th>
<th>Class</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sir Francis Dr. Blvd.*</td>
<td>Claus Dr.</td>
<td>Shadow Creek Ct.</td>
<td>II</td>
<td><strong>1.38</strong></td>
</tr>
</tbody>
</table>

*Westbound only from Claus to Manor.

The majority of the Town’s bikeways are signed Class III Bicycle Routes, which take advantage of direct routes along busier arterial or collector roadways. These routes were signed as a part of the County of Marin’s Bicycle Route Guide Signage project to mark the countywide east-west route. Most local routes such as Bolinas Road and neighborhood streets which serve as de facto “feeders” into this countywide east-west route are currently unmarked. West of Claus Drive an alternate route
composed of signed Class III Bike Routes on residential streets was signed by the Town. This alternate route is commonly used by school children bicycling to school and recreational cyclists traveling through Fairfax to West Marin in addition to using existing Class II lanes on Sir Francis Drake Boulevard. Further, a commonly used route exists immediately outside the Fairfax town limit, connecting Kent Avenue to San Anselmo Schools along Butterfield via Sir Frances Drake and other neighborhood routes north of SFD.

### Table 3-4
Existing Bicycle Routes Inventory

<table>
<thead>
<tr>
<th>Segment Name</th>
<th>Begin</th>
<th>End</th>
<th>Class</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Azalea Ave.</td>
<td>Scenic Rd.</td>
<td>Broadway Blvd.</td>
<td>III</td>
<td>0.02</td>
</tr>
<tr>
<td>Broadway Blvd.</td>
<td>Sir Francis Drake Blvd.</td>
<td>Pacheco Ave.</td>
<td>III</td>
<td>0.40</td>
</tr>
<tr>
<td>Center Blvd.</td>
<td>Pastori Ave.</td>
<td>Pacheco Ave.</td>
<td>III</td>
<td>0.26</td>
</tr>
<tr>
<td>Lansdale Ave.</td>
<td>Fairfax Town Limit</td>
<td>Center Boulevard</td>
<td>III</td>
<td>0.16</td>
</tr>
<tr>
<td>Manor Rd.</td>
<td>Olema Rd.</td>
<td>Scenic Rd.</td>
<td>III</td>
<td>0.13</td>
</tr>
<tr>
<td>Olema Rd.</td>
<td>Sir Francis Drake Blvd.</td>
<td>Sir Francis Drake Blvd.</td>
<td>III</td>
<td>0.72</td>
</tr>
<tr>
<td>Scenic Rd.</td>
<td>Manor Rd.</td>
<td>Azalea Ave.</td>
<td>III</td>
<td>0.20</td>
</tr>
</tbody>
</table>

|                             |                      | 1.90                  |

### BIKEWAY SIGNAGE

The County of Marin received $189,000 in grant funding to design and implement a Countywide Bicycle Route Guide Signage project in partnership with local jurisdictions. The goal of the project is to encourage commuting by bicycle through Marin and make recreational biking more attractive to the public. The signage provides cyclists with directions and destinations at key intersections, so that residents and visitors will be able to navigate more easily. The Marin Public Works Directors Association selected a uniform sign for the County which has a logo of Mount Tamalpais in the background. The guide signage is intended to complement the County’s Share the Road signage program.

The Town is committed to developing a link in the east-west bikeway route through Marin County, connecting Fairfax to San Anselmo and countywide destinations such as West Marin, Ross and San Rafael. Signs have been installed throughout the town along the primary countywide east-west route and overlay the local Class II and Class III facilities described above. These signs augment the existing system of green and white Caltrans D11-1 Bicycle Route signs already found along Broadway Avenue, Scenic Road, Manor Road and Olema Road.

### BICYCLE SUPPORT FACILITIES

Bicycle support facilities include bicycle parking racks, lockers and changing facilities. Any facility that assists commuting or recreational cyclists to complete their journey is also considered a support facility.

Within the Town of Fairfax bicycle parking is located throughout the downtown area along Broadway Avenue and at specific locations along Bolinas Road such as Town Hall and the Mono Parking Lot. Of the four schools located in town, both Manor Elementary and White Hill Middle School are known to have bicycle parking. See Figure 3-1 for bike parking locations.
“On-street” bicycle parking has been tested on Bolinas Road in front of the Book Beat Café for the weekends of May 19 and May 26, 2007 in place of existing on-street automobile parking. The trial was carried out on weekends and received favorable responses from residents and no known complaints to the Town. Temporary bicycle parking has been in use at the Wednesday Fairfax Farmers’ Market during the market season, using a moveable rack transported by volunteers. The Marin County Bicycle Coalition has loaned the town a temporary bicycle parking rack, used for both of these efforts.

Currently there are no publicly accessible change or shower facilities, although such facilities may exist in private buildings.

BICYCLE ACCESS TO TRANSIT

Providing bicycle access to transit allows bicyclists to extend the distance they are able to travel, enabling cycling as a regional mode of travel. Fairfax residents have access to two transit services, Golden Gate Transit, serving San Francisco, Sonoma County, Southern, Central and Northern Marin (as well as Marin County Ferry Terminals) and the West Marin Stage which operates limited service to most West Marin communities and the San Anselmo hub and the San Rafael Transit Center. All local transit service in Marin County is operated under contract with the Marin County Transit District (MCTD).

Most bus stops within the Town of Fairfax do not have bicycle racks located at the stops. The Parkade bus stop has bicycle racks with capacity for approximately 6 bicycles. In addition, up to two bicycles can fit on racks mounted to the front of all Golden Gate Transit buses less than 60 ft. long. GGBHTD has received funding to install new 3-bike capacity racks on the front of their buses. “MCI” type buses longer than 60 ft. were recently outfitted with luggage bay racks that allow two bicycles to ride in the underfloor luggage area. In addition, the MTCD has included an element in their long-range transit plan to upgrade all bus-mounted front bicycle racks from two to three capacity fixtures.

BICYCLE LOOP DETECTORS

Bicycle Loop Detectors (BLD) involve the installation or calibration of in-pavement induction loops so that they are sensitive to bicycles. BLDs use a unique Caltrans standard stencil to identify the best location for cyclists to position themselves to actuate a traffic signal. The Town of Fairfax has not installed bicycle loop detectors at any signalized intersections within the town. State legislation was passed in 2007 that will require the town to install such loop detectors if any new signals are installed or existing signals are improved.

SHARE THE ROAD SIGNS

The Town of Fairfax has yellow “Share the Road” bicycle warning signs posted at several locations throughout town, including on Bolinas Road at the start of the climb up to Pine Mountain and Center Boulevard at the eastern town limit. These signs are intended to increase motorist and cyclist awareness of the need to share narrow roadways with limited sightlines or potential safety concerns.
3.2. EXISTING CONDITIONS FOR WALKING

DEFINITION OF PEDESTRIAN FACILITIES

Generally, there are two types of pedestrian facilities, those intended for exclusive use by pedestrians, such as sidewalks, and those shared with other users (i.e. Class I Multi-use Pathways). In addition, in California sidewalks can be legally used by cyclists under the age of 12 unless otherwise signed or locally regulated. Pedestrian facilities at intersections can include crosswalks, pedestrian crosswalk signals, warning signage, curb ramps and other treatments to promote safety and accessibility for disabled users.

The California Vehicle Code Section 275 defines a crosswalk as either:

- That portion of a roadway included within the prolongation or connection of the boundary lines of sidewalks at intersections where the intersecting roadways meet at approximately right angles, except the prolongation of such lines from an alley across a street.

- Any portion of a roadway distinctly indicated for pedestrian crossing by lines or other markings on the surface.

At intersections, a crosswalk is effectively a legal extension of the sidewalk across the roadway. Crosswalks are present at all intersections, whether marked or unmarked, unless the pedestrian crossing is specifically prohibited by the local jurisdiction. At mid-block locations, crosswalks only exist if they are marked.

Traffic control devices must follow the procedures set forth in the California version of the Manual of Uniform Traffic Control Devices (CAMUTCD), while elements such as sidewalks and curb cuts must comply with guidelines for implementing the federal Americans with Disabilities Act (ADA).

EXISTING WALKWAYS

Sidewalks are found on at least one side of the street throughout the downtown business district and on many adjacent residential streets. With the exception of most sidewalks within the Downtown area, many of these walkways do not meet ADA requirements for width, obstructions, tripping hazards or curb ramps. Sidewalks are generally lacking in the hillside neighborhood areas and along some of the smaller residential streets in the neighborhoods surrounding downtown. In addition, the Bicycle and Pedestrian Advisory Committee has identified a lack of direct pedestrian connections between residential neighborhood streets along potential property line rights-of-way that would allow more direct walking routes.

The Town recently constructed new sidewalks along Sir Francis Drake Boulevard between Manor Road and Olema Road as part of a Safe Routes to Schools (SR2S) project.

Two multi-use path segments serve pedestrians near the downtown area. The Mono-Dominga connector is a short “cut-through” that allows pedestrians to travel from downtown businesses along Broadway Avenue directly to Dominga Avenue residential area. The Library Pathway connects
the sidewalk along the south side of Sir Francis Drake Boulevard at Olema to existing sidewalks along Broadway Avenue and the crossing of Drake at St. Rita School.

**EXISTING CROSSWALK AND OTHER FACILITIES**

Pedestrian exposure at intersections directly affects safety, especially for older persons and children who may not be able to cross streets quickly or discern (or be seen by) on-coming traffic. Generally intersections in and around the downtown area have all crosswalks marked with either high-visibility “ladder” style crosswalks or traditional parallel stripes augmented by colored pavement treatments. In addition, a number of mid-block crossings are similarly marked along Broadway Avenue and Sir Francis Drake Boulevard. In-roadway pedestrian warning “paddle” signs are found at mid-block crossings of Broadway Avenue and one crossing on Bolinas Road.

In addition to intersection conditions in the downtown area, a number of “spot improvements” have been implemented with the goal of improving pedestrian safety. The Manor Bridge SR2S project was installed as an alternate to the existing narrow bridge to provide a dedicated pedestrian connection to Sir Francis Drake Boulevard and the new sidewalk. At several locations throughout the residential areas curbs at intersections have been painted red to improve visibility through these corners.

### 3.3. DESCRIPTION OF PAST EXPENDITURES

The following is a summary of bicycle and pedestrian facility projects constructed since the 2001 Bicycle and Pedestrian Master Plan.

**Table 3-5**

**Fairfax Past Expenditures 2001-2007**

<table>
<thead>
<tr>
<th>Facility</th>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manor Circle Bridge and Sir Francis Drake Sidewalk (Manor Circle to Olema Road)</td>
<td>Installation of a pedestrian and bicycle bridge and sidewalks on south side of Sir Francis Drake Boulevard between new bridge and Olema Road.</td>
<td>$637,537</td>
</tr>
<tr>
<td>Sir Francis Drake Boulevard Sidewalk Improvements (Oak Manor to June Court)</td>
<td>This project was designed to install new sidewalks on Sir Francis Drake Boulevard (SFDB) from Oak Manor to June Court to eliminate gaps in the sidewalk network along SFDB.</td>
<td>$198,685</td>
</tr>
<tr>
<td>Sir Francis Drake Library/St. Rita Crosswalk</td>
<td>1998 Installation of high-visibility crosswalk and pushbutton-actuated, audible overhead flashing pedestrian crossing beacons</td>
<td>$43,333</td>
</tr>
<tr>
<td>Sir Francis Drake at Oak Manor Drive Crosswalk</td>
<td>1998 Installation of high-visibility crosswalk and pushbutton-actuated, audible overhead flashing pedestrian crossing beacons</td>
<td>$43,333</td>
</tr>
<tr>
<td>Sir Francis Drake at Robin Hood Apartments Crosswalk</td>
<td>1998 Installation of high-visibility crosswalk and pushbutton-actuated, audible overhead flashing pedestrian crossing beacons</td>
<td>$43,333</td>
</tr>
<tr>
<td>In-roadway Pedestrian “Paddle” Signs</td>
<td>Installation of pedestrian crosswalk warning signs in center of roadway at marked crosswalk locations</td>
<td>$800</td>
</tr>
<tr>
<td>Downtown Bicycle Racks – Phase I fed. grant; Phase II local Supervisorial grant</td>
<td>Installation of inverted U style bicycle racks at specific locations along Broadway Avenue, Bolinas Road and in the Fairfax Parkade</td>
<td>$10,000 $ 2,000</td>
</tr>
</tbody>
</table>
3.4. SAFETY, EDUCATION AND ENCOURAGEMENT PROGRAMS

FAIRFAX POLICE DEPARTMENT

The Fairfax Police Department conducts regular enforcement of bicycle violations of the vehicle code, particularly along the designated bike route on Broadway Boulevard and Lansdale Avenue. Since 2005 the Fairfax Police Department has partnered with the Marin County Bicycle Coalition to conduct Share the Road Checkpoints on an annual basis at selected locations in Fairfax. More information on the Share the Road program is below.

SAFE ROUTES TO SCHOOLS

The original Safe Routes to Schools program began in Fairfax as a pilot program in 2000 as an effort to reduce congestion and encourage healthy exercise and transportation habits among school aged children in Marin County. The program has since expanded to its current level, with 45 schools and over 18,470 students participating countywide. Since then, this program has been expanded to the national level. Each year, the program has successfully decreased the percentage of drive-alone students at participating schools through innovative classroom activities, contests and events, and initiation of engineering improvements.

The program consists of five key components – education, engineering, encouragement, enforcement, and evaluation – which are described below.

- **Education** - Classroom lessons teach children the skills necessary to navigate through busy streets and show them how to be active participants in the program. Table 3-5 shows education programs completed in Fairfax Schools.
- **Engineering** - The Program’s licensed traffic engineer works with schools and the Town in developing a plan to provide a safer environment for children to walk and bike to school. The focus is on creating physical improvements to the infrastructure surrounding the school, reducing speeds and establishing improved crosswalks and pathways.
- **Encouragement** - Events, contests and promotional materials are incentives that encourage children and parents to try walking and biking. Table 3-5 shows encouragement programs completed in Fairfax Schools.
- **Enforcement** – Police officers, crossing guards and law enforcement officials participate throughout the Safe Routes process to encourage safer travel through the community. Targeted enforcement of speed limits and other traffic laws around schools make the trip to school more predictable for students. This plan also includes enforcement enhancements and outreach to drivers through driver safety campaigns.
- **Evaluation** – Program participation is regularly monitored to determine the growth in student and parent participation.

As detailed in Table 3-6 Manor Elementary, White Hill Middle and St. Rita Schools have participated in the program. A Safe Routes to Schools Task Force has been formed for the Ross Valley School District to create Safe Routes to Schools Travel Plans which include engineering
recommendations, enforcement, driver education programs and encouragement programs. Chapter 5 includes proposals for growing participation in the Safe Routes to Schools Program in Fairfax.

SR2S infrastructure projects completed in Fairfax include the Manor Bridge and sidewalks on the south side of Sir Francis Drake Boulevard as well as the crossing of Sir Francis Drake Boulevard at St. Rita’s School. Funded SR2S infrastructure plans include pedestrian and bicycle improvements at Sir Francis Drake Boulevard and Glen Drive near White Hill School and new sidewalk on the east side of Oak Manor Drive accessing Manor School. Funded improvements at Oak Tree Lane include a new crosswalk and the installation of an actuated overhead flashing beacon in early 2008. Other unfunded SR2S infrastructure plans include a proposal to build a multi-use pathway along the former railroad right-of-way west of White Hill School.

Table 3-6 provides details about specific schools participation in Education and Encouragement components of the TAM SR2S program.

**OTHER SAFETY PROGRAMS**

The Fairfax Police Department participates in the Marin County Bicycle Coalition’s Share the Road Campaign. The campaign includes three components: checkpoints, basic street skills classes, and public presentations.

At checkpoints, uniformed police, highway patrol officers and volunteers from the bicycle coalition stop vehicles, cyclists and pedestrians and provide them with share the road flyers. Flyers contain California Vehicle Code information, codes of conduct for bicyclists and motorists, and additional safety tips to prevent road rage. Fairfax hosted checkpoints in 2005 and 2006.

Basic Street Skills Classes are provided free of charge by the Marin County Bicycle Coalition. Classes provide information on how to avoid collisions and citations, how to ride safely, improve visibility and the legal rights of cyclists. Cyclists who have received a bicycle violation may attend this class to reduce their fine to $50.

The Marin County Bicycle Coalition also provides a Share the Road presentation for the public. The presentation is available by request, and includes information on the rights and responsibilities of cyclists and drivers and focuses on ways each group can behave courteously to avoid collisions.

**OTHER PROMOTIONAL AND ENCOURAGEMENT EFFORTS**

Residents of the Town of Fairfax have undertaken a variety of past promotion and encouragement efforts. Velo Club Fairfax and the Fairfax Chamber of Commerce have created “Biketoberfest” at the Fair Anselm Plaza, with the assistance of the Marin County Bicycle Coalition (MCBC) and Safe Routes to Schools. This event has been superseded by the Fairfax Fat Tire Festival in Peri Park, followed by a mountain bike race at Camp Tamarancho the next day. This event takes place in May. Film Night in the Park has held two shows in conjunction with the old location of the Fairfax Fat Tire Fest at the Fairfax ball field. The MCBC provided its first valet bike parking at the Fairfax Brewfest (held annually in March) and currently serves the Fairfax Festival for its two days in June. MCBC has supported the effort to bring bicycle parking to the Fairfax Farmers Market by providing a temporary rack for use in the park at this event. The White Hill Parent Club has hosted the “Lion of Fairfax” Cyclocross at White Hill School in September and a group of parents have plans to create a bicycle facility, including a BMX track, at the school. As of this writing, the Fairfax Documentary Film Festival currently has plans to show the film “Klunkers” about the pioneers of mountain biking who staged the first race called
“Repack” in Fairfax, the cradle of mountain biking. Fairfax hosted the start and finish of a road race as well as a downtown criterium in past years, called the Tour of Marin, which could be resurrected with sufficient funding and sponsorship. Saturday mornings at 9 am see the Java Hut riders leave town for rides to West Marin as well as a variety of formal and informal cycling clubs and teams host road and mountain bike rides departing from various locations in Fairfax, also primarily on weekend days.
### Table 3-5

**Fairfax Safe Routes to School Education and Encouragement Programs**

<table>
<thead>
<tr>
<th>Participants</th>
<th>2005-06</th>
<th>Grades</th>
<th>Enroll.</th>
<th>Education</th>
<th>Encouragement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ross Valley</td>
<td>K-5</td>
<td>315 X</td>
<td>X X X X X X</td>
<td>SL&amp;L, WB, HS, Jeop, Rodeo, OTB, Clubs, S.Art, Yikes, Earth, Fam M, Iwalk, W2SD, Earth, Fam M, W&amp;B, SP, CN, CN, WK</td>
<td>X X X X X X X</td>
</tr>
<tr>
<td>Manor</td>
<td>8-Jun</td>
<td>625 X</td>
<td>X X X X</td>
<td>SL&amp;L, WB, HS, Jeop, Rodeo, OTB, Clubs, S.Art, Yikes, Earth, Fam M, Iwalk, W2SD</td>
<td>X X X X X X X</td>
</tr>
<tr>
<td>White Hill</td>
<td>K-8</td>
<td>245 X</td>
<td>X X X X</td>
<td>SL&amp;L, WB, HS, Jeop, Rodeo, OTB, Clubs, S.Art, Yikes, Earth, Fam M, Iwalk, W2SD</td>
<td>X X X X X X X</td>
</tr>
</tbody>
</table>

**Key:**

- X - Completed This Month
- X - Previously Completed

**Education:**

SL&L - Stop Look and Listen; WB - Walk Around the Block; HS - Helmet Safety; Jeop - Jeopardy; Rodeo - Bicycle Rodeo; OTB - On the Bike (Middle School); Clubs - EcoVelocity; S.Art - Safety Art; Yikes - Assembly; W2SD - Parade Prep; Earth - Earth Day Classes; Fam M - Family Management; NR - Neighborhood Rides

**Encouragement:**

Iwalk - International Walk to School Day, W2SD - Ongoing Walk to School Days; SP - SchoolPool; W&BA - Walk and Bike Across America; FRM - Frequent Rider Miles Contest

**Notes:**

On the bike can only be offered to 2-3 schools this year. Family Maintenance Clinics and Neighborhood Rides are new, so it is difficult to gauge who will use them this year.
4. NEEDS ANALYSIS

4.1. LAND USE AND DEMAND FOR BICYCLING

The “demand” for bicycle facilities can be difficult to predict. Unlike automobile use, where historical trip generation studies and traffic counts allow one to estimate future “demand” for travel, bicycle trip generation methods are less advanced and standardized. Land use patterns can help predict demand and are important to bikeways planning because changes in land use (and particularly employment areas) will affect average commute distance, which in turn affects the attractiveness of bicycling as a commute mode. Figure 4-1, the land use map from the Fairfax General Plan, is included on the next page.

The Fairfax bikeways network will connect the neighborhoods where people live to the places they work, shop, engage in recreation, or go to school. An emphasis will be placed on regional bikeways and transit connections centered on the major activity centers in Fairfax, including:

- Downtown commercial district
- Civic buildings such as the Town Hall and Library
- Schools
- The Parkade bus stops
- Neighborhood parks and regional recreational areas
- Shopping centers
- Employment centers
- Regional recreation areas (e.g. Mt. Tamalpais, Camp Tamarancho)

4.2. SETTLEMENT PATTERNS AND DESTINATIONS

Fairfax’s development has been determined in large part by the history of rail transport in the Ross Valley. The Northwestern Pacific Railway lines which formerly connected the Hub in San Anselmo to downtown Fairfax and West Marin encouraged neighborhoods within walking distance of the former train station in downtown.

When the train tracks were removed in the 1940’s, new roads were placed on the train beds, creating the existing arterial road system including Center Boulevard. After WWII with the expansion of the private automobile, Fairfax grew away from its original dense settlement pattern around the downtown area, creating a variety of neighborhoods in the hilly areas of town which were less accessible by walking or bicycling.

The people of Fairfax commute to three major employment centers: San Francisco, San Rafael and businesses within Fairfax. Most get to their Marin County jobs by car and some by bus or bicycle. Fairfax area and Ross Valley school destinations include Oak Manor, Whites Hill, St. Rita, the College of Marin in nearby Kentfield, and Dominican University in San Rafael.
Figure 4-1 – DRAFT Fairfax General Plan Land Use Map
4.3. COMMUTE PATTERNS

A central focus of presenting commute information is to identify the current “mode split” of people that travel in Fairfax. Mode split refers to the choice of transportation a person selects to reach their destinations, be it walking, bicycling, taking a bus, or driving. One major objective of any bicycle facility improvement is to increase the percentage of people who choose to bike rather than drive or be driven. Every saved vehicle trip or vehicle mile represents quantifiable reductions in air pollution and can help in lessening automobile traffic congestion.

Journey to work and travel time to work data were obtained from the 2000 US Census for Fairfax, Marin County, California, and the United States. Primary mode of journey to work data is shown in Table 4-1.

Table 4-1
Fairfax Commute Mode Split Compared to the State and Nation

<table>
<thead>
<tr>
<th>Mode</th>
<th>Nationwide</th>
<th>Statewide</th>
<th>Marin County</th>
<th>Fairfax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bicycle</td>
<td>0.4%</td>
<td>0.9%</td>
<td>1.1%</td>
<td>2.6%</td>
</tr>
<tr>
<td>Walk</td>
<td>3.0%</td>
<td>3.0%</td>
<td>3.3%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Public Transit</td>
<td>4.9%</td>
<td>5.3%</td>
<td>11.1%</td>
<td>9.6%</td>
</tr>
<tr>
<td>Drove Alone</td>
<td>78.2%</td>
<td>74.7%</td>
<td>71.8%</td>
<td>73.9%</td>
</tr>
<tr>
<td>Carpool</td>
<td>12.6%</td>
<td>15.1%</td>
<td>11.8%</td>
<td>11.9%</td>
</tr>
<tr>
<td>Other</td>
<td>0.5%</td>
<td>1.1%</td>
<td>0.6%</td>
<td>0.4%</td>
</tr>
</tbody>
</table>

Data from US Census 2000

As shown, about 2.6% of all employed Fairfax residents commute primarily by bicycle. Census data do not include the number of people who bicycle for recreation or for utilitarian purposes, students who bicycle to school, and bicycle commuters who travel from outside Fairfax, and are therefore likely to undercount true cycling rates. Recreational cycling is especially popular in Fairfax, with its easy access to popular recreational routes in West Marin and other areas.

Comparatively, Fairfax’s rate of commute cycling is high—over twice that of Marin County as a whole—and there are many possibilities for improving it. Statistics from the recent County Pilot Program counts indicate that the growth in bicycling in Fairfax was one of the highest in all of Marin County. Broadway Avenue at Bolinas Road showed a 298% increase in weekend day peak hour bicycling between 1999 and 2007 (from 42 to 167 bicyclists), possibly due to the increasing popularity of mountain biking in the area. Fairfax was one of the top places in Marin County with the highest volume of combined bicycle and pedestrian activity (Broadway/Bolinas, 700 people).

Fairfax has a very high percentage of commuters who take public transit to work—9.6%, compared with 5.3% for the state. Systemwide, two percent of Golden Gate Transit riders arrive at bus stops by bicycle.1 If bicycle connections to Golden Gate Transit stops are improved, and especially if these connections are coupled with improved bicycle storage and expanded service, it would be possible to shift some vehicle trips to the bus stops into bicycle trips.

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POTENTIAL FUTURE AIR QUALITY IMPROVEMENTS

Fairfax lies within the San Francisco Bay Area Basin, which is regulated by the Bay Area Air Quality Management District (BAAQMD). According to the California Air Resources Board, as of July 2005, the air quality in the San Francisco Bay Area Basin did not meet the minimum State health-based standards for one-hour concentrations ground-level ozone and the State standards for Particulate Matter (PM10) and Fine Particulate Matter (PM2.5).\(^2\) Currently, the Basin is classified as marginal non-attainment area for the Federal 8-hour ozone standard.

