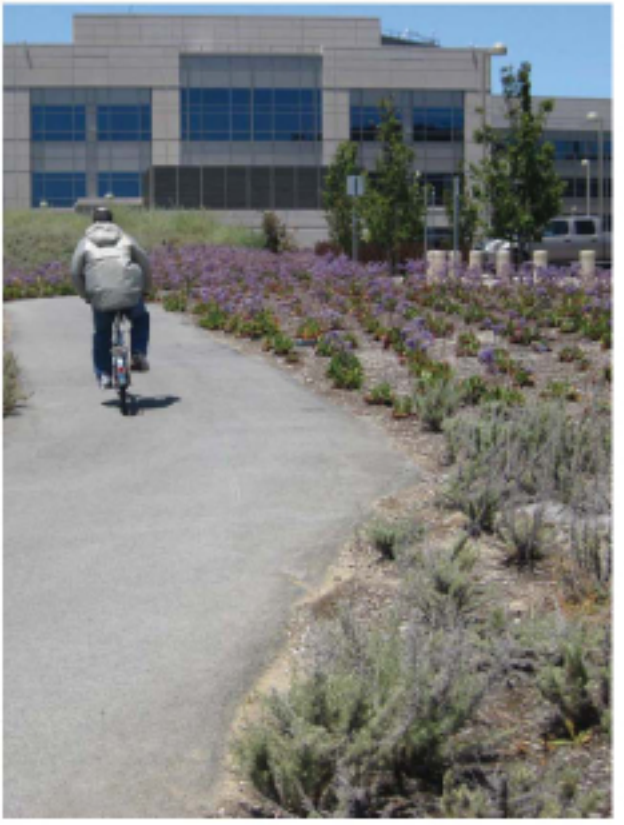
Bicycle Master Plan

For the:
City of South San Francisco

Prepared by:
Alta Planning + Design



Adopted 2/9/2011

This page intentionally left blank..

Acknowledgements

Bicycle and Pedestrian Advisory Committee

Dan Sherman, Chair
Karen Sumner, Vice-Chair
Teresa Avelar, Committee Member
Al Meckler, Committee Member
Betty Battaglia, Committee Member

Planning Commission Liasion

William Zemke, Commissioner

City of South San Francisco Staff

Ray Razavi, City Engineer

Project Team
Dennis Chuck, Senior Civil Engineer
Steve Carlson, Senior Planner
Heather Lawas, Administrative Assistant I
Rosalie Calvo, Office Specialist

BPAC Staff
Tracy Scramaglia, Associate Engineer
Heather Lawas, Administrative Assistant I

Alta Planning and Design

Brett Hondorp, Principal
Ian Moore, Project Manager
Bruce Wolff, Planner

Table of Contents

List of Tables

List of Figures

This page intentionally left blank..

1. INTRODUCTION

1.1. PURPOSE OF THE PLAN

The South San Francisco Bicycle Master Plan recommends a comprehensive and integrated system of bikeways that promote bicycle riding for transportation and recreation. The recommendations are intended to provide safer, more direct bicycle routes through residential neighborhoods, employment and shopping areas, and to transit stops. The development of this plan is set forth in the City's General Plan.

Many of the City's wide, low volume roadways are ideal bicycle routes

This plan sets out a comprehensive bicycle system for users of all ages and abilities. It does this by providing planning, policy, projects and design guidance for constructing bicycle facilities, bicycle safety education and outreach programs. The plan will also facilitate the consideration of City sponsored bikeways projects by outside grant funding agencies.

In implementing this plan, the City strives to make bicycling an integral part of the transportation system. The moderate climate is conducive for nearly year-round bicycling and the topography is attractive to a wide range of cyclist types. The downtown, employment centers and rail transit stations are major bicyclist destinations. In addition, many local employers encourage their employees to bicycle to work through their implementation of transportation demand management (TDM) plans. Many South San Francisco workers commute via Bay Area Rapid Transit (BART) or Caltrain, making improvements between rail stations and employer centers a top priority.

With such a potential to increase bicycle use, it is imperative that the construction of bicycle facilities is adequately funded. This Bicycle Transportation Plan follows the steps necessary to qualify for a wide range of funding sources, including the California Bicycle Transportation Account (BTA).

The organization of this Bicycle Master Plan is outlined below.

Chapter 2 Existing Conditions

Chapter 3 Planning and Policy Review

Chapter 4 Goals, Policies and Implementation Measures

Chapter 5 Bicycle Demand Analysis

Chapter 6 Recommended Bicycle Network and Support Facilities

Chapter 7 Recommended Programs

Chapter 8 Project Prioritization and Phasing

Chapter 9 Funding Sources

This plan satisfies the requirements set forth by the Caltrans Bicycle Transportation Account. These requirements include:

- Review of the existing conditions and taking inventory of the existing bicycle facilities in the City.
- Review of the planning and policy documents relevant to bicycling in the City.
- Analysis of the state of bicycling in the City, including collision data and estimating existing and future bicycle use.
- Consultation of the City's Bicycle and Pedestrian Advisory Committee for input to this plan.
- Prioritization of the recommended bicycle facilities to be constructed within five, ten and twenty years.

1.2. PUBLIC INPUT

The public provided input on the recommendations presented in this plan at two meetings. The first meeting was a regularly scheduled Bicycle and Pedestrian Advisory Committee (BPAC) meeting on May 6, 2009. The second meeting was a specially scheduled BPAC meeting held in the Council Chambers on September 14, 2009 in which the City performed outreach, inviting the public to attend and provide input.

Both meetings started with a presentation of the work completed on the plan to date and then was followed by a public comment session. The public provided comment on the recommended goals, policies and implementation and bicycle facility recommendations. The City and project consultant considered all public comments received for incorporation into this plan.

2. EXISTING CONDITIONS

This section reviews existing conditions in the City of South San Francisco as they relate to bicycle transportation and recreation. An overview of the land use and transportation setting provides an understanding of how bicyclists are accommodated and how they access popular destinations such as employment centers, transit stations, shopping areas, schools, and parks. A review of programs that the City participates in to support bicycling is provided, including those administered by the City and regional agencies. This section concludes with a discussion of transit accommodations for bicycles and the City's efforts to connect bicyclists with transit facilities.

2.1. SETTING

The City of South San Francisco is located on the San Francisco Peninsula, approximately ten miles south of the City of San Francisco on the San Francisco Bay. The City's topography is varied, with hills to the west and low rolling hills and flat terrain to the east.

The City's dynamic landscape attracts varied bicyclists. The recently completed and flat Centennial Way Trail traverses the north-south spine of the community, while Junipero Serra Boulevard bicycle lanes traverse the City's hilly western side. The paved Bay Trail follows nearly all of the City's San Francisco Bay shoreline and can accommodates both recreational and commuter bicyclists.

The topography just beyond the City limits is also varied and attractive to both recreational and commuting bicyclists. San Bruno Mountain is north of the City, with an elevation of 1,314 feet and provides an opportunity for bicyclists to ride the mountain's ridge trail. The Pacific Ocean is one mile west of the western City limit. To the east lies areas devoted to offices, companies engaged in research and development, and businesses engaged in warehousing and distribution. To the south lies relatively flat terrain and is the location of the San Francisco International Airport and the adjacent community of San Bruno,

2.1.1. Land Use

The City of South San Francisco has historically been known as the "Industrial City" but is becoming more and more known as a biotechnology hub. The east part of the City accommodates a range of uses including offices, research and development facilities, and warehousing and is one of the city's major employment centers. The Caltrain Station is located in this area on Dubuque Avenue, under the East Grand Avenue overpass. Several wide arterial and collector roadways, a few with bike lanes and routes, are prevalent in this area.

Wide collector roadways dominate the industrial zoned area of South San Francisco

The west and north areas of the City are primarily zoned low density residential, with the exception of the downtown

and portions of the El Camino Real area, which are zoned for high density mixed use.

Most schools are located in the low density areas. With lower vehicle volumes, speed limits of 25 miles per hour, and wide roads, these residential roadways are generally good for bicycle travel.

The central area of the City, generally bounded by Airport Boulevard and El Camino Real, has a range of land uses including high, medium, and low residential density, and some commercial uses. Portions of downtown have wide sidewalks and pedestrian actuated signals at crosswalks and mid-block crossings. The downtown's main street, Grand Avenue, provides angled automobile parking, while the side streets provide parallel parking and several off-street public parking lots. South of the city's downtown is an industrial area that provides a significant portion of all the community's jobs and is comprised of a diversified range of industrial uses including auto repair, warehousing, distribution, production uses, and several private recreational centers. The South San Francisco BART Station is located at the far west end of the city between El Camino Real and Mission Road adjacent to McLellan Drive. Bike routes on El Camino Real (unsigned), Centennial Way Trail, Spruce Avenue, Commercial Avenue and Linden Avenue provide access to many of the destinations in this area.

Appendix A provides a land use map from the City's General Plan (1999).

Table 2-1: Top Employers (2008)

Employer	Employees
United Airlines	9,058
Genentech	8,100
Kaiser	1,100
SSF School District	950
Costco	800
Aeroground	800
Amgen	800
United Parcel Service	790
Elan	500
Oroweat	500
City of South San Francisco	450
Actuate	350
Total Employees	**24,198**

Sources: City of South San Francisco Annual Financial Report (2008)

2.1.2. Top Employers

The top ten employers in the City account for 24,198 employees, out of a total estimated workforce of 44,490 employees, increasing the City's daytime population to approximately 72,000 persons from the resident population of 60,522 - many local residents commute to work locations outside of the community. **Table 2-1** provides a list of the top ten employers in South San Francisco and number of employees.

2.1.3. Schools

The South San Francisco Unified School District has 9,229 students enrolled in its schools. Consideration of school enrollment and geographic location aids in prioritization of recommended improvements in this plan. **Table 2-2** lists the schools in South San Francisco and their enrollments for the 2007-08 school year and **Figure 2-1** provides a map of the school locations.

Table 2-2: School Enrollment (2007-08)

School	Enrollment
Alta Loma Middle	829
Buri Buri Elementary	615
El Camino High	1,512
Junipero Serra Elementary	395
Los Cerritos Elementary	350
Martin Elementary	391
Monte Verde Elementary	489
Parkway Height Middle	605
Ponderosa Middle	390
Skyline Elementary	411
South San Francisco High	1,570
Spruce Elementary	557
Sunshine Gardens Elementary	415
Westborough Middle	700
Total Enrollment	**9,229**

Source: California Department of Education

The city has several private schools, the largest operated by the San Francisco Archdiocese, with an estimated aggregate population of 789 students.

2.1.4. Transit Connections

South San Francisco is served by public transit including rail service provided by Bay Area Rapid Transit (BART) and Caltrain, and bus service provided by San Mateo County Transit District (SamTrans). In the future, limited ferry service will be available at Oyster Point Marina. The prevalence of public transit provides the opportunity for bicyclists to make intermodal connections and extend their trip distances. The existing rail and bus services accommodate bicyclists and the existing transit agencies are working to improve bicycle accommodations. These improvements include facilities for transit riders to travel with their bicycles and securely park their bicycles at stations. This section presents additional detail on bicycle accommodations provided by each of the primary transit providers. **Figure 2-1** shows the locations of the rail transit stops, while the bus stop locations are listed in **Appendix K**.

2.1.4.1. Bay Area Rapid Transit

The South San Francisco BART Station is located at the Mission Road and McLellan Drive intersection. Bicyclists can access the station via a Class I Bicycle Path, Centennial Way, that runs roughly parallel to El Camino Real and that connects to the San Bruno BART station.

The station provides 30 bicycle rack spaces and 30 rentable keyed bicycle lockers.[1] BART plans by 2012 to install eight

The BART Station provides thirty bicycle rack spaces

[1] Keyed bicycle lockers are entered with a traditional key that are rented on a three month basis for $15 or yearly for $30 basis. A $25 deposit is required for the key.

shared-use lockers, which accommodate three to five users and are rented on an annual basis by a single individual.[2]

BART allows bicycles on all trains, except during peak period commute times through San Francisco (7 AM to 9 AM and 4 PM to 6 PM). Folding bicycles are allowed on trains at all times. No dedicated bike storage is provided on BART trains. Bicyclists may use the space next to the door, but must give preference to persons with disabilities.

2.1.4.2. Caltrain

Caltrain provides commuter rail service along the San Francisco Peninsula. The South San Francisco station is located on Dubuque Avenue, under the East Grand Avenue overpass where there are no existing bikeways. **Figure 2-1** shows the Caltrain station location.

The Caltrain station offers bicycle racks and lockers

The San Francisco Bay Trail offers scenic views of the Bay while providing access to

The Caltrain station provides eighteen bicycle rack spaces and 46 keyed bicycle lockers. The keyed bicycle lockers operate similar to those provided by BART, and are rentable on a six-month basis.

The Gateway Boulevard bicycle lanes provide cyclists access to the city's biotech employment

Onboard Caltrain cars, bicyclists are provided with a designated rail car for bicycles. Each designated bicycle car accommodates 32 bicycles. While Caltrain provides an expedited "Baby Bullet" commute service that accommodates 16 bicycles, it does not stop in South San Francisco. The closest stop on this line is in Millbrae.

The city has 26.1 miles of Class III

2.1.4.3. San Mateo Transit District

SamTrans provides bus service for San Mateo County. All SamTrans buses are equipped with front-mounted bicycle racks that accommodate two bicycles. The bus driver may use discretion to allow bicycles inside the bus if the rack is full. A list of SamTrans bus stops in South San Francisco is provided in **Appendix K.**

2.2. EXISTING BIKEWAYS

The City has 48.3 miles of existing bikeways, though most are not signed. Transit stations, schools, parks and retail centers are all

[2] Email correspondence with BART Bicycle Coordinator, Laura Timothy, March 3, 2009. These shared use lockers are not "e-lockers," which are retable by the minute and require the user to purchase/load a magnetic access card.

accessible by these bikeways. However, the bikeway network is discontinuous. **Figure 2-1** provides a map of the existing bikeways. **Figure 2-3** provides a map of the General Plan Bikeways not yet constructed.

2.2.1. Bikeway Classification

This Plan refers to bikeways using Caltrans standard designations. The three types of bikeways identified by Caltrans in Chapter 1000 of the Highway Design Manual are defined below. **Figure 2-3** illustrates the three types of bikeways. A list of the Bikeways is contained in the Appendices.

Class I Bikeway is a multi-use path that permits bicycle travel on a paved right-of-way completely separated from any street or highway. Centennial Way is an example of a Class I pathway. South San Francisco has 10.43 miles of existing Class I bikeways.

Class II Bikeway is a "bike lane" that provides a striped and stenciled lane for one-way travel on a street or highway. Gateway Boulevard is an example of a Class II bicycle lane. South San Francisco has 11.77 miles of existing Class II bikeways.

Class III Bikeway is a "bike route" that provides shared use between bicyclists and motor vehicle traffic and is identified only by signing on roadways. Linden Avenue is an example of a Class III bicycle route. South San Francisco has 26.07 miles of existing Class III bikeways.

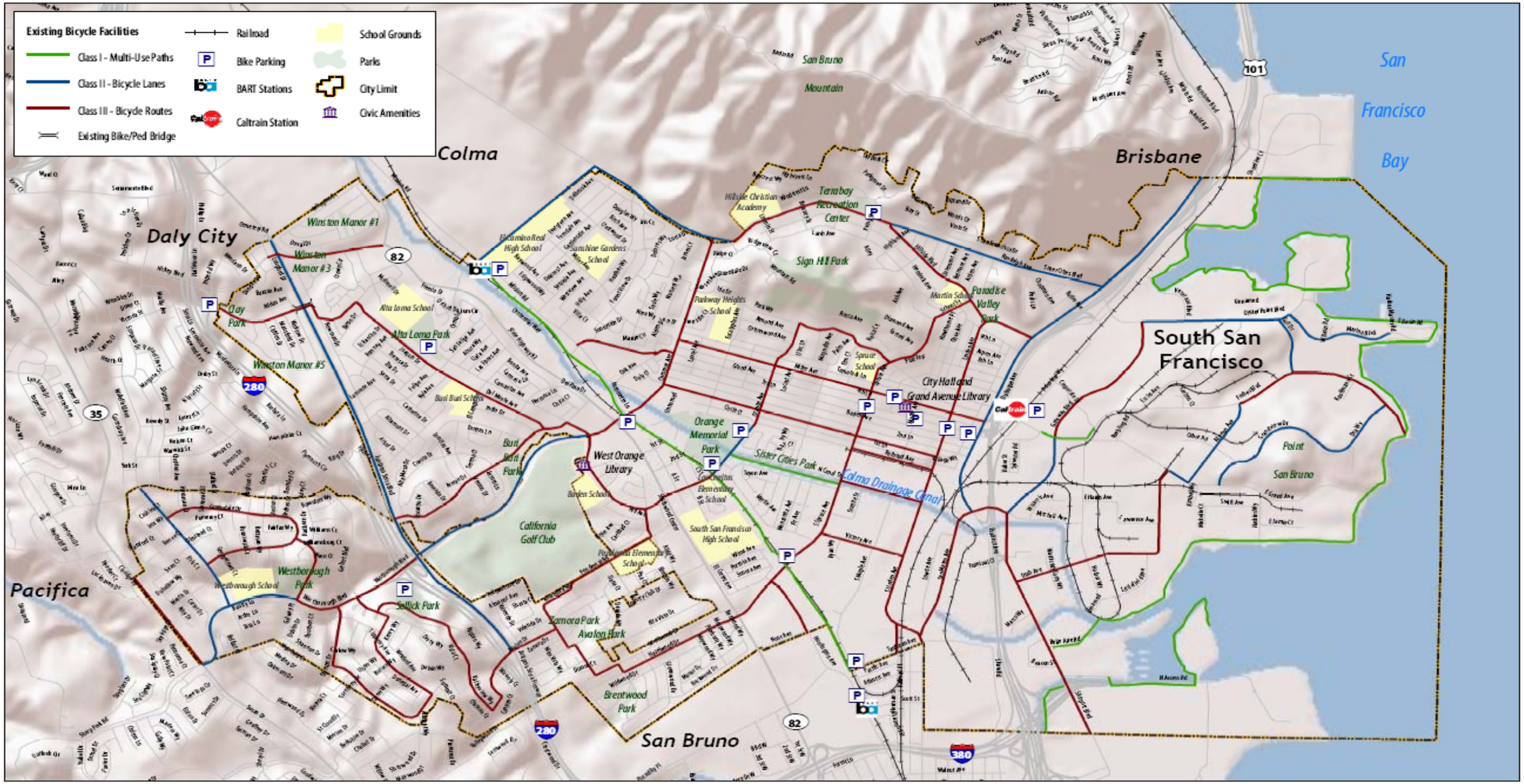
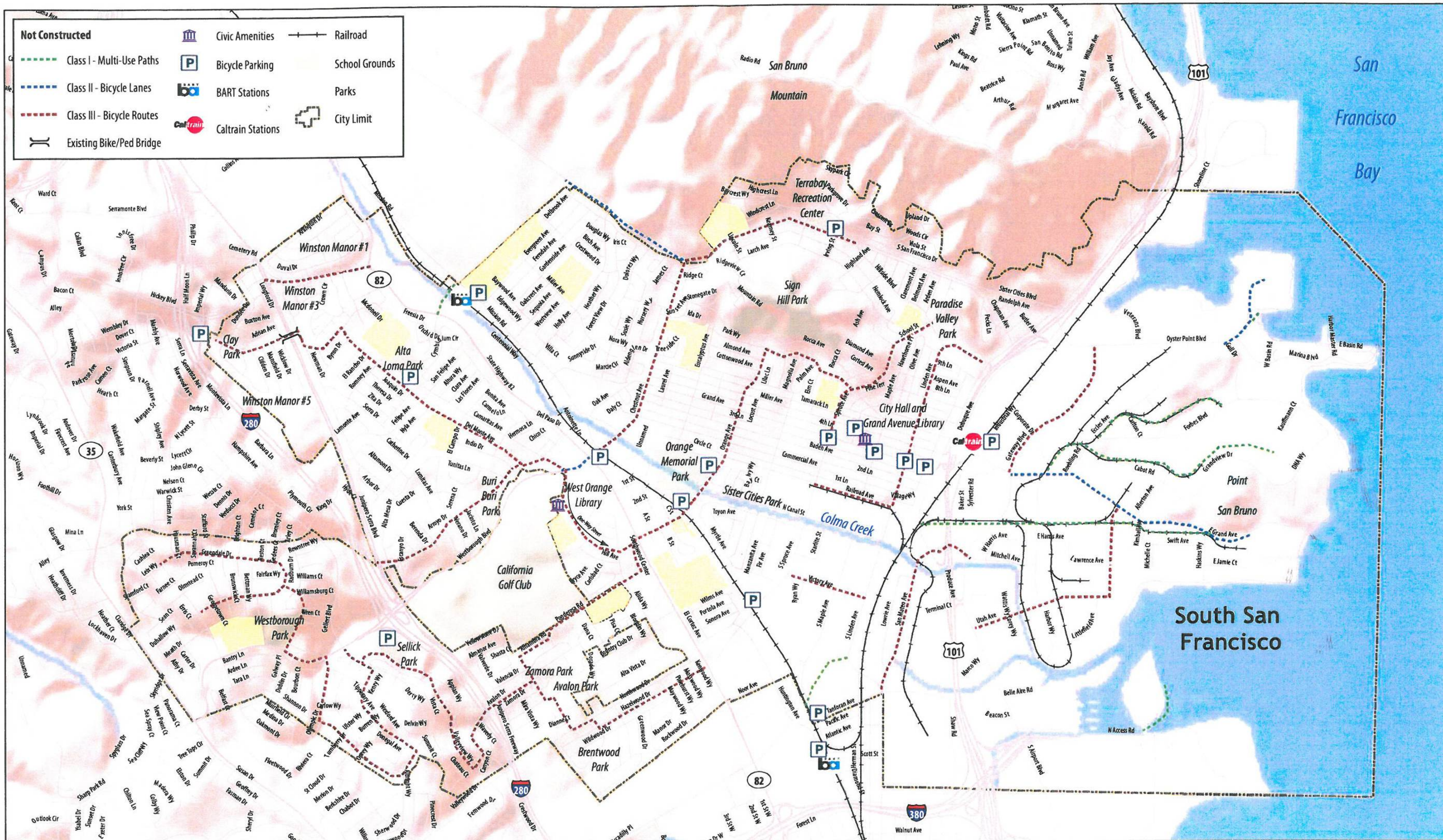


Figure 2-1: Existing Bikeways Map



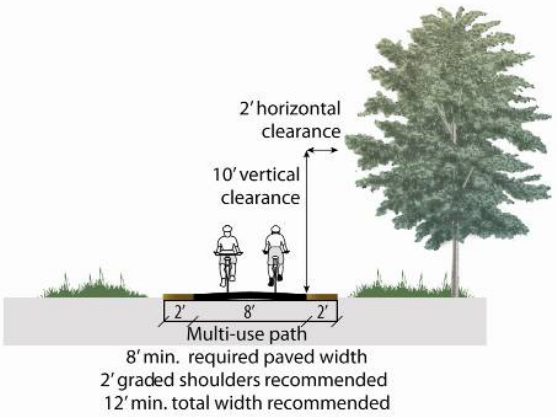
General Plan - Not Constructed

City of South San Francisco
South San Francisco Bicycle Master Plan
Source: Data obtained from the City of South San Francisco, BART and Caltrain

0 1,000 2,000 Feet

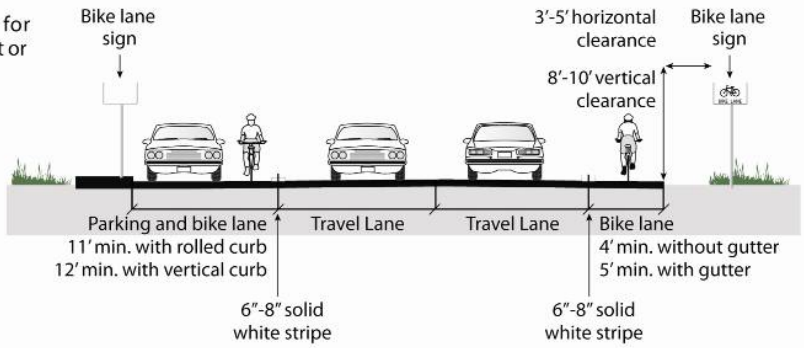
CLASS I
Multi-Use Path

Provides a completely separated right of way for the exclusive use of bicycles and pedestrians with crossflow minimized.



CLASS II
Bike Lane

Provides a striped lane for one-way bike travel on a street or highway.



CLASS III
Bike Route
Signed Shared Roadway

Provides for shared use with pedestrian or motor vehicle traffic, typically on lower volume roadways.

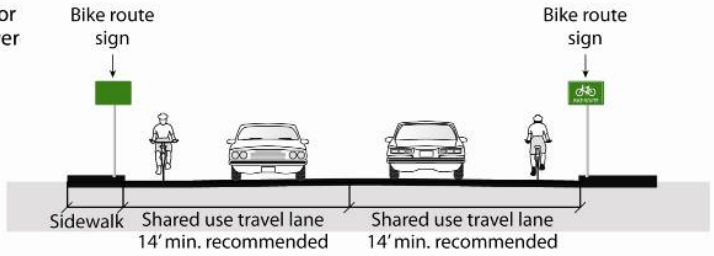


Figure 2-3: Caltrans Bikeway Classifications

Table 2-3: Constructed Bikeways

Name	Class	From	To	Miles
Bay Trail	I	SSF/Brisbane Line	Oyster Point Marina	2.45
Bay Trail	I	Oyster Point Marina	SSF/San Bruno	3.05
Centennial Trail	I	San Bruno BART Station	South San Francisco BART Station	2.32
East Grand Avenue Path	I	Harbor Way	East Grand Overpass	0.19
Forbes Boulevard**	I	East Grand Avenue	Corporate Drive	0.06
South Canal Street Path	I	South Spruce Avenue	West Orange Avenue	0.46
			Total Class I:	**8.53**
Airport Boulevard	II	Brisbane Line	San Mateo Avenue	1.86
Allerton Avenue*	II	Forbes Boulevard	East Grand Avenue	0.42
Callan Boulevard	II	Westborough Boulevard	SSF/Daly City Line	0.64
DNA Way*	II	Forbes Boulevard	Grandview Drive	0.24
East Grand Avenue	II	Allerton Avenue	Littlefield Avenue	0.09
Gateway Boulevard	II	Mitchell Avenue	East Grand Avenue	0.40
Grandview Drive	II	DNA Way	East Grand Avenue	0.70
Gull Drive*	II	Oyster Point Boulevard	Forbes Boulevard	0.26
Hillside Boulevard***	II	Lawndale Drive	Lucca Drive	0.65
Junipero Serra Boulevard	II	SSF/Daly City Line	Avalon Drive	2.11
Lawndale Drive*	II	Mission Road	Hillside Boulevard	0.63
Marina Boulevard	II	Oyster Point Boulevard	East Basin Road	0.47
Orange Avenue*	II	Memorial Drive	Tennis Drive	0.27
Oyster Point Boulevard	II	Gateway Boulevard	Marina Boulevard	0.59
Sister Cities Boulevard	II	Hillside Boulevard	Airport Boulevard	0.89
Westborough Boulevard***	II	Junipero Serra Boulevard	West Orange Avenue	0.93
Westborough Boulevard*	II	Galway Drive	Skyline Drive (Highway 35)	0.61
			Total Class II:	**11.76**
Commercial Avenue	III	Linden Avenue	Chestnut Avenue	1.14
Hillside Boulevard	III	Sister Cities Boulevard	Linden Avenue	1.30
Huntington Avenue	III	Noor Avenue	South Spruce Avenue	0.27
Miller Avenue	III	Chestnut Avenue	Airport Boulevard	1.28
South Airport Boulevard	III	Mitchell Avenue	SSF/San Bruno Line	1.06
South Linden Avenue	III	Railroad Avenue	Dollar Avenue	0.74
South Spruce Avenue	III	El Camino Real (Highway 82)	Grand Avenue	1.00
			Total Class III:	**6.79**

Name	Class	From	To	Miles
			Total Constructed Bikeways:	**27.08**

Notes: * Not In Adopted 1999 General Plan
** Not Identified In and/or Pre-dates Adopted 1999 General Plan
*** San Mateo County

2.3. BICYCLE SIGNAL DETECTION

Bicycle signal detection actuates traffic signals when bicycles are present, turning the light green for bicyclists. Two examples of the technology used are bicycle loop detectors and video detectors. Loop detectors use the disturbance of an electromagnetic current running an in-pavement coil to actuate a traffic light. Video detectors use cameras to sense bicyclist with pixel analysis.

