

# CITY OF MILLBRAE

*Amendment to the Circulation Element of the General Plan*

## BICYCLE AND PEDESTRIAN TRANSPORTATION PLAN

August 2009



Prepared by  
**City of Millbrae**  
**Community Development Department**  
**Planning Division**

## 4.7 Bikeways and Trails System

### *Purpose*

Bicycling has long been a popular recreational activity for its ease of participation, as a form of exercise, and as an organized sport. More recently, it has emerged in the United States as an alternate means of transportation to work and for other types of trips. Ever-increasing transportation costs, traffic congestion, and lack of parking make bicycling an even more attractive form of transportation now and in the future, especially when used in conjunction with public transit. Millbrae's prime north Peninsula location, pleasant climate, its BART/CalTrain Station and close proximity to major transportation corridors and recreational bike trails, and favorable overall development pattern position Millbrae as a potential regional bikeways hub. The purpose of this plan is to identify and utilize the natural and manmade logistical advantages that Millbrae has to create a safe and convenient bikeway and pedestrian trail network with linkages to other cities and other regional recreational assets.

### *Setting*

The relatively flat terrain of the most heavily populated portion of San Mateo County gives bicycling growing importance as a significant mode of transportation. Major population centers of the County are concentrated in the level Bay Plain, where the majority of people live within two miles of the El Camino Real (State 82) Corridor. Statistics compiled by San Mateo County indicate that within this corridor there exist:

- (1) Virtually all of the major employment centers in the County;
- (2) All of the central business districts of cities with populations greater than 25,000 (with the exception of Foster City and Pacifica);
- (3) Nearly all of the senior citizen housing and meeting centers in the County;
- (4) Virtually all of the occupied housing units without on-site automobile parking; and
- (5) Nearly all of the major non-work trip attractors (transportation facilities, shopping centers, public service buildings, and health facilities) in the County.

These factors supported the adoption of the San Mateo County Comprehensive Bicycle Plan in 2000 and the Metropolitan Transportation Commission's Regional Bicycle Plan for the San Francisco Bay Area in 2001. Millbrae's plan builds upon those efforts.

### *Opportunities and Constraints*

Millbrae is virtually built-out and has no possibilities for annexing additional lands. Therefore, almost all planned bikeways are limited to streets and other pathways

already existing within the current city limits or on parcels of open space suited for trail use.

A northwest-southeast landform that doubles as a City bike/pedestrian path known as the Spur Trail, essentially splits Millbrae into two topographic areas where the easterly two-thirds are mostly flat and the westerly one-third contains steep hills and canyons. The development pattern in each area also differs with more of a grid pattern of narrow streets in the east and wider, more curvilinear local streets to the west. The city's schools, parks, and neighborhoods are distributed proportionately across both areas, while commercial districts and major employers are almost exclusively located within the flat eastern portion. The current terminus of the Bay Trail at the city's waterfront edge and the Sawyer Camp Trail and the San Andreas Trail in the San Andreas Reservoir parallel to Interstate 280 give Millbrae two major recreational amenities. Finally, the Millbrae BART/Caltrain Station anchors the main gateway into the city along East Millbrae Avenue. The goal is to create a system of bikeways that interconnects these areas, land uses, and amenities but avoids steep grades and busy intersections as much as possible.

The Bay Trail and the Sawyer Camp Trail, which double as biking and walking trails, are "destination" amenities used mainly as a source of recreation. The Spur Trail is also a recreational amenity, but can serve to connect destinations as well. Similarly, the Downtown (Broadway and El Camino Real between Millbrae Ave. and Meadow Glen Ave.) is a prime pedestrian area. Within it are numerous restaurants, shops, beauty salons, banks, and other services, as well as City Hall, the Millbrae Library, and the Post Office; around it are neighborhoods, schools, and churches. All these areas and uses are within walking distance of one another and offer a many opportunities for combining errands with exercise and socializing.

*Background and Data Collection*

Recreational use of bicycles is difficult to quantify. However, recent Census data provide some background on the extent to which bicycles are used as a means of transportation. The following table shows bicycle use and walking as means of commuting to work as reported in the 1990 and 2000 Censuses and as estimated in the 2006 American Community Survey:

**1990, 2000, & 2006 Comparison of the Number of Bicycle, Walking, & Total Trips to Work**

	Bicycle			Walking			Total		
	1990	2000	2006	1990	2000	2006	1990	2000	2006
<b>Millbrae</b>	12	45	50*	250	188	270*	9,968	9,448	9,900*
<b>S. M. County</b>	2,605	2,896	2,898	8,858	7,609	9,309	346,559	354,096	343,294
<b>S. F. Bay Area</b>	32,473	36,003	37,868	111,968	106,063	112,908	3,085,634	3,306,051	3,311,807
<b>California</b>	130,706	120,567	128,960	469,867	414,581	440,072	13,940,250	14,525,322	16,327,670

\* City of Millbrae estimate.