According to the BAAQMD, motor vehicles are responsible for approximately 75 percent of the smog in the Bay Area. Reducing vehicle miles traveled (VMTs) is a key goal of the BAAQMD, and fully implementing Fairfax’s bicycle network may help achieve this goal by providing residents improved options for getting to work, school, or shopping without relying on motor vehicles. Based on data from the 2000 Census and estimates of bicycle mode share for students, the current number of daily bicycle commuters (adjusted to include travel to work, to school and to transit trips) in Fairfax is estimated to be 258 riders, making 516 daily trips and saving an estimated 1,114 VMTs per weekday.

Table 4-2 quantifies the estimated reduction in VMTs in Fairfax following an increase in the adjusted bicycle mode share to 5.2%, and the estimated reduction in air pollutants based on the best available local and national data. It is conservatively estimated that the total number of work and school commuters could increase from the current estimate of 258 to 268. This would result in an estimated decrease of 5 kg/day of HC, 38 kg/day of CO, 3 kg/day of NOX and 198,070 kg/day of CO2.

This improvement in air quality could be greater if improving conditions for bicyclists attracts bicyclists to the Town whose trips originate outside of Fairfax. Fairfax’s mild climate and rising fuel costs will also encourage additional cycling as more attractive routes and gap closures are accomplished.

Table 4-2

<table>
<thead>
<tr>
<th>Bicycle Commute and Air Quality Projections</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current Commuting Statistics</strong></td>
</tr>
<tr>
<td>Fairfax Population</td>
</tr>
<tr>
<td>Number of Commuters</td>
</tr>
<tr>
<td>Number of Bicycle-to-Work Commuters</td>
</tr>
<tr>
<td>Bicycle-to-Work Mode Share</td>
</tr>
<tr>
<td>School Children Grades K-8</td>
</tr>
<tr>
<td>Estimated School Bicycle Commuters</td>
</tr>
<tr>
<td>Number of College Students</td>
</tr>
<tr>
<td>Estimated College Bicycle Commuters</td>
</tr>
</tbody>
</table>

---

\(^2\) BAAQMD. Ambient Air Quality Standards & Bay Area Attainment Status. Last updated July 15, 2005. 
<www.baaqmd.gov/pln/air_quality/ambient_air_quality.htm>
| Average Weekday Golden Gate Ridership | 1,845 | Average of weekday system wide Golden Gate Transit boardings on Bus Routes serving Fairfax (Routes:) Marin Transit Data Request |
| Estimated Number of Daily Bike-Golden Gate Transit Users | 37 | GGT Existing Conditions System Levels Analysis Report 2005, Page 4-24 |
| Estimated Total Number of Bicycle Commuters and Utilitarian Riders | 258 | Total of bike-to-work, transit, school, college and utilitarian bicycle commuters Does not include recreation. |
| Estimated Adjusted Mode Share | 5.2% | Estimated Bicycle Commuters divided by work and school travelers |

**Estimated Current Bicycle Trips**

| Total Daily Bicycle Trips | 516 | Total bicycle commuters x 2 (for round trips) plus total number of utilitarian bicycle trips |
| Reduced Vehicle Trips per Weekday | 337 | Assumes 73% of bicycle trips replace vehicle trips for adults/college students and 53% for school children |
| Reduced Vehicle Miles per Weekday | 1,114 | Assumes average one-way trip travel length of 4.6 miles for adults/college students and 0.5 mile for schoolchildren |

**Potential Future Bicycle Commuters**

| Number of workers with commutes nine minutes or less | 256 | US Census 2000 |
| Number of workers who already bicycle or walk to work | 158 | US Census 2000 |
| Number of potential bicycle commuters | 98 | Calculated by subtracting number of workers who already bicycle or walk from the number of workers who have commutes 9 minutes or less |
| Future number of new bicycle commuters | 10 | Based on capture rate goal of 10% of potential bicycle riders |
| Total Future Daily Bicycle Commuters | 268 | Current daily bicycle commuters plus future bicycle commuters |
| Future Total Daily Bicycle Trips | 536 | Total bicycle commuters x 2 (for round trips) |
| Future Reduced Vehicle Trips per Weekday | 391 | Assumes 73% of bicycle trips replace vehicle trips |
| Future Reduced Vehicle Miles per Weekday | 1,799 | Assumes average one-way trip travel length of 4.6 miles for adults. Assumes 12 mph average bicycle speed; 23 minute average travel time. Travel time data from NHTS 2001 Trends, Table 26. |
| Future Reduced Vehicle Miles per Year | 476,703 | 256 weekdays per year |

**Future Air Quality Benefits**

| Reduced HC (kg/weekday) | 5 | (0.0028 kg/mile) |
| Reduced CO (kg/weekday) | 38 | (0.0209 kg/mile) |
| Reduced NOX (kg/weekday) | 3 | (0.00139 kg/mile) |
| Reduced CO2 (kg/weekday) | 198,070 | (.4135 kg/mile) |
| Reduced HC (metric tons/year) | 1 | 1000 kg per metric ton; 256 weekdays/year |
| Reduced CO (metric tons/year) | 10 | 1000 kg per metric ton; 256 weekdays/year |
| Reduced NOX (metric tons/year) | 1 | 1000 kg per metric ton; 256 weekdays/year |
| Reduced CO2 (metric tons/year) | 50,706 | 1000 kg per metric ton; 256 weekdays/year |

5. PROPOSED IMPROVEMENTS

This section provides information about the proposed improvements for bicycling and walking in the Town of Fairfax including both physical improvements (bike paths, lanes, routes, bike parking, walkways, crossing improvements) and education, enforcement and encouragement programs (e.g. Safe Routes to Schools). As shown in the preceding Existing Conditions chapter, Fairfax’s current walkway and bikeway system provides opportunities for nonmotorized travel through a network of sidewalks and on-street Class II bicycle lanes and III bicycle routes.

However, significant gaps remain in the bikeway system which are critical to providing good connectivity for cyclists riding both within the Town of Fairfax and attempting to travel to neighboring communities. The connections from residential areas to schools and from the town to West Marin and San Anselmo still present significant obstacles to cyclists. Improvements in pedestrian circulation are also needed to increase access from neighborhood areas to downtown and schools as well as encourage safe walking throughout the town.

As described in the 2001 Bicycle and Pedestrian Master Plan, the vision for Fairfax is the construction of bikeways and walkways suitable for all users, connecting to commercial, residential, recreational and school destinations. The short-term vision for bicycling includes completing and improving existing bicycle routes and lanes, signing and stenciling proposed routes, installing parking and implementing programs. For pedestrians, the short-term vision is to maintain and improve existing walkways and crosswalks. The long-term vision for bicycling and walking in the town calls for completing the east-west bikeway and implementing a series of traffic-calmed neighborhood streets which will prioritize safety for all roadway users and improve conditions for both pedestrians and bicyclists. Detailed priorities for implementation are listed in Chapter 6.

Table 5-1
Summary of Proposed Bikeways

<table>
<thead>
<tr>
<th>Fairfax Proposed Bicycle Facilities - 2008</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Class</td>
<td>Bikeway Type</td>
</tr>
<tr>
<td>-------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>I</td>
<td>Multi-Use Path</td>
</tr>
<tr>
<td>II</td>
<td>Striped Bicycle Lanes</td>
</tr>
<tr>
<td>III</td>
<td>Signed Bicycle Routes</td>
</tr>
<tr>
<td></td>
<td><strong>All Bikeways</strong></td>
</tr>
</tbody>
</table>

5.1. BICYCLE FACILITY IMPROVEMENTS

PROPOSED CLASS I - MULTI-USE PATHWAY

As noted in the Existing Conditions, Fairfax’s current bikeway system is composed primarily of Class II and III bicycle routes. The current update proposes one new Class I Pathway at the east end of town, parallel to Center Boulevard. This path segment is proposed as a part of a long-term option for connecting San Anselmo and Fairfax which was originally part of the 2001 San Anselmo Bicycle
Master Plan. Due to significant construction challenges, this pathway is included in the plan primarily as an option for further study as a part of the San Rafael-Fairfax Corridor study.

In addition to this pathway, a bicycle and pedestrian bridge is proposed connecting Hawthorne Court and Sir Francis Drake Boulevard to provide a connection to Manor School. This bridge would be similar in design to the recently installed Manor Circle Bridge.

The small number of proposed pathways should be understood in terms of the lack of public right-of-way for such projects. Segment details can be found in Table 5-2.

<table>
<thead>
<tr>
<th>Segment Name</th>
<th>End</th>
<th>Class</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center Blvd. Sidepath Pastori Ave.</td>
<td>Fairfax Town Limit</td>
<td>I</td>
<td>0.16</td>
</tr>
<tr>
<td>Hawthorne Ct. Bridge Hawthorne Ct.</td>
<td>Sir Francis Drake Blvd.</td>
<td>I (bridge)</td>
<td>0.02</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>0.18</strong></td>
</tr>
</tbody>
</table>

### PROPOSED CLASS II - STRIPED BICYCLE LANCES

Proposed bicycle lanes in Fairfax are intended primarily to complete gaps in the east-west bikeway as well as improving local access to businesses and promoting shop-by-bike and access to transit at the Parkade.

- **Center Boulevard (Town limit to Pastori):** This bicycle lane segment is proposed as a part of a long-term option for connecting San Anselmo and Fairfax which was originally part of the 2001 San Anselmo Bicycle Master Plan. Due to significant construction challenges, this bike lane is included in the plan primarily as an option for further study as a part of the San Rafael-Fairfax Corridor study.

- **Center Boulevard (Pastori to Pacheco):** Bicycle lanes proposed as a part of the current Center Boulevard Reconstruction Project, including bicycle lane treatments through intersections at Center/Pastori and Center/Pacheco.

- **Broadway Avenue (Pacheco to Claus):** Bicycle lanes are proposed to close the gap through the main downtown area. On-street parking can be retained, although two travel lanes will need to be reduced to 11’ in width. It is recommended that the westbound curb lane be maintained at 12’ to accommodate bus traffic.

- **Sir Francis Drake Boulevard (eastbound only, Claus to Olema):** This challenging segment proposes to complete the Sir Francis Drake Bicycle Lanes in both directions west of Claus Drive. Due to the narrow roadway in this area, road widening and additional paved shoulders will be necessary. The needs of bicycles and pedestrians will need to be balanced in this area as the Town has already received Nonmotorized Transportation Pilot Program funding for a sidewalk parallel to this segment.

As with Class I Pathways, the small number of proposed bicycle lanes throughout the Town should be understood in terms of the lack of public right-of-way for road widening and the challenge of removing on-street parking in heavily used areas. Segment details can be found in Table 5-3.
### Table 5-3
Proposed Class II Facilities

<table>
<thead>
<tr>
<th>Segment Name</th>
<th>End</th>
<th>Class</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center Blvd.</td>
<td>Fairfax Town Limit</td>
<td>II</td>
<td>0.17</td>
</tr>
<tr>
<td>Center Blvd.</td>
<td>Pastori Ave.</td>
<td>II</td>
<td>0.26</td>
</tr>
<tr>
<td>Broadway Ave.</td>
<td>Pacheco Ave.</td>
<td>II</td>
<td>0.13</td>
</tr>
<tr>
<td>Sir Francis Drake Blvd. (eastbound)</td>
<td>Olema Rd.</td>
<td>II</td>
<td>0.33</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>0.89</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### PROPOSED CLASS III - SIGNED BICYCLE ROUTES

Proposed bicycle routes in Fairfax are intended to expand the existing east-west bikeway system, creating direct connections to and through neighborhoods and to schools, parks and other destinations, providing alternate routes to busier streets and adding alternate connections to neighboring communities. The minimum treatment for these routes would be standard Bicycle Route signage.

Segment details for Class III Signed Bicycle Routes can be found in Table 5-4.

### NEIGHBORHOOD AND SCHOOL ACCESS ROUTES

In other Bay Area communities the idea of Bicycle Boulevards has been advanced as a way to designate certain routes as priority streets for bicycling. The viability of bicycle boulevards depends on a number of factors. One key factor is the availability of multiple duplicative parallel routes which in most cases allow drivers to reach their destinations while avoiding the Bicycle Boulevard.

Due to its lack of a multiple parallel streets on a grid system, Fairfax is not really a candidate for a conventional Bicycle Boulevard treatment. However, the Town does have an excellent system of connected collector and neighborhood streets surrounding the downtown area that provide access to commercial and school destinations, serve as a “downtown detour” and in some cases parallel the main arterial routes.

It is recommended that some of these neighborhood and school access routes be designated for additional safety improvements that would give priority to bicycle and pedestrian users. For all segments, existing bicycle route signage would be retained. Potential improvements for these segments include:

- Shared Roadway Bicycle Markings
- Curb Extensions or Bulbouts
- Share the Road signs
- Other safety signage
- Stop sign removal
- Speed humps
- Additional traffic controls
In addition to changes to the roadway geometry traffic control strategies, such as restricting turns are a potential strategy for improving pedestrian and bicycle safety during peak hours. The BPAC has identified a “no right turn” restriction between 7 a.m. and 9 a.m. Monday-Friday from Sir Francis Drake Boulevard onto both Azalea Avenue and Broadway Avenue as an example of this treatment.

Table 5-4 provides more information about which specific segments are recommended for additional treatments. Further study of all segments would be necessary before deciding on specific traffic calming devices. Additional design guidance for traffic calmed streets is provided in Appendices A and B. A prioritized, phased approach to these improvements is detailed in Section 6.

### Table 5-4
Proposed Class III Facilities

<table>
<thead>
<tr>
<th>Segment Name</th>
<th>Begin</th>
<th>End</th>
<th>Class</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belmont Ave.</td>
<td>Kent Ave.</td>
<td>Pastori Ave.</td>
<td>III</td>
<td>0.06</td>
</tr>
<tr>
<td>Blackberry Ln.</td>
<td>Creek Rd.</td>
<td>Forrest Ave.</td>
<td>III</td>
<td>0.04</td>
</tr>
<tr>
<td>Bolinas Rd.</td>
<td>Broadway Blvd.</td>
<td>Porteous Ave.</td>
<td>III - Sharrows</td>
<td>0.48</td>
</tr>
<tr>
<td>Cascade Dr.</td>
<td>Bolinas Rd.</td>
<td>Canyon Rd.</td>
<td>III - Sharrows</td>
<td>0.94</td>
</tr>
<tr>
<td>Cascade Dr.</td>
<td>Canyon Rd.</td>
<td>Cascade Fire</td>
<td>III - Sharrows</td>
<td>0.50</td>
</tr>
<tr>
<td>Claus Dr.</td>
<td>Sir Francis Drake Blvd.</td>
<td>Broadway Blvd.</td>
<td>III - Sharrows</td>
<td>0.02</td>
</tr>
<tr>
<td>Creek Rd.</td>
<td>Porteous Ave.</td>
<td>Dominga Ave.</td>
<td>III - Shar/TrafCalm</td>
<td>0.20</td>
</tr>
<tr>
<td>Dominga Ave.</td>
<td>Creek Rd.</td>
<td>Napa Ave.</td>
<td>III - Shar/TrafCalm</td>
<td>0.25</td>
</tr>
<tr>
<td>Forrest Ave.</td>
<td>Meernaa Ave.</td>
<td>Fairfax Town</td>
<td>III</td>
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<tr>
<td>Glen Dr.</td>
<td>Sir Francis Drake Blvd.</td>
<td>Fairfax Town</td>
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<td>Hill Ave.</td>
<td>Ramona Ave.</td>
<td>Kent Ave.</td>
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<tr>
<td>Kent Ave.</td>
<td>Belmont Ave.</td>
<td>Sir Francis Drake Blvd.</td>
<td>III</td>
<td>0.09</td>
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<tr>
<td>Lansdale Ave.</td>
<td>Center Blvd.</td>
<td>Fairfax Town</td>
<td>III - Shar/TrafCalm</td>
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<tr>
<td>Manor Rd.</td>
<td>Olema Rd.</td>
<td>Olema Rd.</td>
<td>III - Shar/TrafCalm</td>
<td>0.19</td>
</tr>
<tr>
<td>Manor Rd.*</td>
<td>Olema Rd.</td>
<td>Scenic Rd.</td>
<td>III - Shar/TrafCalm</td>
<td>0.13</td>
</tr>
<tr>
<td>Napa Ave.</td>
<td>Dominga Ave.</td>
<td>Pacheco Ave.</td>
<td>III - Shar/TrafCalm</td>
<td>0.06</td>
</tr>
<tr>
<td>Oak Manor Dr.</td>
<td>Sir Francis Drake Blvd.</td>
<td>Manor Elem. Sch.</td>
<td>III</td>
<td>0.19</td>
</tr>
<tr>
<td>Pacheco Ave.</td>
<td>Napa Ave.</td>
<td>Center Blvd.</td>
<td>III - Shar/TrafCalm</td>
<td>0.05</td>
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<td>Park Rd.</td>
<td>Spruce Rd.</td>
<td>Bolinas Rd.</td>
<td>III - Shar/TrafCalm</td>
<td>0.23</td>
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<tr>
<td>Pastori Ave.</td>
<td>Sir Francis Drake Blvd.</td>
<td>Center Blvd.</td>
<td>III</td>
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</tr>
<tr>
<td>Porteous Ave.</td>
<td>Bolinas Rd.</td>
<td>Meernaa Ave.</td>
<td>III - Shar/TrafCalm</td>
<td>0.41</td>
</tr>
<tr>
<td>Rockridge Rd.</td>
<td>Iron Springs Rd.</td>
<td>Manor Rd.</td>
<td>III</td>
<td>0.13</td>
</tr>
<tr>
<td>Scenic Rd.*</td>
<td>Manor Rd.</td>
<td>Azalea Ave.</td>
<td>III - Shar/TrafCalm</td>
<td>0.20</td>
</tr>
<tr>
<td>Sequoia Rd.</td>
<td>Scenic Rd.</td>
<td>Spruce Rd.</td>
<td>III - Shar/TrafCalm</td>
<td>0.19</td>
</tr>
<tr>
<td>Sherman St.</td>
<td>Bolinas Rd.</td>
<td>Dominga Ave.</td>
<td>III</td>
<td>0.05</td>
</tr>
<tr>
<td>Spruce Ave.</td>
<td>Sequoia Rd.</td>
<td>Azalea Ave.</td>
<td>III – Shar/TrafCalm</td>
<td>0.17</td>
</tr>
</tbody>
</table>

*Existing Class III signed bicycle route
BICYCLE PARKING AND END-OF-TRIP FACILITIES

Bicycle parking includes standard bike racks, weather-protected bicycle parking, enclosed lockers, and secure “corrals”. In addition, due to lack of sidewalk space for bicycle rack placement the BPAC has recommended a trial installation of “on-street” bicycle parking areas which would take the place of unused red curb zone areas in the downtown area. Other end-of-trip facilities include showers and changing facilities.

RECOMMENDATIONS

Increase Public Bicycle Parking Facilities and Encourage Provision of Shower and Changing Facilities

The Town should seek to continue to provide bike racks at public destinations, including major bus stops, community centers, libraries, parks, schools and commercial areas. All bicycle parking should be in a secure area, if possible. Employers should be encouraged to provide secure indoor parking, covered bicycle parking, or bicycle lockers.

The following are potential new or improved locations for inverted-u or equivalent secure bicycle parking racks as determined through the BPAC process:

- North side of Sir Francis Drake Boulevard Businesses:
  - Café Lotus
  - Quality Liquors
  - Peri’s Deli
  - Barefoot Cafe
  - Fairfax Cyclery/IGA (locate on sidewalk between tree planters)
- Fairfax Theater
- Bev’s Hair Design
- Fairfax Lumber
- 4 additional racks at other locations along Broadway Avenue

In addition to the locations proposed above, the BPAC also requested racks on the sidewalk of the Fair-Anselm Shopping Plaza. However, because this location is on private property, it has been deferred pending discussion with the property owner.

The following are proposed trial locations for inverted-u bicycle parking racks as determined through the BPAC process. Locations would use a free-standing rack with approximately a 12-bike capacity and would be separated from the adjacent parking spaces and travel lane by flexible plastic bollards mounted to the pavement.

- Grilly’s (rack in red curb zone on Bolinas Road)
- Fairfax Scoop (rack adjacent to curb in unused area near diagonal parking)

In addition to these two locations, the BPAC requested on-street parking in the red zone in front of Szechuan Chef and in the yellow loading zone in front of Ghiringhelli’s Pizza. The former location was considered but noted that the red zone may exist to facilitate turns into Mono Lane from
Bolinas Road, which has narrow travel lanes. The latter location is actively used by evening pizza delivery drivers.

Additional bike parking is recommended along Bolinas Avenue but because redesign of this section of downtown is currently being undertaken as a part of the General Plan Update specific recommendations are not given in this document.

Provide Valet Bike Parking at Public Events

As described in the policy recommendations in Chapter 2, a formal program to provide closed-in secure bicycle corrals at all large public permitted events to encourage residents and visitors to bicycle rather than drive should be instituted. In the past valet parking has been provided by the Marin County Bicycle Coalition and others at special events held in downtown such as the Fairfax Festival. Volunteers are critical to the success of such a program as they are typically used to staff the corral during the events. Examples of events which could benefit from such a program include the weekly Farmer’s Market, where temporary bicycle parking is desired as an alternative to permanent racks which would require paving a large concrete pad in the park in order to be able to accommodate the larger number of weekly riders.

Create a “Bike Center”

Fairfax is an ideal staging point for some of the best recreational road cycling and mountain biking in Marin County and the Bay Area region. In addition, Fairfax has the highest level bike commuters to work and school. The many riders who visit Fairfax constitute an underutilized resource for local businesses which could benefit from their patronage. For this reason the Town, in partnership with the Chamber of Commerce, should pursue development of a “Bicycle Center”, potentially with the involvement of an existing gym or bicycle shop, which would allow cyclists to store their bikes and change and shower before dining, seeing a movie or meeting up with friends at a local café or bar. The Center could offer optional services such as bike maintenance, cleaning and laundry. The facility could be funded through a combination of these optional services, sales of energy bars and sport drinks, memberships, and/or per-use fees.

Improve and Increase Bicycle Parking Facilities at Fairfax Schools

Currently both of the public schools, Manor and White Hill, have bicycle parking, as does Cascade Canyon, a private elementary. All indications are that bicycle parking needs will increase, given the increasing numbers of school bicycle commuters and ongoing promotion, education and encouragement efforts of the Ross Valley SR2S Task Force. At this time SR2S parents and Town staff have identified a need for more bicycle racks.

- Manor Elementary School – currently has capacity to accommodate 120 bikes on the field area, in addition to small racks for 4 bikes in front of the office. There is need for one more rack with space for 7-10 bikes to place at the kindergarten area.

- White Hill Middle School – currently has a bike “corral” adjacent to the exiting curb of the parking lot. The corral is approximately 25’ x 55’, and has wire fencing and wooden posts with a locking gate. There are racks to accommodate 70 bikes. The “floor” of the corral is uneven dirt and crushed gravel. Ingress and egress is problematic as cyclists have to either cross the paths of pedestrians or exiting cars. The corral also lacks any cover from inclement weather. An additional 30 spaces would accommodate future capacity needs. This parking
area should be redesigned and relocated to address circulation safety issues with accessing the parking area, improve the cage, paving the parking area, add sheltered parking and improve and reorganize the racks within the cage.

- Cascade Canyon Elementary School – has a rack with capacity for 12 bikes that is by the office and meets the needs of the school's bicycling community at this time.

**BICYCLE SIGNAL DETECTION**

As described in Chapter 3, the Town of Fairfax has no official policy regarding bicycle signal detection. The following recommendations are intended to expand the town's existing signal detection efforts to include bicycles along all designated lanes/routes and at key intersections.

**RECOMMENDATIONS**

**Calibrate Loop Detectors and Video Detection Devices**

While detector loops and video detection facilitate faster and more convenient motorist trips, if they aren’t calibrated properly or stop functioning, they can frustrate cyclists waiting for signals to change, unaware that their bicycle is not being detected. Where appropriate, the Town should ensure that all existing loops and video detection devices are calibrated and operable for bicycle users.

**Develop Policy of Installing Bicycle-Calibrated Loop Detectors or Video Detection with Bicycle Zones at Signalized Intersections**

The Town should develop a policy of installing bicycle-calibrated loop detectors at intersections along designated bike routes as they are repaved. For new installations it is recommended that the Town use Type D for lead loops in all regular travel lanes shared with bicycles. Within bike lanes it is recommended that the Town install Bicycle Loop Detectors (BLDs) using narrow Type C loops.

Where video detection is currently or planned to be in use, it is recommended that the Town continue and expand its practice of incorporating additional detection zones for bicycles, especially for intersections with sidepath, wide curb lane or Class II bicycle lane facilities. Video image detection should sense bicycles in all approach lanes and also on the left side of right-turn channelization islands. Some video systems can estimate approach speed, and this capability could be used to extend the green time for slow objects assumed to be bicycles.

**Apply Pavement Stenciling to Indicate Detection Areas**

Since most cyclists, as well as motorists, do not know how loop detectors or video detection work, all detector loops and video detection areas expected to be used by cyclists should be marked by a pavement stencil such as the Caltrans Standard Plan A24C bicycle detection marking that shows cyclists where to stop to activate the loop or video detection. Educational materials distributed by the Town should describe how to activate bicycle detectors. Stencils should be repainted as needed along with other roadway markings.

**Potential Locations for Bicycle Detection**

The following signalized intersections are potential locations for improved bicycle detection, subject to further feasibility analysis and traffic studies:

- Sir Francis Drake Boulevard and:
• Oak Manor Drive
• Claus Drive
• Pastori Avenue
• Kent Avenue
• Any future traffic signal locations

SHARE THE ROAD SIGNS

As described in Chapter 3, the Town of Fairfax has yellow “Share the Road” bicycle warning signs posted at several locations throughout town, intended to increase motorist and cyclist awareness of the need to share narrow roadways with limited sightlines or other potential safety issues.