In 2008, the City was awarded a Transportation Development Act grant to install video detection at identified intersections.[3] As of the first quarter of 2009, the City is implementing the first phase of bicycle signal detection. The locations for installation of these video detectors are listed below.

- Grand Avenue/Chestnut Avenue
- E Grand Avenue/Dubuque Avenue
- North Canal Street/South Linden Avenue
- Oyster Point Boulevard/Gull Drive
- Westborough Boulevard/Gellert Boulevard
- Veterans Boulevard/Oyster Point Boulevard
- Baden Avenue/Linden Avenue
- Airport Boulevard/Baden Avenue
- Railroad Avenue/Linden Avenue
- Hillside Boulevard/Linden Avenue

Table 2-4: Public Bicycle Parking

Location	# of Racks
Alta Loma	3
BART Station	60 (spaces)
Caltrain Station	64 (spaces)
Centennial Way	4
City Hall	1
Library	1
Clay Park	1
Grand Avenue*	13
Orange Park	1
Public Schools	Varies
Sellick Park	1
Terrabay Ballfield	2
Terrabay Recreational Center	1

** Racks are installed at most intersections with crosswalks and planters*

2.4. BICYCLE PARKING

Bicycle parking is available in some locations in the City in the form of bike racks, lockers and cages, providing bicyclists secure places to park their bicycles. Various rack types are provided, including inverted-u and post and loop. Both rack types provide two points to secure a bicycle, a consideration when selecting rack types. Lockers provide an enclosed, lockable compartment for one bicycle, while cages, like the one provided by Genentech, provides a locked and enclosed area for multiple bicycles. Additional information about employer bike parking is provided in Section 2.6.1.1. **Table 2-4** lists the known available public bicycle parking.

[3] The grant also paid for bicycle route signage installation along identified roadways.

"Toaster" racks are installed at the library, but are not a recommend style because they do not provide two securing points.

Post and loop bicycle racks are installed in downtown

2.5. END OF TRIP FACILITIES

End of trip facilities support bicyclists needs at destinations and help encourage new bicyclists. These facilities include showers, changing rooms, air pumps and bicycle parking.

Genentech provides caged bicycle parking in their parking garage

This City has adopted a Transportation Demand Management (TDM) ordinance that applies to all new nonresidential developments generating 100 net new vehicle trips. The ordinance includes a number of new provisions to reduce the number of single-occupancy vehicles trips, including requiring new developments to accommodate bicyclists. New office and research and developments facilities have been required to provide installed bicycle parking and showers, and a couple have sponsored bicycle events and provided bicycle maintenance parts at employee stores.

One unique example is Genentech, a biotechnology firm and the City's second largest employer, which controls over three million square feet in 50+ buildings throughout its and 150+ acre campus, and provides a wide range of programs and facilities that encourage employees to bicycle to work, as listed below. In addition, the company is planning a free bicycle share service for its employees in 2010.

- Showers
- Bicycle cages and lockers
- Bicycle pumps
- Bicycle parts available at employee store
- Company shuttles store bicycles
- Company bicycle club that escorts new bicycle commuters
- Bike to Work Tricycle Race

More rarely, other employers have voluntarily developed similar facilities. Costco the City's fifth largest employer, provided bicycle racks outside of its café and showers for its employees at both of its local stores. Costco employees are also encouraged to bike to work through e-mails and flyers.

2.6. EXISTING PROGRAMS

Bicycle oriented programs support bikeways and end of trip facilities through encouragement, enforcement and maintenance programs. The City administers or participates in programs that encourage bicycling, teach safe bicycling techniques, enforce rules of the road for bicyclists and motorists and maintain bicycle facilities. In addition, regional agencies implement similar programs.

2.6.1. Encouragement

2.6.1.1. Peninsula Traffic Congestion Relief Alliance Programs

The Peninsula Traffic Congestion Relief Alliance is the transportation demand management agency for San Mateo County and funded by the City/County Association of Governments of San Mateo County, San Mateo County Transportation Authority, Metropolitan Transportation Commission and the Bay Area Air Quality Management District. The Alliance administers a range of programs that work to reduce the number of single-occupancy drivers and commuters.[4] Employers wishing to install bicycle parking facilities may receive up to $500 per unit from the agency for the cost of facilities.[5] Employers who have taken advantage of this reimbursement program are listed below.

- Alexandria Properties
- Catalyst Biosciences
- City of South San Francisco
- Exelixis Inc.
- Genentech
- LBA Realty
- Walgreens Company

Employers wishing to educate and encourage their employees about bicycling to work may request the agency to host a bicycle skills, maintenance and safety workshop at their work site. Participating employees may enter a raffle for $50 towards purchases at local bicycle shops. Employers who have participated in this program are listed below.

- Amgen
- Proteolix
- Rigel

2.6.1.2. Transportation Demand Management

Transportation Demand Management Plans (TDM) are programs for encouraging travel by means other than single-occupancy motor vehicles. In order to allow large scale developments in the area east of US Highway 101, and to manage the associated traffic and circulation, the City has implemented a requirement of all new major developments to adopt TDM Plans and to pay traffic impact fees to support traffic improvements. This strategy is set forth in the City's adopted General Plan and implemented through its Municipal Code and adopted city resolutions.

2.6.1.3. Bike-to-Work Day

The Bay Area's Bike-to-Work Day is typically held the third Thursday in May and encourages commuters to bicycle to work and school. Headed by the Metropolitan Transportation

[4] For more information visit www.commute.org.
[5] There is no limit to number bicycle parking units an employer purchases. However, this benefit is only available if there are remaining funds.

Commission's 511.org, an Alliance partner, Bike-to-Work Day is promoted through a dedicated and comprehensive website for the Bay Area. The website provides a one-stop location for Bike-to-Work information.[6] This includes a page where people can log the number of miles they bike to work in May. Three of the City's largest employers, United Airlines, Genentech and Kaiser Permanente, have historically been sponsors of this event.

The Peninsula Traffic Congestion Relief Alliance organizes the promotional events in San Mateo County, including the City of South San Francisco. In the City, the Alliance and the Silicon Valley Bicycle Coalition operated an energizer station at the intersection of Gateway Boulevard and East Grand Avenue. The energizer station provided passing cyclists promotional items, such as drinks and energy bars. In 2009, 285 cyclists either bicycled passed or stopped at the energizer station.[7]

2.6.1.4. Online Bicycle Resource

The Economic and Community Development Department's Planning Division webpage links users to the City's General Plan Bikeways Map.[8] The City's Parks and Recreation Department website provides links for information about the Centennial Way bicycle trail.

In a joint effort, the City and Kaiser Permanente produced a bicycling and walking brochure and map. The brochure provides tips for healthy and safe cycling in both English and Spanish and routes to bicycle.

2.6.2. Enforcement

2.6.2.1. Bicycle Patrol

The Police Department employs bicycle patrols in the downtown area from June to September.

2.6.2.2. Community Assisted Radar Enforcement (C.A.R.E.)

The Police Department implements a targeted radar enforcement program called C.A.R.E. This program utilizes a mobile speed feedback sign and trailer that is placed in areas with speeding problems. Speed feedback signs use radar to track a passing vehicle's speed, which is displayed on a digital sign. The intent is to reduce motorist speeds, resulting in better conditions for all road users, including bicyclists.

2.6.2.3. Speed Feedback Signs

The Police Department has installed speed feedback signs at strategic locations throughout the City, with most locations on roadways near schools. Similar to radar trailers, these permanent signs that display speed may improve the safety of bicyclists. The list of speed feedback sign locations is given below.

[6] The official Bike to Work website address is http://btwd.bayareabikes.org/ and additional information can be found at http://bicycling.511.org/btwd09.htm
[7] Counts estimated by the Silicon Bicycle Coalition
[8] These links may be accessed via: http://www.ci.ssf.ca.us/depts/rcs/special_programs/walking_trails.asp

- Westbound Appian Way
- Westbound McLellan Drive
- Eastbound Avalon Drive
- Westbound South San Francisco Drive
- Northbound Willow Avenue
- Northbound Rosewood Drive
- Southbound Callan Boulevard
- Eastbound Sister Cities Boulevard

2.6.3 Maintenance

2.6.3.1 Street Sweeping

Street sweeping reduces debris on roadways, providing a cleaner and safer path of travel for bicyclists. The City's Department of Public Works has a street sweeping program that covers the virtually all the roadways in the community. Paths are maintained by the Parks and Recreation Department on a less periodic basis. A map of the street sweeping schedule that includes sweeping days and locations is available on the city's website.[9]

2.6.3.2 Pothole Repairs

Much like roadway debris, potholes are also obstacles and safety hazards to bicyclists. The City provides a phone number (650-877-8550) to report potholes and other pavement failures on its website. Pavement failures are repaired on a priority basis that considers weather and road conditions. Pavement failures on El Camino Real should be reported to Caltrans at 650-358-4127.

2.6.3.3 Pavement Management Program

A smooth roadway surface, free of cracks and seams, provides the safest path of travel for bicyclists. The City's Pavement Management Program (PMP), managed by the City's Public Works Department's Engineering Division, identifies, evaluates, classifies and maintains the City's roadway surfaces. Depending on the level of deterioration, roadways are either maintained through preventative measures, such as asphalt base repairs, slurry seals or asphalt resurfacing, or when these measures are inadequate to maintain the roadway, it is reconstructed.

[9] The city's street sweeping schedule is located at this website: http://www.ssf.net/civica/inc/displayblobpdf2.asp?BlobID=10364.

3. PLANNING AND POLICY REVIEW

The chapter provides a summary of planning and policy documents relevant to the development of the South San Francisco Bicycle Transportation Plan. Plans and policies are considered relevant if they directly address bicycle facilities, or if they address land-use patterns that affect bicyclists. The South San Francisco Bicycle Transportation Plan builds on and enhances the bicycle related policies already established for the community. This chapter reviews the following:

- Area and Specific Plans
- Citywide Plans and Municipal Code
- Regional Plans

3.1. AREA AND SPECIFIC PLANS

This section reviews the area and specific plans pertinent to bicycling in South San Francisco. The City includes four specific plans: Bay West Cove, Gateway, Oyster Point Marina and Terrabay. These plans incorporate requirements that support bicyclist mobility and connectivity to regional routes and to transit.

3.1.1. Bay West Cove

The Bay West Cove Specific Plan was adopted in the 1990's and comprises an area of approximately 52 acres of which 20 acres remain undeveloped. It is bounded by the Caltrain railway to the west, San Francisco Bay to the north, Oyster Point Boulevard to the south and research and development uses to the east. The purpose of the plan is to guide development that incorporates a mix of office, research and development uses, hotel, and supporting commercial and retail uses.

The Specific Plan accommodates bicyclists through the connection to San Francisco Bay Trail and to Gateway Boulevard, which are both part of the main north-south bicycle corridor linking South San Francisco to neighboring communities.

The first phase of the development was required to construct a bicycle and pedestrian path along the entire length of the property's bay front connecting to other portions of the Bay Trail.

3.1.2. Gateway

The Gateway Specific Plan was adopted in the early 1980's and comprises an area of over 100 acres of which approximately 2 acres remain undeveloped. It is bounded by the Caltrain railway to the west, Oyster Point Boulevard to the north, East Grand Avenue to the south, and a mix of warehouse and some research and development uses to the east lining Eccles Avenue. The purpose of the plan is to guide development that incorporates a mix of office, research and development, and hotel uses with supporting commercial and retail uses.

The specific plan accommodates bicyclists through the provision of bicycle and pedestrian paths that circumnavigate the plan area and provide connections to the main north-south bicycle corridor linking South San Francisco to neighboring communities, San Francisco Bay Trail, and to the Caltrain transit station.

The first phase of the development was required to construct a bicycle and pedestrian path along the entire length of the plan area's perimeter interconnecting the individual properties comprising the plan area.

3.1.3. Terrabay

The Terrabay Specific Plan was adopted in the early1980's and comprises an area of over 330 acres of which a few acres remain undeveloped although approved for office development. The plan area is bounded by Airport Boulevard and US Highway 101 to the east, Hillside and Sister Cities Boulevards to the south, and San Bruno Mountain to the north. The purpose of the plan is to guide development that incorporates a mix of residential and office uses, with a small park and recreation center, a fire station, and a few supporting light commercial and retail uses.

The specific plan accommodates bicyclists through the provision of bicycle and pedestrian lanes and routes that provide connections between the neighborhoods comprising the residential areas within the plan area, between the neighborhoods and the on-site park and recreation center, and provide east-west connections to the main north-south bicycle corridors linking South San Francisco to neighboring communities and to the San Francisco Bay Trail.

The first phase of the development was required to construct Sister Cities Boulevard and install bicycle lane along Hillside and Sister Cities Boulevards between Chestnut Avenue and Airport Boulevard.

3.1.4. Oyster Point Marina

The Oyster Point Marina Specific Plan was initially adopted in the early1970's and comprises an area of over 100 acres, several of which remain undeveloped. The plan area is bounded by Oyster Point Boulevard to the west and San Francisco Bay to the north, east and south. The purpose of the plan is to guide development that incorporates a mix of public and private uses including a marina, a park, open space, hotels, restaurants, a ferry terminal and boating uses.

The Specific Plan accommodates bicyclists through the provision of bicycle and pedestrian paths and routes that provide connections between the site and adjacent commercial development, and connections to the San Francisco Bay Trail.

The development has included the construction and installation of a bicycle and pedestrian path along the bay front and a route along Marina Way connecting to Oyster Point Boulevard. Currently this plan is in the early stages of being revised.

3.2. CITYWIDE PLANS AND MUNICIPAL CODE

This section reviews the City of South San Francisco planning documents and municipal code sections that reference bicyclists and land uses that affect bicyclists.

3.2.1. General Plan (1999)

The General Plan is the community vision guiding future development in the City. This section identifies specific city goals and policies that relate to bicyclist mobility. The Land Use and Transportation Elements of the General Plan set the guiding principles directly in support of this mobility.

3.2.1.1. Land Use Element

The guiding themes underlying the Land Use Element, as related to bicyclist mobility, are as follows:

> *"…Increased Connectivity and Accessibility (pg 13), Land Use/Transportation Correlation and Promotion of Transit (pg 14), coordinated Shoreline Development and Increased Accessibility (pg 14), and Performance-based Standard for Services to Ensure Sustainability"* (pp 14-15).

Policies that specifically identify bicyclist mobility include the following:

Implementing Policies: El Camino Real Section 3.4-I-7 (pg 97)

> *"Work with BART and other agencies to ensure that the proposed plan for station area improvements includes:*
>
> *… Continuation of the two-mile long bikeway (included in Section 4-3: Alternative Transportations Systems and Parking) at the surface of BART tracks directly to the terminal building/bicycle parking area…"*

3.2.1.2. Transportation Element

The guiding principles, as related to bicyclist mobility, of the Transportation Element are as follows:

> *"The Transportation Element includes policies, programs, and standards to enhance capacity and provide new linkages to further an integrated multi-modal transportation system that encourages transit and meets the needs of pedestrians and bicyclists, as well as programs to help reduce transportation demand."* (pg 135)

Policies that specifically identify bicyclist mobility include the following:

Street System Section 2-G-5 (pg 148)

> *"Make efficient use of existing transportation facilities and, through the arrangement of land uses, improved alternate modes, and enhanced integration of various transportation systems serving South San Francisco, strive to reduce the total vehicle-miles traveled."*

Implementing Policies: Street System and Standards of Service 4.2-I-1 (pp 150-152)

> *"Undertake street improvements identified in Figures 4-1 and 4-2. (Amended by City Council Resolution 31-2002, April 24, 2002)"*

Implementing Policies: Alternative Transportation Systems, Bikeways, 4.3-I-1 (pg 160)

> *"Prepare and adopt a Bikeways Master Plan that includes goals and objectives, a list of map of improvements, a signage program, detailed standards, and an implementation program."*

4.3-I-2 (pg 161)

> *"As part of the Bikeways Master Plan, include improvements indentified in Figure 4-3 (Bicycle Facilities Map) in the General Plan, and identify additional improvements that include abandoned railroad rights-of-way and other potential connections."*

4.3-I-3 (pg 161)

> *"Make bikeway improvements a funding priority."*

4.3-I-4 (pg 161)

> *"Require provision of secure covered bicycle parking at all existing and future multifamily residential, commercial, industrial and office/institutional uses."*

4.3-I-10 (pp 163-164)

> *"Undertake efforts to promote the City as a model employer and further alternative transportation use by City employees by providing:*
>
> *A designated commute coordinator/manager; A carpool/vanpool match program; Preferential parking for carpools and vanpools at City Hall; Secure bicycle storage facilities; On-site shower facilities at City Hall for employees; A commitment to future shuttle service to BART stations; Guaranteed ride home program; Transit subsidies; On-site transit pass sales; and Incentives/education program."*

3.2.1.3. Parks, Public Facilities, and Services Element

The guiding principles, as related to bicyclist mobility, of the Transportation Element are as follows:

> *"The Transportation Element includes policies, programs, and standards to enhance capacity and provide new linkages to further an integrated multi-modal transportation stem that encourages transit and meets the needs of pedestrians and bicyclists, as well as programs to help reduce transportation demand."* (pg 135)

Policies that specifically identify bicyclist mobility include the following:

5.1-I-6 (pg 185)

> *" Work with the Bay Area Rapid Transit District (BART), Pacific, Gas and Electric (PG&E), and the SFPUC to lease and develop linear parks on existing public utility and transportation rights-of-way in the City, where appropriate and feasible."*

5.1-I-7 (pg 186)

> *"Develop a network of linkages, as shown in Figure 5-1 (Schools, Parks and Open Space Map), to connect existing and proposed parks and open space, school facilities and other significant features to the greatest extent possible."*

5.1-I-8 (pg 198)

> *"Improve the accessibility and visibility of Sign Hill Park and the bayfront…"*

3.2.1.4. South El Camino Real General Plan Amendment

The City Council adopted the South El Camino Real General Plan Amendment in early 2010. The affected area is located along the southerly 1 mile portion of El Camino Real, between Chestnut Avenue and Noor Avenue. This segment of El Camino Real is 1.25 miles west of downtown South San Francisco and US Highway 101, one mile east of State Route 280 and one mile north of State Route 380. The affected properties fronting on El Camino Real comprise an area of approximately 15 acres, of which only a very few acres remain undeveloped, although many sites in the area are underdeveloped. The purpose of the plan is to require new development in the corridor to incorporate a mix of very high density residential and ground level active commercial uses. The amendment incorporates a new Land Use designation, El Camino Real Mixed Use, to accommodate high-intensity mixed-use developments.

The adopted policies specifically target improving the pedestrian environment, (e.g. providing ground floor commercial uses), however, no specific policies were adopted affecting bicycling as a transportation mode. El Camino Real is an unofficial primary north-south bicycle corridor linking South San Francisco to neighboring communities. The city has preferred not to adopted plans to improve the corridor for bicyclists as expressed in the El Camino Real Corridor Plan, constructing instead a nearby north-south multi-use path - Centennial Way Trail. The area is connected to other local destinations by local streets and some existing bicycle facilities, including Centennial Way Trail, by routes along South Spruce Avenue and Orange Avenue. Future routes, such as Chestnut Avenue, may improve access to the area.

3.2.2. Municipal Code

The South San Francisco Municipal Code (SSFMC) sets forth the development regulations and requirements implementing the General Plan goals and policies. This section reviews the SSFMC regulations that relate to the bicyclist movement in the context and purpose of the Bicycle Master

Plan. The only current chapter of the SSFMC that refers to bicycle parking is Chapter 20.120 Transportation Demand Management. The chapter sets forth a mix of program requirements to discourage use of single occupant vehicles during peak commute hours in the area east of US Highway 101. It requires that property owners of developments requiring discretionary entitlements and generating a net increase of 100 vehicle trips to adopt a TDM Plan. In addition to other program requirements, in SSFMC Section 20.120.040, all TDM Plans are required to provide long-term and short-term bicycle parking facilities, and showers and clothes lockers. The section defines the maximum distance from the building to required facilities, but does not define the number of facilities or sizes. Also SSFMC Section 20.120.050 requires that a connection to an existing bicycle lane or route be provided if adjacent to the site.

The Zoning Regulations, Title 20 of the SSFMC, are being revised and updated to implement the South San Francisco General Plan. Key changes to the Zoning Regulations, in regards to bicycling, include establishing minimum short-term and long-term parking requirements, and locational and design standards, although for a limited range of uses and zoning districts.

3.2.3. Transit Village Design Guidelines (2001)

The Transit Village Zoning District is situated on El Camino Real, between Hickey and Westborough Boulevards, adjacent to the BART Station. The Transit Village is defined as the area within 2,640 lineal feet (½ mile) of the BART Station. The Transit Village Design Guidelines were adopted by the City Council in 2001. The design guidelines are intended to augment the Zoning District regulations and requirements and provide non-binding guidance for private development and public improvements within the Transit Village area. The guidelines encourage the provision of bicycle facilities including a mix of routes, lanes and paths and storage facilities. The Transit Village is intended to be comprised of a mix of residential and commercial uses in close proximity to encourage less reliance on vehicle trips and encourage more of a pedestrian enclave. Bicycle lanes have been constructed on Lawndale Drive (in the Town of Colma) linking the area to Hillside Boulevard.

A bicycle path through the BART station area was constructed as part of the station construction. A north-south linear park, a portion of which is in the final stage of construction, connects the area and both the South San Francisco and San Bruno BART stations - a local sponsored project associated with the BART project.

3.2.4. El Camino Real Master Plan (aka Grand Boulevard Initiative) (2006)

The El Camino Real Master Plan was adopted by the City Council in 2006. The plan is based on the principles of the Grand Boulevard Initiative promoted by a consortium of businesses, advocacy groups and peninsula communities. The El Camino Real Master Plan is advisory in nature as it is not a part of the City's adopted General Plan. It consists of goals and policies principally focused on visual improvements (landscaping of the medians and sidewalk areas) and operational and safety improvements. A key concept of the South San Francisco plan is to convert El Camino Real into a boulevard with provisions not only for automobiles, but also for mass transit, and pedestrians. The City has not yet constructed any of the suggested plan improvements.

3.2.4.1. 3.2.5 El Camino Real Northern Corridor Study

The City Council is studying of land uses along the northern portion of the El Camino Real corridor and will likely culminate in the adoption of a plan to provide for future development.

3.2.5. Genentech Campus Master Plan (2007)

The Genentech Master Plan is a privately sponsored ten-year build-out plan for the Genentech Campus, but also includes the associated public improvements to accommodate the new development. The main campus is comprised of many separate parcels totaling over 160 acres and is generally located in the area east of US Highway 101. The campus properties front on Forbes Boulevard, Allerton Avenue, East Grand Avenue, Grandview Drive, and Point San Bruno Boulevard. San Francisco Bay forms the easterly campus boundary. The public improvements include utility upgrades including sanitary and storm drains, and improvements to the public right-of-way including pedestrian and bicycle facilities, traffic signals, traffic channeling, turning pockets at selected intersections, and bus turnouts and shelters. Most of the improvements have been completed or are under construction with a tentative completion date of 2011.

3.2.6. Capital Improvement Program (2008-2012)

The City's Capital Improvement Program (CIP) is a comprehensive five year plan for the projects of public improvements adopted by the City Council. These projects are organized into the following categories:

- Streets
- Railroad Crossings
- Storm Drains
- Sanitary Sewer
- Public Facilities
- Parks
- Traffic Signals

All of these categories may influence bicyclist mobility, whether directly through the improvement and construction of community projects, parks, or streets, or indirectly through the construction of sewer and storm drains. The projects and their costs over the five year plan that directly affect bicyclist mobility are:

Streets. 2008-09 Street Resurfacing Project ($1,500,000) will resurface East Grand Avenue between Forbes Boulevard and Haskins Way. The South Linden Avenue Grade Separation ($18,000) will coordinate with the Joint Powers Board regarding the design and construction of the separation of trains and vehicles at South Linden Avenue and Dollar Avenue. The South Airport Boulevard Bridge Approach Slab ($60,000) project will raise the settling approach slabs for the bridge over Colma Creek using a foam injection process.

Railroad Crossings. A future project will install a concrete crossing providing a smooth, lower maintenance surface across a railroad spur on Gateway Boulevard between South Airport Boulevard and East Grand Avenue. The estimated cost is $200,000.

Storm Drains. Miscellaneous Storm Drain Repairs project ($180,000) will correct minor storm drain problems throughout the City. There are no exact locations as this project will mainly address

emergency problems which arise within the system. The Arch Culvert Replacement project ($150,000) will replace existing arch culverts at intersections throughout the City. They are mostly located in the "Old Town" section of the City, near the downtown core. The Swift Avenue and Michelle Court Storm Drains project ($73,000) will evaluate the storm drain system on Swift Avenue and Michelle Court and install a check valve and/or liner in the system.

Sanitary Sewer. The Forbes Boulevard/DNA Way Sanitary Sewer Trunk Main project ($950,000) will install a new sanitary sewer main on Forbes Boulevard and DNA Way to support the Genentech Master Plan. Construction will be completed by July 2009. The Allerton Avenue Sewer Main Project ($2,778,000) will construct a new sanitary sewer main on Allerton Avenue to support the Genentech Master Plan. Construction will be completed by July 2009. The Sanitary Sewer Pump Station No. 8 Force Main project ($1,177,000) will construct a new force main for sanitary sewer pump station No. 8 located on Forbes Boulevard to support the Genentech Master Plan. Construction will be completed by July 2009. The East Grand Avenue Sewer Trunk main project ($2,500,000) will upgrade an existing sewer along East Grand Avenue from Grandview to Harbor Way to support the Genentech Master Plan. Construction will be completed by July 2009.

Public Facilities. The Train Station project ($2,155,000) will study the effects the train station relocation will have on City Facilities and improve the interface with Caltrain to ensure the needs of the City, Community and Businesses are met. The Miller Avenue Parking Structure ($9,800,000) will construct a new parking structure to replace an existing parking lot located on Miller Avenue between maple Avenue and Linden Avenue. Construction began July 2009. The 200-212 Baden Avenue new parking lot ($350,000) will construct a new parking lot at this location. Construction will be completed by August 2009.

Parks. The Gateway Boulevard Island Improvements Projects ($50,000) will provide median improvements on Gateway Boulevard, north of the Gateway/East Grand Intersection. The Junipero Serra Tree Remediation and Replanting project ($1,000,000) will implement a phased reforestation master plan between Avalon Drive and Hickey Boulevard. This phase will complete irrigation, planting and removal of dead trees on the north end. The Citywide tree reforestation project ($100,000) will plant, prune and remove trees throughout the City. The Planter Strips in Old Town Area project ($25,000) will install planter strips throughout the Old Town Area in the City.

Traffic. The Citywide Traffic Model ($20,000) will develop a City-wide traffic model to study traffic congestion in the City. The Miscellaneous Traffic Improvements project ($100,000) will fund minor traffic improvements within the City. The Hickey Boulevard Interconnect Project ($45,000) will interconnect signals along Hickey Boulevard between Junipero Serra Boulevard and El Camino Real. The Gateway Boulevard/East Grand Avenue Traffic Improvement Project ($200,000) will provide intersection improvements identified in the East of 101 Traffic Impact fee to accommodate future growth. The Opticom System project will install opticom system (Emergency Vehicle Advance Warning System) to improve emergency response times and reduce intersection accidents involving emergency vehicles. The South Airport Boulevard/North Access Road Intersection Improvement project ($215,000) will provide intersection improvements to the intersection of South Airport Boulevard and North Access Road including installation of a dual left-turn lane onto North Access Road. The Evergreen Drive/Mission Road Traffic Signal project ($228,000) will install a new traffic signal at the intersection of Evergreen Drive and Mission Road. The Grandview Drive/East Grand Avenue project ($594,000) will provide intersection improvements identified in the East of 101 Traffic Impact fee to accommodate future growth. The Traffic Calming Program ($50,000) will fund

design and installation of projects related to the traffic calming program. The South Airport Boulevard/Utah Avenue project ($441,000) will provide intersection improvements identified in the East of 101 Traffic Impact fee to accommodate future growth. The East Grand Avenue/Haskins Way Traffic Signal and intersection improvements project ($200,000) will design and install a traffic signal at E. Grand Avenue and Haskins Way to accommodate development in the area. The Traffic Impact Fee Study ($500,000) will update the East of 101 traffic study and fee, and prepare feasibility studies and preliminary design of traffic improvements related to the fee. The King Drive/Junipero Serra Boulevard Traffic Signal Upgrade and Intersection Improvements project ($200,000) will upgrade the existing traffic signal and improve the intersection operation. The Airport Boulevard/Miller Avenue project ($2,049,000) will add another left turn lane on the Highway 101 off-ramp. This improvement is identified in the East of 101 Traffic Impact fee. The Forbes Boulevard/East Grand Avenue project ($2,491,000) will provide intersection improvements identified in the East of 101 Traffic Impact fee to accommodate future growth. The Citywide street Lighting project ($100,000) will install street lights at various locations within the City. The Grand/East Grand project ($305,000) will add an additional right-turn lane onto eastbound East Grand Avenue. This improvement is identified in the East of 101 Traffic Impact fee. The Airport Boulevard and San Mateo Avenue project ($1,067,000) will provide intersection improvements identified in the East of 101 Traffic Impact fee to accommodate future growth. The Airport Boulevard and Grand Avenue project ($154,000) will add an additional left turn lane at Grand Avenue to Westbound East Grand Avenue. The South Airport Boulevard/Mitchell Avenue and Gateway Boulevard project ($4,041,000) will provide intersection improvements identified in the East of 101 Traffic Impact fee to accommodate future growth. The Bayshore/Airport/Sister Cities project ($591,000) will provide intersection improvements identified in the East of 101 Traffic Impact fee to accommodate future growth. The Eccles Avenue and Oyster Point Boulevard project ($436,000) will provide intersection improvements identified in the East of 101 Traffic Impact fee to accommodate future growth. The South Airport Boulevard Hook Ramps project ($2,841,000) will add an additional right turn lane to the hook ramps. This improvement is identified in the East of 101 Traffic Impact fee. The Improvements to westbound Oyster Point Boulevard to Northbound 101 on-ramp project ($1,462,000) will provide intersection improvements identified in the East of 101 Traffic Impact fee to accommodate future growth.

3.2.6.1. Linear Park

Bicycle projects are included in the current CIP. The City's bicycle network, consisting of routes, lanes and paths, has been largely constructed over the past 15 years with the majority of funding being provided by grants.

Linear Park Phase I ($1,961,900.00) Completed 2008

Phase I project is the first phase of "Centennial Way" which consists of a 3-mile, Class 1 bicycle and pedestrian trail, connecting the San Bruno and South San Francisco BART stations. The project includes safe crossings where the pathway intersects City streets.

Phase I of the project constructed an approximately 1 mile section beginning at Tanforan Avenue/Huntington Avenue and continuing to Orange Avenue. The project included the construction of a 10-foot wide asphalt bicycle/pedestrian trail with two-foot shoulders on each side, landscaping/irrigation and lighting. A new traffic signal was also installed at South Spruce Avenue for a safe crossing.

Linear Park Phase II/III ($3,454,000) Completed 2009

Bart Linear Park Phase II/III provides a continuous Class I Mixed Use trail for bicyclists and pedestrians. The pathway is comprised of an asphalt path with a width of 10 feet and a 2 foot soft shoulder, built on top of an underground BART line. Safe intersections are specified where the trail crosses streets. The project included extensive community outreach and multi-agency cooperation to provide a safe route for children to bicycle and walk to school. The path will extend the existing path between the San Bruno Bart Station and Orange Avenue an additional 1.85 miles northward to the South San Francisco BART station. The trail is predominantly Class I, with only one short Class II section for bicyclists on a cul-de-sac on Antoinette Lane.

3.2.6.2. Bay Trail Improvement

($196,500) Completed 2010

This project reconstructed and widened 1,200 linear feet of multi-use pathway from Haskins Way southward. This project connected a newly installed portion of the Bay Trail north of this location which was developer funded and a previously improved portion to the south. The existing trail is 8 feet in width and was one of the first sections installed. It was constructed over 20 years ago and has deteriorated to a point that reconstruction of the path is needed. The new path consists of a 10 foot wide Asphalt Concrete surface with 2 foot wide graded shoulders on either side. This meets the requirements for a Caltrans Class I pathway. This project is included in the C/CAG Bicycle Plan.

This project facilitates cyclist and pedestrian access to the various employment areas east of Highway 101.

3.2.6.3. Bicycle Video Detectors

($115,000) Completion 2010

This project will install 23 Traficon Video Detection Systems (or approved equal) at the following intersections: Veterans Blvd/Oyster Point Blvd, Baden Ave/Linden Ave, Airport Blvd/Baden Ave, Railroad Ave/Linden Ave, Hillside Blvd/Linden Ave, Westborough Blvd/Gellert Blvd, Grand Ave/Chestnut Ave, E. Grand Ave/Dubuque Ave, North Canal Street/South Linden Avenue, and Oyster Point Blvd/Gull Dr.

Conventional in-ground traffic loops often fail to detect bicyclists as they approach an intersection due to insufficient metal in the bicycle to cause adequate distortion of the magnetic field generated by the loop. Video detectors use changes in the video picture of the approaching traffic to trigger the traffic signal. The bicyclist's image will cause the signal to activate. Video detectors for signals are particularly ideal for the intersection of public and private roads, where they can be placed on public property, cover the intersection including the entrance from the private road, but maintain City access to the units for maintenance without entering private property. The use of video detection will allow the traffic signal to identify bicyclists who utilize Veterans Boulevard, which is a private roadway, without the installation of facilities on private property.

The objective of this project is to provide consistent activation of traffic signals utilized by bicyclists. This project will allow bicycles to activate the various traffic signals when no automobiles are

present, allowing safe, legal use of the intersections, and providing proper right-of-way for the cyclist.

This project provides connectivity for bicyclists to major activity centers such as, the East of 101 area, the South San Francisco Caltrain Station, schools, shopping areas, and the future ferry terminal.

3.2.6.4. Bicycle Route Signage Project

Citywide ($60,000) Completion 2010

Bicycle Route Signage Project - This project will install 275 bicycle route signs within the City of South San Francisco along 105,500 linear feet of existing bicycle routes as indicated on the Project Location Map as part of the City's General Plan, Figure 4-3 - Bicycle Facilities. The project will supplement previous Transportation Development Act (TDA) projects that installed bicycle route signs along the San Mateo County Bikeway System, connecting the two systems together.

This project will facilitate cyclists from various residential areas to access City activity centers (parks, schools, libraries, City Hall, recreation centers, San Mateo County Courthouse, fire stations, Police station, BART, Caltrain, religious centers, work areas, and shopping areas) and alert motorists that bicyclists will be more prevalent on the signed roadways. The signs themselves establish a unique identification for local bike routes in the City of South San Francisco.

3.2.6.5. In-Ground Lighted Crosswalks

($60,000) Completion 2010

This project will install 2 in-ground lighted crosswalks within the City of South San Francisco. The first location is across West Orange Avenue at B Street. The second location is across West Orange Avenue at North Canal Street. Both crosswalks will be located on the east side of the intersection due to better sight distance given the geometry of the roadway.

West Orange Avenue has long been a source of speeding complaints by the community. The short distances between El Camino Real and A, B, and C Streets along West Orange Avenue make it difficult to install typical traffic control devices such as stop signs. The City has made various improvements at the intersections, including installation of red zones to improve sight distance, installation of signage warning drivers of crosswalks and school zones, and improvements to the City's Linear Park crossing across West Orange Avenue.

This project will facilitate pedestrians from South San Francisco High School and Los Cerritos School to community centers such as Orange Memorial Park. It will help to alert motorists of pedestrians and slow vehicular speeds. The objective of this project is to provide a safe corridor for neighborhood children to access the City's schools and parks.

3.2.6.6. In-Ground Lighted Crosswalk

($15,500) Completed 2009

This project installed a lighted In-ground Lighted Crosswalk across Grand Avenue in front of City Hall (400 Grand Avenue). This project will improve safety for pedestrians crossing Grand Avenue between City Hall and the adjacent businesses.

($105,000) Completion 2010

In-Ground Lighted Crosswalk Project - This project will install 2 in-ground lighted crosswalks within the City of South San Francisco. The first location is across West Orange Avenue at Tennis Drive. The second location is across Miller Avenue at Cypress Avenue. Both crosswalks will be located on the west side of the intersections due to better sight distance given the geometry of the roadways.

West Orange Avenue has long been a source of speeding complaints by the community. The short distance between Tennis Drive and Circle Court/Railroad Avenue along West Orange Avenue make it diffucult to install typical traffic control devices such as stop signs. The City has made various improvements at the intersection of Tennis Drive to help aid pedestrians, including, but not limited to: installation of red zones to improve sight distance, installation of signage to warn drivers of the crosswalk and street improvements.

The lighted crosswalk across West Orange Avenue will facilitate pedestrians from the surrounding neighborhood to the newly constructed recreation center and existing pool at Orange Memorial Park. It will help to alert motorists of pedestrians and slow vehicular speeds. The objective of this project is to provide a safe corridor for our neighborhood children to access our City's schools and parks.

The intersection of Miller Avenue and Cypress Avenue is located approximately 250 feet west of the US-101 northbound offramp at Airport Boulevard. The close proximity to the offramp results in a high vehicular volume and speeds. Also, the intersection is within the downtown area, with busy public parking lots flanking both sides. This creates a high number of pedestrians at the intersection.

3.2.7. Genentech Master Plan

The plan described in the planning documents section includes new or upgraded public improvements including sanitary and storm drains, modification to the public right-of-way throughout the campus area to provide increased traffic circulation (e.g. addition of left turn pockets and new or upgraded traffic signals with bicycle detectors), transit improvements (e.g. bus turnouts and shelters), pedestrian facilities (e.g. new or upgraded ADA accessible sidewalks) and bicycle facilities (e.g. routes and lanes). Most of these improvements indentified in the plan have or will be completed in 2009.

Improvements include slurry sealing of Forbes Boulevard, narrowing of median islands and installation of bicycle lanes. Allerton Avenue will be repaved and new bike lanes installed. Grandview Drive and DNA Way currently have bicycle lanes.

3.3. REGIONAL PLANS

The City of South San Francisco is situated in the following regional transportation jurisdictions, the Metropolitan Transportation Commission (MTC), Water Emergency Transportation Authority (WETA), San Mateo County Joint Powers Corridor Board (JPB) operates Caltrain, San Mateo County Transit District (SamTrans), San Mateo County Transportation Authority (TA), and City/County Association of Governments of San Mateo County (C/CAG). The MTC released the Bicycle Master Plan in 2001. Water Emergency Transportation Authority (WETA) developed a Plan in 2003 and currently has a Transition Plan and an Emergency Plan in the public review was adopted in 2009. The JPB, through Caltrain, operates passenger rail service and adopted an Access and Parking Plan in 2008.

Water Emergency Transportation Authority (WETA) adopted a plan in 2003 and adopted the Transition Plan and Emergency Management Plan in 2009.

3.3.1. MTC Regional Bicycle Master Plan (2009)

The Metropolitan Transportation Commission (MTC) oversees regional transportation planning throughout the Bay Area region. MTC updated its Regional Bicycle Plan for the San Francisco Bay Area in 2009. The purpose of the plan is to "ensure that bicycling is a convenient, safe, and practical means of transportation throughout the Bay Area for all Bay Area residents."

Because MTC is the overarching transportation entity in the Bay Area, its goals and priorities are allocated on the county level. The San Mateo Transit Authority (SamTrans), Peninsula Corridor Joint Powers Board, Caltrain, and City/County Association of Governments of San Mateo County (C/CAG), described below, receive some direction from MTC's policy goals. Among the key goals are:

- Establishing a regional bikeway system.
- Integrating bicycles and transit.
- Developing regional funding strategies.
- Establishing regional support systems.

The City/County Association of Governments of San Mateo County (C/CAG), a sub-regional entity comprised of the twenty communities within San Mateo County and the county government, adopted the county Bicycle Plan in 2000 and is currently updating the plan.

In 2003 the Bay Area Rapid Transit District (BART) completed the extension of the rail system into San Mateo County, from Day City to Millbrae and to San Francisco International Airport (SFIA), with new stations in South San Francisco, San Bruno, SFIA and Millbrae.

3.3.2. Peninsula Corridor Joint Powers Board - Caltrain

The Peninsula Corridor Joint Powers Board (JPB), formed in 1992, is a consortium of San Francisco, San Mateo and Santa Clara County Transit Districts that own the peninsula corridor Caltrain railway. The railway extends from San Francisco to Gilroy and serves 32 communities. Caltrain has contracted with Amtrak to operate the passenger service on the railway and to maintain

the tracks and appurtenant facilities. San Mateo County Transit District is the managing agency for Caltrain.

Passenger service stands at about 34,000 passengers per year and has been increasing at about 10 percent per annum. At this growth rate, effective capacity of the system is anticipated in 2015. Approximately 8-9 percent of the riders utilize bicycles in addition to the train service. Direct transit connections are provided at most stations. Bicycle parking is provided at all stations. Demand for on-board train storage of bicycles has grown and at times is beyond capacity.

The JPB adopted a Bicycle Access and Parking Plan in 2008. The plan provides for additional facilities to accommodate an increased number of passengers using bicycles. Improvements are planned for Caltrain stations to increase bicycle parking and facilitate access to bicycle parking at the ten stations which account for 75 percent of the current cyclist passengers. The plan includes specific marketing and customer service measures, increasing bicycle parking and mix of bicycle parking facilities, improving station access for bicyclists, working with communities to improve station access, and providing innovative station access (such as providing subsidies for folding bicycles and bicycle sharing, and providing real-time bicycle capacity information).

3.3.3. San Mateo County Bike Plan (2000)

The City and County Association of Governments of San Mateo County (C/CAG) is a consortium of the communities and the San Mateo County government that originally formed in response to state legislation requiring the development of Congestion Management Plans. Since then, the C/CAG's purposes and functions have expanded. The C/CAG now addresses quality of life issues including transportation, air quality, storm water runoff, hazardous waste, solid waste and recycling, land use near airports, and abandoned vehicle abatement. In 2000, the C/CAG adopted a Countywide Bicycle Plan that focuses primarily on a regional level. The C/CAG has appointed a Bicycle and Pedestrian Advisory Committee (BPAC) to advise the C/CAG on issues affecting bicycling and pedestrians. The BPAC also makes recommendations to the C/CAG regarding awarding the annual TDA Funding (made available through MTC) for local bicycle and pedestrian improvements. The C/CAG staff is currently involved in updating the plan.

3.3.4. San Francisco Bay Trail Plan (1989)

The San Francisco Bay Trail Plan, adopted in 1989 by the Association of Bay Area Governments (ABAG), provides for the development of a paved regional pedestrian and bicycling trail around the perimeter of San Francisco and San Pablo Bays. Approximately 240 miles of the 400 mile trail have been constructed, either as pedestrian or bicycle paths or as on-street bicycle lanes or routes. The Bay Trail designates a "spine" for a continuous through-route around the Bay and "spurs" for shorter routes to Bay resources. The goals of the Plan include providing connections to existing park and recreation facilities, links to existing and proposed transportation facilities, and preserving the ecological integrity of the Bays and wetlands.

Along the Bay front in South San Francisco, the trail is nearly complete with the exception of a path near North Access Road, which is currently under construction with a tentative completion date of summer 2010. Other future improvements include repaving portions of the trail that have degraded

and adding more amenities such as native landscaping, benches, interpretive kiosks, parking, and signs.

3.3.5. Water Emergency Transportation Authority

The Water Transportation Authority (WTA) was established in 1999 to plan and expand Bay Area ferry service and terminals. WTA adopted a ferry service plan in 2003. In October 2007, SB 976 was signed into law, which established the Water Emergency Transportation Authority (WETA), a new agency that absorbed the WTA. The goal of the legislation was to create an agency that would manage and expand Bay Area ferry service in a way that would make ferries a central component of the region's response to earthquakes and other emergencies. WETA adopted the required Transition Plan and an Emergency Management Plan in 2009.

The Transition Plan will facilitate WETA's transition from an agency that plans to one that actually operates. When the Transition Plan is implemented WETA will own and operate the three existing East Bay ferry services — Alameda/Oakland, Alameda Harbor Bay, and Vallejo Baylink — that are now owned and managed by the Cities of Alameda and Vallejo, and new services, including ferries and terminals, debuting in 2011-2012 to Oakland-South San Francisco and Berkeley/Albany-San Francisco. In the future, six other routes are planned that would link San Francisco to Treasure Island, Richmond, Berkeley/Albany, Hercules, Antioch/Martinez, and Redwood City. North Bay ferries will continue to be operated by the Golden Gate District.

Bicycle routes and lanes connect the ferry terminal under construction at Oyster Point Marina to the San Francisco Bay Trail, to adjacent businesses and the community.

During an earthquake or other emergency event, the Emergency Water Transportation System Management Plan will enable WETA to activate its own Emergency Operations Center in response to the emergency; this will in turn mobilize all of the Bay Area's maritime transportation services, and it will allow WETA to coordinate the response to and recovery from an emergency, as well as the restoration of normal operations.

4. GOALS, POLICIES AND IMPLEMENTATION MEASURES

The goals and objectives of this Bicycle Transportation Plan serve as the foundation for bicycling in South San Francisco. The goals and policies are intended to make bicycling accessible to the widest range of users, from children to adults and from leisure to commuting bicyclists. Associated with each goal, are more specific policies. Implementation measures are provided for each policy as a way to measure the effectiveness of the policies and consequently achievement of the goals.

The overarching vision of this plan is to increase bicycle use in the City. The goals, policies and implementation measures below serve to achieve this overarching goal.

Goal 1: Promote and Encourage Bicycle Transportation

Policy 1.1: Integrate bicycle facility and planning into all of the City's planning review and construction activities, legitimizing bicycling as a transportation mode.

Implementation Measures:

1.1-1 All development projects shall be required to conform to the Bicycle Transportation Plan goals, policies and implementation measures.

1.1-2 All public and private street projects shall incorporate bicycle improvements as identified on the Bikeways Map.

Policy 1.2: Reduce reliance on travel by single occupant passenger vehicles.

Implementation Measures:

1.2-1 All major developments shall be required to establish and maintain a Transportation Demand Management Plan as prescribed in the South San Francisco Municipal Code Title 20 Zoning Regulations.

1.2-2 All developments with approved Transportation Demand Management Plans shall be required to prepare periodic reports as prescribed in the SSFMC Zoning Regulations.

1.2-3 As part of the review of the Bicycle Plan stated in Goal 6, the BPAC shall review and make recommendations on the effectiveness of local TDM Plans in supporting bicycling as a transportation mode.

Policy 1.3: Encourage residents and employees to use bicycles for journeys to work, shopping, school and recreation.

Implementation Measures:

1.3-1 Sponsor and/or support at least one local annual event promoting bicycling such as Bike-To-Work Day.

1.3-2 Work with the South San Francisco Unified School District and private schools to implement programs and events to support bicycling including regular bike-to-school contests, and challenging students to bicycle to school.[10]

1.3-3 Develop and implement incentive based bicycle programs to encourage and increase bicycling.

1.3-4 Maintain, update and publish a City Bike Map.

Goal 2: Improve Bicycle Safety

Policy 2.1: The BPAC and City staff shall continually seek to improve bicycling safety.

Implementation Measures:

2.1-1 City staff, assigned to support the BPAC, shall establish and maintain a current bicycle data base. The data base shall include, but not be limited to, an annual bicycle user count, analysis of bicycle collision rates and locations, and a review of facility conditions.

2.1-2 City staff shall establish and maintain a BPAC webpage to disseminate bicycling information and elicit community input.

2.1-3 The BPAC shall annually review efforts to improve bicycling safety and make recommendations for improving bicycling safety, maintaining existing bicycle facilities, and constructing new bicycle facilities.

Policy 2.2: Enforce bicycle related traffic laws to maintain and improve traffic safety.

Implementation Measures:

2.2-1 The Police Department should enforce the vehicle code for bicyclists.

2.2-2 The BPAC webpage shall be utilized to provide public information pertaining to laws regarding bicycling on public roads.

[10] Encouraging students to bicycle can be implemented and funded through Safe Routes to School programs.

Policy 2.3 Provide security on bicycle paths.

Implementation Measure

2.3-1 The city shall establish and maintain a security program for remote paths including the Bay Trail, Centennial Way path and future conversion of former rail spur tracks.

2.3-2 Expand the Police Department Bike Patrol to include bicycle paths and evaluate other methods to improve security such as establishing a Citizen Bike Patrol, installing cameras and lighting on bicycle paths.

Goal 3: Improve Bicycle Access

Policy 3.1: The city shall expand the existing bikeway network and improve access throughout the community with a special emphasis on connections to places of work, transit, commercial centers and community amenities.

Implementation Measure:

3.1-1 Construct bicycle facilities in accordance with a prioritized list of facilities.

Policy 3.2: Bicycle parking facilities should be provided at schools, parks and transit stops, and shall be required to be provided at private developments including places of work, commercial shopping establishments, parks, community facilities and other bicyclist destinations.

Implementation Measure:

3.2-1 Amend the City's Zoning Regulations to require public and private developments and facilities to provide both long-term and short-term bicycle parking and support facilities, such as shower and changing facilities.

3.2-2 Work with transit agencies to provide bicycle parking at stations and key transit connections and provide bicycle racks and/or storage areas on buses and trains.

3.2.3 Work with the South San Francisco Unified School District and private schools to provide and improve bicycle parking facilities at schools and provide safe access to schools.

Policy 3.2: Install bicycle way finding and destination signage on public paths.[11]

Implementation Measures:

3.2-1 Develop a hierarchy of signs providing a uniform and consistent appearance providing clear orientation and direction for bicyclists.

3.2-2 Install bicycle way finding and destination signage on all public paths and require that privately sponsored path projects implement the same type of signage.

Goal 4: Identify Funding Sources to Construct and Maintain Bicycle Facilities

Policy 4.1: City sponsored bicycle facilities shall include, to the extent feasible and available, Federal, State and/or local grant funding to augment city funding.

Implementation Measures:

4.1-1 City staff shall establish and maintain a data base of funding sources to support planning, design, construction and maintenance of bicycling facilities.

4.1-2 Bicycle improvement and maintenance projects shall be included in the City's Capital Improvement Plan.

GOAL 5: Maintain Community Bicycle Facilities

Policy 5.1 Maintain bicycle routes, lanes and paths as a high priority.

Implementation Measures:

5.1-1 Maintain the city's street sweeping program to keep the streets, including bicycle routes and lanes, free and clear of debris.

5.1-2 Establish a regular maintenance program including sweeping, pavement, signs, pavement markings and lighting to keep bicycle paths in good condition.

Policy 5.2 The BPAC shall conduct regular evaluations of the bicycle facilities.

Implementation Measures

5.2-1 Conduct an annual review of the bikeways maintenance program and make recommendations to improve maintenance.

5.2-2 The BPAC, with the assistance of city staff, shall conduct and document an annual review of all bikeways surface condition.

[11] Bicycle wayfinding signs directs bicyclists along bikeways. Bicycle destination signs directs bicyclists along bikeways to community amenities.

Policy 5.3 Keep the City's Pavement Management Plan relevant to bicycle transportation.

Implementation Measure:

5.3-1 The city staff shall revise the City's Pavement Management Plan to include bikeways, pavement marking, signage and lighting maintenance as a high priority.

GOAL 6: Periodically Review The Bicycle Plan and Keep It Relevant

Policy 6.1 Maintain the Bicycle Plan and the implementation schedule and keep the plan current and relevant.

Implementation Measures:

6.1-1 The BPAC shall conduct an annual review of the Bike Plan, including achievement of the goals and policies, effectiveness of the implementation measures, the progress of implementation and the efficient use of local resources.

6.1-2 The BPAC shall make recommendations to improve the plan, to achieve the goals and policies, and improve implementation.

6.1-3 As part of the annual review, the BPAC shall prioritize bicycle improvements and identify external funding sources.

6.1-4 The BPAC shall make recommendations to undertake periodic bicycle planning studies to update the plan and achieve greater effectiveness.

Policy 6.2 Maintain a focus on bicycle issues.

Implementation Measures:

6.2-1 The BPAC shall adopt an annual work program to guide its efforts to improve bicycling and to focus on bicycle issues, programs and projects, and the progress of implementation.

6.2-4 The BPAC shall make recommendations to the City Council on all public and privately sponsored bicycle projects.

GOAL 7: Encourage Public Participation and Stay Informed

Policy 7.1 Promote public awareness of bicycling and increase public participation.

Implementation Measure:

7.1-1 Establish and maintain a BPAC webpage to disseminate information and elicit community input.

7.1-2 Notify the community of the BPAC meetings and encourage public attendance at its meetings through various media including the city website.

Policy 7.2 Develop an outreach plan to establish and maintain contact with local residents, external agencies and interest groups.

Implementation Measures:

7.2-1 Establish and maintain a community data base of BPACs, interested residents, and organizations.

7.2-2 Establish and maintain contact with BPACs within San Mateo County, bicycle organizations, SamTrans, BART, Caltrain and FHWA, interested citizens and businesses.

7.2-3 The BPAC shall conduct a periodic joint meeting with the neighboring communities, including Daly City, Colma, Brisbane, Pacifica and San Bruno BPAC's, and local bicycle groups to review establishing better connections between bikeways and programs to improve bicycling, coordinating improvements and co-sponsoring joint projects.

7.2-4 The BPAC shall propose joint meetings with the C/CAG and all local community BPACs within San Mateo County to discuss bicycling issues including coordinating bicycle projects and have more voice in bicycling issues.

7.2-5 The BPAC shall work with other City Boards and Commissions to coordinate efforts to implement the plan and improve bicycling facilities.

Policy 7.3 The BPAC shall take a proactive approach to stay informed.

Implementation Measure

7.3-1 Participate in regional bicycle conferences and increase awareness, knowledge and technical bicycle expertise. On an annual basis, attend at least one public event including bicycling fairs and/or conference to establish and maintain connections with the larger bicycling and transportation planning

communities. Attend regional and national bicycle related conferences, such as the California and US Bike-Walk Conference.

7.3-2 Take an active leadership role by directing the planning, implementation and maintenance of bicycling improvements and programs.

7.3-3 Monitor and review bicycle demonstration and cutting edge projects and programs in other communities.

7.3-4 The BPAC shall keep current on advancements, bicycle information and new and pending Federal and State bicycle legislation.