RECOMMENDATION

The Fairfax BPAC should make recommendations for where future “Share the Road” signs should be installed, keeping in mind the goal of minimizing “sign pollution.” “Share the Road” signs are intended for installation on Class III bike routes and in other locations where there may be fast moving traffic and narrow right-of-way, limited sightlines or other potential safety concerns. The Share the Road signs are intended to compliment that County Bicycle Route Guide Sign System.
DATA SOURCE: MARINMAP
FAIRFAX BICYCLE & PEDESTRIAN PLAN
EXISTING & PROPOSED BIKEWAYS

LEGEND
Bicycle Facilities
Existing Proposed

Class I Bikeway or Multi-Use Path
Class II Bikeway
Class III Bikeway
Bike Parking
School
Existing/Proposed Map Kiosk
5.2. PEDESTRIAN FACILITY IMPROVEMENTS

This section discusses capital project recommendations for Fairfax’s pedestrian network. These infrastructure improvements are intended to enhance pedestrian access and circulation as well as help pedestrians feel more comfortable when walking in Fairfax.

A number of recommendations are made for infrastructure projects that should be implemented on a broad Townwide basis. These projects were divided into several categories of improvements: Sidewalk Gaps, Curb Ramps, Signalized Intersections, Signal Timing, Unsignalized Intersections. Following the Townwide project recommendations, a number of example project recommendations are identified. These projects seek to improve specific intersections, corridors, or other locations that were identified through the existing conditions and public input process as needed improvement areas.

More details about specific improvement types are provided in the Design Guidelines appendix.

IN Fill Of Walkway Gaps

Walk gaps are areas in Fairfax where there is no walkway, or the walkway ends abruptly, resulting in a discontinuous network. Areas without walkways may force pedestrians to walk along the edge of the roadway, or may cause pedestrians to cross at undesignated crossing locations. Where feasible, providing a continuous pedestrian sidewalk along both sides of all of Fairfax's roadways is recommended.

RECOMMENDATION: A complete Townwide inventory of walkway gaps was not within the scope of this plan update. The Town should conduct additional a comprehensive sidewalk and pathway inventory in order to develop a detailed electronic inventory of sidewalk gaps needing to be installed and develop a process for prioritizing and filling these gaps. In addition, the town should continue to work to establish walkways along the existing and proposed pedestrian rights-of-way identified by the Fairfax Volunteers, as feasible.

Reduction Of Curb Radii

Historically roadway design standards called for wide curb radii at intersections to promote intersection capacity for motor vehicles. As a result, many of Fairfax’s intersections have corners that force pedestrians to walk further to cross the street than at intersections with small or medium turning radii. This design also allows vehicles to make right-turns at relatively high speeds compared to smaller intersections. This should be studied on a case-by-case basis.

RECOMMENDATION: As a Townwide policy, Fairfax should reduce corner curb radii when repaving streets and installing curb ramps where it increases safety of bikes and pedestrians. Fairfax should also consider, where necessary, retrofitting curb radii at all arterial and collector intersections in the downtown area.

Curb Ramp Improvements

CURB RAMPS

An inventory of curb ramps was not conducted for the Plan update. As a part of a curb ramp inventory, data on the slope, side slope, landing dimensions, and other attributes of the curb ramp
are measured in the field. An analysis of this data considers compliance with current ADA regulations for slope, lip height and presence of tactile warnings ("truncated domes"). Retrofitting the cities non-compliant curb ramps is generally something the Town will accomplish as part of roadway re-paving projects (ADA requires that curb ramps be installed or brought up to compliance during street overlays).

RECOMMENDATION: Fairfax should install curb ramps at all locations in the downtown and surrounding neighborhood areas where they currently do not exist. Fairfax should conduct a detailed curb ramp inventory throughout the Town to determine other locations that lack curb ramps. Priority locations for additional inventory would include schools, neighborhood parks, and community centers. As part of normal street re-paving projects, the Town should continue to install curb ramps if none currently exist, and to upgrade existing ramps to current standards.

TRUNCATED DOMES
Truncated domes provide a cue to visually-impaired pedestrians that they are entering a street or intersection. Since 2002, ADA Guidelines have called for truncated domes on curb ramps.

Although it is not required for Fairfax to install truncated domes at existing curb ramps that were built prior to 2002, it is recommended that the Town continue installing these devices at high priority pedestrian locations and when re-paving and upgrading existing curb ramps to meet ADA guidelines. Truncated domes are a very visible improvement, and they are relatively inexpensive to install.

RECOMMENDATION: Fairfax should install truncated domes at all arterial and collector intersections in the downtown and along streets that provide access to the commercial areas. Fairfax should also install truncated domes when re-paving streets and improving existing curb ramps and elsewhere to be in compliance with ADA requirements.

PERPENDICULAR CURB RAMPS
Perpendicular curb ramps are designed so two ramps are included at intersection corners. Perpendicular ramps allow pedestrians and people in wheelchairs to access the sidewalk perpendicular to stopped traffic, and to enter into the crosswalk directly in their line of travel. Perpendicular ramps are not required by ADA or any other standard. However, perpendicular ramps are the preferred curb ramp style from a pedestrian standpoint since they provide the most direct access into the crosswalk. Perpendicular ramps do require more space to install than a single diagonal ramp, are more costly, and sometimes cannot be accommodated due to utilities or other obstructions at the corner. However, especially at major intersections in high pedestrian zones, it is recommended that they be installed where feasible.

RECOMMENDATION: Fairfax should install perpendicular curb ramps in the downtown area and on adjacent streets and throughout the town as needed.
SIGNALIZED INTERSECTION IMPROVEMENTS

There are a variety of engineering improvements that can improve pedestrians’ walking experience when crossing signalized intersections. All of these improvements are discussed in detail in Appendix A - Design Guidelines. An improvement that is recommended for some of Fairfax’s signalized intersections is signal retiming. This improvement is described below.

SIGNAL TIMING

Signal timing is the amount of time each phase of a signal is allotted for vehicles to pass through or pedestrians to cross the street. Per the MUTCD, standard traffic engineering design assumes that pedestrians travel at 4.0-feet per second, which is used to determine the amount of time to assign to the pedestrian clearance interval. For slower pedestrians, such as the elderly and children, this assumed walking speed may result in them not being able to fully cross the street before the light changes. By adjusting the signal timing to a slower walking rate, slower pedestrian will have more time to cross the street.

RECOMMENDATION: Fairfax should consider adjusting signal timing at the three signals within the Town to allow for a pedestrian pace of 2.8-feet per second. This slower walking speed is consistent with MUTCD recommendations for walking rates for slower pedestrians. Consideration of signal operation and signal coordination by the County of Marin is necessary for this recommendation, since all three signals are along Sir Francis Drake Boulevard.

AUDIBLE SIGNALS

Audible signals provide a cue to visually-impaired pedestrians that there is a ‘Walk’ signal. Audible signals are usually chirping sounds and can also be the name of the street to cross. Sounds are activated by the pedestrian push-button. The MUTCD states that 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 volumes or high turn-on-red volumes.
- The complexity of traffic signal phasing.
- The complexity of intersection geometry."

RECOMMENDATION: Fairfax should consider installing audible signals at signalized intersections.

UNCONTROLLED CROSSWALK IMPROVEMENTS

Infrastructure improvements at uncontrolled crosswalk locations can help increase the visibility of pedestrians to motorists and improve the pedestrians’ walking experience. These improvements are for both unmarked and marked crosswalks at intersections.
HIGH-VISIBILITY CROSSWALK MARKINGS

There are a variety of different striping styles for crosswalks. The Town of Fairfax utilizes two different marking styles for pedestrian crosswalks: the standard “transverse” style, consisting of two parallel lines; and the “ladder” style consisting of the two parallel lines with perpendicular ladder bars striped across the width of the crosswalk. Ladder style crosswalks are used in locations where heightened pedestrian visibility is important, such as around school areas. However, the Town does not currently have a consistent policy to guide the application of ladder crosswalks.

RECOMMENDATION: As a Townwide policy, Fairfax should install ladder crosswalk markings at all uncontrolled crosswalk locations where there are existing tranverse style markings. The Town should also continue its policy of installing high-visibility ladder crosswalk markings at uncontrolled crosswalks on local streets adjacent to schools and at other locations, on a case-by-case basis.

RAISED CROSSWALKS

As described in the MUTCD, raised crosswalks are a combination of speed hump or speed table and crosswalk, which raises a conventional crosswalk, with the goal of increasing visibility of the crosswalk and encouraging frequent users to get in the habit of slowing for the pedestrian crossing.

RECOMMENDATION: Fairfax should consider the use of raised crosswalks at uncontrolled crosswalk locations where there is an existing marked crosswalk and a history of poor motorist awareness of and yielding at the existing crosswalk. Raised crosswalks are appropriate for roadways with lower traffic volumes and are not typically used on high-volume arterial streets. As a form of traffic calming, raised crosswalks should be installed in consultation with police and fire to ensure prompt access for emergency vehicles.

IN-STREET YIELD TO PEDESTRIAN SIGNS

In-Street Yield to Pedestrian Signs are flexible plastic “paddle” signs installed in the center of a roadway to enhance a crosswalk at uncontrolled crossing locations. Currently these signs are in use throughout the downtown area on Broadway Avenue and Bolinas Road and at selected school crosswalk locations such as Oak Manor Drive.

RECOMMENDATION: Fairfax should continue the use of “paddle” crosswalk signs along downtown commercial streets and at selected school locations by installing new signs as needed and maintaining existing sign locations.

IN-PAVEMENT CROSSWALK LIGHTS

This push-button activated device is designed to improve pedestrian safety by increasing motorist awareness of pedestrians at midblock crosswalk locations. When pedestrians push the button, lights imbedded in the pavement on either side of the crosswalk illuminate in a flashing pattern. In-pavement lights have been used at the Marin County Civic Center where they have been successfully at improving motorist yielding to pedestrians in the crosswalk.

It has been the policy of the Fairfax members of the Safe Routes to Schools Task Force to not recommend these for use in the crosswalks on Sir Francis Drake Boulevard, because of lessened visibility for drivers other than those immediately adjacent to the crosswalk. In addition, The Town of San Anselmo has experienced some unexpected maintenance cost where they have been used along Drake. Since there are several overhead mast type crossing signals already along Drake within Fairfax, this policy was adopted for consistency as well as the above safety and maintenance reasons.
The exception to this policy is that mid block crosswalks in downtown may be good locations for in-pavement lights, especially where overhead masts would conflict with trees, utilities and the character of downtown streets.

**RECOMMENDATION:** Fairfax should consider installation of in-pavement flashing lights at mid-block crosswalk locations such as those along Broadway Avenue, Center Boulevard and Sir Francis Drake Boulevard (east of Claus Drive in the downtown area).

**CURB EXTENSIONS**

Curb extensions, also called “bulbouts” to describe their shape, are engineering improvements intended to reduce pedestrian crossing distance and increase visibility. In addition to shortening the crosswalk distance, curb extensions serve to increase pedestrian visibility by allowing pedestrians to safely step out to the edge of the parking lane where they can see into the street, also making them more visible to oncoming drivers. Curb extensions can also improve safety by visually narrowing the roadway, cueing drivers to reduce their speed. Despite their advantages, curb extensions can require major re-engineering of the street, can be extremely costly, and are not appropriate for all situations.

**RECOMMENDATION:** Fairfax should consider the feasibility of installing curb extensions at crosswalk locations where appropriate.

**EXAMPLE PEDESTRIAN PROJECTS**

The following list of pedestrian projects was developed based on past public input and the input from Staff and the BPAC. A number of these projects are already developed and funded. Note that all new crosswalk locations assume installation of curb ramps to meet ADA requirements.

- **Oak Manor Sidewalk project** – funded SR2S project which proposes to close a sidewalk gap. As suggested by the BPAC, future projects for this area could include traffic calming.
- **Center Boulevard Project** – funded street rehabilitation project which proposes to install new and improved sidewalk segments as well as new crosswalks, curb extensions and lighting. If not already included, project should include use of crosswalk “paddle” signs, similar to existing practice on Broadway Avenue and Bolinas Road.
- **Pastori Sidewalk Project** – funded NTPP project which proposes to install new sidewalks and crosswalks. If not already included, project should include use of crosswalk “paddle” signs, similar to existing practice on Broadway Avenue and Bolinas Road.
- **Glen Drive Improvements** – funded SR2S project which proposes new sidewalks and improved crosswalks on Glen Drive and Sir Francis Drake Boulevard near White Hill School. If not already included in the current project, future improvements could include use of crosswalk “paddle” signs, similar to existing practice on Oak Manor Drive at Manor School and speed humps or other traffic calming devices.
- **Sir Frances Drake Sidewalk Project** – funded NTPP project which proposes to install sidewalks on the west side of SFD between Olema Road and Claus Drive.
• Cascade Drive Improvements – ongoing project currently being studied, which includes potential improvements as appropriate for various segments, such as:
  o Walkway on at least one side of the street. Volunteer Joe Breeze has developed a proposal for a walkway with a pervious surface along Cascade Drive that takes advantage of existing public right-of-way. The project would require retaining walls in several areas and may need to be studied further for ADA compliance
  o Crosswalks at intersection locations as needed
  o Pedestrian safety signage including “paddle” signs
  o Traffic Calming such as curb extensions

• Porteous Road Project – conceptual project which includes the following potential improvements, to be developed through a process in partnership with local residents:
  o Walkway with context-sensitive surface such as crushed granite has been proposed by residents, compliant with Town goals of maintaining water pervious surfaces especially in creek areas.
  o Crosswalks at intersection locations as needed
  o Traffic calming such as curb extensions at identified problem locations such as the intersection of Porteous and Creek
  o Speed limit reduction to create “Neighborhood Zone” or “Village Speed Limit”

• Downtown pedestrian improvements (Broadway and Bolinas) – conceptual improvement project to improve conditions for pedestrians in the downtown business district, including the following potential improvements:
  o Sidewalk surface maintenance
  o Improved crosswalks at intersection and mid-block locations as needed
  o Curb extensions/traffic calming at intersection and mid-block locations as needed
  o Maintenance and reinstallation of existing “paddle” crosswalk sign locations
  o New crosswalk of Sherman at Bolinas Road
  o New crosswalk of Bolinas Road at Mono Way
  o New crosswalk of Broadway Avenue near School Street; would require high visibility treatment and advance warning signs/beacons due to line of sight topography issues; thorough study recommended before implementing a new crosswalk in this area
  o Potential speed limit reduction if warranted by traffic study

• Sir Frances Drake crossing improvements – conceptual project that proposes improved crosswalks at intersection and mid-block locations, including the following potential improvements:
  o High-visibility crosswalks
  o Improved warning signage
  o In-pavement flashing crosswalk lights
  o Overhead flashing beacons

• Elsie/Mono/Bank sidewalk and streetscape project – this conceptual project has been discussed by both the General Plan Advisory Committee as well as the BPAC. The project is proposed for an area with an undeveloped streetscape. The project includes the following potential improvements:
- Continuous sidewalks on both sides of the street
- Addition of curb and gutter, landscaping and traffic calming
- Potential or partial closure of Mono
- Crosswalks at intersection and mid-block locations as needed

- Pacheco/Dominga/Creek – this corridor has been identified as a key pedestrian connection to and from the downtown warranting the following potential improvements:
  - Filling sidewalk gaps
  - Improving crosswalks at intersection locations
  - Traffic calming such as curb extensions at intersections
  - Speed limit reduction to create “Neighborhood Zone” or “Village Speed Limit”

- Park/Sequoia/Scenic/Manor – this corridor has been identified by both the BPAC and the SR2S task force as a key pedestrian connection to and from the downtown and to schools, warranting the following potential improvements:
  - Filling sidewalk gaps
  - Improving crosswalks at intersection locations
  - Installing new crosswalks as needed
  - Traffic calming such as curb extensions and speed humps
  - Speed limit reduction to create “Neighborhood Zone” or “Village Speed Limit”

- Hawthorne Bike/Ped Bridge – similar to the new Manor Bridge, a bridge at this location would connect Hawthorne Court to the intersection of Sir Francis Drake Boulevard and Oak Manor Drive, creating a direct pedestrian route from the neighborhood to Oak Manor School.

- Lansdale Walkway – this conceptual project would add a walkway alongside Lansdale Avenue to fill a pedestrian connection gap in an area where there is currently no separated walkway leading to existing sidewalks in San Anselmo. This project is likely to be extremely challenging due to the need to remove either parking or vegetation and do significant grading and construction of retaining walls. This project would be an option instead of the long-term alternative for the connection between Fairfax and San Anselmo. A third option for this area would involve creation of a low-speed traffic-calmed “Living Street” where cars would travel at the same speed at bicycles and pedestrians and all users would share the same right of way. This design is not typical in the United States but has been implemented in many areas of Europe.

5.3. RECOMMENDED POLICIES AND PROGRAMS

Support policies programs are an important component of a bicycle and pedestrian transportation system. Bikeway and walkway facilities alone are not sufficient to increase cycling. Programs such as bikeway and sidewalk management and maintenance, and promotional and educational programs may contribute to improved convenience and safety for pedestrians and cyclists, and help create the cultural shift that is necessary to increase walking and bicycling as a mode of transportation. The following section includes both general and specific recommendations for programs.
DEVELOPMENT AND CAPITAL PROJECTS

One of the critical challenges of providing pedestrian and bikeway improvements is funding their construction. Private projects such as new or redevelopment and public projects such as planning Capital Improvements Projects (CIP) provide excellent opportunities for cost-effective implementation of bikeways.

RECOMMENDATION - DEVELOPMENT AND REDEVELOPMENT

A policy should be developed requiring bikeway and pedestrian improvements as a condition of private redevelopment or new construction. Based on specific criteria, construction of bikeways and walkways as a part of such projects could be required for development permits. Bicycle and pedestrian facilities can also be incorporated into the town’s traffic mitigation strategies as an option for developers. Bikeways and walkways to be constructed should be from the adopted Town of Fairfax Bicycle and Pedestrian Master Plan and be reviewed by staff with the involvement of the BPAC. End of trip facilities such as secure, indoor bicycle parking, showers and lockers should be integrated according to national best practices, as needed.

RECOMMENDATION - TRANSPORTATION CAPITAL PROJECTS

A policy should be developed to integrate bikeway and pedestrian facility construction into the Town’s Capital Improvements Projects program and other larger roadway projects. To achieve cost-savings projects such as striping bicycle lanes and high visibility crosswalks can be added to roadway construction, reconstruction and resurfacing at much lower cost proportionally to a stand-alone bikeway or pedestrian project.

MAINTENANCE

Maintenance is often identified as one of the chief obstacles in the implementation of local bike and pedestrian plans in Marin County. Fairfax’s bikeways and walkways should be well-maintained. Some tasks, such as repairing damaged and potholed roadway surfaces, clearing plant overgrowth and regular sweeping are associated with routine roadway maintenance. Additional care and attention should be taken to ensure bikeways are included in the maintenance. For example, street sweeping activities should include the bike lane and not transfer debris out of the roadway and into the bicycle lane. Other maintenance activities are bikeway specific, and could include restriping lanes, repainting stencils and replacing signs. Clearing storm debris, repairing cracks in the sidewalk and fixing trip-and-fall hazards are all typical routine sidewalk maintenance to ensure continued ADA accessibility. Roadway and other capital improvement construction projects present unique challenges for maintaining bikeways and pedestrian facilities.

RECOMMENDATION - ROUTINE MAINTENANCE

Bikeways and walkways are an integral part of Fairfax’s transportation network, and maintenance of the bikeway network should be part of the ongoing maintenance program for all Town transportation facilities.

RECOMMENDATION - ROADWAY AND CONSTRUCTION PROJECTS

Bikeways and walkways should be maintained and preserved during roadway and construction projects that impact their use. Bikeways and sidewalks should be kept free of construction debris. In
the case that bicycle or pedestrian facilities must be obstructed for the purposes of construction an appropriate, clearly-signed route should be signed through or around the construction area that does not increase users’ exposure to safety hazards.

**RECOMMENDATION - “SPOT IMPROVEMENT” MAINTENANCE**

The Town should ensure that a mechanism exists to alleviate potential hazards for bicyclists and pedestrians at specific locations. Training should be provided if necessary to ensure that public works maintenance employees recognize recurring bicycle and pedestrian issues such as:

- Improperly designed or placed drainage grates
- Cracks or seams in the pavement or sidewalk
- Overhanging tree limbs or encroaching vegetation located along bikeways and walkways
- Areas where debris accumulates in bike lanes and on sidewalks and pathways

**RECOMMENDATION - INTEGRATE MAINTENANCE INTO DPW PROCESS**

All printed and online bicycle education materials and maps should include the Department of Public Works maintenance request website and phone number.

**PROTECT NONMOTORIZED FACILITIES FROM REMOVAL**

**RECOMMENDATION**

The Town should implement a practice that existing bikeway and pedestrian facilities will not be removed. For example, Class II bike lane facilities should not be removed at a future date to increase motor vehicle capacity without a thorough study analyzing the alternatives and unless the bicycle accommodation is replaced by another facility of equal or greater utility to cyclists.

**MULTI-MODAL CONNECTIONS**

**RECOMMENDATION**

The Town of Fairfax should work with the Marin County Transit District and Golden Gate Transit to continue to expand bicycle access to buses. Bicycle travel to transit stops and stations should be enhanced in order to make the transfer between bicycle and transit travel as convenient as possible. Key components to enhancing transit-bike connections include: providing bicycle parking at transit stops, including bike racks at key bus stops and transfer points; providing educational materials regarding transit and bikes-on-transit, including maps to and from stations and stops. Improvements to bicycle rack capacity on buses will benefit Fairfax cyclists who take buses to the wide variety of destinations.

**TRAFFIC CALMING**

Traffic calming programs are beneficial for all roadway users, especially if programs succeed in reducing the speed differential between automobile and cyclist travel speeds. However, if not appropriately designed, some physical traffic calming devices can present hazards for cyclists. For
example, “chokers” or traffic islands can narrow the space between bicycles and cars and, depending the context, may compromise a cyclist’s safety if not properly designed.

**RECOMMENDATION**

All physical traffic calming solutions should take into account cyclists’ needs; incorporate design features and signage that ensure that cyclists and motorists have enough room to share the lane; and clearly establish right-of-way priorities. In cases where cyclists’ operating space is reduced, case should be taken to clearly indicate cyclists’ proper roadway positioning using stencils and/or signage as well as other means to increase visibility of cyclists to motorists.

**EDUCATION AND ENFORCEMENT PROGRAMS**

Statewide trends show that the lack of education for bicyclists, especially younger students, continues to be a leading cause of accidents and traffic violations by cyclists. For example, the most common type of bicycle accident reported in California involves a younger person (between 8 and 16 years of age) riding on the wrong side of the road in the evening hours. Studies of accident locations around California consistently show the greatest concentration of accidents is directly adjacent to elementary, middle, and high schools.

Most education and enforcement programs and activities will likely be cooperative efforts between the Town of Fairfax, the Fairfax Police Department, the Marin County Sheriff’s office, the County of Marin, the Transportation Authority of Marin, SR2S and local bicycle groups such as the Marin County Bicycle Coalition.

**RECOMMENDATIONS**

Continue and Expand Existing Education and Enforcement Programs

Existing school education programs should be continued. With the passage of Measure A funding for Safe Routes to Schools, the program will continue to be available to Fairfax schools and can be expanded to include non-participating schools. Measure A funding also provides Safe Pathways funding, which provides an incentive for Safe Routes programs to develop infrastructure improvement concepts. More information is found under the separate Safe Routes to Schools section below.

For adult education, the Town should work with law enforcement and the Marin County Bicycle Coalition to publicize local adult bicycle education and safety programs, including Share the Road and Street Skills classes. Fairfax should continue to offer “bicycle traffic school” in the form of Street Skills classes in lieu of fines and should sponsor adult “cycling skills” classes to prevent future traffic violations and unsafe behavior.

In terms of enforcement, the Fairfax Police Department should continue its enforcement efforts of cycling traffic violations and officers should provide Share the Road literature with every citation made of a cyclist. The Police Department should also begin “bicycle sting” and “pedestrian sting” operations in which motorists are cited for failing to yield the right of way to other road users. Additionally, police should begin enforcing the ordinance for no parking on the sidewalks that creates potentially dangerous conditions for pedestrians when cars block the public right of way.

The Town should continue and expand Share the Road Checkpoints with advocacy groups and offer Share the Road safety presentations to community groups and at events. Outreach
opportunities such as a “Bike-In Film Night” at the baseball field with a Share the Road presentation prior to presentation of bicycle-themed movies could reach a large number of cyclists and non-cyclists alike.

ENCOURAGEMENT PROGRAMS

Encouragement programs are vital to the success of the Bicycle and Pedestrian Plan. Encouragement programs work to get more people out of their cars and onto bicycles or walking, which will help to reduce traffic congestion and air pollution, as well as improve the quality of life in Fairfax. In addition to government efforts, involvement by the private sector in raising awareness of the benefits of bicycling and walking is important and can range from small incremental activities by local citizens, to larger coordinated efforts by established non-profit groups. Specific programs are described below.

RECOMMENDATIONS

Facilitate the Development of Employer Incentive Programs

Facilitate the development of employer incentive programs to encourage employees to try bicycling or walking to work, or to transit as a part of their commute. The Town may offer incentives to employers to institute these improvements through lowered auto parking requirements, reduced traffic mitigation fees, or other means. Other efforts could include:

- Developing, promoting and publicizing bicycle commuter services, such as bike shops selling commute gear, bike-on-transit policies, and regular escorted commute rides.
- Creating an annual commuter challenge for area businesses, including both walking and biking.