5. BICYCLE DEMAND ANALYSIS

This section analyzes existing and future bicycle demand in South San Francisco. This section includes a general summary of the preferences and characteristics of bicyclists, a summary of bicycle collisions for the last five years, and an estimate of future bicycle demand.

5.1. TYPES OF BICYCLISTS AND THEIR PREFERENCES

Understanding the preferences of bicyclists is important to develop a plan that accommodates bicyclists of all skill levels. Just as skill levels and types vary, so do bicyclist preferences. For example, people who bicycle for recreational purposes tend to or may prefer scenic, winding, off-street trails, while bicyclists who ride to work or for errands tend to prefer more direct on-street bicycle facilities.

Casual bicyclists generally prefer scenic paths.

This Plan separates bicyclists into two skill levels: casual and experienced. Casual bicyclists include youth and adults who are intermittent riders and include families. Experienced bicyclists include commuters and long-distance road bicyclists. A summary of bicyclist types and perceived needs are provided in **Table 5-1**.

Table 5-1: Bicyclist Preferences

Casual Riders	Experienced Riders
Prefer off-street bike paths or bike lanes along low-volume, low-speed streets.	Prefer on-street or bicycle-only facilities to multi-use paths.
May have difficulty gauging traffic and may be unfamiliar with rules of the road. May walk bike across intersections.	Comfortable riding with vehicles on streets. Negotiates streets like a motor vehicle, including "taking the lane" and using left-turn pockets.
May use less direct route to avoid arterials with heavy traffic volumes.	May prefer a more direct route.
May ride on sidewalks and ride the wrong way on streets and sidewalks.	Avoid riding on sidewalks or on multi-use paths. Rides with the flow of traffic on streets.
May ride at speeds comparable to walking, or slightly faster than walking.	Ride at speeds up to 20 mph on flat ground, up to 40 mph on steep descents.
Shorter trip distances: less than 5 miles.	May bicycle longer distances, typically over 20 miles.

Casual bicyclists benefit from route markers, multi-use paths, bicycle lanes on low-volume streets, traffic calming and educational and encouragement programs. They also benefit from a connected network of marked routes that lead to parks, schools, shopping areas, and other destinations.

Because experienced bicyclists generally desire the shortest path between their origin and destination, they benefit from a connected network of bicycle lanes, wider curb lanes on high-volume arterial roadways and loop detectors at traffic signals.

The experienced bicyclist who is primarily interested in exercise benefits from loop routes that lead back to the point of origin. Because they typically travel at high speeds, experienced bicyclists prefer on-street facilities or off-street facilities with few pedestrians.

5.1.1. Characteristics of Recreational and Utilitarian Trips

This Plan separates bicycle trips into two types: recreational and utilitarian. Recreational trips can range from a 50-mile weekend group ride to a family outing along Centennial Way Trail. Utilitarian trips, which are a primary focus of state and federal bicycle funding, include bicycling to school, work or running other errands. **Table 5-2** describes these differences.

Table 5-2: Characteristics of Recreational and Utilitarian Trips

Recreational Trips	Utilitarian Trips
Directness of route not as important as visual interest, shade, protection from wind.	Directness of route and connected, continuous facilities more important than visual interest, etc.
Loop trips may be preferred to backtracking.	Trips generally travel from residential to shopping or work areas and back.
Trips may range from under a mile to over 50 miles.	Trips generally are 1-5 miles in length.
Short-term bicycle parking should be provided at recreational sites, parks, trailheads and other recreational activity centers.	Short-term and long-term bicycle parking should be provided at stores, transit stations, schools, workplaces.
Varied topography may be desired, depending on the skill level of the cyclist.	Flat topography is desired.
May be riding in a group.	Often ride alone.
May drive with their bicycles to the starting point of a ride.	Use bicycle as primary transportation mode for the trip; may transfer to public transportation; may or may not have access to a car for the trip.
Trips typically occur on the weekend or on weekdays before morning commute hours or after evening commute hours.	Trips typically occur during morning and evening commute hours (commute to school and work), shopping trips also occur on weekends.
Type of preferred facility varies and depends on cyclist's skill level.	Generally use on-street facilities, may use pathways if they provide easier access to destinations than on-street facilities.

Recreational bicyclists' needs vary depending on skill level. Experienced road cyclists on a 100-mile weekend ride are likely to prefer well-maintained roads with wide shoulders, few intersections, and few stop signs or stop lights. Casual bicyclists on a family trip may prefer a quiet path with adjacent parks, benches, and water fountains.

Utilitarian bicyclist needs are more straightforward and are provided below.

- Commuter routes should be direct, continuous, and connected.
- Protected intersection crossing locations are needed for safe and efficient bicycle commuting.
- Bicycle commuters must have secure places to store their bicycles at their destinations.
- Bicycle facilities should be provided on arterials.

5.2. COLLISION DATA

Bicycle collision data for the past five years (2003-2007) was gathered from the Statewide Integrated Transportation Report System (SWITRS). This data presents where collisions occur and the conditions that may have been associated with them. While bicycle related collisions and injuries trended downward from 2003 to 2006, they increased in 2007.

Table 5-3 provides collision statistics for the past five years and **Figure 5-1** provides a map of collision locations. While 56 bicyclists were injured in these collisions, no bicyclists were killed.

Table 5-3: Collisions Involving Bicyclists in South San Francisco

Year	Total Collisions	Bicyclist Injuries
2003	17	14
2004	15	13
2005	19	3
2006	5	3
2007	10	10
Total	**82**	**56**

5.3. BICYCLE USAGE

Monitoring the number of bicyclists in the City provides a way to track the success of bicycle facilities. This Plan presents the most current US Census Journey to Work data as a basis for estimating bicycle use. [12] As bicycle facilities are built and education and encouragement programs implemented, Journey to Work data can be revisited to monitor changes in bicycling rates. **Table 5-4** presents Journey to Work Data for the City and compares it to San Mateo County, California and the US.

Many bicyclists use transit, however, the US Census Journey to Work data does not account for "multi-modal" trips

The percentage of City residents that bicycle to work is 0.4 percent. This is half the percentage of San Mateo County and California (0.8 percent), and just under the percentage of the United States (0.5 percent).

Table 5-4: South San Francisco Journey to Work Data

Mode	United States	California	San Mateo County	South San Francisco
Bicycle	0.5%	0.8%	0.8%	0.4%
Drove Alone	75.7%	71.8%	72.3%	68.2%
Carpool	12.2%	14.5%	12.8%	16.9%
Public Transit	4.7%	5.1%	7.4%	9.2%
Walked	2.9%	2.9%	2.1%	2.6%
Other	0.7%	0.8%	0.7%	0.7%

Source: US Census 2000

[12] The US Decennial Census only provides data for the number of bicycle commuters, not bicyclists in general, which can result in an inaccurate estimate of the actual number of people riding their bicycles daily.

5.4. BICYCLE COUNTS

The City counted bicyclists at the Orange Avenue and Memorial Drive intersection on Saturday, April 25, 2009. This intersection is bisected by Centennial Way, which is a Class I path that opened on May 16, 2009. The count establishes a weekend baseline for future comparison.

A total of nine bicyclists were counted from 9 am to 11 am. Two bicyclists were children and seven were adult males. Four adult males were not wearing helmets and one travelled the wrong way on the roadway. **Table 5-5** presents the results of the count.

Table 5-5: Bicycle Count, April 25, 2009

AM Time Period	Male	Female	Child	No Helmet	Wrong Way
9:00-9:15 AM	0	0	0	0	0
9:15-9:30 AM	0	0	0	0	0
9:30-9:45 AM	1	0	0	1	0
9:45-10:00 AM	1	0	0	1	1
10:00-11:15 AM	3	0	2	0	0
11:15-11:30 AM	0	0	0	0	0
11:30-11:45 AM	0	0	0	0	0
11:45-12:00 PM	2	0	0	2	0
Total	**7**	**0**	**2**	**4**	**1**

5.5. BICYCLE DEMAND

An estimate of future bicycle commuters helps determine the need and justification for new bicycle facilities. The number of existing and future bicycle commuters was estimated using a bicycle demand model that uses the most current and available US census data and other sources as noted.

.

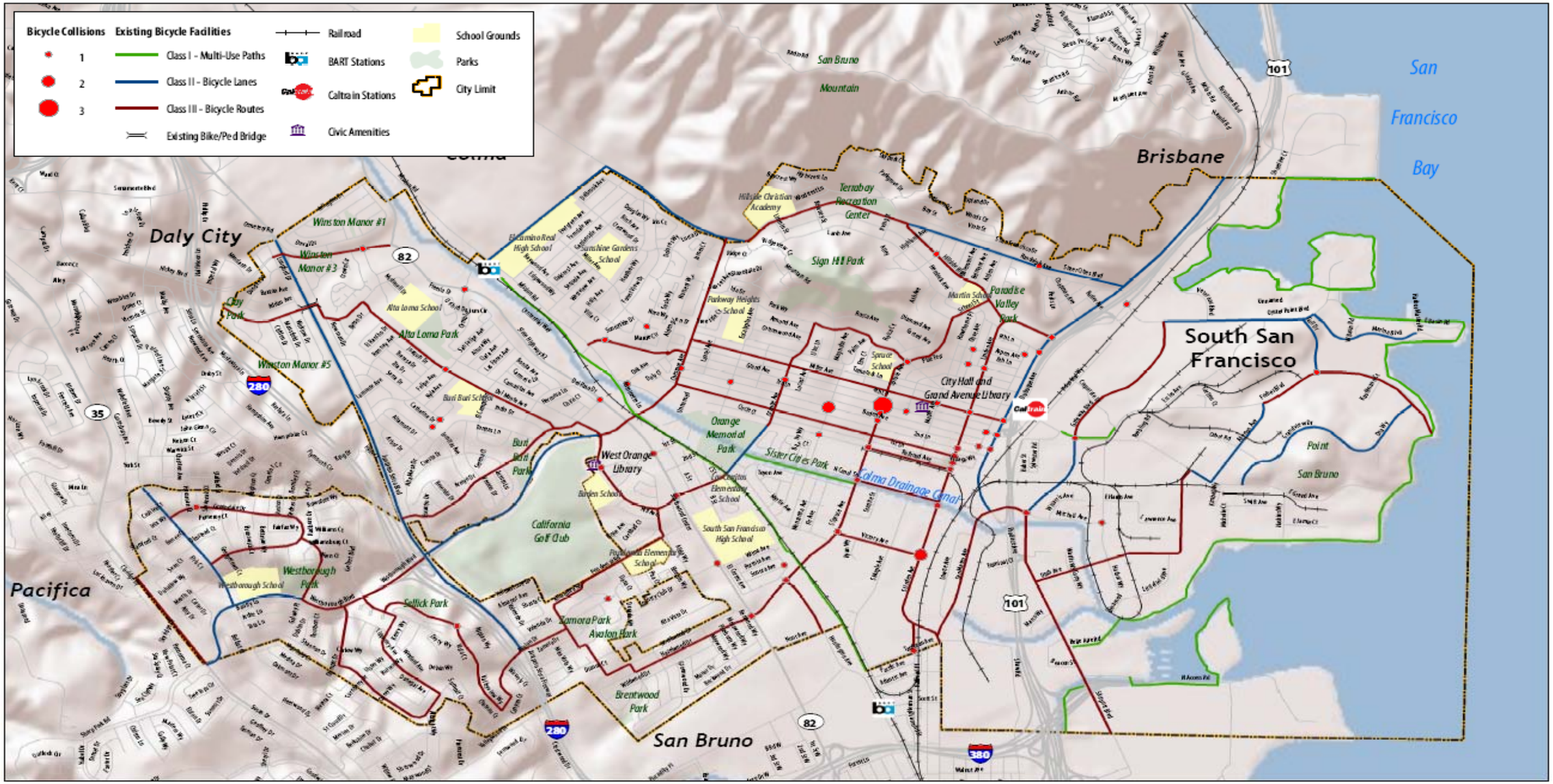


Figure 5-1: Bicycle Collision Map (2002-2007)

This page intentionally left blank.

5.5.1. Existing Bicycle Commuter Population

The US Census provides bike-to-work mode share as part of its surveys. The 2000 US Census reports the City's bike-to-work mode share as 0.4 percent. However, this does not include students bicycling to school or people bicycling to transit. When students and transit riders were considered, a more comprehensive estimate of daily bicycle use was calculated. The model below estimates that one percent of the City's population bicycles daily. **Table 5-6** provides the sources and estimates used in determining the existing bicycle commuter population.

Table 5-6: Existing Bicycle Commuter Population

Variable	Figure	Sources and Notes
South San Francisco Population	60,552	US Census 2000
Number of Commuters	28,157	US Census 2000 (Employed persons minus those that work at home)
Number of Bicycle-to-Work Commuters	119	US Census 2000 (0.4% bike-to-work mode share)
Bicycle-to-Work Mode Share	0.4%	Mode share percentage of Bicycle to Work Commuters 2006 American Community Survey
School Children Grades K-8	6,725	US Census 2000, Children enrolled in school grades 1-8
Estimated School Bicycle Commuters	101	National average 2%. National Safe Routes to School Survey (2003)
Number of College Students	5,038	US Census 2000
Estimated College Bicycle Commuters	252	National Bicycling & Walking Study, FHWA, Case Study No. 1, 1995. Review of bicycle commute share in seven university communities (5%)*
Number of Commuters who take Public Transportation	2,680	US Census 2000
Estimated Number of People who Bicycle to Transit	80	System wide Bike to BART average 3% of riders. BART Bicycle Access and Parking Plan (2002)
Number of Commuters who take SamTrans Bus	1,328	US Census 2000, Means of travel to work
Estimated Number of People who Bicycle to a Bus Stop	27	Estimates 2% of bus boardings are by bicyclists.
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	579	Total of bike-to-work, transit, school, college and utilitarian bicycle commuters. This does not include recreational bicyclists.
Estimated Adjusted Mode Share	1.0%	Estimated Bicycle Commuters divided by population

** According to the 2000 US Census, 5,038 college students live in South San Francisco.*

5.5.2. Future Bicycle Use

Future bicycle use was estimated by assuming that current residents who commute to work in less than 29 minutes will ride their bicycle to work if bicycle conditions are improved. Using this assumption, there are potentially 1,577 more bike-to-work commuters. When these bicyclists are added to the current number of bicyclists, their bicycle trips can be converted into vehicle miles reduced. The result is nearly four million vehicle miles shifted to bicycle miles. **Table 5-7** describes the future bicycle commuter population estimation.

Table 5-7: Future Estimated Bicycle Trips

Variable	Figure	Sources and Notes
Number of Workers with Commutes Nine Minutes or Less	2,653	US Census 2000
Number of Workers with Commutes 10-19 minutes	9,024	US Census 2000
Number of Workers with Commutes 20-29 minutes	5,258	US Census 2000
Number of Workers who already Bicycle or Walk to Work	119	US Census 2000
Number of Potential Bike-to-Work commuters	16,816	Calculated by subtracting number of workers who already bicycle or walk from the number of workers who have commutes 29 minutes or less
Future Number of New Bike-to-Work Commuters	1,577	Based capture rate goals of 20%, 10%, and 5% of potential bicycle riders commuting less than 9 minutes, 10-19 minutes, and 20-29 minutes to work, respectively.
Total Future Daily Bicycle Commuters and Utilitarian Riders	2,156	Current daily bicycle commuters, bike to school and utilitarian riders, plus future bicycle commuters
Future Total Daily Bicycle Trips	4,311	Total bicycle commuters x 2 (for round trips)
Future Reduced Vehicle Trips per Weekday	3,147	Assumes 73% of bicycle trips replace vehicle trips
Future Reduced Vehicle Miles per Weekday	14,477	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	3,836,470	256 weekdays per year

5.5.3. Air Pollutants Avoided from Future Bicycle Trips

The reduction of approximately four million VMT per year yields an air pollutant reduction of 1,633 tons. **Table 5-8** converts kilograms of each air pollutant per mile to metric tons of air pollutants avoided per year.

Table 5-8: Air Pollutants Avoided

Variable	Figure	Conversion
Reduced HC (kg/weekday)	41	(0.0028 kg/mile)
Reduced CO (kg/weekday)	303	(0.0209 kg/mile)
Reduced NOX (kg/weekday)	20	(0.00139 kg/mile)
Reduced CO2 (kg/weekday)	6,015	(.4155 kg/mile)
Total Air Pollutants Avoided (metric tons/year)	**1,633**	1000 kg per metric ton; 256 weekdays/year

Emissions rates from EPA report 420-F-00-013 "Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks." 2000.

Estimating the reduction in vehicle miles travelled and resulting decrease in air pollutants directly responds to California State Bill 375, which was signed into law in 2008. This bill calls for regional metropolitan planning organizations and local governments to develop policies that encourage alternative modes of travel to the automobile, including bicycling, as a way to reduce greenhouse gas emissions. The estimated air pollutants avoided shows that increased bicycle use as a result of building bicycle facilities and implementing bicycling programs will reduce vehicle miles travelled.

6. RECOMMENDED BICYCLE NETWORK AND SUPPORTING FACILITIES

This chapter recommends bicycle facilities that connect gaps in and expand the current bicycle network. Both on-street facilities-Class II bicycle lanes and Class III bicycle routes- and off-street paved paths are recommended to provide these connections. In addition to building new facilities, this chapter also recommends short- and long-term bicycle parking provisions, bikeway signage and striping improvements, on-street improvements, maintenance of bikeways, and coordination with transit agencies. The City, BPAC and project consultant collaborated in developing these recommendations.

6.1. RECOMMENDED BIKEWAY NETWORK

The recommended bikeway network follows the three Caltrans bikeway classifications. Class I bikeways are paved, multi-use paths separated from the street. Class II bikeways are striped on-street bicycle lanes and Class III bikeways are signed routes that share roadways. **Figure 6-1** illustrates the three Caltrans' bikeway classifications. On roadways with on-street parallel vehicle parking, shared lane markings are recommended. This is explained more in Section 6.2.5.

The right of way along Colma Creek provides an opportunity for a Class I path

The recommended bikeway network prioritizes connections to employment centers, transit stations, schools, commercial centers and recreational destinations, and considers bicyclist safety and hillside slope. Bicyclists of all abilities will benefit from the additional 15.5-miles of recommended bikeways that provide recreational, commuting and utilitarian bicycle trip opportunities and connections to the existing network.

South San Francisco has a few locations for expanding the Class I path network. This plan recommends new Class I paths along waterways and privately owned railroad rights-of-way that can link to existing and proposed bikeways. These paths require additional feasibility study due to the costs of acquisition.

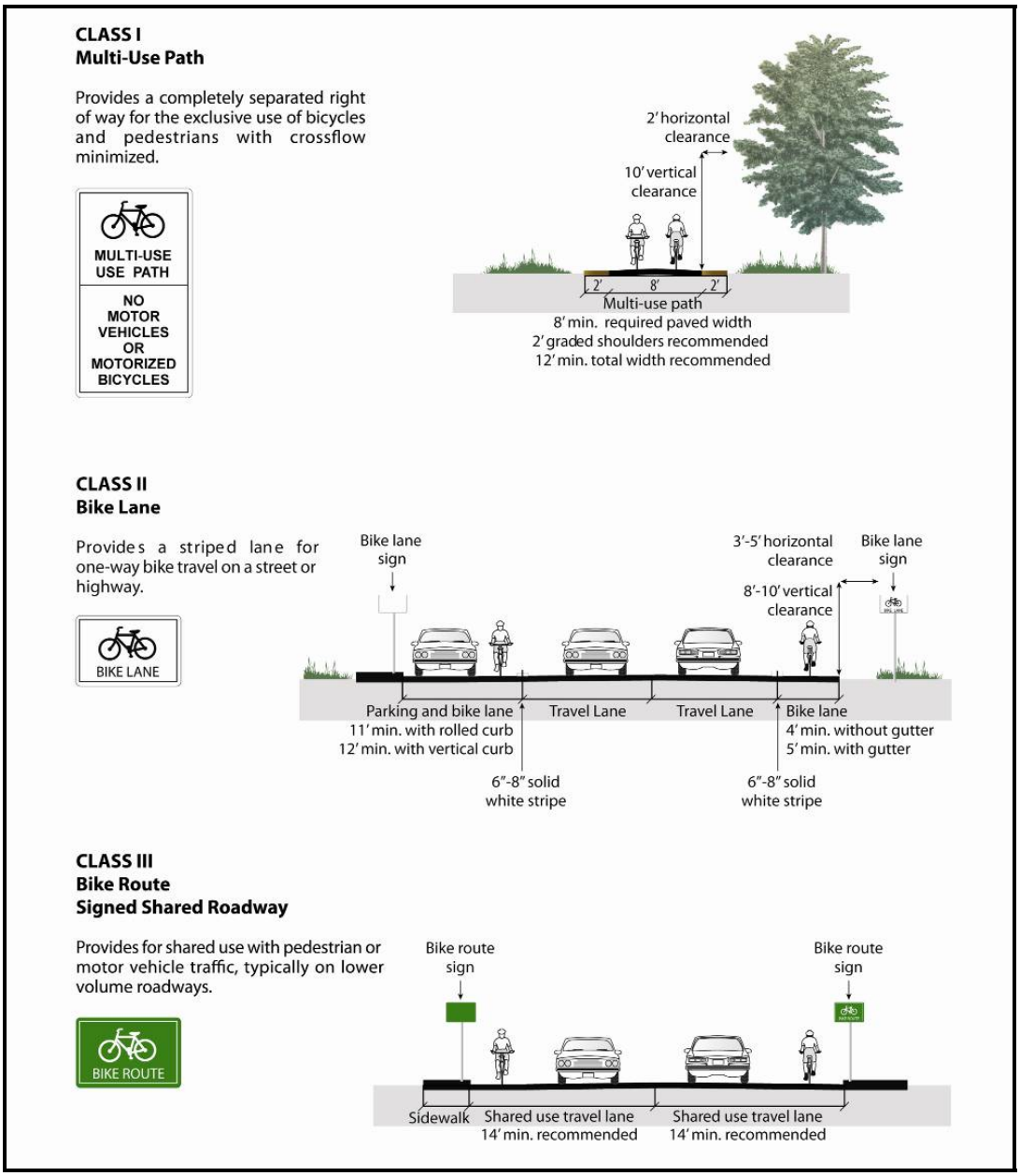
Class II Bicycle Lanes are recommended where roadway widths allow at least five-foot wide bicycle lanes, eight-foot wide parking lanes and twelve-foot wide vehicle travel lanes, meeting the City's existing street standards. The additional bicycle lanes utilize the city's main thoroughfares i.e., Grand Avenue, Oyster Point Boulevard and Airport Boulevard that provide access to transit stations, employment centers, commercial centers, public facilities and the downtown area.

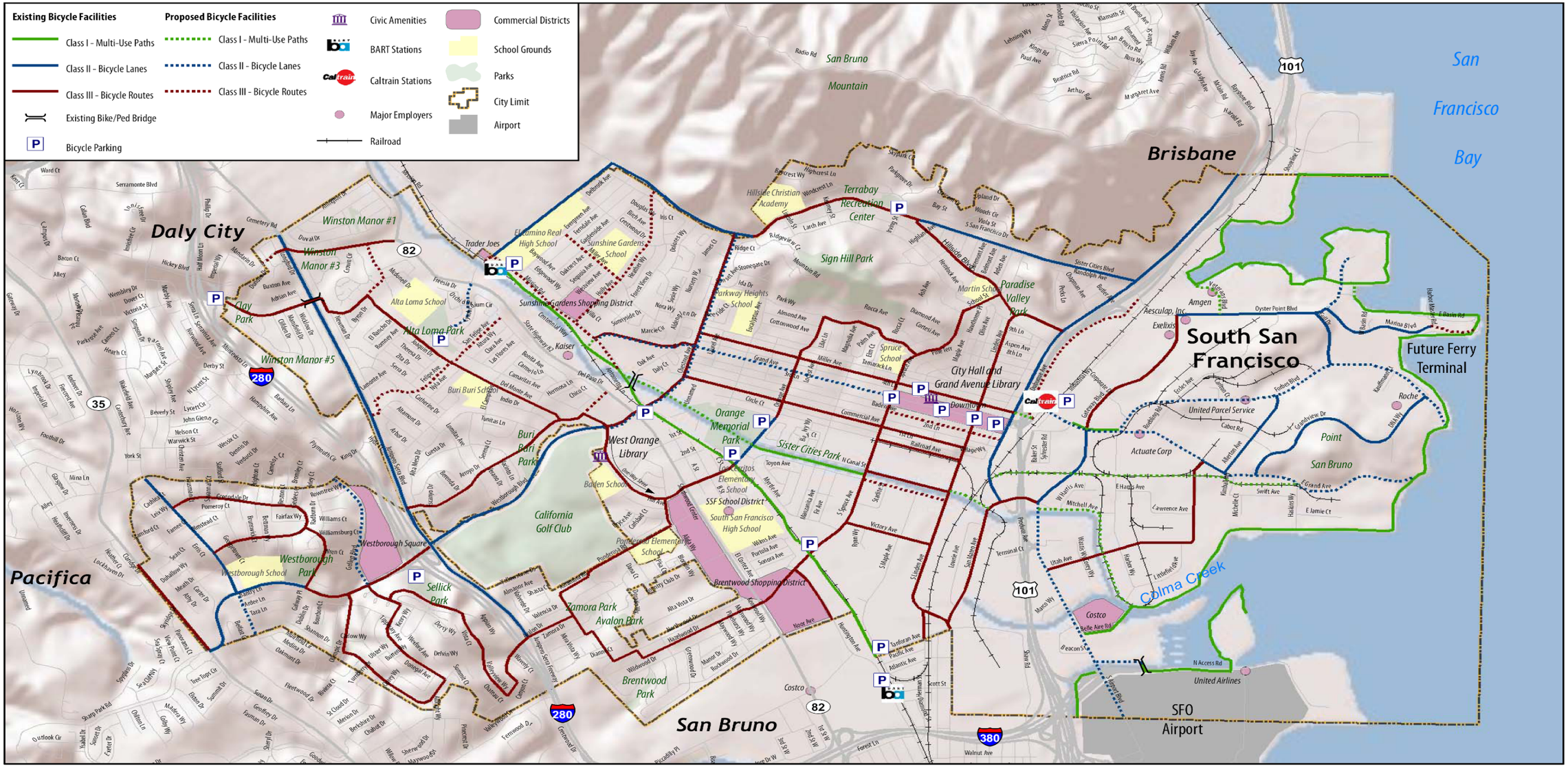
Class III Bicycle Routes are recommended on roadways frequently used by bicyclists that do not have the necessary right-of-way width for installing bicycle lanes. Bicycle Routes are identified by either signs or shared lane markings and they typically have a shared wide outside lane for vehicles and bicycles. The California Manual of Uniform Traffic Control Devices (CAMUTCD) recommends installing signs at decision points or intersections along bike routes. Shared lane markings (SLMs) or "sharrows" are recommended along segments of roadways with high turn over rates of on-street parallel parking.[13] Shared lane marking stencils delineate the bicyclists' path away from opening doors of parked vehicles. CAMUTCD standard placement of SLMs and "sharrows" is eleven feet away from the curb face, placing bicyclists out of the way of opening automobile doors.

The Constructed Bikeways are listed in **Table 2-3** and the Recommended New Bikeways Projects are listed in **Table 6-1** and shown in **Figure 6.2.**

[13] Shared lane markings are not necessary along bike routes on residential roadways but may be installed upon the discretion of the City.