Utilitarian and Recreational Trip Incentive Programs

The Town may develop and implement encouragement programs for utilitarian and recreational purposes. Local businesses such as movie theaters and cafes should be involved to encourage customers to use a bicycle or walk for their trips. Such efforts may include:

- Creating events such as “Shop by Bike” days, when cyclists get vouchers for, or coupons off items in the store, or “bicycle to the movies” days, when cyclists receive free popcorn or a discount on a movie or refreshments.
- Holding a community event to encourage residents to replace one car trip a week with a bicycle or walking trip.
- Supporting the planning and implementation of an annual bicycle ride in Fairfax to attract new riders, showcase the town, and demonstrate the benefits of bicycling.
- Develop and implement a public education campaign to encourage bicycling and walking.

Bike Fairs and Races

Hosting bike fairs and races in Fairfax can raise the profile of bicycling in the area and provide entertainment for all ages at the same time. Bike fairs and races, similar to bike-to-work day events and bike rodeos currently hosted in the Town provide an opportunity to educate and encourage current and potential bicyclists. These events can also bring visitors to Fairfax that may contribute to the local economy.
Walking Tours and Events

Walking tours and events are an excellent way to publicize walking for recreation and transportation. Tours can showcase the Town’s history and geography and take advantage of the many scenic walks in the area as well as raising awareness of the need for pedestrian improvements.

Fairfax Bicycle Route Map and Kiosks

Providing a bicycle route map is the primary tool for showing bicyclists all the designated bikeways in Fairfax and is a high priority for the BPAC. Such a map could be displayed at bike shops and kiosks. A Bicycle Route Map of Fairfax should clearly show the type of facility (path, lane, or route) as well as include basic safety information, significant destinations, the location of bicycle parking facilities, public bathrooms, water fountains, transit stops and bicycle facilities in the neighboring communities. The map should clearly communicate traffic laws relevant to bicycles and the fact that Fairfax takes enforcement of those laws seriously. Posting points for the map include: Town Hall, the library, the community center, local schools, bike shops and existing and proposed kiosks located:

- Sir Francis Drake Boulevard/Olema Road (existing)
- The Parkade (proposed)
- The Java Hut parking lot (proposed)
- Lansdale Avenue/Center Boulevard (existing)

Bike-to-Work and Bike-to-School/Walk-to-Work and Walk-to-School Days

The Town of Fairfax should continue to participate in the annual Bike-to-Work day in May, in conjunction with the California and Marin County bike-to-work week activities. Town staff should be present at “energizer” stations along the route. The Town should also encourage continued participation by local schools in Walk and Bike to School Day and may also consider implementing Walk-to-Work or Walk-to-Transit days.

SAFE ROUTES TO SCHOOLS

Identifying and improving routes for children to walk or bicycle to school is an effective means of reducing morning traffic congestion and addressing potential safety concerns around schools. Most effective school commute programs are joint efforts of the school district and Town or County, with parent organizations adding an important element. The traffic calming, route maps and infrastructure improvements that result from an extensive Safe Routes to School plan benefit not only students walking and biking to school, but also other cyclists and pedestrians that are using routes near schools. As the Safe Routes to School’s Task Force develops capital recommendations, they should be presented to the BPAC for review. Consistent with the policies in Section 2, when appropriate, SR2S capital projects should be forwarded to the Town Council for approval through the existing capital projects bid process.

RECOMMENDATIONS

The Town of Fairfax should continue its support of the Safe Routes to Schools program within the Ross Valley School District and private schools. Safe Routes infrastructure improvements at local schools should be coordinated with town-wide bicycle infrastructure improvements to create a seamless network by which school-aged children can travel by bicycle and on foot.
The following five recommendations are incorporated from the Transportation Authority of Marin’s SR2S Program Evaluation for 2005-2006:

- Expand to Other Schools
- Utilize the Measure A Safe Pathways Capital Funding Program
- Sustain and Increase Participation, Enthusiasm, and Continuity
- Continue to Remove Barriers to Alternative Modes
- Increase Transit Availability

More details are available on the TAM website: www.tam.ca.gov

6. PLAN IMPLEMENTATION

This chapter identifies steps towards implementation of the proposed facilities and programs of this plan, the estimated costs for the proposed improvements and maintenance, and strategies on funding and financing.

6.1. IMPLEMENTATION PROCESS

The steps between the network improvements and concepts identified in this Plan and the final completion of the improvements will vary from project to project, but typically include:

1. Adoption of the 2008 Fairfax Bicycle and Pedestrian Master Plan Update by the Fairfax Town Council.
2. Preparation of a Feasibility Study involving a conceptual design (with consideration of possible alternatives and environmental issues) and cost estimate for individual projects as needed.
3. Secure, as necessary, outside funding and any applicable environmental approvals.
4. Consider the parking needs of businesses and residents in the development of new bicycle lanes through a thorough community engagement process
5. Approval of the project by the Town Council, including the commitment by the latter to provide for any unfunded portions of project costs.
6. Completion of final plans, specifications and estimates, advertising for bids, receipt of bids and award of contract(s).
7. Construction of Project.

6.2. INFRASTRUCTURE PROJECT PRIORITIZATION

Once a bikeway system has been identified, the greatest challenge is to identify the top priority projects that will offer the greatest benefit to bicyclists if implemented. The project prioritization in the following section was developed through a qualitative analysis based on stated priorities of the
BPAC and Town staff, priorities communicated by the public in public meetings and workshops, priorities from the 2001 *Fairfax Bicycle and Pedestrian Master Plan* and the criteria detailed below.

- **Continuity** – Does the project provide new or significantly improved connectivity on established corridors or between major activity areas that does not currently exist or is not currently usable by the general public?

- **Gap Closure** – Does the project provide a new connection between major activity centers or on a major corridor that currently either does not exist or has convenience/safety issues?

- **Demand Patterns** – Does the project serve a significant existing or potential demand, as evidenced by (a) counts or observed activity, (b) comments from the public, (c) connectivity and proximity to major generators, and/or (d) projections from an acceptable demand model?

- **Safety** – Does the project address a significant safety concern in a community as evidenced by collision data, field observations, and/or public perception and comments?

- **Project Readiness** – Are the key feasibility issues of the project (right-of-way, environmental impacts, engineering issues, cost issues, neighborhood support) understood and not expected to negatively affect or delay the project? Has any formal feasibility study, engineering or design been conducted?

- **Multi-Modal Integration** – Does the project provide enhanced connectivity to existing transit services?

- **Cost/Benefit analysis** – Will the project provide the greatest benefit to cyclists for the amount invested to build it?

It is important to remember that the lists of bikeway projects and programs are flexible concepts that serve as guidelines to those responsible for implementation. The project priorities, and perhaps even the overall system and segments themselves, may change over time as a result of changing bicycling patterns and implementation constraints and opportunities. Project prioritization is not meant as an absolute value, rather as an indication of projects’ relative importance only. These priorities should be considered a “living document”. The Fairfax BPAC and Town staff should review the project priorities on an annual basis to ensure that it reflects the most current priorities, needs, and opportunities for implementing the bikeway network in a logical and efficient manner, and that in particular the list takes advantage of all available funding opportunities and grant cycles. As projects are implemented and taken off the list, new projects should be moved up in status.

**BICYCLE PROJECT PRIORITIZATION AND PHASING:**

Prioritization and phasing is presented as a guideline for the Town, and additional circumstances including available funding and implementation of roadway and transit capital projects, or development projects, could result in changes to the priorities to maximize opportunities.

**NEAR-TERM:**

- Downtown and school bicycle parking
- Center Boulevard Class II Bicycle Lanes/Intersection Treatments (Pastori Avenue to Pacheco Avenue)
• Bolinas Road Class III Signage and Shared Roadway Bicycle Markings (Sharrows)
• Pacheco/Napa/Dominga/Creek/Porteous Class III Signage and Sharrows
• Park/Sequoia/Spruce/Scenic/Manor Class III Signage and Sharrows
• Cascade Drive Class III Signage and Sharrows (Bolinas Road to Canyon Road)
• Rock Ridge Road, Forrest Avenue, Cascade Drive (Canyon Road to Elliot Nature Preserve Open Space) “Recreational Access” Class III signage only
• Cascade Drive Class III and Traffic Calming (Bolinas Road to Canyon Road, as feasible)
• All remaining Class III signage
• Maintain all existing signs, striping and stencils

**MID-TERM:**

• Broadway Class II Bicycle Lanes (Center Boulevard to Claus Drive)
• Pacheco/Napa/Dominga/Creek/Porteous Traffic Calming
• Park/Sequoia/Spruce/Scenic/Manor Traffic Calming
• Cascade Class III Sharrows and Traffic Calming (Canyon Road to Open Space, as feasible)
• Sir Frances Drake Class II (eastbound)

**LONG-TERM:**

• Hawthorne Bike/Ped Bridge
• Implementation of recommendations from San Rafael-Fairfax Corridor Study for connection to San Anselmo:
  ▪ Class I Pathway between Center Boulevard and Lansdale
  ▪ Class II Bicycle Lanes on Center Boulevard (Pastori to Town Limits)
  ▪ Class III Bicycle Route with Sharrows and Traffic Calming

**PEDESTRIAN PROJECT PRIORITIZATION AND PHASING:**

**NEAR-TERM:**

• Oak Manor Sidewalk project
• Center Boulevard Project
• Pastori Sidewalk Project
• Glen Drive Improvements
• Oak Manor Drive/Sir Francis Drake Boulevard Crosswalk and Pedestrian Beacon
• Cascade Drive Improvements:
  ▪ Crosswalks at intersection locations as needed for existing sidewalks
  ▪ Pedestrian safety signage including “paddle” signs
  ▪ Traffic Calming such as curb extensions for existing sidewalk areas
  ▪ Pedestrian rights-of-way improvements at 200 block below Laurel at curve
• Downtown pedestrian improvements (Broadway and Bolinas):
  ▪ Sidewalk surface maintenance
  ▪ Improved crosswalks at intersection and mid-block locations as needed
  ▪ Maintenance and reinstallation of existing “paddle” crosswalk sign locations
  ▪ New crosswalk of Bolinas Road at Mono Way
  ▪ New crosswalk of Bolinas Road at Sherman Avenue
  ▪ New crosswalk of Broadway Avenue at School Street (pending safety study)
• Sir Frances Drake crossing improvements:
  ▪ High-visibility crosswalks
- Improved warning signage
- Pacheco/Napa/Dominga/Creek:
  - Improving existing crosswalks at intersection locations
  - Installing new crosswalks as needed
  - Potential speed limit reduction
- Park/Sequoia/Spruce/Manor:
  - Improving existing crosswalks at intersection locations
  - Installing new crosswalks as needed
  - Potential speed limit reduction

**MID-TERM:**

- Sir Frances Drake Sidewalk Project
- Downtown pedestrian improvements (Broadway and Bolinas):
  - Curb extensions/traffic calming at intersection and mid-block locations as needed
- Sir Frances Drake crossing improvements:
  - In-pavement flashing crosswalk lights (east of Claus Drive)
- Pacheco/Napa/Dominga/Creek:
  - Filling sidewalk gaps
  - Traffic calming such as curb extensions at intersections
- Park/Sequoia/Spruce/Manor:
  - Filling sidewalk gaps
  - Traffic calming such as curb extensions and speed humps
- Cascade Drive Improvements:
  - Walkway on at least one side of the street (Bolinas Road to Canyon Road)
  - Traffic Calming such as curb extensions (Bolinas Road to Canyon Road)

**LONG-TERM:**

- Porteous Road Project:
  - Walkway with context-sensitive surface such as soft-surface with pine resin binder, colored asphalt pathway, and/or crushed granite
  - Crosswalks at intersection locations as needed
  - Traffic calming such as curb extensions at identified problem locations such as the intersection of Porteous and Creek
- Elsie/Mono/Bank sidewalk and streetscape project:
  - Continuous sidewalks on both sides of the street
  - Addition of curb and gutter, landscaping and traffic calming
  - Potential or partial closure of Mono or Elsie
  - Crosswalks at intersection and mid-block locations as needed
- Hawthorne Bike/Ped Bridge
- Lansdale Sidewalk

### 6.3. **COST ESTIMATES**

A breakdown of conceptual cost estimates for the recommended bicycle and pedestrian network detailed in this plan is presented in **Tables 6-1 through 6-6** below. The final construction cost the bicycle and pedestrian network may be less than the sum of these options, since in some cases one option will be chosen above another. It is important to note the three following assumptions about the cost estimates. First, all cost estimates are highly conceptual, since there is no feasibility or preliminary design completed, and second, the design and administration costs included in these
estimates may not be sufficient to fund environmental clearance studies. In particular, pedestrian project cost estimates provided here would need to be further refined through project development because in most cases specific existing conditions (e.g. exact length of sidewalk gaps, presence or absence of curb ramps) are not known as of this writing. Due to their complexity, costs for the Class I Pathways proposed here would need to be reexamined as a part of future planning and design studies, and are presented as a rough starting point only. Finally, cost estimates are a moving target over time as construction costs escalate quickly.

All the projects are recommended to be implemented on near-term, mid-term or long-term timelines, or as funding is available. The more expensive and complex projects may take longer to implement. In addition, many funding sources are highly competitive, and therefore impossible to determine exactly which projects will be funded by which funding sources. Timing of projects is also something difficult to pinpoint exactly, due to the dependence on competitive funding sources, timing of roadway and development, and the overall economy.

The projects listed may be funded through various sources and some have already secured full or partial funding as noted in Chapter 5. The funding section in this chapter outlines some of the local, regional, State and federal funding methods and resources for non-motorized transportation projects.

### Table 6-1
Bikeway System Cost Estimates

<table>
<thead>
<tr>
<th>Segment Name</th>
<th>Begin</th>
<th>End</th>
<th>Class</th>
<th>Length</th>
<th>Near-term</th>
<th>Mid-term</th>
<th>Long-term</th>
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<tbody>
<tr>
<td><strong>Class I Facilities - Multi-Use Paths (Off-Street)</strong></td>
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<tr>
<td>Center Blvd. Sidepath</td>
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<td>Fairfax Town Limit</td>
<td>I</td>
<td>0.16</td>
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<tr>
<td>Hawthorne Ct. Bridge</td>
<td>Hawthorne Ct.</td>
<td>Sir Francis Drake Blvd.</td>
<td>I (bridge)</td>
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<td></td>
<td>0.18</td>
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</table>

Base cost for installation of a typical Class I Shared Use Pathway is $641,400/mi; additional costs are based on the need for excavation, retaining walls and undergrounding drainage.

<table>
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<tr>
<th>Segment Name</th>
<th>Begin</th>
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<th>Class</th>
<th>Length</th>
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<th>Long-term</th>
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<tbody>
<tr>
<td><strong>Class II Facilities - Striped Bicycle Lanes (On-Street)</strong></td>
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<td>Center Blvd.</td>
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<td>Pastori Ave.</td>
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<td>Claus Dr.</td>
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<td>0.89</td>
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Base cost for installation of a typical Class II Bicycle Lane is $17,600/mi; additional costs based on roadway widening and grading.

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<tr>
<td>Segment Name</td>
<td>Begin</td>
<td>End</td>
<td>Class</td>
<td>Length</td>
<td>Near-term</td>
<td>Mid-term</td>
<td>Long-term</td>
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<td>III - Shar/ TrafCalm</td>
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<tr>
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<td>0.17</td>
<td>$900</td>
<td>$30,600</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Segment Name</th>
<th>Begin</th>
<th>End</th>
<th>Class</th>
<th>Length</th>
<th>Near-term</th>
<th>Mid-term</th>
<th>Long-term</th>
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<tbody>
<tr>
<td>Kent Ave.</td>
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<td>III</td>
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<td>Lansdale Ave.</td>
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<tr>
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<td>$41,600</td>
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<td>Pastori Ave.</td>
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<tr>
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<td>III - Shar/ TrafCalm</td>
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<table>
<thead>
<tr>
<th>Segment Name</th>
<th>Begin</th>
<th>End</th>
<th>Class</th>
<th>Length</th>
<th>Near-term</th>
<th>Mid-term</th>
<th>Long-term</th>
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<tbody>
<tr>
<td>Kent Ave.</td>
<td>Belmont Ave.</td>
<td>Sir Francis Drake Blv.</td>
<td>III</td>
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<td>Center Blvd.</td>
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<td>$500</td>
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<td>Manor Rd.</td>
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<td>III - Shar/ TrafCalm</td>
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<td>Dominga Ave.</td>
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<tr>
<td>Spruce Ave.</td>
<td>Sequoia Rd.</td>
<td>Azalea Ave.</td>
<td>III - Shar/ TrafCalm</td>
<td>0.17</td>
<td>$900</td>
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6.17 $21,000 $545,500 $120,300

Total Class III Bicycle Routes $686,800

Base cost for installation of a typical Class III Signed Bicycle Route is $2,000/mi; additional costs based on shared lane and school bike route stencils and traffic calming.

Total cost of improvements by phase (Near/Mid/Long-Term) $25,500 $551,400 $853,300

Total cost of bikeway network (complete buildout) $1,430,200
Table 6-2 Bicycle Detection Estimated Costs*

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<thead>
<tr>
<th>Item</th>
<th>Approximate Cost Per Leg of Intersection</th>
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</thead>
<tbody>
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<td>Calibrate existing loops</td>
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<tr>
<td>Calibrate or re-zone existing video detection</td>
<td>$150</td>
</tr>
<tr>
<td>Install new detection loops</td>
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<tr>
<td>Install new zoned video detection</td>
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</tr>
<tr>
<td>Install stencils</td>
<td>$100</td>
</tr>
</tbody>
</table>

* Costs based on US DOT information available as of April 2007.

Table 6-3 Bicycle Detection Locations

<table>
<thead>
<tr>
<th>Intersections</th>
<th>Number of Legs of Intersection</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFD at Oak Manor Dr</td>
<td>3</td>
</tr>
<tr>
<td>SFD at Claus Dr</td>
<td>4</td>
</tr>
<tr>
<td>SFD at Pastori Ave</td>
<td>4</td>
</tr>
<tr>
<td>SFD at Kent Ave</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total number locations</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

Exact cost estimates cannot be provided for these projects because existing conditions at the candidate intersections were not known as of this writing. However, based on 4 candidate on-street bikeway signalized intersections with a total of 15 potential locations for bicycle detection and assuming that 50% of the locations have functional loop detectors that can be recalibrated to detect bicycles, the total cost estimate for this project is approximately $24,900. It should be noted that this cost estimate is speculative at best. Real costs cannot be identified until a further survey of existing conditions is completed and bicycle detection improvements may also be implemented as part of other intersection improvements.

Table 6-4 Bicycle Parking Locations

<table>
<thead>
<tr>
<th>Location</th>
<th>Recommended Number Additional Racks</th>
<th>Cost Per Location</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>On Sidewalk</strong>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fairfax Theater</td>
<td>2</td>
<td>$500</td>
</tr>
<tr>
<td>Bev's Hair Design</td>
<td>1</td>
<td>$250</td>
</tr>
<tr>
<td>Fairfax Lumber</td>
<td>1</td>
<td>$250</td>
</tr>
<tr>
<td>IGA/Fairfax Cyclery</td>
<td>2</td>
<td>$500</td>
</tr>
<tr>
<td>Peri’s Deli</td>
<td>1</td>
<td>$250</td>
</tr>
<tr>
<td>Lotus Café</td>
<td>1</td>
<td>$250</td>
</tr>
<tr>
<td>Quality Liquors</td>
<td>1</td>
<td>$250</td>
</tr>
<tr>
<td>Barefoot Cafe</td>
<td>1</td>
<td>$250</td>
</tr>
<tr>
<td><strong>On-Street</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grilly’s</td>
<td>1</td>
<td>$1,600</td>
</tr>
<tr>
<td>Fairfax Scoop</td>
<td>1</td>
<td>$1,600</td>
</tr>
<tr>
<td><strong>School Locations</strong>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Recommended Number Additional Racks</td>
<td>Cost Per Location</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-------------------------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>White Hill School</td>
<td>5</td>
<td>$1250</td>
</tr>
<tr>
<td>Manor School</td>
<td>15</td>
<td>$14,000***</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>$21,000</strong></td>
</tr>
</tbody>
</table>

*Costs are based on inverted-U style racks with two-bike capacity; costs may be higher if alternate rack design is used.
**Costs are based on free-standing multiple-element rack with 12-bike capacity and flexible plastic posts.
***Cost includes adding 15 new inverted-U style racks, paving entire existing parking area and weather-protecting shelter for 50% of racks (assuming fewer riders in inclement weather).

Table 6-5 Informational Kiosk Locations

<table>
<thead>
<tr>
<th>Location</th>
<th>Notes</th>
<th>Cost Per Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Java Hut Parking Lot</td>
<td>New</td>
<td>$1,200</td>
</tr>
<tr>
<td>Parkade at Transit Stop</td>
<td>New</td>
<td>$1,200</td>
</tr>
<tr>
<td>Sir Francis Drake Boulevard/Lansdale Avenue</td>
<td>Replace/relocate</td>
<td>$1,200</td>
</tr>
<tr>
<td>Sir Francis Drake Boulevard/Olema Road</td>
<td>Replace/relocate</td>
<td>$1,200</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td></td>
<td><strong>$4,800</strong></td>
</tr>
</tbody>
</table>

Table 6-6 Example Pedestrian Improvements Cost Estimates by Segment*

<table>
<thead>
<tr>
<th>Segment Name</th>
<th>Begin</th>
<th>End</th>
<th>Length</th>
<th>Near-term</th>
<th>Mid-term</th>
<th>Long-term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bolinas Rd. Broadway Blvd. Porteous Ave.</td>
<td>0.48</td>
<td>$2,200</td>
<td>$40,000</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Broadway Ave. Pacheco Ave. Claus Dr.</td>
<td>0.13</td>
<td>$2,200</td>
<td>$60,000</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cascade Dr. Bolinas Rd. Canyon Rd.</td>
<td>0.94</td>
<td>$13,800</td>
<td>$40,000</td>
<td>$525,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cascade Dr. Canyon Rd. Cascade Fire Road</td>
<td>0.50</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Center Blvd. Pastori Ave. Pacheco Ave.</td>
<td>0.26</td>
<td>$1,085,350</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creek Rd. Porteous Ave. Dominga Ave.</td>
<td>0.20</td>
<td>$0</td>
<td>$53,500</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dominga Ave. Creek Rd. Napa Ave.</td>
<td>0.25</td>
<td>$11,000</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elsie/Mono/Bank Project Broadway Ave. Bolinas Rd.</td>
<td>0.11</td>
<td>$0</td>
<td>$0</td>
<td>$175,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glen Dr. Sir Francis Drake Blvd. Fairfax Town Limit</td>
<td>0.46</td>
<td>$48,000</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lansdale Ave. Center Blvd.</td>
<td>0.16</td>
<td>$0</td>
<td>$0</td>
<td>$120,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manor Rd. Olema Rd. O lema Rd.</td>
<td>0.32</td>
<td>$10,400</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Napa Ave. Dominga Ave. Pacheco Ave.</td>
<td>0.06</td>
<td>$9,200</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oak Manor Dr. Sidewalk Sir Francis Drake Blvd. Manor Elem. Sch.</td>
<td>0.19</td>
<td>$54,500</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oak Manor Drive/Sir Francis Drake Boulevard Crosswalk and Pedestrian Beacon Oak Manor Drive/Sir Francis Drake Boulevard</td>
<td>0.00</td>
<td>$147,000</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pacheco Ave. Napa Ave. Center Blvd.</td>
<td>0.05</td>
<td>$11,000</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Park Rd. Spruce Rd. Bolinas Rd.</td>
<td>0.23</td>
<td>$9,200</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pastori Ave. Sir Francis Drake Blvd. Center Blvd.</td>
<td>0.05</td>
<td>$50,000</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Porteous Ave. Bolinas Rd. Meernaa Ave.</td>
<td>0.41</td>
<td>$0</td>
<td>$0</td>
<td>$138,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Segment Name</td>
<td>Begin</td>
<td>End</td>
<td>Length</td>
<td>Near-term</td>
<td>Mid-term</td>
<td>Long-term</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>----------------</td>
<td>-----------------</td>
<td>--------</td>
<td>-----------</td>
<td>----------</td>
<td>-----------</td>
</tr>
<tr>
<td>Scenic Rd.</td>
<td>Manor Rd.</td>
<td>Azalea Ave.</td>
<td>0.20</td>
<td>$9,200</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Sequoia Rd.</td>
<td>Scenic Rd.</td>
<td>Spruce Rd.</td>
<td>0.19</td>
<td>$9,200</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Sir Francis Drake Blvd.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crosswalk Improvements</td>
<td>Pacheco Ave.</td>
<td>Claus Dr.</td>
<td>0.13</td>
<td>$2,200</td>
<td>$294,000</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sir Francis Drake Blvd.</td>
<td>Olema Rd.</td>
<td>Claus Dr.</td>
<td>0.33</td>
<td>$0</td>
<td>$80,000</td>
<td>$0</td>
</tr>
<tr>
<td>Sidewalk Project</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spruce Ave.</td>
<td>Sequoia Rd.</td>
<td>Azalea Ave.</td>
<td>0.17</td>
<td>$9,200</td>
<td>$44,900</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Total Pedestrian Improvements</strong></td>
<td></td>
<td></td>
<td>5.83</td>
<td>$1,483,650</td>
<td>$612,400</td>
<td>$958,000</td>
</tr>
</tbody>
</table>

*Costs such as traffic calming and the Hawthorne Ct. Bridge included in the bicycle facilities estimates are not duplicated here; concept-level cost estimates for curb ramps are included for segments outside the downtown area; an ADA compliance field review is needed to refine these cost estimates.

### 6.4. MAINTENANCE

Additional maintenance costs for the bikeway and pedestrian network should be relatively low due to the limited number of new Class I pathway and sidewalk facilities. The recommended bikeway network is predominately made up of on-street bike lanes and routes that will be treated as part of the normal roadway maintenance program. As part of routine maintenance, extra emphasis should be put on keeping the bike lanes and roadway shoulders clear of debris and keeping vegetation overgrowth from blocking visibility, creeping into the roadway or obstructing sidewalks.

### 6.5. MARKETING THE BICYCLE AND PEDESTRIAN MASTER PLAN

The success of the Fairfax Bicycle and Pedestrian Master Plan depends largely on the community’s acceptance and promotion of the Plan’s contents. Town departments and commissions should incorporate the policies, objectives and spirit of the Bicycle and Pedestrian Master Plan into their respective projects and responsibilities. The following steps will help ensure the plan becomes a living document, helping shape Fairfax’s future.

- Distribute copies of the Plan to members of the Planning Commission
- Distribute copies of the Plan to Town of Fairfax’s Engineering, Parks and Recreation, Planning, Police, and Public Works Departments.
- Provide copies of the Town of Fairfax bicycle facilities map to local schools, bicycle and recreational groups, transit agencies, bicycle shops and major employers.
- Post the plan on the Town’s website.
- Publish a press release about the creation of the plan.
- Provide a copy of Fairfax Bicycle and Pedestrian Master Plan to the public library.
6.6. FUNDING OPPORTUNITIES

FEDERAL FUNDING SOURCES

The primary federal source of surface transportation funding—including bicycle and pedestrian facilities—is SAFETEA-LU, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users. SAFETEA-LU is the fourth iteration of the transportation vision established by Congress in 1991 with the Intermodal Surface Transportation Efficiency Act (ISTEA) and renewed in 1998 and 2003 through the Transportation Equity Act for the 21st Century (TEA-21) and the Safe, Accountable, Flexible, and Efficient Transportation Equity Act of 2003 (SAFETEA). Also known as the federal transportation bill, the $286.5 billion SAFETEA-LU bill was passed in 2005 and authorizes Federal surface transportation programs for the five-year period between 2005 and 2009.

SAFETEA-LU funding is administered through the State (Caltrans and the State Resources Agency) and regional planning agencies. Most, but not all, of these funding programs are oriented toward transportation versus recreation, with an emphasis on reducing auto trips and providing inter-modal connections. SAFETEA-LU programs require a local match of 11.47%. SAFETEA-LU funding is intended for capital improvements and safety and education programs and projects must relate to the surface transportation system.

Specific funding programs under SAFETEA-LU include:

- Congestion Mitigation and Air Quality (CMAQ) – Funds projects that are likely to contribute to the attainment of national ambient air quality standards
- Recreational Trails Program—$370 million nationally through 2009 for non-motorized trail projects
- Safe Routes to School Program—$612 million nationally through 2009
- Transportation, Community and System Preservation Program—$270 million nationally over five years
- Federal Lands Highway Funds—Approximately $1 billion dollars are available nationally through 2009

FEDERAL LANDS HIGHWAY FUNDS

Federal Lands Highway Funds may be used to build bicycle and pedestrian facilities in conjunction with roads and parkways at the discretion of the department charged with administration of the funds. The projects must be transportation-related and tied to a plan adopted by the State and MPO. Federal Lands Highway Funds may be used for planning and construction.

TRANSPORTATION, COMMUNITY AND SYSTEM PRESERVATION 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 is intended to provide communities with the resources to explore the integration of their transportation system with community preservation and environmental activities. TCSP Program funds require a 20% match.

**REGIONAL SURFACE TRANSPORTATION PROGRAM**

The Regional Surface Transportation Program (RSTP) is a block grant program which provides funding for bicycle and pedestrian projects, among many other transportation projects. Under the RSTP, Metropolitan Planning Organizations, such as MTC, prioritize and approve projects which will receive RSTP funds. TAMC distributes the RSTP funds to local jurisdictions. 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, 62.5% of RSTP funds are allocated according to population. The remaining 37.5% is available statewide.

**REGIONAL TRANSPORTATION IMPROVEMENT PROGRAM**

The Regional Transportation Improvement Program (RTIP) is a derivative of the STIP program and identifies projects which are needed to improve regional transportation. Such projects may include bicycle and pedestrian facilities, safety projects and grade separation, among many others. RTIP project planning, programming and monitoring may be funded up to .5% of total RTIP funds in urbanized regions and 2% of total RTIP funds in non-urbanized regions. Each RTPA prepares a RTIP, consisting of projects to be funded through STIP. The RTPA’s Regional Transportation Plan helps prioritize projects for the RTIP. RTIPs must be approved by the CTC. Projects to be funded by RTIP funds must be identified in the current or next Regional Transportation Plan.

**RECREATIONAL TRAILS PROGRAM**

The Recreational Trails Program of SAFETEA-LU provides 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 as well as motorized uses. In California, the funds are administered by the California Department of Parks and Recreation. RTP projects must be ADA compliant. Recreational Trails Program funds 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); and
- Operation of educational programs to promote safety and environmental protection related to trails (limited to five percent of a State's funds).
**LAND AND WATER CONSERVATION FUND**

Land and Water Conservation Fund is a federally funded program that provides grants for planning and acquiring outdoor recreation areas and facilities, including trails. The Fund is administered by the National Parks Service and the California Department of Parks and Recreation and 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% of costs. Property acquired or developed under the program must be retained in perpetuity for public recreational use. The grant process for local agencies is competitive, and 40% of grants are reserved for Northern California.

In 2006, approximately $480,000 was available for projects in Northern California.

**RIVERS, TRAILS AND CONSERVATION ASSISTANCE PROGRAM**

The Rivers, Trails and Conservation Assistance Program (RTCA) is a National Parks Service program which 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 which 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.

**STATEWIDE FUNDING SOURCES**

The State of California uses both federal sources and its own budget to fund the following bicycle and pedestrian projects and programs.

**BICYCLE TRANSPORTATION ACCOUNT**

The Bicycle Transportation Account (BTA) provides state funding for local projects that improve the safety and convenience of bicycling for transportation. Because of its focus on transportation, BTA projects, including trail, must provide a transportation link. Funds are available for both planning and construction. BTA funding is administered by Caltrans and cities and counties must have an adopted Bicycle Transportation Plan in order to be eligible. Town Bicycle Transportation Plans must be approved by the local MPO prior to Caltrans approval. Out of $5 million available statewide, the maximum amount available for individual projects is $1.2 million.

**WILDLIFE CONSERVATION BOARD PUBLIC ACCESS PROGRAM**

Funding for 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 available per project, applications 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.

**CALIFORNIA CONSERVATION CORPS**

The California Conservation Corps (CCC) is a public service program which 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 be publicly accessible. CCC labor cannot be used to perform regular maintenance, however, they will perform annual maintenance, such as the opening of trails in the spring.

**SAFE ROUTES TO SCHOOL (SR2S)**

In September 2004, with the passage of SB 1087 (Soto), the State extended Safe Routes to School legislation for three additional years. The bill is scheduled to sunset on January 1, 2008. This program is meant to improve the safety of walking and cycling to school and encourage students to walk and bicycle to school through identification of existing and new routes to school and construction of pedestrian and bicycle safety and traffic calming projects. Caltrans is currently evaluating California’s SR2S funding, in light of the new federal SR2S Program. Recent SAFETEA-LU legislation which requires each state’s Department of Transportation to designate a SR2S Coordinator, also contains a SR2S program, but as of this writing, whether or not these programs will be combined in California or will remain autonomous has not yet been determined.

**ENVIRONMENTAL JUSTICE: CONTEXT SENSITIVE PLANNING GRANTS**

The Caltrans-administered Environmental Justice: Context Sensitive Planning Grants promotes 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 state-wide. Grants are capped at $250,000.

**OFFICE OF TRAFFIC SAFETY (OTS) GRANTS**

The California Office of Traffic Safety distributes federal funding apportioned to California under the National Highway Safety Act and SAFETEA-LU. Grants are used to establish new traffic safety programs, expand ongoing programs or address deficiencies in current programs. Bicycle and pedestrian safety are included in the list of traffic safety priority areas. Eligible grantees are: governmental agencies, state colleges, and state universities, local Town 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. OTS expects to have $56 million in funding available statewide for FY 2006/07.

**COMMUNITY BASED TRANSPORTATION PLANNING DEMONSTRATION GRANT PROGRAM**

This fund, administered by Caltrans, provides funding for projects that exemplify livable community concepts including bicycle and pedestrian improvement projects. Eligible applicants include local governments, MPO’s and RPTA’s. A 20% local match is required and projects must demonstrate a transportation component or objective. There are $3 million dollars available annually statewide.

**COASTAL CONSERVANCY NON-PROFIT GRANTS PROGRAM**

The Coastal Conservancy provides grants to non-profit organizations for projects which provide access to the California coast and preserve coastal lands, including the construction of trails, public piers, urban waterfronts, and other public access facilities.
REGIONAL FUNDING SOURCES

Regional bicycle and pedestrian grant programs come from a variety of sources, including SAFETEA-LU, the State budget and vehicle registration fees.

AB 2766 MOTOR VEHICLE EMISSION REDUCTION GRANT PROGRAM

The Bay Area Air Quality Management District provides a grant program in accordance with Assembly Bill 2766 which authorized air districts in California to impose a two to four dollar motor vehicle registration fee to be used for the purpose of reducing motor vehicle emissions in order for air districts to meet their responsibilities under the California Clean Air Act. Projects include bicycle facility improvements, safety and enforcement. Proposals must demonstrate the relationship between reduced motor vehicle emissions and improved air quality.

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 and bicycle friendly development near transit hubs. MTC administers the TLC program with funds from the Regional Surface Transportation Project. TLC grants are capped at $400,000 and are competitive.

TRANSPORTATION ENHANCEMENT PROGRAM

The Transportation Enhancement Program provides funds for the construction of projects, beyond the scope of typical transportation projects, which enhance the transportation system. Transportation Enhancement Projects may include landscaping, bicycle facilities and streetscape improvements. Transportation Enhancement projects are programmed as part of the STIP. Annual apportionment averages around $800,000.

TRANSPORTATION FUND FOR CLEAN AIR PROGRAM (TFCA)

TFCA funds are generated by a four dollar surcharge on automobile registration fees in the nine-county Bay Area. Approximately $20 million is collected annually which funds two programs: 60 percent of the TFCA monies go to the Regional Fund and 40 percent go to the County Program Manager Fund.

The Regional Fund is administered by the Bay Area Air Quality Management District (BAAQMD). Pedestrian infrastructure improvements are eligible for TFCA funds through the Smart Growth funding category.

BAAQMD, TFCA Program: www.baaqmd.gov/pln/grants_and_incentives/tfca/

REGIONAL BICYCLE AND PEDESTRIAN PROGRAM (RBPP)

The RBPP was created in 2003 as part of the long range Transportation 2030 Plan developed by the Bay Area Metropolitan Transportation Commission. The program—currently funded with Congestion Mitigation and Air Quality funds—funds regionally significant pedestrian and bicycle projects, and bicycle and pedestrian projects serving schools or transit. $200 million dollars are committed to this program over the 25-year period. Seventy five percent of the total funds are allocated to the county congestion management agencies based on population. The remaining 25 percent of funds are regionally competitive, with the county CMAs recommending the projects to be submitted to MTC for funding consideration.

Metropolitan Transportation Commission, RBPP Program
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 which reduce congestion or improve travel in the toll bridge corridors.

Twenty million dollars of RM2 funding is allocated to the Safe Routes to Transit Program, which provides competitive grant funding for capital and planning projects that improve bicycle and pedestrian access to transit facilities. Eligible projects must be shown to reduce congestion on one or more of the Bay Area’s toll bridges. The competitive grant process is administered by the Transportation and Land Use Coalition and the East Bay Bicycle Coalition. Competitive funding is awarded in five $4 million grant cycles. The first round of funding was awarded in December 2005. Future funding cycles will be in 2007, 2009, 2011 and 2013.

Transportation and Land Use Coalition, SR2T Program:
www.transcoaltion.org/c/bikeped/bikeped_saferoutes.html

THE BAY TRAIL PROJECT

The Bay Trail Grant program offers competitive grants to local governments, special districts and qualified nonprofit groups to build or design new Bay Trail segments. The program is structured to: speed Bay Trail construction by targeting high-priority, ready to build sections and closing critical gaps; leverage state dollars with significant matching funds and in-kind contributions; foster partnership by encouraging cooperative partnerships and creative design solutions; and employ the California Conservation Corps for construction, landscaping and maintenance where possible. The amount of available funding varies, depending on State bonds and grants to the Bay Trail Project. Beginning Fall 2007 the Bay Trail has a new funding program that will distribute $2.5 million in Proposition 84 funds for the planning and construction of Bay Trail spine segments in the 9-county area. Another $2.5 million grant program is anticipated in 2009.

Bay Trail Project Grant Program: http://baytrail.abag.ca.gov/grants_2003.htm

LOCAL FUNDING SOURCES

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 for pedestrian projects originate from the Local Transportation Fund (LTF), which is derived from a ¼ cent of the general state sales tax. LTF funds are returned to each county based on sales tax revenues. Eligible pedestrian and bicycle projects include: construction and engineering for capital projects; maintenance of bikeways; bicycle safety education programs (up to 5% of funds); and development of comprehensive bicycle or pedestrian facilities plans. A Town or county is allowed to apply for funding for bicycle or pedestrian plans not more than once every five years. These funds may be used to meet local match requirements for federal funding sources. 2% of the total TDA apportionment is available for bicycle and pedestrian funding.
MEASURE A - LOCAL ROADS

The funds (approximately $43.9 M) will be distributed on an annual basis to each city, town, and Marin County based on a combination of miles of roads to be maintained and population. Each project will be required to consider the needs of all roadway users. Where feasible, locally defined bicycle and pedestrian projects may be implemented at the time a roadway is improved, or can be implemented as a stand-alone project. Improvements could include striping and signing for bicycle lanes and bikeways, sidewalk improvements, curb ramps, and other accessibility and safety improvements.

MEASURE A - SAFE PATHWAYS FUNDING

Safe Pathways to School is the capital improvement element of the Transportation Authority of Marin’s Safe Routes to Schools program. Where the Safe Routes program identifies circulation improvements needed for safe access to schools, the Safe Pathways program will provide funding for the engineering, environmental clearance, and construction of pathway and sidewalk improvements in all Marin County communities, including safety improvements at street crossings.

Safe Pathway projects are expected to attract matching funds from other sources and may be used in combination with road funds to accelerate pathway improvements in school areas.

Safe Pathways Projects are selected based on performance criteria that focus on improving safety throughout the County. All projects will come from approved Safe Routes plans, supported by parents, school officials, and the local jurisdiction.

- Relieves an identified safety or congestion problem along a major school route
- Completes a "gap" in the bicycle and pedestrian system along a major school route
- Maximizes daily uses by students and others
- Attracts matching funds
- Respects geographic equity

MARIN NONMOTORIZED TRANSPORTATION PILOT PROGRAM

Marin County is one of four communities nationally that has been selected by Congress to participate in a Nonmotorized Transportation Pilot Program under Section 1807 of the 2005 federal transportation bill, SAFETEA-LU. Section 1807 provides for $20 million to each of the four communities for fiscal years 2006 through 2009. The legislation states that "The Secretary shall establish and carry out nonmotorized transportation pilot program to construct, in the following four communities selected by the Secretary, a network of nonmotorized transportation infrastructure facilities, including sidewalks, bicycle lanes, and pedestrian and bicycle trails, that connect directly with transit stations, schools, residences, businesses, recreation areas, and other community activity centers:

1. Columbia, Missouri
2. Marin County, California
3. Minneapolis-St. Paul, Minnesota
4. Sheboygan County, Wisconsin
The purpose of the program shall be to demonstrate the extent to which bicycling and walking can carry a significant part of the transportation load, and represent a major portion of the transportation solution, within selected communities."

As of this writing Marin County is determining the process by which funding will be distributed and local agencies will apply or submit projects for consideration.

**FAIRMd X MEASURE F**

Measure F is a dwelling unit parcel tax created as “self-help” funding intended to provide $425,000 per year for each of five years to fund police, fire and other essential Town services. The funding can be used for Public Works projects such as bicycle, pedestrian and Safe Routes to Schools as well as for matching funds to leverage regional, state and federal funding sources.

**NON-TRADITIONAL FUNDING SOURCES**

**AMERICAN GREENWAYS PROGRAM**

Administered by The Conservation Fund, the American Greenways Program provides funding for the planning and design of greenways. Applications for funds can be made by local regional or state-wide non-profit organizations and public agencies. The maximum award is $2,500, but most range from $500 to $1,500. American Greenways Program monies may be used to fund unpaved trail development.

**CALIFORNIA CENTER FOR PHYSICAL ACTIVITY GRANT PROGRAM**

The California Center for Physical Activity runs several programs related to walking and offers small grants to public health departments. Grants are in the amount of $4,999 dollars or less and are offered intermittently.

**REQUIREMENTS FOR NEW DEVELOPMENTS**

With the increasing support for “routine accommodation” and “complete streets,” requirements for new development, road widening and new commercial development provide opportunities to efficiently construct pedestrian facilities.

**IMPACT FEES**

One potential local source of funding is developer impact fees, typically tied to trip generation rates and traffic impacts produced by a proposed project. A developer may attempt to reduce the number of trips (and hence impacts and cost) by paying for on- and off-site pedestrian improvements designed to encourage residents, employees and visitors to the new development to walk rather than drive. Establishing a clear nexus or connection between the impact fee and the project’s impacts is critical to ensure legal soundness.

**MELLO-ROOS COMMUNITY FACILITIES ACT**

The Mello-Roos Community Facilities Act was passed by the Legislature in 1982 in response to reduced funding opportunities brought about by the passage of Proposition 13. The Mello-Roos Act allows any county, Town, 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. Pedestrian facilities are eligible for funding under CFD bonds.

**VOLUNTEER AND PUBLIC-PRIVATE PARTNERSHIPS**

Volunteer programs may substantially reduce the cost of implementing some of the proposed pathways. Use of groups such as the California Conservation Corp (who offers low cost assistance) will be effective at reducing project costs. Local schools or community groups may use the bikeway or pedestrian project 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 bikeway and help construct and maintain the facility.

Other opportunities for implementation will appear over time that may be used to implement the system.
APPENDIX A: BICYCLE LAW AND ETIQUETTE

THE CALIFORNIA VEHICLE CODE - LAWS REGARDING BICYCLES

As with most laws, the underlying idea behind the laws contained in the California Vehicle Code (CVC) is safety. What follows is a selection of some of the most common laws which pertain to bicyclist.

Definitions:

Bicycle CVC231: A bicycle is a device upon which any person may ride, propelled exclusively by human power through a belt, chain, or gears, and having one or more wheels.

Darkness CVC280: Darkness is any time from one-half hour after sunset to one-half hour before sunrise and any other time when visibility is not sufficient to render clearly discernible any person or vehicle at a distance of 1000 feet.

Highway CVC 360: Highway is a way or place or whatever nature, publicly maintained and open to the use of the public for purposes of vehicular travel. Highway includes street.

Vehicle Code Section:

Laws Applicable to Bicycle Use CVD 21200

Every person riding a bicycle upon a highway has all the rights and is subject to all the provisions applicable to the driver of a vehicle including, but not limited to, provisions concerning driving under the influence of alcoholic beverages or drugs.

Equipment Requirements CVC 21201

A) No person shall operate a bicycle on a roadway unless it is equipped with a brake which will enable the operator to make one brake wheel skid on dry, level, clean pavement.

B) No person shall operate on a highway any bicycle equipped with handlebars so raised that the operator must elevate his hands above the level of his shoulders in order to grasp the normal steering grip area.

C) No person shall operate upon any highway a bicycle which is of such a size as to prevent the operator from safely stopping the bicycle, supporting it in an upright position with at least one foot on the ground, and restarting it in a safe manner.

D) Every bicycle operated upon any highway during darkness shall be equipped
E) With a lamp emitting a white light which, while the bicycle is in motion illuminated the highway in front of the bicyclist and is visible for a distance of 300 feet in front of and from the sides of the bicycle.

F) With a red reflector on the rear which shall be visible from a distance of 500 feet to the rear when directly in front of headlamps on a motor vehicle.

G) With a white or yellow reflector on each pedal visible from the front and rear of the bicycle from a distance of 200 feet.

H) With a white or yellow reflector on each side forward of the center of the bicycle, and with a white or red reflector on each side to the rear of the center of the bicycle, except that bicycles equipped with reflectors on the front and rear tires.

**Operations on Roadway CVC21202**

Any person operating a bicycle upon a roadway at a speed less than the normal speed of traffic moving in the same direction at that time shall ride as close as practicable to the right-hand curb or edge of the roadway except under the following condition:

1. When over taking and passing another bicycle or vehicle proceeding in the same direction.

2. When preparing for a left turn at an intersection or into a private road or driveway.

3. When reasonably necessary to avoid conditions (including, but not limited to fixed or moving objects, vehicles, bicycles, pedestrians, animals, surface hazards, or substandard width lanes) that make it unsafe to continue along the right-hand curb edge.

4. When approaching a place where a right-hand turn is authorized.

6. Permitted Movements from Bicycle Lanes 21208CVC

Whenever a bicycle lane has been established on a roadway, any person operating a bicycle on the roadway at a speed less than the normal speed of traffic moving in the same direction at that time shall ride within the bicycle lane, except under the following conditions (see 1-4 under 21202CVC).

**Bicycle Parking 21210 CVC**

No person shall leave a bicycle lying on its side on any sidewalk, or shall park a bicycle on a sidewalk in any other position, so that there is not an adequate path for pedestrian traffic.

Bicycle Operated on Roadway or Highway Shoulder 21650.1 CVC: A bicycle operated on a roadway, or the shoulder of a highway, shall be operated in the same direction as vehicles are required to be driven upon the roadway.

**Hand Signals 22111CVC**

All required signals given by hand and arm shall be given from the left side in the following manner.

1. Left turn: Hand and arm extended horizontally.
2. Right turn-hand and arm upward, except bicyclist may extend the right hand and arm horizontally to the right side of the bicycle.

3. Stop-hand and arm extended downward.

Wearing of Headsets or Earplugs 27400CVC

No person operating any motor vehicle or bicycle shall wear any headset covering, or any earplugs in, both ears.

MOTORIST ETIQUETTE REGARDING BICYCLISTS FROM THE CALIFORNIA DRIVER HANDBOOK

SHARING THE ROAD WITH OTHER VEHICLES: BICYCLES

Bicycle riders on public streets have the same rights and responsibilities as automobile drivers. Drivers of motor vehicles must treat bicycle riders the same as drivers of other motor vehicles. Bicyclists are not out of place on the roadway -- they are part of the traffic and share the road with other drivers. They must obey stop signs, traffic lights, and most other traffic laws and signs. Special care must be used near them because any accident with them will probably result in serious injury. This means that automobile drivers must leave safe passing room and must not turn so close to them that the bicyclist is in danger of being hit.

Although bicyclists will normally ride near the right hand curb or edge of the roadway, they can legally move left to turn left, to pass another vehicle or bicycle, or to avoid debris or parked cars. They may have to swerve to avoid a car door suddenly opening. Expect any of these moves by bicyclists in a main traffic lane. Remember, on one-way streets, this can be the left hand lane.

When the lane is too narrow to pass a bicyclist safely, wait until the next lane is clear and give the bicyclist all the rights of any other slow moving vehicle.

A motorist parked at a curb must not open a door on the traffic side of a vehicle without looking for other vehicles, including bicycles or motorcycles.

Bicycle riders may give right turn signals with their right arm held straight out, pointing right. Remember, bicycles are small and sometimes drivers do not see them.

I. INTRODUCTION

With few exceptions, bicyclists on public roadways assume the same rights and responsibilities as automobile drivers, and are subject to the same state laws and local ordinances.

It is imperative that we cyclists hold up our end of the bargain! Bicycling is beneficial for personal health and when used instead of a car as transit to town or country it is beneficial to our environment. Many people are working hard to improve bicycling conditions here in Marin. We will not succeed if mannerless cycling is the norm.

Bicyclists need to show respect to get respect. We hope that you will make it a point to ride as an ambassador of cycling. If you have friends who ride as if no one else mattered, do bicyclists everywhere a favor by trying to talk them down from bogus rationalizations.
Ride responsibly! We must ALL adopt this Bicyclists’ Code of Conduct.

**II. BICYCLISTS’ CODE OF CONDUCT**

1) Never ride against traffic.
2) Ride as near to the right as practicable*.
3) Stop at stop signs and red lights*.
4) Honor others’ right of way.
5) Use hand signals.
6) With traffic, ride single file.
7) Be predictable; don’t weave.
8) Follow lane markings.
9) Don’t needlessly block the road*.
10) Use lights at night.

*--Note that the two most common offenses of bicyclists are running stop signs, and groups of cyclists blocking the road.

1. Stop at stop signs/lights: Stop at all stop signs and red lights. If two vehicles arrive at an intersection at the same time, the vehicle to the right has the right of way. Politely indicate others’ right of way with a hand gesture. For your own safety, never insist on your own right of way. Pedestrians always have the right of way. Your courtesy will be noticed and appreciated by other road users.

2. Group riding: a) The California Vehicle Code (CVC sec. 21202(a) and sec. 21750) states that bicyclists are entitled to the full width of the road for at least purposes of overtaking, left turns, avoiding obstacles, when approaching a place where a right turn is authorized, and when riding in a substandard width lane. Generally, it is prudent to stay as far to the right as practicable. When riding with others, do not block traffic, ride single file. Be aware of other road users at all times. b) When stopping for a stop sign in a group, queue up in small numbers and proceed when it is your turn, allowing other road users their right of way. The idea is to cross the intersection as safely and quickly as possible without testing the patience of other road users. Self-policing and courteous riding will go far.

Wear a helmet, bright clothing, and keep your bicycle in good working order. Helpful hint: Modern, good quality brakes along with good technique make stopping at stop signs much easier.