Figure 6-1: Caltrans Bikeway Types





Existing and Proposed Bicycle Facilities

City of South San Francisco
South San Francisco Bicycle Master Plan
Source: Data obtained from the City of South San Francisco, BART and Caltrain
Author: Tony Salomone/Roy Harju

0 1,500 3,000 Feet

Figure 6-2: New General Plan Bikeways

Table 6-1: Recommended New Bikeway Projects

Location	Class	From	To	Length (miles)
Caltrain Station Undercrossing	I	Airport Blvd	Industrial Way	0.08
Sister Cities Park Path Extension	I	Orange Avenue	Antoinette Lane	0.60
Veterans Boulevard Vicinity	I	Oyster Point Boulevard	Bay Trail	0.19
Centennial Connector	I	Mission Road/Grand Avenue	Centennial Trail	0.05
			Total Class I	**0.92**
Grand Avenue	II	Mission Road	Spruce Avenue	1.21
South Airport Boulevard**	II	East Grand Avenue	SSF/San Bruno Limit	1.06
McLellan Drive	II	El Camino	Alta Loma Park	0.23
Forbes Boulevard	II	East Grand Avenue	Bay Trail	1.50
Gellert Boulevard	II	Westborough Boulevard	King Drive	0.54
			Total Class II	**4.54**
Mission Road***	III	Centennial Trail	Lawndale Drive	0.71
McLellan Drive***	III	Mission Road	BART Access Road	0.04
Miller Avenue	III	Evergreen Avenue	Holly Avenue	0.30
Baden Avenue	III	Spruce Avenue	Airport Boulevard	0.46
South Canal Street***	III	South Spruce Avenue	South Linden Avenue	0.33
Dubuque Avenue	III	E Grand Avenue	Oyster Point Boulevard	0.75
Holly Avenue	III	Mission Road	Hillside Boulevard	0.71
Newman Drive/King Drive/San Felipe Avenue	III	Alta Loma Drive	Junipero Serra Boulevard	0.74
Alta Loma Drive	III	Del Monte Avenue	Hickey Boulevard	0.27
Mitchell Avenue	III	South Airport Boulevard	Harbor Boulevard	0.28
Oyster Point Boulevard	III	South Airport Boulevard	Gateway Boulevard	0.25
East Grand Avenue	III	South Airport Boulevard	Gateway Boulevard	0.35
Westborough Boulevard	III	SR 280 South Bound Ramps	Junipero Serra	0.12
Arroyo Drive	III	Camaritas Avenue	El Camino Real	0.11
Harbor Way	III	Mitchell Avenue	Littlefield Avenue	0.35
			Total Class III	**5.77**
			Total New Facilities	**11.23**

*** Conversion From a Route to a Lane* *** Conversion from Lane to Route*

6.2. RECOMMENDED BICYCLE SUPPORT FACILITIES

This section recommends a range of facilities that support bicyclists on- and off-street. Recommended on-street facilities include bicycle signal detection, warning and way finding signage and concrete railroad track fittings. Recommended off-street facilities include short-term bicycle parking and showers for commuting bicyclists. This section also includes bicycle facility maintenance recommendations.

6.2.1. Bicycle Signal Detection and Stencil

Traffic lights are either set to change at regular intervals or when a motor vehicle, bicycle or pedestrian is sensed at an intersection. Sensing devices are either installed under the pavement as electro magnetic loops or on traffic lights as video detection. South San Francisco has secured funding for installing video detectors for the intersections listed on page 2-9.

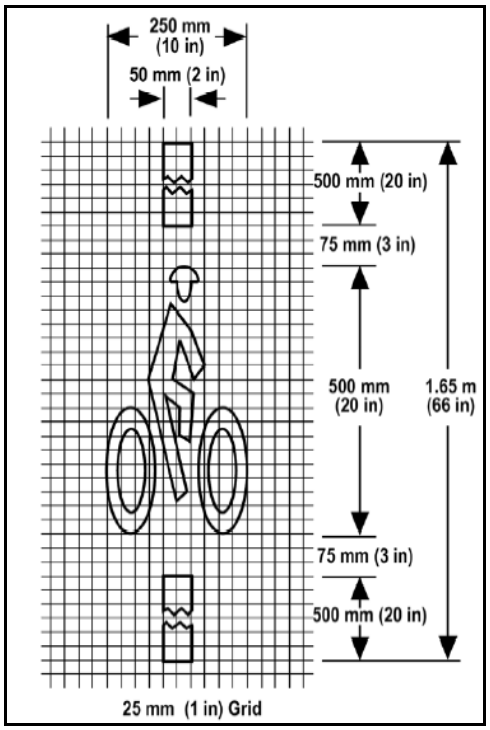


Figure 6-3: Bicycle Detection Marking

Recommendation

South San Francisco should paint bicycle detector symbols as shown in **Figure 6-3**, in coordination with installing video detectors. As opportunities arise, detector stenciling can be coordinated with resurfacing and restriping projects.

6.2.2. Guide Signs

Guide signs direct bicyclists on to bikeways at decision points, i.e. intersections and turns. In addition to the standard guide signs, the CAMUTCD provides unique guide sign option. The City has installed unique guide signs on its bike routes.

Recommendation

South San Francisco should continue following the CAMUTCD standard for route signage installation. To maintain consistency with previously installed bicycle route signage, the City should continue installing unique route designation signs.

The City has installed unique guide signs along its bike routes.

Figure 6-4: CAMUTCD STR Signage

6.2.3. Share the Road Signs

Several streets in the South San Francisco bikeway network do not easily accommodate the installation of on-street facilities without major engineering. In these constrained areas, the City should install "Share the Road" signs along with Class III route signage. STR signs are recommended for the following intersections.

- Westborough Boulevard at Interstate 280
- Grand Avenue at Highway 101
- Oyster Point Boulevard at Highway 101

6.2.4. Wayfinding Signs

Wayfinding signs provide information for bicyclists to reach popular destinations via a bicycle network. While the CAMUTCD does not specifically provide standards for wayfinding signage, it does provide supplemental plaques that can display destinations, distances and estimated travel times. Wayfinding signs are recommended for Centennial Way and the other Class I paths in South San Francisco's bicycle network. Example signs on Centennial Way can direct bicyclists to major destinations such as the BART Stations, downtown, and Orange Park.

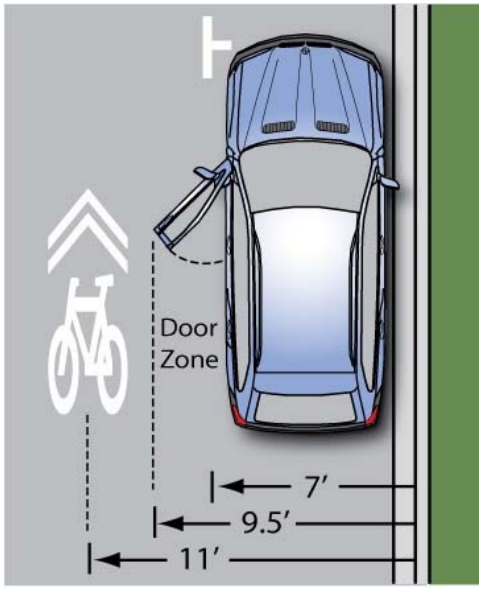


Figure 6-5: Shared Lane Marking

6.2.5. Shared Lane Markings

Shared Lane Markings (SLM) and "sharrows" delineate the path of bicyclists away from opening vehicle doors. CAMUTCD standard is to install SLMs where parallel parking exists on Class III bicycle routes or roadways without a bikeway designation. However, several communities have placed SLMs on roadways even without parking as a tool to increase bicycle safety. SLMs are recommended on:

- Mission Road
- Baden Avenue
- South Canal Street

6.2.6. Railroad Crossings

Railroad crossings can be challenging for bicyclists to cross. Bicycle tires can lodge between the tracks and the road causing a bicyclist to crash. To prevent this, concrete can be installed.

Railroad crossings can cause bicyclists to lodge their wheels between the tracks and the road if not addressed with rubber fittings.

Rubber fittings at railroad tracks. Photo Source: FHWA

Recommendation

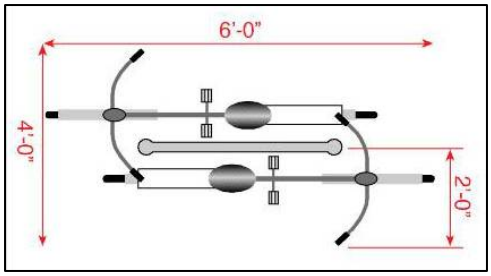
South San Francisco should install a smooth surface at the Gateway Boulevard railroad crossing pictured above.

6.2.7. Bicycle Parking

Providing secure bicycle parking is important for the City to integrate bicycling into the transportation system. People are more likely to bike to a location in South San Francisco if secure bicycle parking is available. For example, a small portion of Grand Avenue in downtown South San Francisco is provided with bicycle parking that is heavily used in a couple of locations. This plan recommends installing secure bicycle parking spaces at major destinations.

Inverted U racks are a recommended rack type because they provide two securing points, when installed correctly

The level of bicycle parking security is based on the amount of time a bicycle is parked in one location. Short-term bicycle parking is less than two hours of parking and provides a bicycle rack with two points of contact for securing a bicycle.[14] Long-term bicycle parking is more than two hours of parking and provides additional secured access, individual bicycle lockers, a room or a cage for parking multiple bicycles.



Inverted U racks should be installed parallel to objects, at least two feet away

Recommendation

The City's current TDM regulations require that commercial, office and industrial developments generating over 100 net new vehicles trips adopt a TDM Plan that includes installing bicycle parking and showers as a traffic

[14] The use of "wave" racks is discouraged because they do not provide two points of contact to which a bicycle can be secured and stabilized. Inverted u-racks are preferred because they provide two points of contact.

impact mitigation measure. This plan recommends that the City expand its bicycle parking requirement to all developments throughout the City. Many cities in the Bay Area have adopted similar standards. The city is revising the zoning ordinance and is proposing bicycle parking requirements for a limited range of uses and zoning districts. This plan recommends refinements to the bicycle parking requirements and expanding the bicycle parking requirements to include all zoning districts to facilitate bicycling trips to and from work locations, shopping centers, schools, public and government facilities, and recreational destinations. This approach will help to facilitate trips by bicycle mode.

The City should adopt and implement the bicycle parking standards are listed below.

- Short-term parking should be located in close proximity to primary building entrances.
- Parking should be in clear sight of building entries or actively monitored locations.
- Short-term parking should be and Long-term parking must be protected from inclement weather.
- Short-term parking facilities should provide a minimum of two points of contact such as a u-shaped rack.
- Parking should be well lit during evening hours.
- Parking should not block access to transit, loading activities or pedestrian movement.
- Parking should only be provided on impervious surfaces that are free of imperfections.

6.2.8. Showers and Lockers

Providing showers and changing rooms with lockers is an incentive for employees to bicycle to work, allowing them to clean up after a bicycle commute. Like bicycle parking, employers can be required to install shower facilities as part of a TDM policy. When required, one shower stall per gender should be required. **Table 6-2** provides sample shower requirements.

Recommendation

While the City's Transportation Element calls for shower facilities at City Hall it does not call for shower and locker facilities at other employment centers. The City should expand the Transportation Element policy to all employment centers. The City should also amend the zoning ordinance to include requirements for shower and locker facilities, such as the sample below:

Table 6-2: Sample Shower Requirements

Number of Required Bike Parking Spaces[15]	Shower Requirement*
0-3	0
4-29	1

[15] City of Vancouver, Requirement for Shower and Changing Rooms, By-Law 7481, 2003.

Number of Required Bike Parking Spaces[15]	Shower Requirement*
30-64	2
65-94	3
95-129	4
130-159	5
160-194	6
More than 194	6 plus one per 30 additional spaces

** Shower requirements are for each gender.*

6.3. MULTI-MODAL CONNECTIONS

Three transit systems operate within South San Francisco: Caltrain, BART and SamTrans. The Water Emergency Transit Authority (WETA) also has begun construction of a ferry terminal at Oyster Point providing service to Oakland's Jack London Square. While South San Francisco does not directly implement bicycle accommodations on transit, it can make recommendations. South San Francisco can also ensure that bikeways access transit stations and in some cases install bicycle parking.

Recommendations

South San Francisco should prioritize constructing bikeways that increase access to transit stops and stations. As new stations are built, i.e. the relocation of the Caltrain Station and the Oyster Point Ferry terminal, the City should work with the operators to ensure bicyclists are accommodated through bicycle parking and easy access.

6.4. MAINTENANCE

Both on- and off-street bicycle facilities need regular maintenance because bicyclists are more susceptible than motor vehicles to roadway irregularities such as potholes, cracks and debris. South San Francisco currently inspects bicycle facilities every two to three years.

Recommendations

The City should continue a bicycle facility inspection program and consider a regular maintenance schedule. Additional recommended considerations are listed below.

- Street sweeping. Roads striped with bike lanes or designated as bicycle routes should be swept more frequently than roads without designated bikeways.
- Minor repairs and improvements. Potholes and cracks along the shoulder of roadways primarily affect bicyclists. All repairs should be flush to the existing pavement surface. The City should consider expanding its current "pothole" phone hotline (650-877-8550) to accept bicycle facility maintenance requests. The City should promote this service as a way to identify maintenance needs for on- and off-street bikeways.

- Street resurfacing. When streets are resurfaced, utility covers, grates and other in-street items should be brought up to the new level of pavement. Similarly, the new asphalt should be tapered to meet the gutter edge and provide a smooth transition between the roadway and the gutter pan.
- Regular Maintenance of Multi-Purpose paths. Paths require regular maintenance, including trimming adjacent vegetation, sweeping, removing trash and debris, and periodic repair. The City should develop a schedule for these routine items and should consider assigning staff to monitor the pathways on a regular basis to proactively identify maintenance needs. If funding is not available, an "Adopt-a-Trail" program should be considered.

7. RECOMMENDED PROGRAMS

The chapter presents programs that support bicycling in South San Francisco. Programs are classified into four categories: education, encouragement, enforcement and evaluation, commonly known as the four E's.

7.1. SAFE ROUTES TO SCHOOL

Safe Routes to School (SR2S) is a multi-disciplinary program that promotes walking and bicycling to school and works to improve traffic safety around school areas. The SR2S program is comprised of four sub-programs: education, encouragement, enforcement and engineering.

Real life practice improves the bicycling skills of children.

- Education programs incorporate bicycle skill curriculum into the school day.
- Encouragement programs, such as celebrating Walk/Bike to School Week, lets students and parents know that their school supports walking and bicycling.
- Enforcement programs utilize the police department and volunteers to enforce safer driving around schools.
- Engineering programs seek to identify improvements to the physical barriers students face as they walk and bicycle to school.

Most South San Francisco schools are located in residential neighborhoods and on residential roadways with low traffic volumes and speed although two are located in the downtown. These locations, combined with the Class III bicycle routes recommended in this plan, create safer bicycling conditions. In addition to these bikeway improvements, the City of South San Francisco work with the SSFUSD and private schools to encourage bicycling programs, including the promotion of Walk/Bike to School Week.[16]

7.2. EDUCATION

Education programs teach children and adults safe bicycling skills and the rules of the road. The objective of these programs is to increase the skill level and knowledge of traffic code among bicyclists of all ages. Education programs also seek to teach City staff and contractors about accommodating bicyclists in construction zones.

[16]The National Safe Routes to School website: http://www.saferoutesinfo.org/ is a resource for implementing Safe Routes to School programs.

7.2.1. Adult Bicycle Education

Adult bicycle education is typically provided by local bicycle coalitions. While there is not an established bicycle coalition for South San Francisco, there are active coalitions in the area that the City can work with. The Silicon Valley Bicycle Coalition, the San Francisco Bicycle Coalition and the Bay Area Bicycle Coalitions all teach bicycle education courses and can be possible partners. There are also other options, for example the City of Palo Alto's Parks and Recreation Department offers bicycle courses for adults and children that are based on the League of American Cyclists curricula.[17] South San Francisco should consider hosting adult bicycle education classes.

7.3. ENCOURAGEMENT

Encouragement programs are a way for South San Francisco to show that bicycling is welcome and encouraged. Such programs include participating in national events such as Bike to Work Day or providing incentives to employers that encourage bicycling to work. Maintenance programs are another way to show bicycling infrastructure is important to the City.

May is Bike to Work Month. The City of South San Francisco should continue to promote this event.

7.3.1. Bike to Work Day

Bike to Work Day is usually the third Thursday in May, which is Bike to Work month. The City has participated in past Bike to Work Days by setting up "energizer stations," providing free refreshments and promotional items to commuters bicycling to work. On Bike to Work Day 2010, the City hosted an energizer station at the intersection of East Grand Avenue and Gateway Boulevard. In addition, the Peninsula Traffic Congestion Relief Alliance gave $40 gift certificates for local bicycle shops as a reward to people who pledged to bicycle eight times during May and June 2010.

Continuing to promote Bike to Work Day (and month) is an excellent way to build acceptance of bicycling in South San Francisco. In addition to the existing efforts, the City should consider hosting a larger event at City Hall or at the BART station. This event could feature a speech by a public official on the City's recent and future efforts to support bicycling.

7.3.2 Sunday Streets

Sunday Streets is a program that involves closing down a selected street from vehicle traffic for use by a mix of bicyclists, pedestrians and other non-motorized modes of travel. It has been successfully launched in the Bay Area and has generated much interest by local and regional participants. The city should consider a Sunday Streets pilot program to determine the level of community interest and a way in which to promote interest in bicycling.

[17] For more information about Palo Alto's bicycle education program visit their website at http://bikeclass.swent.net/Classes.htm

7.3.3 Employer Incentives

Given that South San Francisco is home to several large employers, providing incentives for employers to encourage employees to bicycle to work can result in an increase in the City's bicycle mode share. In coordination with the current Transportation Demand Management regulations, the City may also consider a Bicycle Friendly Employer Certification for outstanding employers. Practices that can lead to a Bicycle Friendly Certification, of which many South San Francisco employers already implement, can include:

- Short-term and long-term bicycle parking options (racks, cages and lockers).
- Shower Facilities: Company provides free shower stalls and clothes lockers for employees.
- Company Bike Sharing: Bikes (helmets and tool kits) available for employee work trips. (Genentech plans to implement bike sharing in 2010)
- Employee Bike Training Session: Adult bike skills training sessions are available for a nominal fee through League of American Bicyclist certified instructors.
- Bike Commuter Incentives: Company provides incentives to bike commuters in the form of reimbursement for not using an automobile parking space.
- Bike Week Team Entry: Register a team to participate in a Bicycle Commuter Challenge.
- Promotional Information: Company provides bicycle information through company memo, e-newsletter, website, or brochure/poster display. (Genentech currently provides this information)

7.3.4 Bicycle Website

Websites are an excellent resource for the bicyclists. Many cities use websites to inform their bicycling residents about the current state of bicycling. The Cities of Oakland and San José are two examples of cities in the Bay Area that have bicycle web pages. The City of South San Francisco currently has a website for the BPAC that could serve as a foundation for a future web page. Recommendations for webpage content include:

- A list of all bicycling groups, including clubs, racing teams, and advocacy groups
- Information about the BPAC (how to get involved, meeting times and dates, agendas and minutes)
- Information about current projects and how to get involved (e.g., public meetings, comment periods)
- Maps and brochures (links to on-line maps including the South San Francisco Bicycle Map and how to request or find materials locally)
- Links to laws and statutes relating to bicycling
- Links to all relevant local jurisdictions and bicycle coordinators or BPACs
- Information about bicycling events (rides, classes, volunteer opportunities)

Bixi has installed its bike stations in front of large employers

- A list of local bike shops, including phone numbers and addresses
- Relevant phone numbers (hotlines for pothole repair, parking enforcement, bike rack installation request, etc.)

7.3.5 Bike Sharing

Bike share programs provide rental bicycles for short distances. Bike share systems typically employ smart card technology, allowing the user to load their card with money to rent a bicycle at any bike share station. Bicycle rentals are meant for short distances and allow the user to return their bicycle at any station, not just the one they rented from.

Where they exist, it is common for a public agency to undertake operation of a bike share system with an operating partner, as most bike share systems are not financially self-sustaining. Funding for public bicycle systems commonly comes through a combination of advertisements, user fees, and public government funds and operates as a public-private partnership. Washington D.C. is the first United States city to employ a bike share system, charging users $40 for an annual membership that includes unlimited rentals.

With two existing transit stations, a future ferry terminal and thousands of commuters, South San Francisco should conduct a study to determine the commuter interest and financial feasibility of a bike sharing system. While the capital start-up costs are relatively expensive, operation of the system could potentially be a partnership between the transit agencies, the City and its large employers. South San Francisco could also look to partner with the County or a future system in San Francisco. Potential locations for parking station locations are listed below.

- BART Station
- Caltrain Station
- Oyster Point Ferry Terminal
- City Hall/Library
- Orange Memorial Park
- North Access Road at SFO Parking Garage
- Kaiser Hospital
- Genentech and/or other employers

Adopt-a-Trail programs provide funding and maintenance opportunities for trails.

7.3.6 Adopt a Bikeway/Adopt a Trail

Community Bikeway and Trail Adoption programs are similar to the widely-instituted Adopt-a-Highway program found throughout the country. These programs identify local individuals, organizations, or businesses that would be interested in "adopting" a bikeway. With the adoption of a bikeway, a person or group is responsible for facility maintenance, either through direct action or as the source of funding for the City's maintenance of that facility. For example, members of a local recreation group may volunteer every other weekend to sweep a bikeway and identify and address larger maintenance needs. Or, a local

company may adopt a bikeway segment, and provide the funding for maintenance costs.

7.4. ENFORCEMENT

Enforcement programs strategically position police officers in areas where unlawful driving and bicycling exist. Law enforcement can be formal, employing police officers, or informal, employing trained members of the public. The goal of enforcement programs is not only to enforce the vehicle code but to educate motorists and bicyclists about the California Vehicle Code as it pertains to bicycling.

7.4.1. Traffic and Parking Enforcement

Traffic and parking enforcement stations police officers at locations where traffic and parking violations frequently occur. This is especially important around schools, where children walk and bike. Such an effort may be coordinated with Bike to School Day in the first week in October. Employing targeted enforcement at the beginning of the school year can assist in setting a standard of safe driving for the rest of the year. The City should work with the school district and the police department to indentify areas where targeted enforcement is needed. Safe Routes to School grants are one source to fund this initiative.

Targeted enforcement heightens the awareness of bicyclists.

7.4.2. Police Bicycle Patrol

The City and its bicyclists both benefit from police bicycle patrols in downtown South San Francisco when law officers bicycle instead of using squad cars. The City benefits from using squad cars less, resulting in less fuel consumed. Bicyclists benefit because bicycle patrols show residents that City employees ride bicycles.

The City currently employs bicycle patrols in the downtown area during the summer months. The City should consider employing bicycle patrols throughout the year or longer into the spring and fall, and in additional venues such as along Centennial Way. Bicycle patrols on Centennial Way can help deter vandalism, littering and other unlawful behavior.

The goals of the Bicycle Patrol may include:

- Educating users on sharing the path and roadway.
- Providing information on area bicycle resources.
- Maintaining proper path conditions by informing responsible agencies of hazards.
- Acting as a deterrent to irresponsible activities by having more eyes on the path.

7.5. EVALUATION

Measuring the effectiveness of existing bicycle programs and facilities can occur through evaluation programs. Evaluation programs that monitor bicycle volumes and bicycle collisions can help the City make educated enforcement, engineering and maintenance decisions. In addition, bicycle count data strengthens grant applications by demonstrating that the City actively monitors its state of cycling.

7.5.1. Annual Bicycle Counts

Infrared counters can provide the City with an automated counting system, such as this one installed next to path in San Diego.

The City can benefit in a variety of ways from annual bicycle counts. Counting bicyclists at consistent locations, dates and times helps the City understand bicycle travel patterns and volumes. The City can also use this data to make educated policy decisions and strengthen grant applications.

There are two ways to collect bicycle count data, manually or with a counting device, as pictured to the left. While a counting device incurs a higher initial cost than hiring someone to count manually, it will be able to continuously collect data.

To gain a better understanding of bicycle travel across the United States, a consistent method of bicycle counting has been developed. The National Bicycle and Pedestrian Documentation Project has developed a recommended methodology, survey and count form, and reporting form that can be modified to serve the needs and interests of individual jurisdictions.[18]

The City should pursue the following bicycle data collection opportunities:

- Before-and-after bicycle and vehicle data collection on priority roadway projects
- Insert bicycle survey questions into any existing travel mode or city audit workplace transportation survey instrument
- Require the counting of bicyclists in all traffic studies
- Purchase National Household Travel Survey add-on

7.5.2. Collision Analysis

A historical bicycle collision analysis in South San Francisco is provided on page 5-3 and is a requirement to receive funding through the Bicycle Transportation Account. This information will help the City make informed decisions about where to install the proposed bicycle facilities and the appropriate countermeasures. The collision analysis can be strengthened by applying bicycle count data to specific locations of the collisions to establish collision rates.

[18] Alta Planning and Design and the Institute of Transportation Engineers, http://www.altaplanning.com/App_Content/files/NDP_Description090205.pdf, 2005.

The City should consider conducting an annual collision analysis. Collision data is readily available from the State Wide Integrated Traffic System (SWITRS). Because the City does not have a bicycle and pedestrian coordinator, this analysis should be a coordinated effort between the City traffic engineer and the Police Department. This information can be used for validating bicycle improvements and strengthening bicycle project grant applications.

This page intentionally left blank.

8. PROJECT PRIORITIZATION AND PHASING

This chapter presents the method used to rank the bikeway projects into a prioritized list for construction and phases for implementation. Included are cost estimates for individual projects and near-term, mid-term, and long-term phases for implementation. These recommendations for development may change over time.

8.1. PROJECT PRIORITIZATION

The project list and individual projects outlined in this plan are flexible concepts that serve as implementation guidelines. As projects are constructed, lower ranked projects move up the list. The high-priority project list, and perhaps the overall system and segments themselves, may change over time as a result of changing bicycling patterns, land use patterns, implementation constraints and opportunities, and the development of other transportation system facilities. City staff, in conjunction with the BPAC, should review the project list at regular intervals to ensure that it reflects the most current priorities, needs, and opportunities for implementing the bicycle network in a logical and efficient manner.

Table 8-1 lists the ranking criteria, weighting factors and total possible score for proposed bicycle projects in South San Francisco. The project consultant in conjunction with City staff and the BPAC developed these criteria. After criteria were selected, weighting factors were assigned to them according to the importance to bicyclists. Since many people commute to South San Francisco, access to employers and transit stations were weighted with the highest factor of three. Improved safety, access across bicycling barriers and access to community destinations are also important criteria for both bicycle commuters and residents and were weighted with a factor of two. Gap closures and hillside slopes can deter people from bicycling, so these criteria were included but with the lowest weighting factor of one.

Table 8-1: Ranking Criteria

Criteria	Score	Weighting Factor	Total Possible Score	Description
Employer Access: Bicycle access to the 10 largest employers in South San Francisco	2	3	6	Proposed bikeway directly connects to a top 10 employer.
	1		3	Proposed bikeway connects to an existing bikeway accessing a top 10 employer and this connection is within 0.5 miles of the employer.
	0		0	Proposed bikeway does not access a top 10 employer.