Bicyclists and any passengers under 18 years of age (including children in attached bicycle seats or in or on towed trailers), are required to wear a properly fitted and fastened bicycle helmet. This helmet must be labeled to show that it meets applicable safety standards.

Youngsters under the age of nine lack the physical and mental development to interact safely in a complex traffic environment.
MARIN COUNTY BICYCLE COALITION’S BICYCLING LAWS AND SAFETY TIPS

Bicyclists on public roadways assume all the same rights and responsibilities as automobile drivers, and are subject to the same state laws and local ordinances. For everyone’s safety, observe these bicycling rules:

* **BE PREDICTABLE:** Never ride against traffic. Motorists aren’t looking for bicyclists riding on the wrong side of the road. Many other hazards threaten the wrong-way rider.

Obey traffic signs and signals, and basic right-of-way rules. Cyclists must drive like motorists if they want to be taken seriously. Doing so is also the safest behavior. When approaching a stop sign or red light, you are required to come to a complete stop and proceed only when safe to do so.

Use hand signals. Hand signals tell other road users what you intend to do. Signal as a matter of law, of courtesy, and of self-protection.

Ride in a straight line. Whenever possible, ride in a straight line, to the right of traffic but about a car door’s width away from parked cars.

Don’t weave between parked cars. Don’t ride to the curb between parked cars, unless they are far apart. Motorists may not see you when you try to move back into traffic.

Follow lane markings. Don’t turn left from the right lane. Don’t go straight in a lane marked “right-turn-only.” Stay to the left of the right-turn-only lane if you are going straight.

Choose the best way to turn left. There are two ways to make a left turn. 1) Like an auto. Signal, move into the left lane, and turn left. 2) Like a pedestrian. If you are within a designated crosswalk, dismount and walk your bike across.

* **BE ALERT:** Watch for right-turning traffic. Motorists turning right may not notice cyclists on their right. Watch for any indications that a motorist may turn into your path. When approaching intersections try to stay far enough from the curb to allow cars to turn right on your right. Motorists may not look for or see a bicycle passing on the right.

Look back before you pass or merge. Leave a good 3-4 feet when passing a pedestrian or another bicyclist. A rear-view mirror is a good idea, but don’t rely on it alone.

Respect pedestrians’ rights. Pedestrians have the right of way. Don’t cross side-walks via driveways without yielding to pedestrians. Don’t ride on sidewalks. Use the street, bike lane, or bike path. Give a warning: use your bike bell, or call out “Passing on your left”.

Keep both hands ready to brake. You may not stop in time if you brake one-handed. Allow extra distance for stopping in rain, since brakes are less efficient when wet.

Avoid road hazards. Watch out for street car tracks and old railroad tracks. Cross them perpendicularly. Avoid parallel-slat sewer grates, slippery manhole covers, oily pavement, gravel, potholes. All are hazardous, especially when wet.

Watch your speed. Observe posted speed limits and obey the basic speed law: Never ride faster than is safe under the existing conditions.

* **BE EQUIPPED:** Use good lights at night. Front light, wheel and pedal reflectors are required. The front light must be visible from 300 feet. Use a rear red light for enhanced visibility. Wear light-colored or reflective clothing.
Ride a well-equipped bike. Be sure your bike is adjusted to fit you properly. For safety and efficiency, outfit it with bells, rear-view mirrors, racks or baskets, lights and reflectors.

Be visible. Wear light or bright-colored clothing.

Wear a helmet when you ride. Helmets that have passed Snell Foundation or ANSI Z90.4 standard crash tests should be worn. Bike helmets may need to be replaced after a fall. All youths 18 and under must wear a bicycle helmet when operating a bicycle or when riding as a passenger.

Passengers must ride on a separate attached seat. If the passenger is 4 years old or younger, or weighs 40 pounds or less, the seat shall adequately retain the passenger in place and protect him/her from the bike’s moving parts. In addition, this passenger must wear a helmet of good fit, fastened securely, meeting ANSI Z90.4 helmet standards or Snell Memorial Foundation’s 1984 Standard for protective headgear.

Keep your bike in good repair. Maintain your bike in good working condition. Check brakes regularly and keep tires properly inflated. Learn to do routine maintenance yourself or leave it to the experts at your local bike shop.

Get in shape. Before riding, spend a few minutes stretching your legs and body. If you are not an experienced cyclist, start with short trips and work up to longer distances.

* PARKING TIPS: Park considerately. Bicycle parking should not interfere with pedestrian and vehicle movements. Use bike racks properly, so more bikes may park.

Buy a lock that is appropriate and use it correctly. U-shaped locks offer the best security but require the removal of the front wheel in order to secure both wheels and frame. Lay the front wheel alongside the rear wheel and loop the ‘U’ around both wheels and frame of your bike. If the ‘U’ portion of the lock is completely filled with the wheels and frame, the lock has less chance of being broken open. Tall signposts and ironwork are the best objects to lock your bike against. Small trees are easily cut, permitting thieves to lift a locked bike away from its support. Chains should be hardened and have 1/16-inch diameter links, and a key lock with hardened hasp of the same diameter. Be sure to secure both wheels and the frame, and never leave the padlock resting on the ground. Smaller diameter chains and cables are appropriate for short time use only, usually in instances where you can see the bike when it’s locked. Keep a record of your bike serial number. Should your bike be stolen, report the serial number and description of your bike to the police department.

* RIDE SAFELY AND COURTEOUSLY

Probably the single most important thing a bicyclist can do to earn bicyclists greater respect on the road is to obey stop signs and traffic signals.
APPENDIX B: SUPPLEMENTAL BIKEWAY DESIGN GUIDELINES

This appendix provides basic bikeway planning and design guidelines for use in developing the Fairfax bikeway system and support facilities. All recommendations in this appendix fall into one of three categories:

- “Design Requirements” for Class I, II and III facilities contain elements required by the State of California for compliance with Caltrans Chapter 1000 “Bikeway Planning and Design” guidelines.
- “Additional Design Recommendations” provide information on optional design treatments. Although this information meets Caltrans requirements it is not intended to state a minimum or maximum accommodation or to replace any existing adopted roadway design guidelines.
- “Experimental or Nonstandard Best Practices” provides information about optional innovative bikeways and support facilities that have not been adopted for use in California and do not meet Caltrans Chapter 1000 design requirements.

All facility designs are subject to engineering design review.

BIKEWAY FACILITY CLASSIFICATIONS

According to Caltrans, the term “bikeway” encompasses all facilities that provide primarily for bicycle travel. Caltrans has defined three types of bikeways in Chapter 1000 of the Highway Design Manual: Class I, Class II, and Class III. For each type of bikeway facility both “Design Requirements” and “Additional Design Recommendations” are provided. “Design Requirements” contain requirements established by Caltrans Chapter 1000 “Bikeway Planning and Design”. “Additional Design Recommendations” are provided as guidelines to assist with design and implementation of facilities and include alternate treatments approved or recommended by not required by Caltrans.

Figure B-1 provides an illustration of these three types of bicycle facilities.

CLASS I BIKEWAY - DESIGN REQUIREMENTS

Typically called a “bike path” or “shared use path,” a Class I bikeway provides bicycle travel on a paved right-of-way completely separated from any street or highway. The recommended width of a shared use path is dependent upon anticipated usage:

8’ (2.4 m) is the minimum width for Class I facilities
8’ (2.4 m) may be used for short neighborhood connector paths (generally less than one mile in length) due to low anticipated volumes of use
10’ (3.0 m) is the recommended minimum width for a typical two-way bicycle path
12’ (3.6 m) is the preferred minimum width if more than 300 users per peak hour are anticipated, and/or if there is heavy mixed bicycle and pedestrian use
A minimum 2’ (0.6 m) wide graded area must be provided adjacent to the path to provide clearance from trees, poles, walls, guardrails, etc. On facilities with expected heavy use, a yellow centerline stripe is recommended to separate travel in opposite directions. **Figure B-2** illustrates a typical cross-section of a Class I multi-use path.

**Figure B-1: Bicycle Facility Types**
Figure B-2: Class I Facility Cross-Section

Class I Facility Cross-Section
Class I Bikeway - Additional Design Recommendations:

1. Shared use trails and unpaved facilities that serve primarily a recreation rather than a transportation function and will not be funded with federal transportation dollars may not be required to be designed to Caltrans standards. However, state and national guidelines have been created with user safety in mind and should be followed. Wherever any trail facility intersects with a street, roadway, or railway, standard traffic controls should always be used.

2. Class I bike path crossings of roadways require preliminary design review. Generally speaking, bike paths that cross roadways with average daily trips (ADTs) over 20,000 vehicles will require signalization or grade separation.

3. Landscaping should generally be low water consuming native vegetation and should have the least amount of debris.

4. Lighting should be provided where commuters will use the bike path during hours of darkness.

5. Barriers at pathway entrances should be clearly marked with reflectors and be ADA accessible (minimum five feet clearance).

6. Bike path construction should take into account impacts of maintenance and emergency vehicles on shoulders and vertical and structural requirements. Paths should be constructed with adequate sub grade compaction to minimize cracking and sinking.

7. All structures should be designed to accommodate appropriate loadings. The width of structures should be the same as the approaching trail width, plus minimum two-foot wide clear areas.

8. Where feasible, provide two-foot wide unpaved shoulders for pedestrians/runners, or a separate tread way.

9. Direct pedestrians to the right side of pathway with signing and/or stenciling.

10. Consider using bicycle signal heads at locations where sidepaths meet signalized intersections.

One-way Bike Paths (Cycle Tracks)

The treatment provides a physical barrier between bikes and cars. It is useful along streets with minimal crossings. Installation of a one-way bike path should be undertaken only after careful consideration due to the problems of enforcing one-way operation, the difficulties in maintaining a path of restricted width and the potential for increased motor vehicle-bicycle conflicts at driveways, side streets and intersections.

Potential applications include:
- When adequate pedestrian facilities exist so that the bike facility will not be considered a "multi-use path"
- Relatively few driveways or intersections
- Provides connection between two shared use path facilities
- Intersection transitions can be made
- Moderate to high speeds
- Regular street sweeping of track is possible
• There is an equivalent bikeway for the opposite direction that will be more attractive for cyclists in lieu of riding the wrong way on the track
• Where path does not interfere with transit stops

Breaks may be provided in advance of cross streets or major destinations. On some routes, it may be appropriate to use soft hit posts or other means of physical separation 40 inches in height. However, Caltrans Chapter 1000 prohibits use of raised pavement markers to delineate bike lanes. There must be an equivalent bikeway for the opposite direction of travel that will be more attractive to bicyclists than riding the wrong way in the one-direction cycle track. To minimize conflicts between cyclists and motorists it may be advisable to use bicycle signal heads at signalized intersections.
CLASS II BIKEWAY - DESIGN REQUIREMENTS

Often referred to as a “bike lane,” a Class II bikeway provides a striped and stenciled lane for one-way travel on either side of a street or highway. Figure B-4 shows a typical Class II cross-section. To provide bike lanes along corridors where insufficient space is currently available, extra room can be provided by removing a traffic lane, narrowing traffic lanes, or prohibiting parking. The width of the bike lanes vary according to parking and street conditions. Note that these dimensions are for reference only, may not meet Fairfax Standards and are subject to engineering design review.

4’ (1.2 m) minimum if no gutter exists, measured from edge of pavement
5’ (1.5 m) minimum with normal gutter, measured from curb face; or 3’ (0.9 m) measured from the gutter pan seam
5’ (1.5 m) minimum when parking stalls are marked
11’ (3.3 m) minimum for a shared bike/parking lane where parking is permitted but not marked on streets without curbs; or 12’ (3.6 m) for a shared lane adjacent to a curb face.

CLASS II BIKEWAY - ADDITIONAL DESIGN RECOMMENDATIONS:

1. The Department of Public Works should recommend that wider bike lanes beyond the minimum standard be installed.
2. Intersection and interchange treatment – Caltrans provides recommended intersection treatments in Chapter 1000 including bike lane “pockets” and signal loop detectors. The Department of Public Works should develop a protocol for the application of these recommendations, so that improvements can be funded and made as part of regular improvement projects.
3. Signal loop detectors, which sense bicycles, should be considered for all arterial/arterial, arterial/collector, and collector/collector intersections. A stencil of a bicycle and the words “Bicycle Loop” should identify the location of the detectors.
4. When loop detectors are installed, traffic signalization should be set to accommodate bicycle speeds.
5. Bicycle-sensitive loop detectors are preferred over a signalized button specifically designed for bicyclists (see discussion of loop detectors, below).
6. Bike lane pockets (min. 4’ wide) between right turn lanes and through lanes should be provided wherever available width allows, and right turn volumes exceed 150 motor vehicles/hour.
7. Where bottlenecks preclude continuous bike lanes, they should be linked with Class III route treatments.
8. A bike lane should be delineated from motor vehicle travel lanes with a solid 6” white line, per MUTCD. An 8” line width may be used for added distinction.
9. Word and symbol pavement stencils should be used to identify bicycle lanes, as per Caltrans and MUTCD specifications.
11. Bicycle signal heads may be used at locations with extremely high motorist-cyclist conflicts.
Figure B-4: Typical Class II Facility Cross-Section

Gutter transition must be smooth to be included in width.

* Curb Lane:
- 10' Under 2000 ADT
- 12' over 2000 ADT (under 35 mph)
- 14' over 20,000 ADT (over 35 mph)

Class II Facility Cross-Section
Installing bike lanes may require more attention to continuous maintenance issues. Bike lanes tend to collect debris as vehicles disperse gravel, trash, and glass fragments from traffic lanes to the edges of the roadway. Striping and stenciling will need periodic replacing.

Poorly designed or placed drainage grates can often be hazardous to bicyclists. Drainage grates with large slits can catch bicycle tires. Poorly placed drainage grates may also be hazardous, and can cause bicyclists to veer into the auto travel lane.

**CLASS II BIKEWAY - EXPERIMENTAL OR NONSTANDARD BEST PRACTICES**

The following section provides information about optional innovative designs for bicycle lanes that have not been adopted for use in California and do not meet Caltrans Chapter 1000 design requirements.

**Colored Bicycle Lanes**

Colored bike lanes could be used in high-conflict areas, to alert drivers of the presence of bicyclists and bicycle lanes. These areas can be painted or treated with a thermoplastic. Typically, yield signs that instruct bicyclists and drivers about the lanes are installed wherever the colored lane treatments are used.

Potential applications include:

- High volume of vehicles turning across bike lane to exit or enter a roadway in a ramp-like configuration. This should not be used in typical 4-legged intersection situations that simply have a high volume of turning motor vehicles
- Roadways / ramps merge at angles where motorist sight distance is impaired, or that cause motorists to be looking to merge in such a way that they may not see cyclists in a normally marked bike lane
- High volume of bicyclists
- Cyclists have priority movement

Other potential situations for application of colored bike lanes include:

- Contra-flow bike lanes
- Left-side bike lanes on high volume roads
- Bike-only left-turn pockets

National committees are currently reviewing the use of color for bike lane situations. Should they make a recommendation for green or other colors, the design would use the recommended coloring. Use of this type of lane may also require changes to the California Vehicle Code. The City of Portland conducted a study of colored bike lanes through conflict zone, demonstrating that motorists yield to bicyclists 92 percent of the time (compared to 72 percent of the time before colored bike lane implementation). Fewer bicyclists approaching the conflict area looked for oncoming traffic after the blue pavement was put in place. Colored bicycle lanes have also been used in Cambridge, MA, New York City, Montreal, Denmark, the Netherlands and other European countries.
Contraflow Bicycle Lanes

A contra-flow bicycle lane provides a striped lane going against the flow of automobile travel. The lanes should be separated by a double-yellow line. This type of treatment should only be considered after all other methods to accommodate bicycles along a corridor have been considered. This treatment is to be considered the exception, and not the rule, for one-way streets. As a part of trial implementation, an effective sign design to accompany this treatment needs to be determined. A standard two way traffic warning sign (W44) may be most appropriate.

Potential applications include:

- Provides direct access to key destination
- Improves safety
- Infrequent driveways on bike lane side
- Bicyclists can safely and conveniently re-enter traffic at either end
- Sufficient width to provide bike lane
- No parking on side of street with bike lane
- Existing high bicycle usage of street
- Less than three blocks in length
- No other reasonable route for bicyclist

Contraflow bicycle lanes have been used in Portland, OR, Madison, WI, San Francisco, CA and Cambridge, MA.
Floating Bicycle Lanes
This treatment designates a single lane to function as a parking lane, a designated bike route, and then both, depending on the time of day. During peak commute times when parking is not allowed, cyclists will use the shoulder. During off-peak hours when parking is allowed, bicyclists can use the space between the remaining automobile travel lanes and the parking lane. Beginning of each block must be cross hatched appropriately to prohibit parking in this location. Various treatments can be implemented as necessary, such as: cross hatching at beginning of facility, wider lane lines, merge
signs, and longer parking T’s to discourage use of lane by motor vehicles during off-peak hours. This treatment is used on The Embarcadero in San Francisco.

Potential applications include:
- Primary bicycle commute routes
- Not enough width to provide standard bike lane and parking

Figure B-8: Contraflow Bicycle Lane
Bicycle Boxes

This treatment includes a bicycle lane leading to a “box” situated behind the crosswalk and in front of the motor vehicle stop bar. The bike box allows bicyclists to move to the front of the queue and position themselves for turning movements. The treatment is also intended to improve the visibility of bicyclists. A bicycle marking is stenciled in the box and should be accompanied by signs communicating where bicycles and motor vehicles should stop.

Potential applications include:

- At intersections with a high volume of bicycles and motor vehicles
- Where there are frequent turning conflicts and/or intersections with a high percentage of turning movements by both bicyclists and motorists
- No right turn on red
- Can be combined with a bicycle signal (optional)

In the US, bicycle boxes have been used in Cambridge, MA, Portland, OR and Eugene, OR. They have been used in a variety of locations throughout Europe.
**Bicycle Left-turn Pocket Lane**

This treatment shows a standard-width bicycle lane adjacent to the left-hand turn lane in order to reduce conflicts with turning vehicles. The Bicyclists Merging sign may be placed on the right side of the road before the left-side turn pocket. This treatment has been used in San Francisco, CA and Flagstaff, AZ.

Potential applications include:
- Low-moderate speeds
- On lower volume arterials and collectors
- Heavy vehicular left-hand turning movements

In the US, bicycle boxes have been used in Cambridge, MA, Portland, OR and Eugene, OR. They have been used in a variety of locations throughout Europe.

![Figure B-10: Bicycle Left-turn Pocket Lane](image-url)
CLASS III BIKEWAY - DESIGN REQUIREMENTS

Generally referred to as a “bike route,” a Class III bikeway provides routes through areas not served by Class I or II facilities or to connect discontinuous segments of a bikeway.

Class III facilities can be shared with either motorists on roadways or pedestrians on a sidewalk (not advisable) and is identified only by signing. There are no recommended minimum widths for Class III facilities, but when encouraging bicyclists to travel along selected routes, traffic speed and volume, parking, traffic control devices, and surface quality should be acceptable for bicycle travel. Although it is not a requirement, a wide outside traffic lane (14’) is typically preferable to enable cars to safely pass bicyclists without crossing the centerline. Caltrans Chapter 1000 provides details regarding the design requirements for placement and spacing of bicycle route signage.

CLASS III BIKEWAY - ADDITIONAL DESIGN RECOMMENDATIONS

Shared Roadway Bicycle Marking

Recently, Shared Lane Marking stencils (also called “Sharrows”), have been introduced for use in California as an additional treatment for Class III facilities. The stencil can serve a number of purposes, such as making motorists aware of bicycles potentially in their lane, showing bicyclists the direction of travel, and, with proper placement, reminding bicyclists to bike further from parked cars to prevent “dooring” collisions. Figure B-11 illustrates recommended on-street Shared Lane Marking stencil placement. The “Chevron” marking design recommended by Caltrans is shown below in Figure B-12. The following pavement markings were adopted for official use by Caltrans on 9/12/2005 as part of the California MUTCD.

Guidance language provided by Caltrans for use of the Shared Lane Marking is as follows:

Section 9C.103 Shared Roadway Bicycle Marking

Option:
The Shared Roadway Bicycle Marking shown in Figure 9C-107 may be used to assist bicyclists with positioning on a shared roadway with on-street parallel parking and to alert road users of the location a bicyclist may occupy within the traveled way.

Standard:
The Shared Roadway Bicycle Marking shall only be used on a roadway which has on-street parallel parking. If used, Shared Roadway Bicycle Markings shall be placed so that the centers of the markings are a minimum of 3.3 m (11 ft) from the curb face or edge of paved shoulder. On State Highways, the Shared Roadway Bicycle Marking shall be used only in urban areas.

Option:
For rural areas, the SHARE THE ROAD (W16-1) plaque may be used in conjunction with the W11-1 bicycle warning sign (see Sections 2C.51 and 9B.18). Information for the practitioner regarding classification of rural versus urban roadways can be found at the following California Department of Transportation website: http://www.dot.ca.gov/hq/tsip/hpms/Page1.php

Guidance:
If used, the Shared Roadway Bicycle Marking should be placed immediately after an intersection and spaced at intervals of 75 m (250 ft) thereafter. If used, the Shared Roadway Bicycle Marking should not be placed on roadways with a speed limit at or above 60 km/h, (40 mph).

Option:
Where a Shared Roadway Bicycle Marking is used, the distance from the curb or edge of paved...
shoulder may be increased beyond 3.3 m (11 ft). The longitudinal spacing of the markings may be increased or reduced as needed for roadway and traffic conditions. Where used, bicycle guide or warning signs may supplement the Shared Roadway Bicycle Marking.

**Support:**

The Shared Roadway Bicycle Marking is intended to:

* Reduce the chance of bicyclists impacting open doors of parked vehicles on a shared roadway with on-street parallel parking.
* Alert road users within a narrow traveled way of the lateral location where bicyclists ride.
* Be used only on roadways without striped bicycle lanes or shoulders.
Figure B-11: Shared Lane Marking Placement

Center of Shared Lane Marking
Minimum 11'-0" from Curb

Approximate Parked Passenger
Vehicle Width from Curb

Approximate Door Open
Width from Curb

9'-6"

7'
**Bicycle Boulevard**

A bicycle boulevard treatment is typically a lower volume street with traffic calming treatments that parallels a higher volume arterial. Traffic calming typically includes a set of improvements to slow traffic and prevent cut-through traffic such as: traffic circles, chokers, and medians. In addition, stop signs favor bicyclists by stopping perpendicular traffic. Sensor loops activate traffic signals to allow safe crossings of higher volume roadways. The following design considerations apply to a bicycle boulevard:

- Typically used on low volume streets
- Traffic-calmed streets located within 1/4 mile of parallel arterials
- Allows access to key destinations
- Provides safe arterial street crossing for cyclists
- Possible Speed Limit reduction from 25 MPH to 20 MPH

**Figure B-13** illustrates a typical bicycle boulevard street configuration.

For more information, see the City of Berkeley Bicycle Boulevard *Design Tools and Guidelines* at [http://www.ci.berkeley.ca.us/transportation/Bicycling/BB/Guidelines/linkpag.htm](http://www.ci.berkeley.ca.us/transportation/Bicycling/BB/Guidelines/linkpag.htm)
BIKEWAY SUPPORT FACILITIES

In a nationwide Harris Poll conducted in 1991, almost half the respondents stated that they would sometimes commute to work by bicycle, or commute more often, if there were showers, lockers, and secure bicycle storage at work. Cyclists’ needs for bicycle parking range from simply a convenient piece of street furniture, to storage in a bicycle locker that affords weather, theft and vandalism protection, gear storage space, and 24-hour personal access. Most bicycles today cost $350 dollars to over $2,000 dollars and are one of the top stolen items in all communities, with components being stolen even when a bicycle is securely locked. Theft can be a serious deterrent to riding, especially for low-income riders or those with particularly expensive or rare bicycles. Where a cyclist’s needs falls on this spectrum is determined by several factors:

**Type of trip being made:** whether or not the bicycle will be left unattended all day or just for a few minutes.

**Security of area:** determined by the cyclist’s perception

**Value of the bicycle:** the more a cyclist has invested in a bicycle, the more concern she or he will show for theft protection or how prone a given area is to bicycle theft.

A final need for some potential commuting cyclists are shower, locker, and changing rooms at trip destinations. For those cyclists needing to dress more formally, travel longer distances, or cycle during wet or hot weather, the ability to shower and change clothing can be as critical as bicycle storage.

**TYPES OF BICYCLE PARKING**

Bicycle parking facilities in California are classified as follows:

**Class I:** Class I bicycle parking facilities (see Figure B-14) accommodate employees, students, residents, commuters, and others expected to park more than two hours. This parking is to be provided in a secure, weather-protected manner and location. Class I bicycle parking will be either a bicycle locker, or a secure area like a ‘bike corral’ that may be accessed only by bicyclists.

Bike lockers are covered storage units that typically accommodate one or two bicycles per locker, and provide additional security and protection from the elements. These are typically located at large employment center, colleges, and transit stations.

Bike corrals can be found at schools, stadiums, special events, and other locations, and typically involve a movable fencing system that can safely store numerous bicycles. Either locking the enclosure or locating it near other activities so that it can be supervised provides security.

**Class II:** Class II bicycle parking facilities (see Figure B-15) are best used to accommodate visitors, customers, messengers and others expected to depart within two hours. Bicycle racks provide support for the bicycle but do not have locking mechanisms. Racks are relatively low-cost devices that typically hold between two and eight bicycles, allow bicyclists to securely lock their frames and wheels, are secured to the ground, and are located in highly visible areas. They are usually located at schools, commercial locations, and activity centers such as parks, libraries, retail locations, and civic centers. Class II racks are typically located on sidewalks. Due to narrow sidewalk widths in many areas, interest has been increasing in on-street bicycle parking, sometimes in place of car parking spaces (see Figure B-16 for an example). Note that on-street bicycle parking is an atypical design for Class II bicycle parking for which there are currently no nationally-accepted design guidelines.
Figure B-14: Class I Bike Lockers
Figure B-15: Class II Racks
Figure B-16

On-Street Bicycle Parking
Short-term Design
36' Option

Plan

Scale: 1' = 4'
STATE AND FEDERAL GUIDELINES

The design of many streetscape elements is regulated by state and federal law. Traffic control devices must follow the procedures set forth in the Manual of Uniform Traffic Control Devices (MUTCD), while elements such as sidewalks and curb cuts must comply with guidelines implementing the Americans with Disabilities Act (ADA).

MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES

Fairfax follows the procedures and policies set out in the MUTCD. Traffic control devices include traffic signals, traffic signs, and street markings. The manual covers the placement, construction, and maintenance of devices. The MUTCD emphasizes uniformity of traffic control devices to protect the clarity of their message. A uniform device conforms to regulations for dimensions, color, wording, and graphics. Uniformity also means treating similar situations in the same way.

PRINCIPLES FOR PEDESTRIAN DESIGN

The following design principles represent a set of ideals which should be incorporated, to some degree, into every pedestrian improvement. They are ordered roughly in terms of relative importance.

1. The pedestrian environment should be safe.
   Sidewalks, walkways, and crossings should be designed and built to be free of hazards and to minimize conflicts with external factors such as noise, vehicular traffic, and protruding architectural elements.

2. The pedestrian network should be accessible to all.
   Sidewalks, walkways, and crosswalks should ensure the mobility of all users by accommodating the needs of people regardless of age or ability.

3. The pedestrian network should connect to places people want to go.
   The pedestrian network should provide continuous direct routes and convenient connections between destinations, including homes, schools, shopping areas, public services, recreational opportunities and transit.

4. The pedestrian environment should be easy to use.
   Sidewalks, walkways, and crossings should be designed so people can easily find a direct route to a destination and will experience minimal delay.

5. The pedestrian environment should provide good places.
   Good design should enhance the look and feel of the pedestrian environment. The pedestrian environment includes open spaces such as plazas, courtyards, and squares, as well as the building facades that give shape to the space of the street. Amenities such as seating,
street furniture, banners, art, plantings, shading, and special paving, along with historical elements and cultural references, should promote a sense of place.

6. The pedestrian environment should be used for many things. The pedestrian environment should be a place where public activities are encouraged. Commercial activities such as dining, vending, and advertising may be permitted when they do not interfere with safety and accessibility.

7. Pedestrian improvements should preserve or enhance the historical qualities of a place. Fairfax’s history must be preserved in the public space. Where applicable, pedestrian improvements should restore and accentuate historical elements of the public right-of-way. Good design will create a sense of time that underscores the history of Fairfax.

8. Pedestrian improvements should be economical. Pedestrian improvements should be designed to achieve the maximum benefit for their cost, including initial cost and maintenance cost as well as reduced reliance on more expensive modes of transportation. Where possible, improvements in the right-of-way should stimulate, reinforce, and connect with adjacent private improvements.

SIDEWALK CORRIDOR GUIDELINES

The width and zone guidelines presented in this sidewalk section would apply to sidewalks in new development areas, redevelopment areas, and in areas where street reconstruction is planned. For the entire above listed project types, sufficient right of way must exist for implementation of the appropriate sidewalk width guideline.

SIDEWALK CORRIDOR WIDTH

Proposed sidewalk guidelines apply to new development and depend on available street width, motor vehicle volumes, surrounding land uses, and pedestrian activity levels. Standardizing sidewalk guidelines for different areas of the Town, dependent on the above listed factors, ensure a minimum level of quality for all sidewalks.

Fairfax currently installs sidewalks that conform to the Americans with Disabilities Act Accessibility Guidelines (ADAAG) that call for minimum 4-foot wide sidewalks for passage.

The Institute of Transportation Engineers (ITE) recommends planning all sidewalks to include a minimum width of 5 feet (60 inches) with a planting strip of 2 feet (24 inches) in both residential and commercial areas.

SIDEWALK ZONES

Sidewalks are the most important component of Fairfax’s pedestrian circulation network. Sidewalks provide pedestrian access to virtually every activity and provide critical connections between other modes of travel, including the automobile, public transit, and bicycles. The Sidewalk Corridor is typically located within the public right-of-way between the curb or roadway edge and the property line. The Sidewalk Corridor contains four distinct zones: the Curb Zone, the Furnishings Zone, the Through Pedestrian Zone, and the Frontage Zone.
**CURB ZONE**

Curbs prevent water in the street gutters from entering the pedestrian space, discourage vehicles from driving over the pedestrian area, and make it easy to sweep the streets. In addition, the curb helps to define the pedestrian environment within the streetscape, although other designs can be effective for this purpose. At the corner, the curb is an important tactile element for pedestrians who are finding their way with the use of a cane. Strait curbs rather than rolled curbs are strongly recommended because it eliminates the potential for cars to park on the sidewalk or partially obstructing the sidewalk.

**FURNISHINGS ZONE**

Most streets require a utility zone to accommodate above ground public infrastructure, signage, and street trees. Locating this infrastructure in the furnishings zone prevents it from encroaching on the through passage zone, where it is likely to cause accessibility issues. The furnishings zone also creates an important buffer between pedestrians and vehicle travel lanes by providing horizontal separation. Elements like utility poles, sign posts, and street trees improve pedestrian safety and comfort by further separating the sidewalk from moving vehicles. Guidelines for furnishings zone widths are presented below in Table C-1.

**THROUGH PASSAGE ZONE**

Most residential areas outside the downtown area in Fairfax are low to medium density and therefore have lower pedestrian volumes, compared to more urbanized areas such as the downtown and adjacent neighborhoods. A four to five foot minimum through passage zone is recommended for these conditions, depending on available right of way. Some commercial areas, school zones, and other public areas generate greater pedestrian volumes and should have a wider through zone. Table C-1 presents recommended standards for the through zone width for each of the predominant land uses in Fairfax.

**FRONTAGE ZONE**

The frontage zone is the space between the pedestrian through zone and the adjacent property line. Pedestrians tend to avoid walking close to barriers at the property line, such as buildings, storefronts, walls or fences, in the same way that they tend to avoid walking close to the roadway. In most cases the frontage zone should be at least 12 inches. However, if the sidewalk is adjacent to a wide open or landscaped space, such as in residential areas where fences are not typically found or not allowed, the frontage zone can be eliminated. Guidelines for frontage zone widths are presented below in Table C-1. As shown in the table, a frontage zone may not be required in many residential areas of Fairfax due to lack of public right of way or deep yard setbacks.
**Figure C-1: Sidewalk Zones**

**Table C-1: Recommended Minimum Zone Widths By Street Type**

<table>
<thead>
<tr>
<th>Street Type</th>
<th>Curb Zone</th>
<th>Utility Zone (Buffer Zone)</th>
<th>Through Passage Zone</th>
<th>Frontage Zone</th>
<th>Total Sidewalk Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arterial and Collector Street</td>
<td>1 ft.</td>
<td>2-4 ft.</td>
<td>5-8 ft.</td>
<td>2 ft.</td>
<td>10-15 ft.</td>
</tr>
<tr>
<td>Local Neighborhood Street</td>
<td>0-1 ft.</td>
<td>0-2 ft.</td>
<td>4-5 ft.</td>
<td>none</td>
<td>4-8 ft.</td>
</tr>
<tr>
<td>Commercial Walkways</td>
<td>1 ft.</td>
<td>2-4 ft.</td>
<td>8-10 ft.</td>
<td>2 ft.</td>
<td>13-17 ft.</td>
</tr>
<tr>
<td>Multi-Use Trail</td>
<td>NA</td>
<td>4 ft. graded soft surface (2 ft. either side)</td>
<td>8-10 ft. (two-way travel)</td>
<td>NA</td>
<td>12-14 ft.</td>
</tr>
</tbody>
</table>
SIDEWALK CROSS SECTION EXAMPLES

Basic sidewalk cross-section examples are presented on the following pages. These recommendations consist of both prototype and site-specific types and are intended to complement existing local and Caltrans roadway standards and the design guidelines provided above.

NEW SIDEWALKS IN RESIDENTIAL NEIGHBORHOODS

Although not every neighborhood may desire sidewalks, there will be places that could benefit from their installation. Safer trips by schoolchildren, shopping trips and recreation are just some of the reasons that a community may wish to see sidewalks built in one of their existing neighborhoods.

Sidewalks on Narrow Streets

Figure C-2 shows the minimal solution for new sidewalks in existing neighborhoods. It shows a site constrained by a small setback to the existing house or significant landscaping and a narrow street condition that does not allow for a parking lane between the pedestrians on the sidewalk and the vehicular travel lane.

Figure C-2: Sidewalks on Narrow Streets
Sidewalks on Wider Streets

Figure C-3 demonstrates the preferred design where a lane of parking between the pedestrian way and the traffic lane. A parking lane is generally preferred for pedestrian safety since it separates pedestrians from moving cars. If the street is not wide enough to install this improvement, and the existing house or landscaping is set back far enough, the possibility of acquiring land to widen the right-of-way should be investigated.

Figure C-3: Sidewalks on Wider Streets
Sidewalk with Planting Strip

The most desirable condition, as illustrated here, is for the pedestrian to be buffered from vehicular traffic by both a parking lane and a planting strip. This is particularly important on streets with higher traffic volumes. Ideally, the planting strip should contain street trees at an interval of 20 to 50 feet on center. The trees help to create a more amenable pedestrian corridor and give better spatial definition to the street. This can make the street appear narrower, which helps to slow vehicular traffic.

If the street is not wide enough to install this improvement, and the existing house or landscaping is set back far enough, the possibility of acquiring land to widen the right-of-way should be investigated.

Figure C-4: Sidewalk with Planting Strip
PEDESTRIAN FACILITIES ON CONSTRAINED RESIDENTIAL STREETS

Some neighborhoods in Fairfax have severe constraints that prevent the installation of sidewalks. Such constraints would include the topography immediately adjacent to one or both sides of the street, significant trees or landscape features, small front yard setbacks and/or right-of-way limitations. This section shows various options for addressing pedestrian safety on these streets.

Sidewalk in Cut Slope Area

One option, as shown below, is to install a retaining wall along a hillside in order to provide preferably five feet, but minimally four feet for sidewalk access. Other topographical barriers could be overcome using similar soil retaining methods.

Figure C-5: Sidewalk in Cut Slope Area
CROSSWALKS

DEFINITION
The California Vehicle Code Section 275 defines a crosswalk as either:

That portion of a roadway included within the prolongation or connection of the boundary lines of sidewalks at intersections where the intersecting roadways meet at approximately right angles, except the prolongation of such lines from an alley across a street.

Any portion of a roadway distinctly indicated for pedestrian crossing by lines or other markings on the surface.

Notwithstanding the foregoing provisions of this section, there shall not be a crosswalk where local authorities have placed signs indicating no crossing.

At intersections, a crosswalk is effectively a legal extension of the sidewalk across the roadway. Crosswalks are present at all intersections, whether marked or unmarked, unless the pedestrian crossing is specifically prohibited by the local jurisdiction. At mid-block locations, crosswalks only exist if they are marked.

According to the California MUTCD, crosswalk markings provide guidance for pedestrians who are crossing roadways by defining and delineating paths on approaches to and within signalized intersections, and on approaches to other intersections where traffic stops. Crosswalk markings also serve to alert road users of a pedestrian crossing point across roadways not controlled by highway traffic signals or STOP signs. At non-intersection locations, crosswalk markings legally establish the crosswalk.

As noted in the FHWA report “Safety Effects of Marked Versus Unmarked Crosswalks at Uncontrolled Locations,” the California MUTCD does not provide specific guidance relative to the site condition (e.g., traffic volume, pedestrian volume, number of lanes, presence or type of median) where marked crosswalks should or should not be used at uncontrolled locations. Nor does the MUTCD give specific guidance on the application of crosswalk enhancement features such as high-visibility striping, advanced warning signage, or flashing beacons. While the California MUTCD allows the use of these devices, decisions on their specific applicability to a given location have historically been left to the judgment of the local traffic engineers. This section summarizes the various types of crosswalk-related markings, signage and enhancement treatments available for use in Fairfax, discusses policies and procedures already in use for implementation of some of these devices, and provides more specific guidance and recommendations to assist Town traffic engineers with future implementation.

CROSSWALK MARKINGS
Marked crosswalks serve to alert road users to expect crossing pedestrians and to direct pedestrians to desirable crossing locations. Fairfax utilizes two different marking styles for pedestrian crosswalks: the standard “transverse” style, consisting of two parallel lines; and the “ladder” style consisting of the two parallel lines with perpendicular ladder bars striped across the width of the crosswalk.

Crosswalks should extend across the full width of intersections, or to the edge of the intersecting crosswalk, to encourage pedestrians to cross perpendicular to the flow of traffic. Crosswalk markings can be applied with paint, thermoplastic, or reflective thermoplastic tape. At
controlled crosswalk locations (STOP signs or traffic signals), crosswalk markings by themselves are considered sufficient treatment, given the presence of a traffic control to stop vehicles. At uncontrolled crosswalk locations (either uncontrolled intersections or mid-block locations), marked crosswalks can be enhanced with crosswalk signage, advance warning signage, in-pavement flashers, or flashing beacons -- these additional crosswalk enhancements are discussed in more detail below.

**Table C-2: Crosswalk Markings**

<table>
<thead>
<tr>
<th>Style</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard – Two solid white lines, 12 to 24 inches wide, spaced at least 6 feet apart (refer to CA MUTCD Sec. 3B.17). Also called “transverse.”</td>
<td><img src="image1.jpg" alt="Image" /></td>
</tr>
<tr>
<td>Ladder – Adds cross bar “rungs” to the standard crosswalk marking described above. Width of ladder lines should be 1 foot, with minimum spacing of ladder lines 1-5 feet.</td>
<td><img src="image2.jpg" alt="Image" /></td>
</tr>
<tr>
<td>School Crosswalks. Crosswalks within the designated school zone must be painted yellow, per California MUTCD. Can be marked either standard or ladder. The school zone can be set a distance up to 500 feet from the school boundary.</td>
<td><img src="image3.jpg" alt="Image" /></td>
</tr>
</tbody>
</table>

The decision on whether to install standard or ladder crosswalk markings depends upon a variety of factors such as the number of pedestrians crossing, traffic speeds/volumes, number of lanes to cross, presence of nearby schools or senior centers, and history of collisions. In general, standard transverse markings are considered appropriate at controlled intersections, minor uncontrolled intersections, and other crossing locations with low traffic volumes/speeds, short crossing distance, and good visibility. High visibility ladder markings are generally applied at uncontrolled or mid-block locations, especially on major streets with high pedestrian volumes, heavy traffic volumes and speeds, and more than one lane each direction.
PEDESTRIAN WARNING SIGNAGE FOR SIGNALIZED INTERSECTIONS

As noted under the discussion of crosswalk signs and markings, crosswalk warning signs are not permitted at crosswalks controlled by a traffic signal, as the traffic control itself serves to regulate vehicles at the intersection. At signalized intersections, particularly where right turn on red is permitted, installing stop lines as described above may be one way of reducing encroachment of vehicles into the pedestrian crosswalk. Another solution to remind drivers who are making turns to yield to pedestrians is installation of a “TURNING TRAFFIC MUST YIELD TO PEDESTRIANS” (R10-15) sign.

IN-STREET YIELD TO PEDESTRIAN SIGNS

In-Street Yield to Pedestrian Signs are flexible plastic signs installed in the median to enhance a crosswalk at uncontrolled crossing locations. These signs communicate variations of the basic message ‘State Law: Yield to Pedestrians’. The signs can be supplemented with a “SCHOOL” plate at the top for use at school crosswalks. If used near schools, these signs are sometimes installed on a portable base and brought out in the morning and back in at the end of each day by school staff, which may reduce the chance that the sign will become less visible to motorists by being left out all the time. For permanently installed signs, maintenance can be an issue as the signs may be run over by vehicles and need to be replaced occasionally. Installing the signs in a raised median can help extend their lifetime.

FLASHING BEACONS

Where the visibility of a crosswalk is poor, or where warranted by safety considerations, yellow flashing beacons can be installed to alert motorists to expect crossing pedestrians. Beacons can either be mounted on posts on the side of the roadway, or installed on mast arms over the roadway. Beacons can be installed in conjunction with any crosswalk warning sign, and can be set to operate at all times where the level of pedestrian activity along a corridor warrants. When installed at a specific crosswalk location, beacons can be set to be activated by pedestrians to only flash during the crossing time.

When used to make motorists aware of school zones, flashing beacons should be timed to flash only during the morning and afternoon school commute hours when children are present.

SPECIAL CROSSWALK PAVEMENT TREATMENTS

For aesthetic reasons, crosswalks are sometimes constructed with distinctive paving materials such as colored pavement or special decorative pavers meant to look like brick. Brick should never be used in crosswalks, as it tends to wear down quickly, becoming uneven and slippery and causing difficulties for pedestrians, especially persons with disabilities. Any use of unique materials or colored pavement should use concrete pavers or asphalt, and textures should maintain a smooth travel surface and good traction. It is important to note that these decorative pavement treatments do not enhance the visibility of the crosswalk location, in many cases make the crossing more difficult for persons with disabilities to navigate, make the crosswalk less visible to motorists at night, and for these reasons are not recommended. Regardless of any colored or unique pavement treatment used, marked crosswalk locations should always be marked with parallel transverse lines.
**IN-ROADWAY WARNING LIGHTS**

The California MUTCD has approved the use of in-roadway warning lights at uncontrolled marked crosswalks. Also known as in-pavement flashing crosswalks, illuminated crosswalks, or “Santa Rosa lights,” these yellow lights embedded just above the roadway surface and flash when activated (either by a pushbutton or by passive detection) by a crossing pedestrian. The California MUTCD Sec. 4L.02 provides guidance on evaluating the need for in-roadway warning lights and offers standards for their placement. Fairfax currently has no in-roadway warning lights installed.

**ENGINEERING TREATMENTS FOR CROSSWALKS**

**CURB EXTENSIONS**

Curb extensions, also called “bulbouts” to describe their shape, are engineering improvements intended to reduce pedestrian crossing distance and increase visibility. Curb extensions can either be placed at corners or at mid-block crosswalk locations, and generally extend out about 6 feet to align with the edge of the parking lane. In addition to shortening the crosswalk distance, curb extensions serve to increase pedestrian visibility by allowing pedestrians to safely step out to the edge of the parking lane where they can see into the street, also making them more visible to oncoming drivers. At corners, curb extensions serve to reduce the turning radius, and provide space for perpendicularly-aligned curb ramps. Where bus stops are located, bulbouts can provide additional space for passenger queuing and loading.

Despite their advantages, curb extensions can require major re-engineering of the street and are not appropriate for all situations. Installing curb extensions where there are existing storm drain catch basins can require costly drainage modifications. Curb extensions may not be possible in some locations due to existing driveways or bus pull-out areas. Curb extensions need to be designed to avoid conflict with bicycle facilities, and should never extend into a bicycle lane.

Given their relatively high cost and challenges of implementation, curb extensions are not recommended as a tool for widespread implementation along every street in the Town. Each potential curb extension location must be evaluated on a case-by-case basis, taking into account factors such as crossing volumes, parking lane widths, infrastructure challenges such as drainage or driveways, and locations of bus stops.

**TRAFFIC SIGNAL ENHANCEMENTS**

This section discusses specific pedestrian enhancements for use at signalized intersection locations.
Pedestrian Pushbutton Detectors

Pedestrian pushbutton detectors allow for actuation of pedestrian signals, and should be located at all intersection corners where pedestrian actuation is used. As required by the California MUTCD, pedestrian pushbutton detectors must be accompanied by signs explaining their use. Pedestrian pushbutton detectors should be easily accessible for those in wheelchairs and for the sight-impaired, located approximately 3.5 ft. off the ground on a level surface. Pedestrian pushbuttons should not be used in locations where the pedestrian phase is set on a fixed cycle and cannot be actuated. One exception to this is the use of pushbuttons to activate audible pedestrian signals at non-actuated locations.

Table C-3: Pedestrian Signal Actuation

<table>
<thead>
<tr>
<th>PEDESTRIAN SIGNAL ACTUATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>There are several simple design considerations that greatly enhance the safety and comfort of pedestrians at signalized intersections:</td>
</tr>
<tr>
<td>• In areas with high pedestrian use (over 100 persons per hour), incorporate a pedestrian phase into the signal sequence instead of an on-demand signal phase,</td>
</tr>
<tr>
<td>• Alternatively, install countdown pedestrian signals instead of the traditional “flashing hand” signal. This communicates to the pedestrian exactly how much time they have to cross the road safely,</td>
</tr>
<tr>
<td>• Place pedestrian push-buttons in locations that are easy to reach and ADA compliant, facing the sidewalk and clearly inline with the direction of travel (this will improve operations, as many pedestrians push all buttons to ensure that they hit the right one);</td>
</tr>
<tr>
<td>• Place additional actuators prior to the intersection so that pedestrians may activate the signal before they reach the corner of the intersection, to decrease pedestrian waiting time;</td>
</tr>
<tr>
<td>• Adjust the signal timing to accommodate the average walking speeds of intersection users (longer crossing times for intersections near schools and community centers, etc.), or to limit the time a pedestrian has to wait.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACCESSIBLE PEDESTRIAN SIGNALS – VERBAL/VIBROTACTILE TONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>• When verbal messages are used to communicate the pedestrian interval, they shall provide a clear message that the walk interval is in effect, as well as to which crossing it applies.</td>
</tr>
<tr>
<td>• The verbal message that is provided at regular intervals throughout the timing of the walk interval shall be the term “walk sign,” which may be followed by the name of the street to be crossed.</td>
</tr>
<tr>
<td>• A verbal message is not required at times when the walk interval is not timing, but, if provided:</td>
</tr>
<tr>
<td>1. It shall be the term &quot;wait.&quot;</td>
</tr>
<tr>
<td>2. It need not be repeated for the entire time that the walk interval</td>
</tr>
<tr>
<td>Accessible pedestrian signals that provide verbal messages may provide similar messages in languages other than English, if needed, except for the terms “walk sign” and “wait.” A vibrotactile pedestrian device communicates information about pedestrian timing through a vibrating surface by touch.</td>
</tr>
<tr>
<td>• Vibrotactile pedestrian devices, where used, shall indicate that the walk interval is in effect, and for which direction it applies, through the use of a vibrating directional arrow or some other means.</td>
</tr>
</tbody>
</table>
TRAFFIC CALMING

Traffic calming interventions slow traffic by modifying the physical environment of a street. A variety of traffic calming measures are available including speed humps, chokers, traffic circles and both full and partial street closures. In addition, speed limit reductions may be effective, with or without physical traffic calming improvements at reducing speeds.