Criteria	Score	Weighting Factor	Total Possible Score	Description
Transit Access: Bicycle access to bus lines, the future Oyster Point Ferry Terminal and the BART and Caltrain stations	2	3	6	Proposed bikeway directly connects to the BART station, Caltrain station, or future Ferry Terminal.
	1		3	Proposed bikeway connects to an existing bikeway accessing a BART or Caltrain Station and this connection is within 0.5 miles of the station.
	0		0	Proposed bikeway does not connect to a transit station.
Community Destinations: Bicycle access to major trip attractors and generators: • Commercial Districts • Recreation[1] • Schools	2	2	4	Proposed bikeway accesses two or three of the listed community destinations.
	1		2	Proposed bikeway accesses one of the listed community destinations.
	0		0	Proposed bikeway does not access a community destination.
Safety: Number of bicycle related collisions in the past five years.	2	2	4	Proposed bikeway is on a roadway that had four or more reported bicycle related collisions in the last five years.
	1		2	Proposed bikeway is on a roadway that had one to four reported bicycle related collisions in the last five years.[2]
	0		0	Proposed bikeway is on a roadway that had zero reported bicycle related collisions in the last five years.
Barriers: Difficult areas that are improved by bikeways.	2	2	4	Proposed bikeway improves Highway 101 or 280 crossings.
	1		2	Proposed bikeway improves El Camino Real or railroad tracks.
	0		0	Proposed bikeway does not cross barriers.
Gap Closure: Proposed bikeways that connect to existing bikeways	2	1	2	Proposed bikeway connects two existing bikeways.
	1		1	Proposed bikeway connects to one existing bikeways.
	0		0	Proposed bikeway does not connect to existing bikeways.
Slope: Average hill slope for streets of proposed bikeways	2	1	2	Proposed bikeway with an average slope less than 6%.
	1		1	Proposed bikeway with an average slope less than 8%.
	0		0	Proposed bikeway with an average slope greater than 8%.

8.2. PROJECT RANKING

Table 8-2 shows the weighted project scores and the sum of these weighted criteria. Total scores ranged from 8 to 23 and are placed into three phasing groups:

- Tier 1 projects received scores over 16 and are the highest priority bicycle projects. These projects are intended for near-term project implementation within 1-5 years.
- Tier 2 projects received scores between 14 and 15 and are intended for development within the mid-term or 6-10 years.
- Tier 3 projects received scores equal and less than 13 and are the least priority for implementation and are intended as long-term bicycle projects for the next 11-20 years.

Project sheets were developed for Tier 1 projects in Section 8.6. They describe the project in more detail and are intended to provide the City with information for grant applications. A project sheet is not provided for the top scoring project, a bicycle and pedestrian undercrossing at the proposed Caltrain Station. This project has been previously identified by the City as part of a future project involving the entire station that is beyond the scope of this plan.

It should be noted that the project ranking presented is a flexible concept. The City can choose to implement any project from any tier depending on available funding, future development and other opportunities.

Table 8-2: Project Ranking by Tier

			Employer Access	Transit Access	Community Destinations	Safety	Barriers	Gap Closure	Slope	
			Weight							Score
Rank	Type	Project Name	3	3	2	2	2	1	1	Total
Near-Term Projects										
1	III	East Grand Avenue Bridge	3	3	2	0	4	2	0	**32**
2	III	Oyster Point Interchange	3	0	2	2	4	2	0	**27**
3	I	Caltrain Station Undercrossing	2	2	1	1	2	1	2	**23**
4	II	Grand Avenue	2	2	1	2	0	2	1	**21**
5	II	East Grand Avenue	2	2	2	1	0	1	2	**21**
6	II	South Airport Boulevard	1	2	2	1	0	2	2	**19**
7	III	Westborough Boulevard at SR280	0	0	4	0	4	2	1	**19**
8	II	McLellan Drive	1	2	2	1	0	0	2	**17**
9	II	Chestnut Avenue	0	2	2	1	1	2	1	**17**
10	III	Mission Road	1	2	2	0	0	2	2	**17**
11	I	US 101 Under Crossing Rail Trail	1	2	0	0	2	1	2	**16**
12	II	Forbes Boulevard	2	1	1	1	0	1	2	**16**
Mid-Term Projects										
13	I	Sister Cities Park Path Extension	1	2	1	0	0	2	2	**15**
14	II	North Access Road	1	2	1	0	0	1	2	**14**
15	III	Arroyo Drive	1	2	0	1	0	1	2	**14**
16	III	Arroyo Drive at El Camino Real	0	0	4	2	0	0	2	**14**
Long-Term Projects										
17	III	Lawndale Boulevard	0	2	2	0	0	1	2	**13**
18	I	Veterans Boulevard	2	0	1	0	0	2	2	**12**
19	I	Centennial Connector	0	2	1	0	0	2	2	**12**
20	III	Miller Avenue	1	1	2	0	0	0	2	**12**
21	III	Baden Avenue	0	2	0	1	0	2	2	**12**

			Employer Access	Transit Access	Community Destinations	Safety	Barriers	Gap Closure	Slope	
			Weight							Score
Rank	Type	Project Name	3	3	2	2	2	1	1	Total
22	III	South Canal Street	0	2	1	0	0	2	2	**12**
23	II	Oyster Point Boulevard	1	1	1	0	0	2	2	**12**
24	III	Marina Boulevard	0	2	1	0	0	2	2	**12**
25	III	Mitchell Avenue	0	0	2	2	0	2	0	**12**
26	III	Harbor Way	0	0	2	2	0	2	2	**12**
27	III	Dubuque Avenue	1	2	0	0	0	0	2	**11**
28	III	Holly Avenue	0	1	2	0	0	1	2	**10**
29	III	Newman Drive/King Drive/San Felipe Avenue	0	2	0	0	0	2	2	**10**
30	I	Bay Trail	1	0	1	0	0	2	2	**9**
31	II	Oakmont Drive	0	2	1	0	0	1	0	**9**
32	II	Gellert Boulevard	0	2	1	0	0	1	0	**9**
33	III	Alta Loma Drive	0	2	0	0	0	2	1	**9**
34	III	Hickey Boulevard	0	2	0	0	0	1	1	**8**

8.3. PROJECT COSTS

This section presents the cost estimates for the recommended projects and phasing tiers.

8.3.1. Cost Assumptions

This plan uses standard assumptions to arrive at "planning level" cost estimates for the recommended facilities. Bikeway costs include materials associated with constructing each bikeway type, i.e. signing and striping. CAMUTCD standard installation intervals are used to determine the number of signs and length of striping needed. In addition, planning, specifications and estimates (PS&E), environmental and contingency costs are included in the costs. **Table 8-3** provides the cost assumptions by facility and improvement type.

Table 8-3: Facility Cost Assumptions

Facility	Materials Included	Material Costs	Implementation Costs*
Bicycle Rack – Inverted U (ea)	Rack	$200	15%
Class I (per mile)	Construction, striping, signing	$800,000	30%
Class II Bike Lanes (per mile)	Traffic Control, Striping and Signing	$18,000	20%
Class III Bike Route (per mile)	Signing	$2,200	15%
Modifying Median (sq ft)	Removal and replacement	$20	30%
Railroad Track Rubber Fittings (lf)	Fittings	$50	15%
Shared Lane Marking (ea)	Stencils (20 per mile)	$250	15%
Sign – Share the Road (ea)	Signs, posts	$200	15%
Sign – Wayfinding/Destination (ea)	Oversized Custom Signs, posts	$500	15%
Undercrossing (ea)	Construction	$5,000,000**	50%

** PS&E, environmental, and contingency*

*** Based on Homer Avenue, Palo Alto Caltrain undercrossing*

8.3.2. Project Costs by Tier

Table 8-4 presents the project costs by tier. Tier One, comprised of near-term projects, costs the most of the three tiers. If the cost of the Caltrain undercrossing is omitted, the total cost of constructing the near-term projects is $200,200. Tier Two and Three costs are mostly comprised of Class I multi-use path projects costing $1,564,700 and $702,800, respectively. The costs of land acquisition are not included – past city efforts to estimate the costs of acquisition of the former rail road spur tracks suggests that the land costs would be substantial and far in excess of the cost of the proposed improvements. Caltrain would fund 100% of the costs of the rail station undercrossing.

Table 8-4: Project Costs by Tier

Project ID	Bikeway Type	Project Name	Mileage	Cost
Near Term Projects				
1	III	East Grand Avenue Bridge	0.35	$900
2	III	Oyster Point Interchange	0.25	$1,600
3	I	Caltrain Station Undercrossing	0.08	$7,500,000
4	II	Grand Avenue	1.21	$26,200
5	II	East Grand Avenue	1.44	$31,100
6	II	South Airport Boulevard	1.06	$142,900
7	III	Westborough Boulevard at SR 280	0.12	$800
8	II	McLellan Drive	0.23	$4,900
9	II	Chestnut Avenue	1.07	$23,200
10	III	Mission Road	0.71	$5,900
11	I	Rail Trail	1.22	$1,464,000
12	II	Forbes Boulevard	1.50	$32,400
		Totals	**9.24**	**$9,233,900**
Mid-Term Projects				
13	I	Sister Cities Park Path Extension	0.60	$720,000
14	II	North Access Road	0.20	$4,300
15	III	Arroyo Drive	0.13	$300
16	III	Arroyo Drive at El Camino Real	0.11	$300
		Totals	**1.04**	**$724,900**
Long Term Projects				
17	III	Lawndale Boulevard	0.04	$200
18	I	Veterans Boulevard	0.19	$228,000
19	I	Centennial Connector	0.05	$60,000
20	III	Miller Avenue	0.30	$800
21	III	Baden Avenue	0.46	$4,000
22	III	South Canal Street	0.33	$3,100
23	III	Oyster Point Boulevard	0.27	$5,900
24	III	Marina Boulevard	0.17	$500
25	III	Mitchell Avenue	0.28	$700
26	III	Harbor Way	0.35	$900
27	III	Dubuque Avenue	0.75	$2,000
28	III	Holly Avenue	0.71	$1,800
29	III	Newman Dr/King Dr/San Felipe Ave	0.74	$1,800
30	I	Bay Trail	0.06	$72,000
31	II	Oakmont Drive	0.20	$94,300
32	II	Gellert Boulevard	0.54	$11,600

Project ID	Bikeway Type	Project Name	Mileage	Cost
33	III	Alta Loma Drive	0.27	$700
34	III	Hickey Boulevard	0.07	$200
		Totals	**5.78**	**$488,500**
		Total Network	**16.06**	**$10,448,200**

8.4. SUPPORT FACILITY COSTS

Table 8-5 presents the costs for recommended Share the Road sign, bicycle parking and railroad fitting improvements. Descriptions of these recommendations are provided in Section 6.2. The City should consider these as near-term projects and install them within the next five years.

Table 8-5: Support Facility Costs

Type	Location	To	From	Cost
Sign	STR at Westborough/ 280	Gellert Boulevard	Junipero Serra Boulevard	$900
Sign	STR at Grand Ave / 101	Grand Avenue	East Grand Avenue	$900
Sign	STR at Oyster Point Blvd / 101	Gateway Boulevard	Sister Cities Boulevard	$900
Sign	Centennial Way Wayfinding	BART Station	Southern City Limit	$11,500
Parking	Grand Avenue Library (10) Bicycle Parking Racks			$2,300
RR Fittings	290 Gateway Boulevard			$5,800
			Total	**$22,300**

8.5. MAINTENANCE COSTS

Bikeways require regular maintenance and repair. On-street bikeways are maintained as part of the City's roadway maintenance and should receive priority over roadways not designated as bikeways. Off-street paths should be also maintained on a regular basis, kept clear of debris and vegetation overgrowth. **Table 8-6** presents the costs of these maintenance procedures through the next ten years.

Table 8-6: Maintenance Cost of Bikeway Network

Facility	Unit Cost	Description	Length (Miles)	Yearly Cost	Notes
Class I Multi-Use Path	$8,500	Miles/Year	3.1	$26,200	Lighting and debris and removal of vegetation overgrowth.
Class II Bicycle Lane	$2,000	Miles/Year	7.7	$15,400	Repainting lane stripes and stencils, sign replacement as needed
Class III Bicycle Route	$1,000	Miles/Year	4.7	$4,700	Replacing signage and shared use stencils as needed

Average Cost Per Year	**$46,300**
Estimated 10-year Cost	**$1,300,000****

** Inflation rate conversation factor estimate is the average rate between years 2000 and 2008.*
*** 10-year cost includes one time cost of pavement seal coat at $10,000 per mile for Class I bikeways and estimates inflation rates calculated using conversion factor of 2.78.* Cost does not include patching and repair as these vary significantly by facility.*

8.6. PROJECT SHEETS

This section presents three near-term projects to be initiated or completed within the next five years. It is expected that more complex projects, such as the Caltrain undercrossing and multi-use paths, will require additional study and more than five years to complete, and that the City should initiate the planning processes in the next five years. The intention of these project sheets is for the City to use them in future bicycle grant applications. These three project sheets consist of the top bicycle projects from the matrix presented in **Table 8-2** and show aerial views of the project, a description of the project, start and end points, affected jurisdictions, and planning level cost estimates. The three near-term projects are:

- East Grand Avenue Class II Bicycle Lanes from Industrial Way to the Bay Trail
- South Airport Road Class II Bicycle Lanes from Gateway Boulevard to City Limits
- Chestnut Avenue Class III Bicycle Route from El Camino Real to Hillside Boulevard

9. FUNDING SOURCES

This chapter reviews potential funding sources for the recommended projects in this plan. It begins with a description of the Federal legislation that guides transportation funds and is followed by an overview of Federal, State and local funding sources. A summary table presenting these funding sources, eligible applicants and required matches is provided at the end of this chapter.

9.1. FEDERAL FUNDING SOURCES

The primary federal source of surface transportation funding—including bicycle 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 programs fund facilities that support utilitarian and commute related bicycle trips, with an emphasis on reducing auto trips and providing inter-modal connections. SAFETEA-LU programs require a local match of 11.47 percent. SAFETEALU funding is intended to be used for capital improvements and safety and education programs and projects must relate to the surface transportation system.

Specific funding programs under SAFETEA-LU include, but are not limited to:

- 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 $4.5 billion dollars are available nationally through 2009

9.1.1. Transportation, Community and System Preservation Program

The Transportation, Community and System Preservation (TCSP) Program provides federal funding for 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. TCSP Program funds total $61.25 million annually, require a 20 percent match and expire in 2009.

9.1.2. Regional Surface Transportation Program

The Regional Surface Transportation Program (RSTP) is a block grant program which provides funding for bicycle projects, among many other transportation projects. Under the RSTP, Metropolitan Planning Organizations, such as MTC, prioritize and approve projects which will receive RSTP funds. Metropolitan planning organizations can transfer funding from other federal transportation sources to the RSTP program in order to gain more flexibility in the way the monies are allocated. In California, 62.5 percent of RSTP funds are allocated according to population. The remaining 37.5 percent is available statewide.

9.1.3. 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 facilities, safety projects and grade separation, among many others. RTIP project planning, programming and monitoring may be funded up to five percent of total RTIP funds in urbanized regions. The Metropolitan Transportation Commission prepares the RTIP, consisting of projects to be funded through STIP. MTC helps prioritize projects for the RTIP. Funded projects must be identified in the Regional Transportation Plan.

9.2. STATEWIDE FUNDING SOURCES

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

9.2.1. TDA Article 3

Transportation Development Act (TDA) Article 3 funds are state grants awarded annually to local jurisdictions for bicycle and pedestrian projects in California. Eligible bicycle projects include: construction and engineering for capital projects, maintenance of bikeways, bicycle safety education programs (up to five percent of funds), and development of comprehensive bicycle facilities plans. A city or county is allowed to apply for funding for bicycle plans not more than once every five years. These funds may be used to meet local match requirements for federal funding sources. Two percent of the total TDA apportionment is available for bicycle and pedestrian funding.

http://www.mtc.ca.gov/funding/STA-TDA/

9.2.2. 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 trails, must provide a transportation link. Funds are available for both planning and construction. BTA funding is administered by Caltrans, which requires cities and

counties to adopt Bicycle Transportation Plan for eligibility. City Bicycle Transportation Plans must be approved by MTC prior to Caltrans approval. Out of $5 million available statewide, the maximum amount available for individual projects is $1.2 million.

http://www.dot.ca.gov/hq/LocalPrograms/bta/btawebPage.htm

9.2.3. California Safe Routes to School (SR2S)

With the passage of Assembly Bill 57, the California Safe Routes to School Program (SR2T) is extended indefinitely. Cities and counties that have projects that improve walking and bicycling to schools with grades K-12 are eligible. The fund is primarily for construction, but up to 10 percent of the program funds can be used for education, encouragement, enforcement and evaluation activities. Funding cycles are two years, with the next cycle accepting grant applications in 2011. The maximum award for a project is $1 million, including the 10 percent local match requirement. Agencies are allowed three prioritized applications per cycle.

http://www.dot.ca.gov/hq/LocalPrograms/saferoutes/saferoutes.htm

9.2.4. 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 safety programs are included in the list of traffic safety priority areas. Eligible grantees are: governmental agencies, state colleges, and state universities, local city and county government agencies, school districts, fire departments and public emergency services providers. Grant funding cannot replace existing program expenditures, nor can traffic safety funds be used for program maintenance, research, rehabilitation or construction. Grants are awarded on a competitive basis, and priority is given to agencies with the greatest need. Evaluation criteria to assess need include: potential traffic safety impact, collision statistics and rankings, seriousness of problems, and performance on previous OTS grants.

http://www.dot.ca.gov/hq/traffops/saferesr/

9.2.5. Community Based Transportation Planning Demonstration Grant Program

The Community Based Transportation Planning Demonstration Grant Program, administered by Caltrans, provides funding for projects that exemplify livable community concepts including bicycle improvement projects. Eligible applicants include local governments, MPO's and RPTA's. A 20 percent local match is required and projects must demonstrate a transportation component or objective. There are $3 million dollars available annually statewide.

http://www.dot.ca.gov/hq/tpp/grants.html

9.3. REGIONAL FUNDING SOURCES

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

9.3.1. Bicycle Facility Program

The Bicycle Facility Program provides grant funding for the construction of bicycle facilities in order to reduce motor vehicle emissions. The Bay Area Air Quality Management District provides funding for this program. This program funds new projects on a first come first serve basis. The program cycle is annual, with applications released in mid-summer.

http://www.baaqmd.gov/pln/grants_and_incentives/bfp/index.htm

9.3.2. Regional Bike Program (RBP)

The Regional Bike Program (RBP) was created in 2009/2010 as part MTC's long range Transportation 2030 Plan. The program—currently funded with Congestion Mitigation and Air Quality funds—funds regionally significant bicycle and pedestrian projects, and bicycle projects serving schools or transit and is administered by in San Mateo County by C/CAG. $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.

www.mtc.ca.gov/planning/bicyclespedestrians/regional.htm#bikepedprog

9.3.3. 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 per cycle to the Safe Routes to Transit Program (SR2T), which provides 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 Transportation and Land Use Coalition and the East Bay Bicycle Coalition administer the competitive grant process. Competitive funding is awarded in $4 million grant cycles. Funding cycles are scheduled for 2009, 2011 and 2013 on June 1.

http://www.transcoalition.org/c/bikeped/bikeped_saferoutes.html

9.3.4. Lifeline Transportation Program

The Lifeline Transportation Program established to fund projects that result in improved mobility for low-income residents of the nine San Francisco Bay Area counties. The Lifeline Program supports community-based transportation projects that:

- Develop a collaborative and inclusive planning process that includes broad partnerships among a variety of stakeholders such as public agencies, transit operators, community-based organizations and other community stakeholders, and outreach to underrepresented stakeholders.
- Address transportation gaps and/or barriers identified through a Community-Based Transportation Plan (CBTP), countywide or regional Welfare-to-Work Transportation Plan, or are otherwise based on a documented assessment of needs within the designated communities of concern. Findings emerging from one or more CBTPs may also be applied to other low-income areas, or otherwise be directed to serve low-income constituencies within the county, as applicable.
- Improve a range of transportation choices by adding a variety of new or expanded services including but not limited to: enhanced fixed route transit services, shuttles, children's programs, taxi voucher programs, improved access to autos, capital improvement projects. Transportation needs specific to elderly and disabled residents of low-income communities may also be considered when funding projects.

Funding for the Lifeline program varies from year to year. Available funding through the end of fiscal year 2008 is estimated at $18 million.

http://www.mtc.ca.gov/planning/lifeline/index.htm

9.4. LOCAL FUNDING SOURCES

9.4.1. Measure A

Measure A is a half-cent sales tax that San Mateo County voters approved in 1998 and then reapproved in 2004 for reauthorization through 2033. The proceeds from the tax are for transportation projects and programs. Of the sales tax revenue, three percent of these revenues or approximately $45 million are dedicated to bicycle and pedestrian projects. San Mateo County Transportation Authority administers the funds and puts out competitive bids for projects.

http://www.smcta.com/index.asp

9.5. NON-TRADITIONAL FUNDING SOURCES

9.5.1. Community Development Block Grants

The Community Development Block Grant (CDBG) program provides money for streetscape revitalization. Federal CDBG Grantees may "use CDBG funds for activities that include, but are not

limited to, acquiring real property; reconstructing or rehabilitating housing and other property; building public facilities and improvements, such as streets, sidewalks, community and senior citizen centers and recreational facilities, paying for planning and administrative expenses, such as costs related to developing a consolidated plan and managing CDBG funds; provide public services for youths, seniors, or the disabled; and initiatives such as neighborhood watch programs." A total of $602,000 was allocated to South San Francisco in 2009.

www.hud.gov/offices/cpd/communitydevelopment/programs/index.cfm

9.5.2. 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 bicycle facilities.

9.5.3. 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 bicycle improvements designed to encourage residents, employees and visitors of the new development to bike rather than drive. Establishing a clear nexus or connection between the impact fee and the project's impacts is critical to ensure legal soundness.

9.5.4. 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, city, special district, school district or joint powers of authority to establish a Community Facility District (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.

http://mello-roos.com/pdf/mrpdf.pdf

9.5.5. Volunteer and Public-Private Partnerships

Volunteer programs may substantially reduce the cost of implementing the bikeways recommended in this plan. For example, the California Conservation Corp, which offers low cost assistance, can reduce project costs. Local schools or community groups may use the bikeway projects as their volunteer 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 where corporations 'adopt' a bikeway and help construct and maintain the facility may be a good source of local funding.

9.5.6. Dynamic Automobile Parking Rates

Dedicated local sources of funding, such as parking meter tolls, can be valuable for implementing bicycle projects. In an effort to encourage South San Francisco residents and visitors to travel alternate mean to the automobile, the City should consider a market rate automobile parking fee. Such fees would require "smart" pay stalls that adjust the parking rate to maintain 80 percent occupancy. This parking strategy maximizes parking fees, while minimizing traffic congestion resulting from motorists "cruising" for parking spots. The revenue from these parking fees (if allowed by law) should be used fund bicycle and pedestrian improvements, thereby shifting some of the City's automobile mode share to bicycling.

http://shoup.bol.ucla.edu/

Parking meters in Redwood City, California adjust the parking rate according to demand.

9.6. FUNDING TABLE

Table 9-1 provides a summary of the funding sources explained above and is organized by funding source. Where information is available, the expiration date, annual amount available, maximum project award and match requirement for each funding source is provided.

Table 9-1: Funding Table

	Funding Source	Expiration Date	Administering Agency	Annual Fund Total	Maximum Project Award	Required Match	Comments
FEDERAL	Transportation, Community and System Preservation Program	2009	MTC	$60.25 M	$2.9 M	20%	Provides funding for improving transportation system efficiency, including bicycle facilities.
	Regional Surface Transportation Program	2010	Caltrans/MTC	$130 M	N/A	N/A	Most funding is assigned to the Surface Transportation and the Congestion Management and Air Quality Improvement Programs. $24 M apportioned to bike/ped facilities for the 2009/2010 cycle.
	Regional Transportation Improvement Program	2013	MTC	$150 M	N/A	N/A	San Mateo County 2008 programming target was $27 M.
STATE	TDA Article 3	N/A	Caltrans	N/A	N/A	0%	Article 3 funding is 2% of total TDA funding. Funds may be used for federal funding match requirements.
	Bicycle Transportation Account	2014	Caltrans	$7.2 M	$1.8 M	10%	Applications are due annually on December 1.
	Safe Routes to School Program (State – SR2S)	Indefinitely	Caltrans	$42 M	$1 M	10%	Grant cycles are biannual.
	Office of Traffic and Safety Grants – Selective Traffic Enforcement Program (STEP)	N/A	OTS	N/A	N/A	0%	Grants fund bicycle safety programs and are awarded on a competitive basis and demonstrated need.

	Funding Source	Expiration Date	Administering Agency	Annual Fund Total	Maximum Project Award	Required Match	Comments
	Community Based Transportation Planning Demonstration Program	N/A	MTC	$3 M	$300,000	20%	Funding provided for projects that exemplify livable communities, which may include bicycle projects.
Regional	Bicycle Facility Program	N/A	BAAQMD	N/A	$120,000	0%	Must demonstrate cost-effective reduction in motor vehicle emissions.
	Regional Bike Program	2028	CCAG	N/A	N/A		$200 million is allocated for the 25 year period, ending in 2028.
	Safe Routes to Transit (SR2T)	2013	Transform	$4 M	<$100,000		Projects must reduce bridge congestion, i.e. providing access to regional transit.

This page intentionally left blank.

APPENDIX A

Existing Bicycle Plan Map General Plan (Adopted 1999)

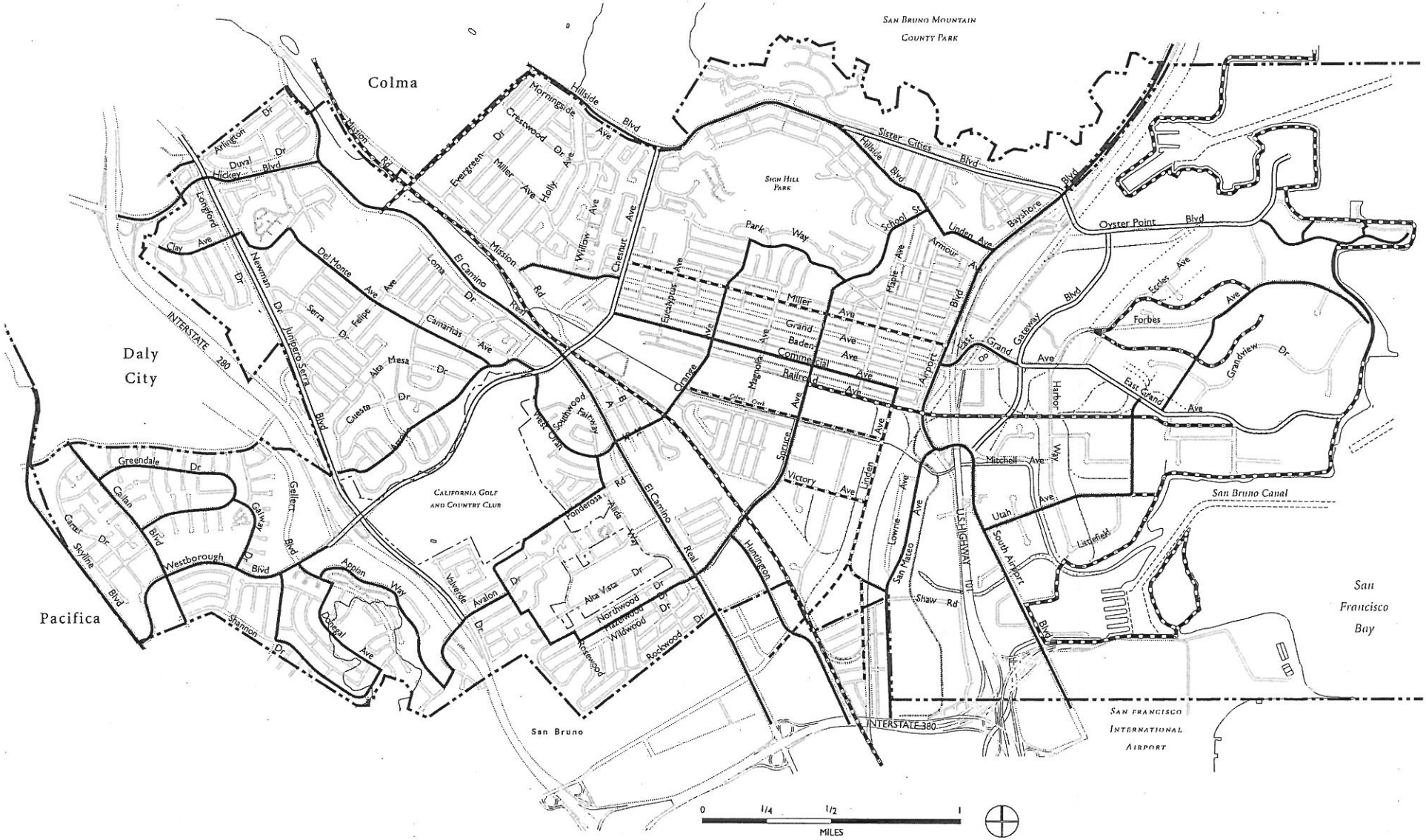


Figure 4-3
Bicycle Facilities

APPENDIX B
List of Bicycle Facilities
(Including Both Facilities Constructed and Not Constructed)

Table : Constructed Bikeways

Name	Class	From	To	Miles
Bay Trail	I	SSF/Brisbane Line	Oyster Point Marina	2.45
Bay Trail	I	Oyster Point Marina	SSF/San Bruno	3.05
Centennial Trail	I	San Bruno BART Station	South San Francisco BART Station	2.32
East Grand Avenue Path	I	Harbor Way	East Grand Overpass	0.19
Forbes Boulevard**	I	East Grand Avenue	Corporate Drive	0.06
South Canal Street Path	I	South Spruce Avenue	West Orange Avenue	0.46
			Total Class I:	**8.53**
Airport Boulevard	II	Brisbane Line	San Mateo Avenue	1.86
Allerton Avenue*	II	Forbes Boulevard	East Grand Avenue	0.42
Callan Boulevard	II	Westborough Boulevard	SSF/Daly City Line	0.64
DNA Way*	II	Forbes Boulevard	Grandview Drive	0.24
East Grand Avenue	II	Allerton Avenue	Littlefield Avenue	0.09
Gateway Boulevard	II	Mitchell Avenue	East Grand Avenue	0.40
Grandview Drive	II	DNA Way	East Grand Avenue	0.70
Gull Drive*	II	Oyster Point Boulevard	Forbes Boulevard	0.26
Hillside Boulevard***	II	Lawndale Drive	Lucca Drive	0.65
Junipero Serra Boulevard	II	SSF/Daly City Line	Avalon Drive	2.11
Lawndale Drive*	II	Mission Road	Hillside Boulevard	0.63
Marina Boulevard	II	Oyster Point Boulevard	East Basin Road	0.47
Orange Avenue*	II	Memorial Drive	Tennis Drive	0.27
Oyster Point Boulevard	II	Gateway Boulevard	Marina Boulevard	0.59
Sister Cities Boulevard	II	Hillside Boulevard	Airport Boulevard	0.89
Westborough Boulevard***	II	Junipero Serra Boulevard	West Orange Avenue	0.93
Westborough Boulevard*	II	Galway Drive	Skyline Drive (Highway 35)	0.61
			Total Class II:	**11.76**
Commercial Avenue	III	Linden Avenue	Chestnut Avenue	1.14
Hillside Boulevard	III	Sister Cities Boulevard	Linden Avenue	1.30
Huntington Avenue	III	Noor Avenue	South Spruce Avenue	0.27
Miller Avenue	III	Chestnut Avenue	Airport Boulevard	1.28
South Airport Boulevard	III	Mitchell Avenue	SSF/San Bruno Line	1.06
South Linden Avenue	III	Railroad Avenue	Dollar Avenue	0.74
South Spruce Avenue	III	El Camino Real (Highway 82)	Grand Avenue	1.00

Name	Class	From	To	Miles
			Total Class III:	6.79
			Total Constructed Bikeways:	27.08

Notes: * Not In Approved General Plan
** Not Identified In & Pre-dates General Plan
*** San Mateo County

Table : General Plan Bikeways Not Yet Constructed

Name	Class	From	To	Miles
Bay Trail*	I	North Access Road	Bay Trail	0.98
Bay Trail*	I	Oyster Point Boulevard	Bay Trail	0.08
McLellan Drive	I	El Camino Real (Hwy 82)	Mission Road	
US 101 Under Crossing Rail Trail*	I	Haskins Way	Railroad Avenue	
Rail Trail*	I	Forbes Boulevard	Forbes Boulevard	
Rail Trail*	I	North of Kaufman Court	Forbes Boulevard	
South Linden Avenue*	I	South Linden Avenue	Huntington Avenue	
			Total Class I:	
East Grand Avenue	II	Gateway Boulevard	Easterly Terminus	
Gateway Boulevard	II	East Grand Avenue	Oyster Point Boulevard	0.68
Hillside Boulevard	II	Lawndale Drive	Lucca Drive	0.65
Oyster Point Boulevard	II	Gull Drive	Marina Boulevard	
Westborough Boulevard	II	West Orange Avenue	El Camino Real	
			Total Class II:	
Alhambra Road	III	Granada Drive	Ponderosa Road	0.35
Alta Loma Drive	III	Newman Drive	Del Monte Avenue	0.18
Appian Way	III	Gellert Boulevard	Valleyview Way	
Arroyo Drive	III	West Orange Avenue	Junipero Serra Boulevard	0.85
Avalon Drive	III	Alhambra Road	Seville Way	0.45
Chestnut Avenue	III	Hillside Avenue	State Highway 82	0.95
Clay Avenue	III	Newman Drive	SSF/Daly City Line	0.40
Conmur Street	III	Northwood Drive	Granada Drive	0.16
Del Monte Avenue	III	Alta Loma Drive	Arroyo Drive	0.95
Dollar Avenue	III	South Linden Avenue	SSF/San Bruno Line	
East Grand Avenue	III	Airport Boulevard	Gateway Boulevard	
El Camino Real	III	SSF/Colma Line	SSF/San Bruno Line	
Fairway Drive	III	Ponderosa Road	West Orange Avenue	0.13
Forbes Boulevard	III	Bay Trail	Allerton Avenue	0.83
Galway Drive	III	Greendale Drive	Westborough Boulevard	0.33
Gellert Boulevard	III	Westborough Boulevard	Wexford Avenue	0.16
Granada Drive	III	Conmur Street	Alhambra Road	0.03
Grand Avenue	III	Mission Road	Chestnut Avenue	0.43
Greendale Drive	III	Callan Boulevard	Callan Boulevard	1.00
Hazelwood Drive	III	El Camino Real (Highway 82)	Rosewood Way	0.52
Herman St-Dollar Avenue	III	Walnut St (South of City Limits)	South Linden Avenue	0.13

Name	Class	From	To	Miles
Hickey Boulevard	III	State Highway 82	Longford Drive	0.47
Hillside Boulevard	III	Ridgeview Court	Linden Avenue	1.30
Linden Avenue	III	Airport Boulevard	Hillside Avenue	
Littlefield Avenue	III	East Grand Avenue	Utah Avenue	0.38
North Canal Street	III	South Linden Avenue	South Spruce Avenue	0.34
Newman Drive	III	Clay Avenue	Alta Loma Drive	0.07
Northwood Drive	III	Rosewood Way	Conmur Street	0.10
Olympic Drive	III	Westborough Boulevard	Shannon Drive	0.27
Orange Avenue	III	El Camino Real	Park Way	
West Orange Avenue	III	El Camino Real	Arroyo Drive	
Park Way	III	Spruce Avenue	Orange Avenue	0.43
Ponderosa Road	III	Alhambra Road	Fairway Drive	0.41
Railroad Avenue	III	Orange Avenue	South Linden Avenue	
Rosewood Way	III	Hazelwood Drive	Northwood Drive	0.04
South Airport Boulevard	III	Mitchell Avenue	SSF/San Bruno Line	1.06
San Mateo Avenue	III	East Grand Avenue	South Linden Avenue	0.76
Seville Way	III	Avalon Drive	Valleyview Way	0.08
Shannon Drive	III	Olympic Drive	Wexford Avenue	0.54
Utah Avenue	III	Littlefield Avenue	South Airport Boulevard	0.59
Valleyview Way	III	Appian Way	Seville Way	
Victory Avenue	III	South Linden Avenue	South Spruce Avenue	0.34
Westborough Boulevard	III	El Camino Real	West Orange Avenue	0.12
Westborough Boulevard	III	Gellert Boulevard	Skyline Boulevard	
Wexford Avenue	III	Shannon Drive	Gellert Boulevard	0.46
			Total Class III:	
			Total Unconstructed Bikeways:	

Notes: 1. * Private Property
2. All Class III Routes Are Funded

APPENDIX C
Proposed Bicycle Facilities Map

Proposed Bicycle Facilities
- Class I - Multi-Use Paths
- Class II - Bicycle Lanes
- Class III - Bicycle Routes

Existing Bicycle Facilities
- Class I - Multi-Use Paths
- Class II - Bicycle Lanes
- Class III - Bicycle Routes
- Existing Bike/Ped Bridge

- Civic Amenities
- Bicycle Parking
- BART Stations
- Caltrain Stations
- Railroad
- School Grounds
- Parks
- City Limit

New General Plan

City of South San Francisco
South San Francisco Bicycle Master Plan

Source: Data obtained from the City of South San Francisco, BART and Caltrain
Author: Tony Salomone

0 1,000 2,000 Feet

alta PLANNING + DESIGN

APPENDIX D
List of Proposed New Bicycle Routes, Lanes and Paths

Recommended New Bikeways

Location	Class	From	To	Length (miles)
Caltrain Station Undercrossing	I	Airport Blvd	Industrial Way	0.08
Sister Cities Park Path Extension	I	Orange Avenue	Antoinette Lane	0.60
Mitchell Avenue/Rail Road Ave	I	Bay Trail	South Airport Boulevard	0.70
Veterans Boulevard	I	Oyster Point Boulevard	Bay Trail	0.19
Centennial Connector	I	Mission Road/Grand Avenue	Centennial Trail	0.05
			Total Class I	**1.62**
Grand Avenue	II	Mission Road	Spruce Avenue	1.21
South Airport Boulevard**	II	East Grand Avenue	SSF/San Bruno Limit	1.06
Mclellan Drive	II	El Camino	Alta Loma Park	0.23
Forbes Boulevard	II	East Grand Avenue	Bay Trail	1.50
Gellert Boulevard	II	Westborough Boulevard	King Drive	0.54
			Total Class II	**4.54**
Mission Road***	III	Centennial Trail	Lawndale Drive	0.71
Lawndale Boulevard***	III	Mission Road	BART Access Road	0.04
Miller Avenue	III	Evergreen Avenue	Holly Avenue	0.30
Baden Avenue	III	Spruce Avenue	Airport Boulevard	0.46
South Canal Street***	III	South Spruce Avenue	South Linden Avenue	0.33
Dubuque Avenue	III	E Grand Avenue	Oyster Point Boulevard	0.75
Holly Avenue	III	Mission Road	Hillside Boulevard	0.71
Newman Drive/King Drive/San Felipe Avenue	III	Alta Loma Drive	Junipero Serra Boulevard	0.74
Alta Loma Drive	III	Del Monte Avenue	Hickey Boulevard	0.27
			Total Class III	**4.31**
			Total New Facilities	**10.47**

*** Conversion From a Route to a Lane* **** Conversion from Lane to Route*

APPENDIX E
List of Proposed Signal Detector Locations

Intersection Signal Detectors

Grand Avenue and Chestnut Avenue
East Grand Avenue and Dubuque Avenue
North Canal Street and South Linden Avenue
Oyster Point Boulevard and Gull Drive
Westborough Boulevard and Gellert Boulevard
Veterans Boulevard and Oyster Point Boulevard
Baden Avenue and Linden Avenue
Airport Boulevard and Baden Avenue
Railroad Avenue and Linden Avenue
Hillside Boulevard and Linden Avenue

APPENDIX F
List of Public and Private Schools

SCHOOLS

PUBLIC SCHOOLS

ELEMENTARY

Spruce School	501 Spruce Ave
Los Cerritos School	210 West Orange Ave
Martin School	35 School Street
Sunshine Gardens School	1200 Miller Ave
Buri-Buri School	120 El Campo Ave
Pondersosa School	295 Ponderosa Rd

MIDDLE

Alta Loma School	116 Romney Ave
Parkway Heights School	650 Sunset Dr
Westborough School	2570 Westborough Blvd

HIGH SCHOOL

El Camino High School	1320 Mission Rd
South San Francisco High School	400 B Street
Baden School Continuing Education	825 Southwood Dr

PRIVATE SCHOOLS

ELEMENTARY

Saint Augstine's	3700 Callan Blvd
Saint Veronica's	450 Alida Way
All Souls	479 Miller Ave
Mater Dolorosa	307 Miller Ave
Roger Miller	600 Grand Ave
East Asia Chinese	1400 Hillside Blvd
Mills Montessori	1400 Hillside Blvd

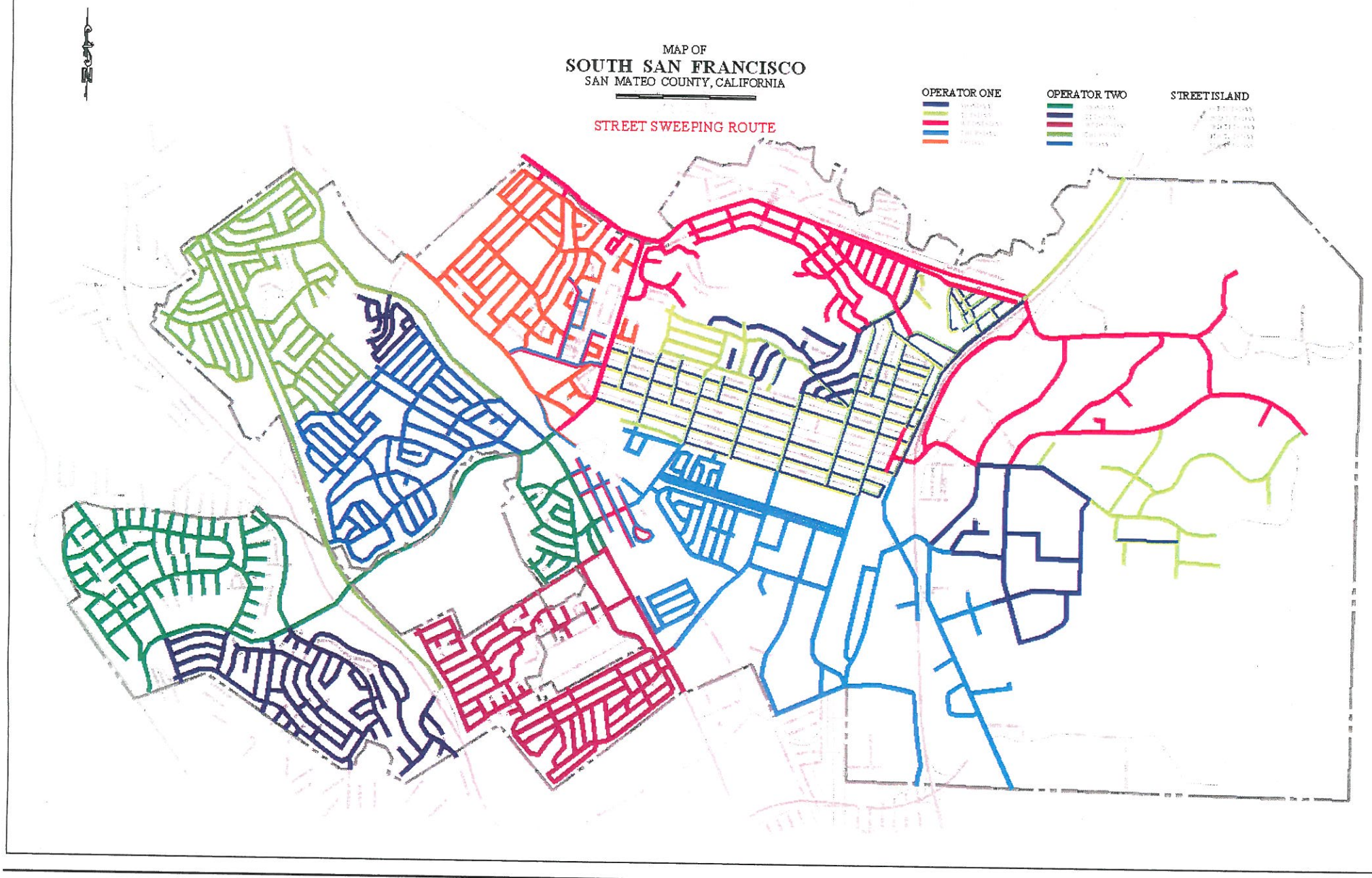
APPENDIX G
City Street Sweeping Map

MAP OF

SOUTH SAN FRANCISCO

SAN MATEO COUNTY, CALIFORNIA

STREET SWEEPING ROUTE



APPENDIX H
List of City Buildings and Facilities

LIST OF KEY CITY BUILDINGS AND FACILITIES

FACITILY	ADDRESS
City Hall & Permit Center	400 Grand Avenue
Municipal Services Building	33 Arroyo Drive
Grand Avenue Library	306 Walnut Avenue
Orange Avenue Library	840 West Orange Avenue
Fire Station 61	480 North Canal Street
Fire Station 62	249 Harbor Way
Fire Station 63	33 Arroyo Drive
Fire Station 64	2350 Galway Drive
Fire Station 65	1151 South San Francisco Drive
Alta Loma Park	Delmonte Avenue and San Felipe Avenue
Orange Park	Orange Avenue and Tennis Drive
Spruce Gymnasium	Spruce Avenue and Tamarack Lane
Terrabay Recreation Center	1121 South San Francisco Drive
Westborough Park	Westborough Avenue and Galway Drive
Sellick Park	Appian Way
Oyster Point Marina	Oyster Point Boulevard and Marina Way
South San Francisco Conference Center	255 South Airport Boulevard
Magnolia Center	601 Grand Avenue
Health Center	306 Spruce Avenue
Corporation Yard	550 North Canal Street
Water Quality Control Plant	195 Belle Aire Road

APPENDIX I
List of Public Facilities

LIST OF KEY PUBIC BUILDINGS

FACITILY	ADDRESS
US Post Office	322 Linden Avenue
US Post Office	36 Chestnut Avenue
US Post Office Main Office	1070 San Mateo Avenue
US Post Office Store	844 Dubuque Avenue
San Mateo County Harbor District Office	400 Oyster Point Boulevard
Northern Branch of San Mateo County Court	1050 Mission Road

APPENDIX J
List of Commercial Shopping Facilities

LIST OF KEY SHOPPING CENTERS

SOUTH SAN FRANCISCO

CENTER	ADDRESS
Downtown	Grand Avenue
Brentwood Shopping Center	El Camino Real and Hazelwood Drive
Southwood Center	El Camino Real and West Orange
Center	El Camino Real and South Spruce Avenue
Corporation Yard	North Canal Street
Hillside Plaza	Hillside Boulevard and Linden Avenue
Transit Village	El Camino Real and McLellan Drive
Costco	1600 El Camino Real
Costco	451 South Airport Boulevard
Chestnut Center	Chesnut Avenue and Antoinette Lane
Winston Manor	El Camino Real and Hickey Boulevard
Westborough	Westborough Boulevard and Callan Boulevard
Buri Buri	Westborough Boulevard and El Camino Real
Westborough Square	Westborough Boulevard and Gellert Boulevard

OTHER NEARBY CENTERS

TOWN OF COLMA

CENTER	ADDRESS
Serramonte	Serramonte Boulevard
Serramonte	Serramonte Boulevard
Metro Center	Junipero Serra Boulvard and Serramonte Boulevard

CITY OF SAN BRUNO

CENTER	ADDRESS
Town Center	El Camino Real and Sneath Lane
Tanforan Shopping Center	El Camino Real and Sneath Lane

APPENDIX K
Transit Maps

samTrans

Community Service

South San Francisco
- BART

Daly City
- Crown Colony
- Library

35&36

Fares

	Local Fare*
Adult ..... Age 18 - 64	$2.00
Youth..... Age 17 and younger	$1.25
Eligible Discount ..... Age 65+, disabled & Medicare cardholder (proof of eligibility or identity required)	$1.00

Children
One child (age 4 and younger) rides free with each adult or eligible discount farepaying passenger. Additional children subject to youth fare.

* Discounted tokens and monthly passes available for purchase

SamTrans has fare arrangements with connecting transit districts. Call SamTrans Customer Service Center for details.

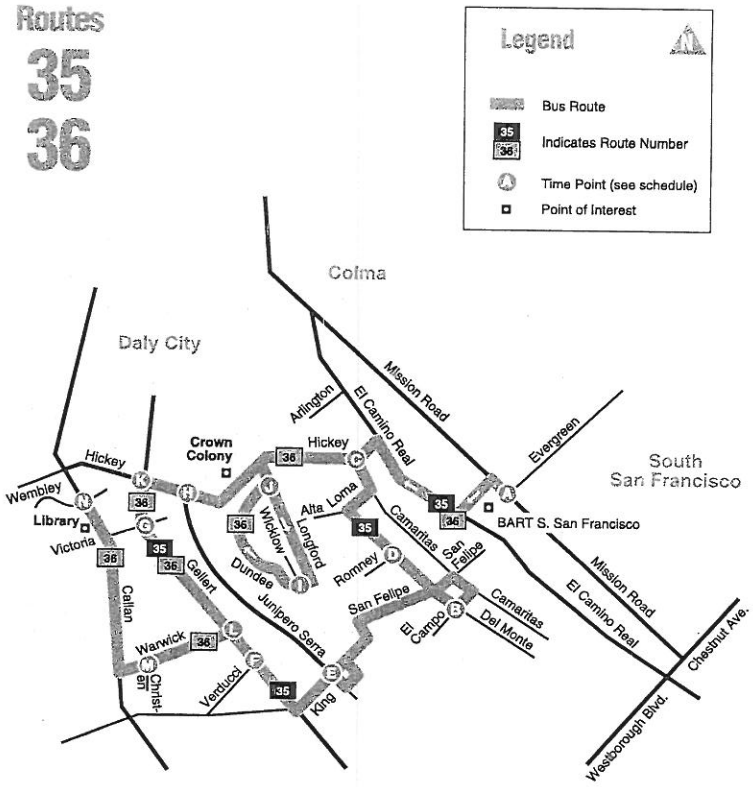
SamTrans Information
Llame para información sobre SamTrans
1-800-660-4287
(TTY Only) 650-508-6448
www.samtrans.com

Effective 2/1/10

Information
1-800-660-4287
www.samtrans.com

samTrans

Routes
35
36



How to Use this Timetable:

Locate the time point (Ⓐ) on the map prior to where you want to board the bus. Not all bus stops are shown. Find the same time point on the schedule. The departure and arrival times are listed under each time point. To plan your trip, use this timetable with the SamTrans System Map, which shows where all routes operate. Trip-planning assistance is available by calling SamTrans.

35
Weekdays to Del Monte & Romney

Crown Colony (H)	Gellert/ Victoria (G)	Verducci/ Gellert (F)	King/ Junipero Serra (E)	Del Monte/ Romney (D)	Camaritas/ Hickey (C)	Evergreen/ Mission Rd. (A)
—	7:45 *	7:49 *	7:53 *	7:56 *	7:58 *	8:02 *
8:10 *	8:13 *	—	8:22 *	8:25 *	—	—

36
Weekdays to Evergreen & Mission

Callan/ Wembley (N)	Warwick/ Christen (M)	Gellert/ Victoria (G)	Dundee/ Wicklow (I)	Del Monte/ El Campo (B)	Evergreen/ Mission Rd. (A)
7:25 *	7:28 *	7:31 *	—	—	7:39 *
7:53 *	7:56 *	7:59 *	—	—	8:07 *
—	—	—	8:10 *	8:23 *	—

35
Weekdays to Gellert & Victoria

Evergreen/ Mission Rd. (A)	Camaritas/ Hickey (C)	Del Monte/ Romney (D)	King/ Junipero Serra (E)	Verducci/ Gellert (F)	Gellert/ Victoria (G)
3:09 *	3:15 *	3:17 *	3:20 *	3:24 *	3:27 *
—	—	3:26 *	3:29 *	3:33 *	3:36 *

AM - light type. **PM - dark type.**
Not all stops shown. Please call 1-800-660-4287 for other bus stops.
No Saturday, Sunday or Holiday service.
* School days only

36
Weekdays to Callan & Wembley

Evergreen/ Mission Rd. (A)	Del Monte/ El Campo (B)	Dundee/ Longford (J)	Gellert/ Hickey (K)	Warwick/ Gellert (L)	Callan/ Wembley (N)
3:05 *	—	—	3:14 *	3:17 *	3:21 *
3:06 *	—	—	3:15 *	3:18 *	3:22 *
3:22 *	—	—	3:31 *	3:34 *	3:38 *

AM - light type. **PM - dark type.**
Not all stops shown. Please call 1-800-660-4287 for other bus stops.
No Saturday, Sunday or Holiday service.
* School days only.

Traveling to/from Safe Harbor

AM - light, italic type. **PM - dark type.**

Route 38 stops only at listed stops.

Effective December 20, 2009

Weekday Afternoons to Safe Harbor

Route Number	Colma BART Bay 9	San Bruno BART Bay 4	Airport/ Linden	So. Airport/ Utah *	Safe Harbor
38	**5:25**	—	—	—	**5:37**
38	—	**6:16**	—	—	**6:23**
38	**6:25**	—	—	—	**6:37**
38	—	—	**6:29**	**6:34***	**6:39**
38	—	**6:40**	—	—	**6:47**
38	**6:59**	—	—	—	**7:11**
38	—	—	**7:22**	**7:27 ***	**7:32**

* Connects with 292

Weekday Mornings from Safe Harbor

Route Number	Safe Harbor	Colma BART Bay 7	San Bruno BART Bay 4	Airport/ Linden
38	*6:11*	—	*6:18*	—
38	*6:33*	*6:45*	—	—
38	*6:42*	—	—	*6:50*
292	*6:50*	*Makes all regular stops to San Francisco.*		
292	*6:50*	*Makes all regular stops to San Mateo.*		
38	*6:53*	—	*7:00*	—
38	*6:53*	*7:05*	—	—
38	*7:02*	—	—	*7:10*

Saturday Afternoons to Safe Harbor

Route Number	Colma BART Bay 9	San Bruno BART Bay 4	Airport/ Linden	So. Airport/ Utah *	Safe Harbor
38	**5:24**	—	—	—	**5:36**
38	—	—	**5:48**	**5:53***	**6:00**
38	**6:07**	—	—	—	**6:19**
38	—	—	**6:18**	**6:23***	**6:30**
38	—	**6:43**	—	—	**6:50**

* Connects with 292

Saturday Mornings from Safe Harbor

Route Number	Safe Harbor	Colma BART Bay 7	San Bruno BART Bay 4	Airport/ Linden
38	*6:38*	*6:50*	—	—
292	*6:50*	*Makes all regular stops to San Francisco.*		
292	*6:50*	*Makes all regular stops to San Mateo.*		
38	*7:18*	*7:30*	—	—

Sunday Afternoons to Safe Harbor

Route Number	Colma BART Bay 9	San Bruno BART Bay 4	Airport/ Linden	So. Airport/ Utah *	Safe Harbor
38	**5:17**	—	—	—	**5:29**
38	—	**5:43**	—	—	**5:50**
38	—	—	**5:48**	**5:53***	**6:00**
38	**6:00**	—	—	—	**6:12**
38	**6:36**	—	—	—	**6:48**

* Connects with 292

Sunday Mornings from Safe Harbor

Route Number	Safe Harbor	Colma BART Bay 7	San Bruno BART Bay 4	Airport/ Linden
292	*6:50*	*Makes all regular stops to San Francisco.*		
292	*6:50*	*Makes all regular stops to San Mateo.*		
38	*7:38*	*7:50*	—	—

Holiday Afternoons to Safe Harbor

Route Number	Colma BART Bay 9	San Bruno BART Bay 4	Airport/ Linden	So. Airport/ Utah *	Safe Harbor
38	**5:17**	—	—	—	**5:29**
38	—	—	**5:49**	**5:54***	**6:01**
38	**6:33**	—	—	—	**6:45**

* Connects with 292

Holiday Mornings from Safe Harbor

Route Number	Safe Harbor	Colma BART Bay 7	San Bruno BART Bay 4	Airport/ Linden
292	*6:50*	*Makes all regular stops to San Francisco.*		
292	*6:50*	*Makes all regular stops to San Mateo.*		
38	*7:40*	*7:52*	—	—

For information, call

1-800-660-4287

(TTY only 650-508-6448)

Saturdays to Daly City BART

Airport/ Linden (A)	S.S.F. BART Bay 9 (B)	Colma BART (C)	Orange/ Chester (D)	Mission/ Evergreen (F)	Daly City BART (G)
8:20	8:31	8:37	8:43	8:54	9:00
8:50	9:01	9:07	9:13	9:24	9:30
9:20	9:31	9:37	9:43	9:54	10:00
9:50	10:01	10:07	10:13	10:24	10:30
10:20	10:31	10:37	10:43	10:54	11:00
10:50	11:01	11:07	11:13	11:24	11:30
11:20	11:31	11:37	11:43	11:54	12:00
11:50	12:01	12:07	12:13	12:24	12:30
12:50	1:01	1:07	1:13	1:24	1:30
1:20	1:31	1:37	1:43	1:54	2:00
2:20	2:31	2:37	2:43	2:54	3:00
3:20	3:31	3:37	3:43	3:54	4:00
3:50	4:01	4:07	4:13	4:24	4:30
4:20	4:31	4:37	4:43	4:54	5:00
4:50	5:01	5:07	5:13	5:24	5:30
5:20	5:31	5:37	5:43	5:54	6:00

AM - light type. PM - dark type
Not all stops shown. Please call 1-800-660-4287 for other bus stops.