Research into the efficacy of traffic calming devices to improve pedestrian safety has shown that traffic calming can reduce the number of automobile collisions. A Vancouver study published in 1997 showed an average collision reduction of 40 percent in four neighborhoods that used a combination of the traffic calming types described below.³

Table C-4: Traffic Calming Measures

<table>
<thead>
<tr>
<th>Traffic Calming Measure</th>
<th>Description</th>
<th>Considerations for Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Street Trees</strong></td>
<td>In addition to their aesthetic value, street trees can slow traffic and improve safety for pedestrians. Trees add visual interest to streets and narrow the street’s visual corridor, which may cause drivers to slow down.</td>
<td>- If the sidewalk corridor is not wide enough to accommodate street trees, adding tree plantings in the parking lane is possible, knowing that these trees have shortened life spans. - The placement of plantings should consider potential for conflict with street sweeping and drainage.</td>
</tr>
<tr>
<td><strong>Raised Crosswalks</strong></td>
<td>Raised crosswalks are similar to speed humps, but are installed at intersections to elevate crosswalks. Raised sidewalks eliminate grade changes from the pedestrian path and give pedestrians greater prominence as they cross the street.</td>
<td>- Use detectable warnings at the curb edges to alert vision-impaired pedestrians that they are entering the roadway. - May be designed so they do not have a slowing effect (for example, on emergency response routes).</td>
</tr>
<tr>
<td><strong>Chicanes</strong></td>
<td>Chicanes are a series of curb extensions or narrowings that create an S-shaped route, causing traffic to slow down. An example of chicanes can be found on Milvia Street in North Berkeley, pictured at left. With no major pedestrian issues, chicanes can provide additional landscaping and street buffer area. Care should be taken to ensure that chicanes do not affect bicycle mobility along streets proposed for chicanes.</td>
<td></td>
</tr>
</tbody>
</table>

### Speed Humps

<table>
<thead>
<tr>
<th>Speed humps are elevated, sloped sections of pavement that require drivers to slow down as they pass over.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed humps are generally 12-22 feet long and 3-4 inches high. There are four speed hump shapes – sinusoidal, circular, parabolic and flat-topped – which differ in the shape of their slope. The sinusoidal shaped are much smoother to drive over at the intended speed, and are also more friendly to bicyclists. (Many older speed humps are of the parabolic shape, which provides a more pronounced bump when driving over them.)</td>
</tr>
<tr>
<td>- Not recommended for use on emergency response routes or transit corridors.</td>
</tr>
</tbody>
</table>

### Traffic Calming Circles

<table>
<thead>
<tr>
<th>Traffic calming circles are circular islands in the middle of an intersection. Traffic circles slow traffic by altering the route of vehicles and by reducing the distance a driver can see down the street, which also causes traffic to slow. Traffic circles can either be two-way or four-way stop or yield.</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Unlike full roundabouts, traffic circles maintain the crosswalks at the intersection corners. - However, in some cases it was necessary to move the crosswalks back to accommodate the turning radius of larger vehicles around the circle. In these cases the crosswalks are no longer aligned directly perpendicular with the corner, which could cause difficulty for persons with visual impairments. Care should be taken to ensure that any landscaping in the circles uses low-growing shrubs that maintain visibility for pedestrians, particularly those in wheelchairs.</td>
</tr>
</tbody>
</table>
# APPENDIX D: PEDESTRIAN RIGHTS-OF-WAY

## Table D-1: Potential Pedestrian Rights-of-Way

<table>
<thead>
<tr>
<th>Trail #</th>
<th>Neighborhood Map</th>
<th>Bot #</th>
<th>Bot street</th>
<th>Top #</th>
<th>Top street</th>
<th>Status</th>
<th>Notes</th>
<th>Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Scenic Hill</td>
<td>5</td>
<td>Acacia</td>
<td>40</td>
<td>Bay</td>
<td>Y/R</td>
<td>Parking blocks top of trail.</td>
<td>Steps</td>
</tr>
<tr>
<td>2</td>
<td>Scenic Hill</td>
<td>20</td>
<td>Berry Trail</td>
<td>211</td>
<td>Tamalpais</td>
<td>R</td>
<td>Fence blocking trail</td>
<td>Steps</td>
</tr>
<tr>
<td>3</td>
<td>Scenic Hill</td>
<td>224</td>
<td>Bolinas</td>
<td>91</td>
<td>Frustuck</td>
<td>Y/R</td>
<td>Brush at bottom. Fence midway.</td>
<td>Steps</td>
</tr>
<tr>
<td>4</td>
<td>Scenic Hill</td>
<td>74</td>
<td>Frustuck</td>
<td>51</td>
<td>Manzanita Court</td>
<td>B/Y/R</td>
<td>Private property at top. Fence at bottom.</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Scenic Hill</td>
<td>84</td>
<td>Frustuck</td>
<td>53</td>
<td>Manzanita Court</td>
<td>Y/R</td>
<td>Deadend. Fence at bottom.</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Scenic Hill</td>
<td>206</td>
<td>Frustuck</td>
<td>66</td>
<td>Manzanita Ave</td>
<td>Y/R</td>
<td>Fences top and middle.</td>
<td>Steps</td>
</tr>
<tr>
<td>7</td>
<td>Holly Road</td>
<td>34</td>
<td>Holly</td>
<td>Tamarancho</td>
<td>R</td>
<td>Locked gate</td>
<td>Neighbor negotiation</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Scenic Hill</td>
<td>14</td>
<td>Manzanita Ave</td>
<td>18</td>
<td>Mountain View</td>
<td>G/Y</td>
<td></td>
<td>Steps</td>
</tr>
<tr>
<td>9</td>
<td>Scenic Hill</td>
<td>2</td>
<td>Medway</td>
<td>291</td>
<td>Scenic</td>
<td>Y</td>
<td>Brush and trees blocking parts of trail.</td>
<td>Steps</td>
</tr>
<tr>
<td>10</td>
<td>Scenic Hill</td>
<td>36</td>
<td>Midway</td>
<td>140</td>
<td>Tamalpais</td>
<td>Y</td>
<td>Brush</td>
<td>Trail clear</td>
</tr>
<tr>
<td>11</td>
<td>Scenic Hill</td>
<td>41</td>
<td>Redwood</td>
<td>450</td>
<td>Ridge</td>
<td>G/Y</td>
<td></td>
<td>Steps</td>
</tr>
<tr>
<td>12</td>
<td>Scenic Hill</td>
<td>101</td>
<td>Redwood</td>
<td>540</td>
<td>Scenic</td>
<td>G/Y</td>
<td></td>
<td>Steps</td>
</tr>
<tr>
<td>13</td>
<td>Scenic Hill</td>
<td>99</td>
<td>Ridge</td>
<td>Open space</td>
<td>R</td>
<td></td>
<td>Sleep</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Scenic Hill</td>
<td>121</td>
<td>Ridge</td>
<td>Open space</td>
<td>R</td>
<td></td>
<td>Sleep</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Scenic Hill</td>
<td>155</td>
<td>Ridge</td>
<td>Tamarancho</td>
<td>G</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Scenic Trail</td>
<td>176</td>
<td>Scenic</td>
<td>144</td>
<td>Redwood</td>
<td>G/Y</td>
<td>Creek in trail</td>
<td>Steps</td>
</tr>
<tr>
<td>17</td>
<td>Fir Trail</td>
<td>202</td>
<td>Scenic</td>
<td>126</td>
<td>Redwood</td>
<td>G</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Scenic Hill</td>
<td>290</td>
<td>Scenic</td>
<td>438</td>
<td>Scenic</td>
<td>Y/R</td>
<td>Parking blocks bottom of trail. Fence at top of trail.</td>
<td>Steps</td>
</tr>
<tr>
<td>19</td>
<td>Scenic Hill</td>
<td>377</td>
<td>Scenic</td>
<td>90</td>
<td>Ridge</td>
<td>R</td>
<td>Structure built over row.</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Scenic Hill</td>
<td>399</td>
<td>Scenic</td>
<td>30</td>
<td>Park Lane</td>
<td>G</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Scenic Hill</td>
<td>429</td>
<td>Scenic</td>
<td>20</td>
<td>Park Lane</td>
<td>G</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Scenic Hill</td>
<td>501</td>
<td>Scenic</td>
<td>Ridge</td>
<td>B</td>
<td>Private property. Alternative egress from holly Road gate</td>
<td>Brush clearing</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Scenic Hill</td>
<td>89</td>
<td>Spruce</td>
<td>41</td>
<td>Berry Trail</td>
<td>R</td>
<td>Slide zone</td>
<td>Steps/rope</td>
</tr>
<tr>
<td>25</td>
<td>Scenic Hill</td>
<td>101</td>
<td>Spruce</td>
<td>181</td>
<td>Tamalpais</td>
<td>R</td>
<td>Structure built over row.</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Scenic Hill</td>
<td>45</td>
<td>Tamalpais</td>
<td>141</td>
<td>Tamalpais</td>
<td>G</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trail #</td>
<td>Name</td>
<td>Neighborhood Map</td>
<td>Bot #</td>
<td>Bot street</td>
<td>Top #</td>
<td>Top street</td>
<td>Status</td>
<td>Notes</td>
</tr>
<tr>
<td>--------</td>
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<td>--------</td>
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<td>--------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>27</td>
<td>Scenic Hill</td>
<td></td>
<td>140</td>
<td>Tamalpais</td>
<td>267</td>
<td>Scenic</td>
<td>G/Y</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Scenic Hill</td>
<td></td>
<td>64</td>
<td>Valley Road</td>
<td>267</td>
<td>Toyon Fire Road</td>
<td>B/Y</td>
<td>Brush and broom. Not currently on color map!</td>
</tr>
<tr>
<td>29</td>
<td>Scenic Hill</td>
<td></td>
<td>49</td>
<td>Wreden</td>
<td>23</td>
<td>Manzanita Ave</td>
<td>Y/R</td>
<td>Fences top and bottom.</td>
</tr>
<tr>
<td>30</td>
<td>Berry Trail</td>
<td>Scenic Hill</td>
<td>82</td>
<td>Wreden</td>
<td>191</td>
<td>Tamalpais</td>
<td>G/B</td>
<td>Private property at Wreden end.</td>
</tr>
<tr>
<td>31</td>
<td>Scenic Hill</td>
<td></td>
<td>90</td>
<td>Wreden</td>
<td></td>
<td>Undeveloped lot</td>
<td>Y</td>
<td>Deadend.</td>
</tr>
<tr>
<td>32</td>
<td>Willow/Ridgeway</td>
<td></td>
<td>12</td>
<td>Upper Ridgeway</td>
<td>open space</td>
<td>r</td>
<td></td>
<td>Brush and trees blocking parts of trail.</td>
</tr>
<tr>
<td>33</td>
<td>Willow/Ridgeway</td>
<td></td>
<td>12</td>
<td>Upper Ridgeway</td>
<td>open space</td>
<td>g/b</td>
<td></td>
<td>Private Property (undeveloped)</td>
</tr>
<tr>
<td>34</td>
<td>Willow/Ridgeway</td>
<td></td>
<td>13</td>
<td>Upper Ridgeway</td>
<td>Ridge way Fire Road</td>
<td>G/Y</td>
<td>Trail building needed around property</td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>Willow/Ridgeway</td>
<td></td>
<td>82</td>
<td>Maple</td>
<td>141</td>
<td>Willow</td>
<td>G</td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>Willow/Ridgeway</td>
<td></td>
<td>130</td>
<td>Ridgeway</td>
<td>95</td>
<td>Rocca</td>
<td>G/Y</td>
<td>Access to open space and Wall property</td>
</tr>
<tr>
<td>37</td>
<td>Willow/Ridgeway</td>
<td></td>
<td>55</td>
<td>Maple</td>
<td>29</td>
<td>Chester</td>
<td>Y</td>
<td>steep near top steps</td>
</tr>
<tr>
<td>38</td>
<td>Parker Lane</td>
<td>Willow/Ridgeway</td>
<td>113</td>
<td>Taylor</td>
<td>Open space</td>
<td>G/Y</td>
<td>brush</td>
<td>trail Building, Steps</td>
</tr>
<tr>
<td>39</td>
<td>Parker Lane</td>
<td>Willow/Ridgeway</td>
<td>5</td>
<td>Parker Lane</td>
<td>Open space</td>
<td>R</td>
<td></td>
<td>Brush, Steep, Claimed as Driveway</td>
</tr>
<tr>
<td>40</td>
<td>Willow/Ridgeway</td>
<td></td>
<td>46</td>
<td>Rocca</td>
<td>95</td>
<td>Rocca</td>
<td>G/Y</td>
<td>dead end, open at street</td>
</tr>
<tr>
<td>41</td>
<td>Willow/Ridgeway</td>
<td></td>
<td>55</td>
<td>Taylor</td>
<td>Town lot, Wall Prop</td>
<td>G</td>
<td>Some broom, trail open</td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>Willow/Ridgeway</td>
<td></td>
<td>2042</td>
<td>Sir Francis Drake</td>
<td>Taylor</td>
<td>G/B</td>
<td>IGA to Bennett House</td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>Willow/Ridgeway</td>
<td></td>
<td>4</td>
<td>Rocca</td>
<td>69</td>
<td>Rocca</td>
<td>G</td>
<td></td>
</tr>
<tr>
<td>44</td>
<td>Willow/Ridgeway</td>
<td></td>
<td>8</td>
<td>Taylor</td>
<td>alley</td>
<td>G</td>
<td>6 feet short of Rocca</td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>Willow/Ridgeway</td>
<td></td>
<td>44</td>
<td>Rocca</td>
<td>96</td>
<td>Rocca</td>
<td>G/Y</td>
<td>Steps at top end rotted, otherwise good</td>
</tr>
<tr>
<td>46</td>
<td>Willow/Ridgeway</td>
<td></td>
<td>144</td>
<td>Live Oak</td>
<td>Upper Rocca steps</td>
<td>B</td>
<td>Access between neighborhoods, private property</td>
<td>active route</td>
</tr>
<tr>
<td>47</td>
<td>Willow/Ridgeway</td>
<td></td>
<td>134</td>
<td>Live Oak</td>
<td>212</td>
<td>Ridgeway</td>
<td>B</td>
<td>Access between neighborhoods, private property</td>
</tr>
<tr>
<td>48</td>
<td>Willow/Ridgeway</td>
<td></td>
<td>36</td>
<td>Rocca</td>
<td>135</td>
<td>Live Oak</td>
<td>B</td>
<td>Access between neighborhoods, private property</td>
</tr>
<tr>
<td>49</td>
<td>Willow/Ridgeway</td>
<td></td>
<td>1790</td>
<td>Sir Francis Drake</td>
<td>141</td>
<td>Live Oak</td>
<td>Y</td>
<td>Stream in Trail, brush</td>
</tr>
<tr>
<td>50</td>
<td>Willow/Ridgeway</td>
<td></td>
<td>1770</td>
<td>Sir Francis Drake</td>
<td>99</td>
<td>Live Oak</td>
<td>B</td>
<td>Access between neighborhoods, private property</td>
</tr>
<tr>
<td>51</td>
<td>Willow/Ridgeway</td>
<td></td>
<td>1750. 4</td>
<td>Sir Francis Drake</td>
<td>94.5</td>
<td>Live Oak</td>
<td>Y</td>
<td>Needs steps, people use alternate routes on Private Property</td>
</tr>
<tr>
<td>52</td>
<td>Downtown (W/R)</td>
<td></td>
<td>22</td>
<td>Napa</td>
<td>88</td>
<td>Mono Lane</td>
<td>G</td>
<td></td>
</tr>
<tr>
<td>Trail #</td>
<td>Name</td>
<td>Neighborhood Map</td>
<td>Bot #</td>
<td>Bot street</td>
<td>Top #</td>
<td>Top street</td>
<td>Status</td>
<td>Notes</td>
</tr>
<tr>
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<td>---------------------------</td>
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<td>------------</td>
<td>-------</td>
<td>------------</td>
<td>--------</td>
<td>------------------------------</td>
</tr>
<tr>
<td>53</td>
<td>School St Bridge</td>
<td>Downtown (W/R)</td>
<td>Women's Cub</td>
<td>Ball Field</td>
<td>R</td>
<td>Bridge out</td>
<td></td>
<td></td>
</tr>
<tr>
<td>54</td>
<td>Downtown (W/R)</td>
<td>8 school street</td>
<td>Pavilion</td>
<td>G</td>
<td>around Ball Field</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>Playground Bridge</td>
<td>Downtown (W/R)</td>
<td>Park Road</td>
<td>Pavilion</td>
<td>R</td>
<td>Bridge out</td>
<td></td>
<td></td>
</tr>
<tr>
<td>56</td>
<td>Cypress Trail</td>
<td>78.2 Cypress</td>
<td>99 Hickory</td>
<td>G</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>Cypress Trail</td>
<td>130 Cypress</td>
<td>260 Cypress</td>
<td>G</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>58</td>
<td>Cypress Trail</td>
<td>130 Cypress</td>
<td>126 Madrone</td>
<td>G</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>59</td>
<td>Cascade Trail</td>
<td>Cypress trail</td>
<td>Toyon Trail</td>
<td>Y</td>
<td>Small slides, Brush</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>Toyon Trail</td>
<td>190 Toyon</td>
<td>Toyon Fire Road</td>
<td>G</td>
<td>Broom</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>61</td>
<td>Cascade Trail</td>
<td>280 Cypress</td>
<td>180 Toyon</td>
<td>R</td>
<td>ends at 180 Toyon (private lot) - Blocked</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>62</td>
<td>Cascade Trail</td>
<td>139 Madrone</td>
<td>285 Cypress</td>
<td>Y</td>
<td>Steep at bottom. Alternate trail follows slope to connect.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>63</td>
<td>Cascade Trail</td>
<td>140 Cascade</td>
<td>85 Cypress</td>
<td>Y</td>
<td>brush, Steep</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>64</td>
<td>Cascade Trail</td>
<td>140 Cascade-85 Cypress</td>
<td>130 Madrone</td>
<td>R</td>
<td>Blocked by Swimming pool across ROW (140 Madrone)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65</td>
<td>Cascade Trail</td>
<td>19 Madrone Court</td>
<td>64 Madrone Road</td>
<td>G</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>66</td>
<td>Cascade Trail</td>
<td>57 Madrone Rd</td>
<td>335 Cypress</td>
<td>Y/R</td>
<td>Signed as private at top</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>67</td>
<td>Cascade Trail</td>
<td>338 Cypress</td>
<td>86 Oak</td>
<td>G/Y</td>
<td>Bottom used as house access. Top along driveway.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>68</td>
<td>Cascade Trail</td>
<td>89 Oak</td>
<td>122 Toyon</td>
<td>R</td>
<td>Fenced by neighbors top and bottom.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>69</td>
<td>Cascade Trail</td>
<td>25 Woodland Court</td>
<td>70 Toyon</td>
<td>G</td>
<td>Open Space Access</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>70</td>
<td>Cascade Trail</td>
<td>21 Woodland Court</td>
<td>Laurel Ct (fire road)</td>
<td>Y</td>
<td>Brush</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>71</td>
<td>Cascade Trail</td>
<td>292 Cascade</td>
<td>81 Laurel</td>
<td>Y</td>
<td>House on old ROW. Access down slope?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>72</td>
<td>Cascade Trail</td>
<td>50 Pine</td>
<td>191 Laurel</td>
<td>Y/R</td>
<td>Steep, especially at bottom. Top is flat and passable. Middle is steep, needs steps. Bottom is very steep. Alternate route over private driveway?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>73</td>
<td>Cascade Trail</td>
<td>98 Pine</td>
<td>3 Woodland</td>
<td>R/Y/G</td>
<td>Trail leading to water tank, then fire road to open space.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>74</td>
<td>Cascade Trail</td>
<td>3 Woodland</td>
<td>Laurel Court</td>
<td>G</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>75</td>
<td>Cascade Trail</td>
<td>144 Pine</td>
<td>Laurel Ct (fire road)</td>
<td>R</td>
<td>Very steep</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>76</td>
<td>Cascade Trail</td>
<td>200 Pine</td>
<td>Laurel</td>
<td>R</td>
<td>Very steep</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trail #</td>
<td>Name</td>
<td>Neighborhood Map</td>
<td>Bot #</td>
<td>Bot street</td>
<td>Top #</td>
<td>Top street</td>
<td>Status</td>
<td>Notes</td>
</tr>
<tr>
<td>--------</td>
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</tr>
<tr>
<td>77</td>
<td>Cascades</td>
<td>530 Cascade</td>
<td>201</td>
<td>Pine</td>
<td>G/Y</td>
<td>somewhat steep in sections</td>
<td>good trail for end of Pine. Needs trail building.</td>
<td></td>
</tr>
<tr>
<td>78</td>
<td>Cascades</td>
<td>612 Cascade</td>
<td></td>
<td>Pine trail</td>
<td>R</td>
<td>Dead end at private lot</td>
<td></td>
<td></td>
</tr>
<tr>
<td>79</td>
<td>Cascades</td>
<td>652 Cascade</td>
<td></td>
<td>Open Space fire road</td>
<td>G</td>
<td>Barrier at junction with fire road to discourage use by Bicycles.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>80</td>
<td>Cascades</td>
<td>270 Pine</td>
<td></td>
<td>Open space</td>
<td>G</td>
<td>Trail off of end of Pine, leads to end of Town and Open Space, Fire Road</td>
<td>trail maintenance.</td>
<td></td>
</tr>
<tr>
<td>81</td>
<td>Cascades</td>
<td>205 Canyon</td>
<td></td>
<td>Open space</td>
<td>G</td>
<td>to Elliot Preserve</td>
<td></td>
<td></td>
</tr>
<tr>
<td>82</td>
<td>Cascades</td>
<td>169.5 Canyon</td>
<td></td>
<td>Open space</td>
<td>Y</td>
<td>Steep, leads to end of town limit on steep hill</td>
<td></td>
<td></td>
</tr>
<tr>
<td>83</td>
<td>Cascades</td>
<td>123 Canyon</td>
<td></td>
<td>Open space</td>
<td>Y</td>
<td>Steep, leads to end of town limit on steep hill</td>
<td></td>
<td></td>
</tr>
<tr>
<td>84</td>
<td>Cascades</td>
<td>Near Meadow Way</td>
<td>606</td>
<td>Bolinas</td>
<td>R</td>
<td>Leads from rear of property on Meadow Way, up to Bolinas Rd @ Fawn Ridge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>85</td>
<td>Deerpark/Hillside</td>
<td>134 Wood Lane</td>
<td>0.5</td>
<td>Fawn Ridge</td>
<td>G</td>
<td>Leads from end of Wood Lane to Fawn Ridge/Bolinas intersection. steps</td>
<td></td>
<td></td>
</tr>
<tr>
<td>86</td>
<td>Deerpark/Hillside</td>
<td>80 Porteous</td>
<td></td>
<td>Open space</td>
<td>R</td>
<td>Steep uphill, blocked</td>
<td></td>
<td></td>
</tr>
<tr>
<td>87</td>
<td>Deerpark/Hillside</td>
<td>129 Porteous</td>
<td>178</td>
<td>Meernaa</td>
<td>G</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>88</td>
<td>Deerpark/Hillside</td>
<td>113 Porteous</td>
<td>106.8</td>
<td>Meernaa</td>
<td>G</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>89</td>
<td>Deerpark/Hillside</td>
<td>105 Meernaa</td>
<td>25</td>
<td>Hillside</td>
<td>Y</td>
<td>Steep</td>
<td></td>
<td></td>
</tr>
<tr>
<td>90</td>
<td>Deerpark/Hillside</td>
<td>10 Spring Lane</td>
<td>90</td>
<td>Spring Lane</td>
<td>Y</td>
<td>Steep</td>
<td></td>
<td></td>
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<tr>
<td>91</td>
<td>Deerpark/Hillside</td>
<td>30 Spring Lane</td>
<td>70</td>
<td>Spring Lane</td>
<td>Y</td>
<td>Steep</td>
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<tr>
<td>92</td>
<td>Deerpark/Hillside</td>
<td>21 Deer Park Dr</td>
<td>70</td>
<td>Crest</td>
<td>G</td>
<td>Sleep</td>
<td></td>
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<td>93</td>
<td>Deerpark/Hillside</td>
<td>67 Meernaa</td>
<td>57</td>
<td>Hillside</td>
<td>R</td>
<td>Blocked</td>
<td></td>
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</tr>
<tr>
<td>94</td>
<td>Deerpark/Hillside</td>
<td>37 Meernaa</td>
<td>61</td>
<td>Hillside</td>
<td>G</td>
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<tr>
<td>95</td>
<td>Deerpark/Hillside</td>
<td>38 Creek</td>
<td>389</td>
<td>Forrest Terrace</td>
<td>R</td>
<td>Blocked</td>
<td></td>
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<tr>
<td>96</td>
<td>Forrest steps</td>
<td>Deerpark/Hillside</td>
<td>15</td>
<td>Forrest</td>
<td>155</td>
<td>Hillside</td>
<td>G to Crest, open space</td>
<td></td>
</tr>
<tr>
<td>97</td>
<td>Bumpy Alley</td>
<td>Deerpark/Hillside</td>
<td>147</td>
<td>Bolinas</td>
<td>120.2</td>
<td>Dominga</td>
<td>G</td>
<td>Private Property, with Bridge</td>
</tr>
<tr>
<td>98</td>
<td>Creek Footbridge</td>
<td>Deerpark/Hillside</td>
<td>10</td>
<td>Bridge Ct</td>
<td>290</td>
<td>Forrest</td>
<td>G</td>
<td>Bridge and steps</td>
</tr>
<tr>
<td>99</td>
<td>Power Lane</td>
<td>Deerpark/Hillside</td>
<td>295</td>
<td>Forrest</td>
<td>213</td>
<td>Hillside</td>
<td>G/B</td>
<td>Bottom has access on Private Driveway.</td>
</tr>
<tr>
<td>100</td>
<td>Deerpark/Hillside</td>
<td>MTCC</td>
<td>274</td>
<td>Forrest</td>
<td>R</td>
<td>Top is used as steps to 276 Forrest only</td>
<td></td>
<td></td>
</tr>
<tr>
<td>101</td>
<td>Deerpark/Hillside</td>
<td>MTCC</td>
<td>239</td>
<td>Forrest</td>
<td>Y</td>
<td>Leads to private lot, 233 Hillside</td>
<td></td>
<td></td>
</tr>
<tr>
<td>102</td>
<td>Deerpark/Hillside</td>
<td>MTCC</td>
<td>210</td>
<td>Forrest</td>
<td>Y</td>
<td>Steep</td>
<td></td>
<td></td>
</tr>
<tr>
<td>103</td>
<td>Deerpark/Hillside</td>
<td>MTCC</td>
<td>184</td>
<td>Forrest</td>
<td>Y</td>
<td>Steep</td>
<td></td>
<td></td>
</tr>
<tr>
<td>104</td>
<td>Deerpark/Hillside</td>
<td>MTCC</td>
<td>130</td>
<td>Forrest</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trail #</td>
<td>Name</td>
<td>Neighborhood Map</td>
<td>Bot #</td>
<td>Bot street</td>
<td>Top #</td>
<td>Top street</td>
<td>Status</td>
<td>Notes</td>
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<td>------------------------------------------------------------</td>
</tr>
<tr>
<td>106</td>
<td>Deerpark/Hillside</td>
<td>MTCC</td>
<td></td>
<td>MTCC</td>
<td></td>
<td></td>
<td>Y</td>
<td>Runs along bottom of field at MTCC, no outlet except up to Forrest</td>
</tr>
<tr>
<td>107</td>
<td>Deerpark/Hillside</td>
<td>157</td>
<td>Forrest</td>
<td>152</td>
<td>Francis</td>
<td>Y</td>
<td></td>
<td>Francis originates in San Anselmo</td>
</tr>
<tr>
<td>108</td>
<td>Deerpark/Hillside</td>
<td>141</td>
<td>Forrest</td>
<td></td>
<td>R</td>
<td></td>
<td></td>
<td>Dead end @134 Francis</td>
</tr>
<tr>
<td>109</td>
<td>Deerpark/Hillside</td>
<td>107</td>
<td>Forrest</td>
<td></td>
<td>R</td>
<td></td>
<td></td>
<td>Dead end @ 100 Francis</td>
</tr>
<tr>
<td>110</td>
<td>Deerpark/Hillside</td>
<td>235</td>
<td>Hillside</td>
<td>155</td>
<td>Francis</td>
<td>Y</td>
<td></td>
<td>Gated on Hillside</td>
</tr>
<tr>
<td>111</td>
<td>Cascades</td>
<td>446</td>
<td>Cascade</td>
<td>155</td>
<td>Pine</td>
<td>G/Y</td>
<td></td>
<td>Steep at top steps</td>
</tr>
</tbody>
</table>
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