Sundays & Holidays to Daly City BART

Airport/ Linden (A)	S.S.F. BART Bay 9 (B)	Colma BART (C)	Orange/ Chester (D)	Mission/ Evergreen (F)	Daly City BART (G)
9:20	9:31	9:37	9:43	9:54	10:00
10:20	10:31	10:37	10:43	10:54	11:00
11:20	11:31	11:37	11:43	11:54	12:00
12:20	12:31	12:37	12:43	12:54	1:00
1:20	1:31	1:37	1:43	1:54	2:00
2:20	2:31	2:37	2:43	2:54	3:00
3:20	3:31	3:37	3:43	3:54	4:00
4:20	4:31	4:37	4:43	4:54	5:00
5:20	5:31	5:37	5:43	5:54	6:00

AM - light type. PM - dark type
Not all stops shown. Please call 1-800-660-4287 for other bus stops.

Fares

	Local Fare*
Adult Age 18 - 64	$2.00
Youth Age 17 and younger	$1.25
Eligible Discount Age 65+, disabled & Medicare cardholder (proof of eligibility or identity required)	$1.00

Children
One child (age 4 and younger) rides free with each adult or eligible discount farepaying passenger. Additional children subject to youth fare.

*** Discounted tokens and monthly passes available for purchase**

SamTrans has fare arrangements with connecting transit districts. Call SamTrans Customer Service Center for details.

SamTrans Information
Llame para información sobre SamTrans
1-800-660-4287
(TTY Only) 650-508-6448
www.samtrans.com

samTrans

BART Connection

Daly City
- BART

Colma
- BART
- City Hall
- Post Office

South San Francisco
- BART
- Library
- City Hall
- Post Office

130

Effective 2/1/10

Information
1-800-660-4287
www.samtrans.com

samTrans

Saturdays to Airport & Linden

Daly City BART (G)	Mission/ Goethe (F)	Orange/ Chester (D)	Colma BART (C)	S.S.F. BART Bay 9 (B)	Airport/ Linden (A)
8:35	8:43	8:54	9:00	9:06	9:17
9:05	9:13	9:24	9:30	9:36	9:47
9:35	9:43	9:54	10:00	10:06	10:17
10:05	10:13	10:24	10:30	10:36	10:47
10:35	10:43	10:54	11:00	11:06	11:17
11:05	11:13	11:24	11:30	11:36	11:47
12:05	12:13	12:24	12:30	12:37	12:48
12:35	12:43	12:54	1:00	1:07	1:18
1:35	1:43	1:54	2:00	2:07	2:18
2:35	2:43	2:54	3:00	3:07	3:18
3:05	3:13	3:24	3:30	3:37	3:48
3:35	3:43	3:54	4:00	4:07	4:18
4:05	4:13	4:24	4:30	4:37	4:48
4:35	4:43	4:54	5:00	5:07	5:18
5:05	5:13	5:24	5:30	5:37	5:48
5:35	5:43	5:54	6:00	6:07	6:18

AM - light type. PM - dark type
Not all stops shown. Please call 1-800-660-4287 for other bus stops.

Sundays & Holidays to Airport & Linden

Daly City BART (G)	Mission/ Goethe (F)	Orange/ Chester (D)	Colma BART (C)	S.S.F. BART Bay 9 (B)	Airport/ Linden (A)
9:05	9:13	9:24	9:30	9:36	9:47
10:05	10:13	10:24	10:30	10:36	10:47
11:05	11:13	11:24	11:30	11:36	11:47
12:05	12:13	12:24	12:30	12:36	12:47
1:05	1:13	1:24	1:30	1:37	1:48
2:05	2:13	2:24	2:30	2:37	2:48
3:05	3:13	3:24	3:30	3:37	3:48
4:05	4:13	4:24	4:30	4:37	4:48
5:05	5:13	5:24	5:30	5:37	5:48

AM - light type. PM - dark type
Not all stops shown. Please call 1-800-660-4287 for other bus stops.

Saturdays Clockwise to South San Francisco BART

S.S.F. BART Bay 7 (A)	Hillside/ Chestnut (B)	Airport/ Linden (C)	Orange/ Baden (D)	El Camino/ Arroyo (F)	S.S.F. BART Bay 7 (A)
7:59	8:03	8:09	8:16	8:23	8:27
8:59	9:03	9:09	9:16	9:23	9:27
9:59	10:03	10:09	10:16	10:23	10:27
10:59	11:03	11:09	11:16	11:23	11:27
11:59	**12:03**	**12:09**	**12:16**	**12:23**	**12:27**
12:59	**1:03**	**1:09**	**1:16**	**1:23**	**1:27**
1:59	**2:03**	**2:09**	**2:16**	**2:23**	**2:27**
2:59	**3:03**	**3:09**	**3:16**	**3:23**	**3:27**
3:59	**4:03**	**4:09**	**4:16**	**4:23**	**4:27**
4:59	**5:03**	**5:09**	**5:16**	**5:23**	**5:27**

AM - light type. PM - bold type.
Not all stops shown. Please call 1-800-660-4287 for other bus stops.
No Sunday or Holiday service.

Fares

	Local Fare*
Adult Age 18 - 64	$2.00
Youth Age 17 and younger	$1.25
Eligible Discount Age 65+, disabled & Medicare cardholder (proof of eligibility or identity required)	$1.00

Children
One child (age 4 and younger) rides free with each adult or eligible discount farepaying passenger. Additional children subject to youth fare.

*** Discounted tokens and monthly passes available for purchase**

SamTrans has fare arrangements with connecting transit districts. Call SamTrans Customer Service Center for details.

SamTrans Information
Llame para información sobre SamTrans
1-800-660-4287
(TTY Only) 650-508-6448
www.samtrans.com

samTrans
BART Connection

South San Francisco
- BART
- Kaiser Hospital
- Library
- Buri Buri Shopping Center
- City Hall

132

Effective 2/1/10

Information
1-800-660-4287
www.samtrans.com

samTrans

Saturdays Counter-Clockwise to South San Francisco BART

S.S.F. BART Bay 8 (A)	El Camino/ Arroyo (F)	Orange/ Baden (D)	Airport/ Linden (C)	Hillside/ Chestnut (B)	S.S.F. BART Bay 8 (A)
8:29	8:33	8:40	8:47	8:53	8:57
9:29	9:33	9:40	9:47	9:53	9:57
10:29	10:33	10:40	10:47	10:53	10:57
11:29	11:33	11:40	11:47	11:53	11:57
12:29	**12:33**	**12:40**	**12:47**	**12:53**	**12:57**
1:29	**1:33**	**1:40**	**1:47**	**1:53**	**1:57**
2:29	**2:33**	**2:40**	**2:47**	**2:53**	**2:57**
3:29	**3:33**	**3:40**	**3:47**	**3:53**	**3:57**
4:29	**4:33**	**4:40**	**4:47**	**4:53**	**4:57**
5:29	**5:33**	**5:40**	**5:47**	**5:53**	**5:57**

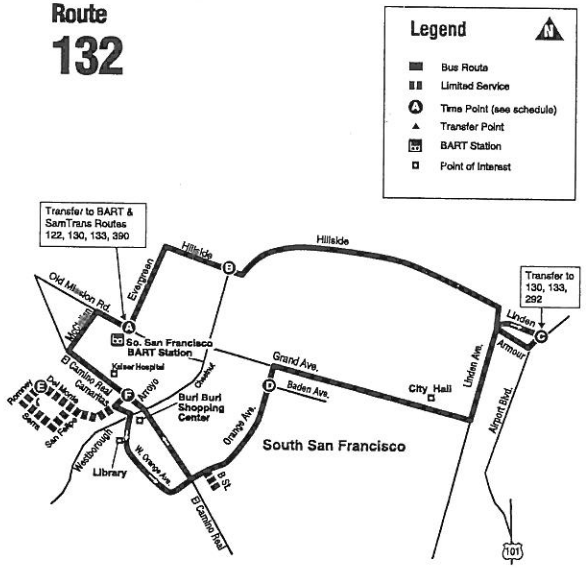
AM - light type. PM - bold type.
Not all stops shown. Please call 1-800-660-4287 for other bus stops.
No Sunday or Holiday service.

Weekdays Clockwise to South San Francisco BART

S.S.F. BART Bay 7 (A)	Hillside/ Chestnut (B)	Airport/ Linden (C)	Orange/ Baden (D)	Del Monte/ Romney (E)	El Camino/ Arroyo (F)	S.S.F. BART Bay 7 (A)
5:27	5:31	5:37	5:44	–	5:51	5:55
5:57	6:01	6:07	6:14	–	6:21	6:25
6:27	6:31	6:37	6:44	–	6:51	6:55
6:57	7:01	7:07	7:14	–	7:21	7:25
7:27	7:31	7:37	7:44	–	7:51	7:55
7:45 *	7:49 *	7:55 *	8:02 *	–	8:09 *	–
7:57 #	8:01 #	8:07 #	8:14 #	–	8:21 #	8:25 #
7:57 *	8:01 *	8:07 *	8:14 *	8:23 *	8:27 *	8:31 *
8:27	8:31	8:37	8:44	–	8:51	8:55
8:57	9:01	9:07	9:14	–	9:21	9:25
9:57	10:01	10:07	10:14	–	10:21	10:25
10:57	11:01	11:07	11:14	–	11:21	11:25
11:57	12:01	12:07	12:14	–	12:21	12:25
12:57	1:02	1:09	1:17	–	1:25	1:29
1:57	2:02	2:09	2:17	–	2:25	2:29
2:57	3:02	3:09	3:17	–	3:25	3:29
3:57	4:02	4:09	4:17	–	4:25	4:29
4:27	4:32	4:39	4:47	–	4:55	4:59
4:57	5:02	5:09	5:17	–	5:25	5:29
5:27	5:32	5:39	5:47	–	5:55	5:59
5:57	6:02	6:09	6:17	–	6:25	6:29
6:27	6:32	6:39	6:47	–	6:55	6:59
7:27	7:32	7:39	7:47	–	7:55	7:59

AM - light type. PM - bold type.
Not all stops shown. Please call 1-800-660-4287 for other bus stops.
No Sunday or Holiday service.
* School days only.
\# Non-School days

Route 132



How to Use this Timetable:

Locate the time point (Ⓐ) on the map prior to where you want to board the bus. Not all bus stops are shown. Find the same time point on the schedule. The departure and arrival times are listed under each time point. To plan your trip, use this timetable with the SamTrans System Map, which shows where all routes operate. Trip-planning assistance is available by calling SamTrans.

Weekdays Counter-Clockwise to South San Francisco BART

S.S.F. BART Bay 8 (A)	El Camino/ Arroyo (F)	Del Monte/ Romney (E)	Orange/ Baden (D)	Airport/ Linden (C)	Hillside/ Chestnut (B)	S.S.F. BART Bay 8 (A)
5:42	5:46	–	5:53	6:00	6:06	6:10
6:12	6:16	–	6:23	6:30	6:36	6:40
6:42	6:46	–	6:53	7:00	7:06	7:10
7:12	7:16	–	7:23	7:30	7:36	7:40
7:42	7:46	–	7:53	8:00	8:06	8:10
8:12	8:16	–	8:23	8:30	8:36	8:40
8:42	8:46	–	8:53	9:00	9:06	9:10
9:27	9:31	–	9:38	9:45	9:51	9:55
10:27	10:31	–	10:38	10:45	10:51	10:55
11:27	11:31	–	11:38	11:45	11:51	11:55
12:27	12:31	–	12:39	12:47	12:54	12:59
1:27	1:31	–	1:39	1:47	1:54	1:59
2:27	2:31	–	2:39	2:47	2:54	2:59
–	–	3:27 *	3:37 *	3:44 *	–	–
3:42	3:46	–	3:54	4:02	4:09	4:14
4:12	4:16	–	4:24	4:32	4:39	4:44
4:42	4:46	–	4:54	5:02	5:09	5:14
5:12	5:16	–	5:24	5:32	5:39	5:44
5:42	5:46	–	5:54	6:02	6:09	6:14
6:12	6:16	–	6:24	6:32	6:39	6:44
6:42	6:46	–	6:54	7:02	7:09	7:14

AM - light type. PM - bold type.
Not all stops shown. Please call 1-800-660-4287 for other bus stops.
No Sunday or Holiday service.
* School days only.

Saturdays to Airport/Linden

Serramonte Shopping Ctr. Bay 1 (H)	S.S.F. BART Bay 2 (I)	San Felipe/ Del Monte (F)	West Orange/ Fairway (E)	Rotary Plaza (D)	San Bruno BART Bay 2 (B)	Airport/ Linden (A)
9:35	9:44	9:50	9:54	9:59	10:11	10:23
10:35	10:45	10:53	10:57	11:02	11:14	11:27
11:35	11:48	11:56	**12:00**	**12:05**	**12:17**	**12:30**
12:35	**12:48**	**12:56**	**1:00**	**1:05**	**1:18**	**1:31**
1:35	**1:48**	**1:56**	**2:00**	**2:05**	**2:18**	**2:30**
2:35	**2:48**	**2:56**	**3:00**	**3:05**	**3:18**	**3:30**
3:35	**3:46**	**3:53**	**3:57**	**4:02**	**4:15**	**4:27**
4:35	**4:46**	**4:53**	**4:57**	**5:02**	**5:14**	**5:26**
5:35	**5:46**	**5:53**	**5:57**	**6:02**	**6:13**	**6:24**

AM - light type. **PM - bold type.**
Not all stops shown. Please call 1-800-660-4287 for other bus stops.
No Sunday or Holiday service.

Fares

	Local Fare*
Adult Age 18 - 64	$2.00
Youth Age 17 and younger	$1.25
Eligible Discount Age 65+, disabled & Medicare cardholder (proof of eligibility or identity required)	$1.00

Children
One child (age 4 and younger) rides free with each adult or eligible discount farepaying passenger. Additional children subject to youth fare.

*** Discounted tokens and monthly passes available for purchase**

SamTrans has fare arrangements with connecting transit districts. Call SamTrans Customer Service Center for details.

SamTrans Information
Llame para información sobre SamTrans
1-800-660-4287
(TTY Only) 650-508-6448
www.samtrans.com

samTrans
BART Connection

South San Francisco
- Rotary Plaza
- Library
- BART

San Bruno
- BART
- Tanforan Shopping Ctr.

Daly City
- Serramonte Shopping Ctr.

133

Effective 2/1/10

Information
1-800-660-4287
www.samtrans.com

samTrans

Printed on recycled paper.

Saturdays to Serramonte

Airport/ Linden (A)	San Bruno BART Bay 3 (B)	Rotary Plaza (D)	Del Monte/ San Felipe (F)	S.S.F. BART Bay 2 (I)	Serramonte Shopping Ctr. Bay 1 (H)
9:30	9:43	9:54	10:03	10:10	10:21
10:30	10:43	10:54	11:03	11:10	11:21
11:30	11:45	11:56	**12:05**	**12:12**	**12:23**
12:30	**12:45**	**12:56**	**1:05**	**1:12**	**1:23**
1:30	**1:44**	**1:55**	**2:04**	**2:12**	**2:23**
2:30	**2:44**	**2:55**	**3:04**	**3:12**	**3:23**
3:30	**3:43**	**3:54**	**4:03**	**4:10**	**4:20**
4:30	**4:43**	**4:54**	**5:03**	**5:10**	**5:20**
5:30	**5:43**	**5:54**	**6:03**	**6:10**	**6:20**

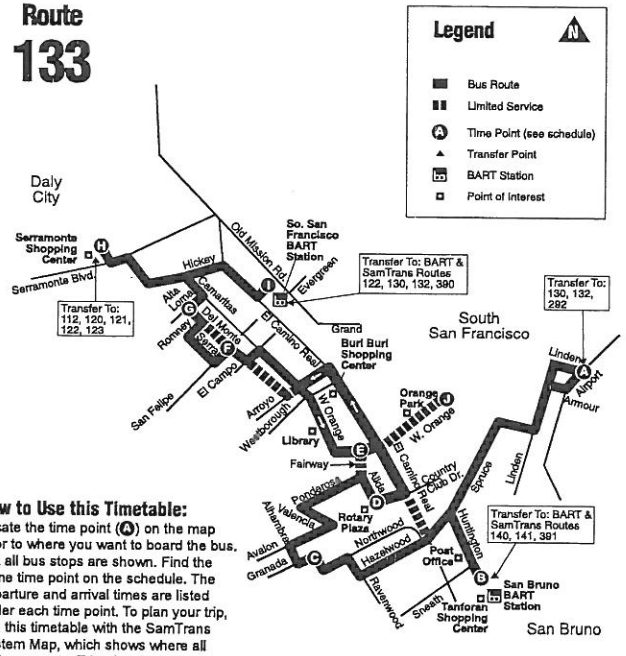
AM - light type. **PM - bold type.**
Not all stops shown. Please call 1-800-660-4287 for other bus stops.
No Sunday or Holiday service.

Weekdays to Airport/Linden

Del Monte/ Romney (G)	West Orange/ Railroad (J)	Serramonte Shopping Ctr. Bay 1 (H)	S.S.F. BART Bay 2 (I)	San Felipe/ Del Monte (F)	West Orange/ Fairway (E)	Rotary Plaza (D)	San Bruno BART Bay 2 (B)	Airport/ Linden (A)
–	–	6:35	6:44	6:51	6:55	7:00	7:10	7:19
–	–	7:05	7:15	7:21	7:25	7:30	7:41	7:51
–	–	7:35	7:45	7:51	7:56	8:01	8:12	8:22
–	–	8:05	8:16	8:24	8:29	8:34	8:45	8:55
–	–	8:35	8:46	8:54	8:58	9:03	9:13	9:22
–	–	9:05	9:16	9:24	9:28	9:33	9:43	9:52
–	–	9:35	9:46	9:53	9:57	10:02	10:12	10:21
–	–	10:05	10:16	10:23	10:27	10:32	10:44	10:55
–	–	11:05	11:16	11:23	11:27	11:32	11:44	11:55
–	–	**12:05**	**12:16**	**12:24**	**12:28**	**12:33**	**12:46**	**12:58**
–	–	**1:05**	**1:16**	**1:24**	**1:28**	**1:33**	**1:45**	**1:57**
–	–	**2:15**	**2:26**	**2:34**	**2:38**	**2:43**	**2:55**	**3:07**
–	–	**3:05**	**3:18**	**3:28**	**3:32**	**3:37**	**3:49**	**4:02**
3:22 *	**3:40** *	–	–	–	–	–	–	–
–	–	**4:05**	**4:18**	**4:27**	**4:31**	**4:36**	**4:48**	**5:01**
–	–	**4:35**	**4:48**	**4:57**	**5:01**	**5:06**	**5:18**	**5:31**
–	–	**5:05**	**5:19**	**5:29**	**5:33**	**5:38**	**5:51**	**6:04**
–	–	**5:35**	**5:49**	**5:57**	**6:01**	**6:06**	**6:17**	**6:27**
–	–	**6:05**	**6:17**	**6:25**	**6:29**	**6:34**	**6:45**	**6:55**
–	–	**6:35**	**6:46**	**6:53**	**6:57**	**7:02**	**7:13**	**7:22**

AM - light type. **PM - bold type.**
Not all stops shown. Please call 1-800-660-4287 for other bus stops.
No Sunday or Holiday service.
* School days only.

Route 133



How to Use this Timetable:

Locate the time point (Ⓐ) on the map prior to where you want to board the bus. Not all bus stops are shown. Find the same time point on the schedule. The departure and arrival times are listed under each time point. To plan your trip, use this timetable with the SamTrans System Map, which shows where all routes operate. Trip-planning assistance is available by calling SamTrans.

Weekdays to Serramonte

Commur/ Granada (C)	Del Monte/ Romney (G)	Airport/ Linden (A)	San Bruno BART Bay 3 (B)	Rotary Plaza (D)	Del Monte/ San Felipe (F)	S.S.F. BART Bay 2 (I)	Serramonte Shopping Ctr. Bay 1 (H)
–	–	5:57	6:06	6:16	6:25	6:32	6:40
–	–	6:27	6:36	6:46	6:55	7:02	7:10
–	–	6:57	7:08	7:18	7:27	7:35	7:44
–	–	7:27	7:38	7:48	7:57	8:05	8:14
(8:06 * W. Oranga/Tennis)		7:57	8:09	8:19	8:28	8:36	8:45
8:15*	8:25*	–	–	–	–	–	–
–	–	8:27	8:39	8:49	8:58	9:05	9:14
–	–	8:57	9:10	9:20	9:29	9:36	9:46
–	–	9:57	10:10	10:20	10:29	10:36	10:46
–	–	10:57	11:11	11:23	11:32	11:39	11:50
–	–	11:57	12:11	12:23	12:32	12:39	12:50
–	–	**12:57**	**1:12**	**1:24**	**1:33**	**1:40**	**1:51**
–	–	**1:57**	**2:12**	**2:24**	**2:33**	**2:41**	**2:53**
–	–	**2:57**	**3:12**	**3:24**	**3:33**	**3:41**	**3:53**
–	–	**3:57**	**4:12**	**4:24**	**4:33**	**4:41**	**4:53**
–	–	**4:27**	**4:42**	**4:54**	**5:03**	**5:11**	**5:23**
–	–	**4:57**	**5:11**	**5:23**	**5:32**	**5:40**	**5:52**
–	–	**5:27**	**5:41**	**5:52**	**6:01**	**6:09**	**6:21**
–	–	**5:57**	**6:09**	**6:20**	**6:29**	**6:37**	**6:48**
–	–	**6:27**	**6:39**	**6:50**	**6:59**	**7:07**	**7:17**

AM - light type. **PM - bold type.**
Not all stops shown. Please call 1-800-660-4287 for other bus stops.
* School days only.

APPENDIX L BICYCLE TRANSPORTATION ACCOUNT COMPLIANCE

The following table is provided for the convenience of Caltrans Staff, to outline the elements within the South San Francisco Bicycle Transportation Plan that comply with the Bicycle Transportation Account (BTA) requirements. Caltrans Bicycle Transportation Account (BTA) is a significant source of funding for bicycle facility construction. To become eligible for such funding, a jurisdiction must adopt a bicycle plan that meets certain BTA requirements. The following table lists the name and location of elements within the South San Francisco Bicycle Master Plan that meet Caltrans BTA requirements. In cases where the BTA requirement is not applicable, that is noted below.

Table L-2: BTA Compliance Table

BTA 891.2	Required Plan Elements	Compliant Elements in Plan	Location
(a)	*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.*		
	Existing Bicycle Commuters	Section 5.5.1	Page 1-1
	Estimated Increase in Bicycle Commuters	Section 5.5.2	Page 5-7
(b)	*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.*		
	Map and description of existing land use and settlement patterns	Section 2.1.1 Appendix D	Page 2-1 Page D-1
	Map and description of proposed land use and settlement patterns	Appendix D	Page D-1
	Locations of residential neighborhoods	Section 2.1.1 Appendix D	Page 2-1 Page D-1
	Locations of schools	Section 2.1.3	Page 2-3
	Locations of shopping centers	Section 2.1.2 Appendix D	Page 2-2 Page D-1
	Locations of public buildings	Figure 2-1 Appendix D	Page 2-6 Page D-1
	Locations of major employment centers	Section 2.1.2 Figure 2-1	Page 2-2 Page 2-6
(c)	*A map and description of existing and proposed bikeways.*		
	Map of existing bikeways	Figure 2-1	Page 2-6
	Description of existing bikeways	Section 2.2	Page 2-4
	Map of proposed bikeways	Figure 6-2	Page 6-4
	Description of proposed bikeways	Section 6.1	Page 6-1

BTA 891.2	Required Plan Elements	Compliant Elements in Plan	Location
(d)	*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 enters, public buildings, and major employment centers.*		
	Map and description of existing end-of trip bicycle parking facilities	Section 2.5 Figure 2-1	Page 2-12 Page 2-6
	Map and description of proposed end-of-trip bicycle parking facilities	Section 2.5 Figure 2-1	Page 2-11 Page 2-6
(e)	*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, ferry docks and landings, park and ride lots, and provisions for transporting bicyclists and bicycles on transit or rail vehicles or ferry vessels.*		
	Map and description of existing bicycle facilities for connections with other modes	Section 2.1.4 Figure 2-1	Page 2-3 Page 2-6
	Map and description of proposed bicycle facilities for connections with other modes	Figure 2-1	Page 2-6
	Parking facilities at transit stops and terminals	Figure 2-1	Page 2-6
	Provisions for bicycles on transit vehicles		
(f)	*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.*		
	Map and description of existing end-of-trip facilities	Section 2.5 Figure 2-1	Page 2-12 Page 2-6
	Map and description of proposed end-of-trip facilities	Section 6.2.7 Figure 6-2	Page 6-8 Page 6-4
(g)	*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 pertaining to bicycle operation, and compile existing data on the resulting effect on accidents involving bicyclists.*		
	Description of bicycle safety and education programs	Section 2.6	Page 2-13
	Law enforcement of Vehicle Code provisions pertaining to bicycle operations	Section 2.6	Page 2-13
	Effect of programs on accidents involving cyclists	Section 2.6	Page 2-13

BTA 891.2	Required Plan Elements	Compliant Elements in Plan	Location
(h)	*A description of the extent of citizen and community involvement in development of the plan.*		
	Description of public involvement in developing the plan	Section 1	Page 1-1
(i)	*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, including, but no limited to, programs that provide incentives for bicycle commuting.*		
	Description of coordination and consistency with other local and regional plans	Section 3	Page 3-1
	Programs that provide incentives for bicycle commuting	Section 2.6.1.2	Page 2-13
(j)	*A description of the projects proposed in the plan and a listing of their priorities for implementation.*		
	Description of proposed projects	Section 6	Page 6-1
	Priority list of proposed projects	Table 8-2	Page 8-4
(k)	*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.*		
	Description of past expenditures Estimated future financial needs	Section 3 Table 8-4	Page 3-1 Page 8-7

This page intentionally left blank.