**1990, 2000, & 2006 Comparison of Bicycle & Walking Trips as Percentage of Total Work Trips**

	Bicycle			Walking			Total		
	1990	2000	2006	1990	2000	2006	1990	2000	2006
<b>Millbrae</b>	.12%	.48%	.51%*	2.51%	1.99%	2.73%*	100%	100%	100%
<b>S. M. County</b>	.75%	.82%	.84%	2.56%	2.15%	2.71%	100%	100%	100%
<b>S. F. Bay Area</b>	1.05%	1.09%	1.14%	3.63%	3.21%	3.41%	100%	100%	100%
<b>California</b>	.94%	.83%	.79%	3.37%	2.85%	2.70%	100%	100%	100%

\* City of Millbrae estimate.

The above tables indicate that within San Mateo County, throughout the Bay Area, and across the state, about 1% of workers bicycle to work and roughly 3% walk to work. These percentages have remained fairly stable since 1990. However, bicycle travel and, to a lesser extent, walking are significantly underrepresented in Millbrae. Less than 5 out of 1,000 (0.5%) workers bike to work in Millbrae; that is half the County average and a third of the average for the Bay Area. Only about 25 out of 1,000 (2.5%) workers walk to work in Millbrae; that approximates the County average, but is only 70% of the average for the Bay Area. The reasons for this are unclear, but the 2006 estimates do not include the likely positive effect that the BART/Caltrain Station has and will continue to have on both bicycling and walking as at least part of people’s journey to work. In any case, an improved bikeway system will surely increase bicycle use.

*Existing Bikeways*

The San Mateo County bike plan includes the following bike routes in Millbrae:

- (1) San Mateo County North-South Commuter Route:  
Magnolia Avenue, Meadow Glenn, Broadway to Center
- (2) Colma-Millbrae Bikeway Project:  
San Francisco Muni and CalTrain right-of-way, adjacent to the Southern Pacific Rail Road tracks.

In addition to these County routes, Millbrae’s system includes a bike path on the Millbrae Spur property, for recreational use as well as an important link to Skyline Boulevard/Sawyer Camp Trail, the El Camino Real corridor/BART Station, and Old Bayshore/Bay Trail routes.

Millbrae’s Bayfront Park provides an important segment of the Bay Trail. The Bay Trail Plan proposes development of a regional hiking and bicycling trail—a 500-mile continuous recreational “ring around the Bay” (perimeter of San Francisco and San Pablo Bays) through 47 cities in 9 counties. Approximately 290 miles of the trail has been completed, either as hiking-only paths, hiking and bicycling paths, or as on-street bicycle lanes. The Plan was prepared by the Association of Bay Area Governments to:

- (1) Provide connections to existing park and recreation facilities,
- (2) Create links to existing and proposed transportation facilities, and

- (3) Avoid adverse effects on environmentally sensitive areas.

An appropriate alignment between Millbrae and South San Francisco will need to be determined. Development of the Bay Trail system is comprised of three components:

- (1) Spine trails, encircling the Bay and creating a continuous recreational corridor which links all nine Bay Area counties;
- (2) Spur trails, providing access from the spine trail to points of natural, historic, and cultural interest along the Bay shoreline; and
- (3) Connector trails, providing restricted access to interpretive trails in environmentally-sensitive areas along the shoreline and connections to recreational opportunities as well as residential and employment centers inland from the Bay.

Other than the Spur Trail and Central Park (and isolated pathways within other City parks or school sites), there are no separate bike paths or marked bikeways in Millbrae. However, there are many possible street routes that have likely been used by bicyclists over the years. The most appropriate of these informal routes are incorporated into this plan.

#### *Bikeway Design*

A bicycle network should be designed so that cyclists can safely reach their destination with a minimum expenditure of time and energy. Most cyclists will not travel on routes that take them out of their way or that have too many stops or steep grades. The design of bicycle routes through aesthetically-pleasing surroundings seems to be most desirable in influencing this choice of mode for the typical bicycle rider. The desire of the cyclist to avoid streets that are heavily traveled by motor vehicles is also an important consideration.

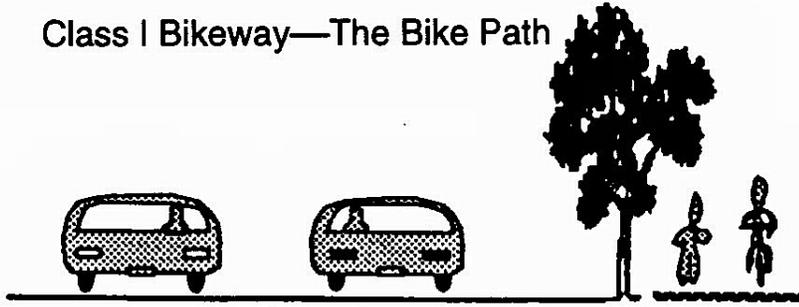
Safe auto travel results from the system of traffic codes, travel lane striping, signs, and signals that are designed to produce a relatively predictable pattern of traffic movement. The behavior of cyclists is often unpredictable due to a lack of standardized bicycle facilities and uniform enforcement of laws. Mixing a generally predictable and orderly pattern of automobile movement with potentially unpredictable bicycle traffic can be expensive because it involves the construction of either a separate path or physical barrier between cars and bicycles.

There are three basic types of bikeways (see Table 4-6):

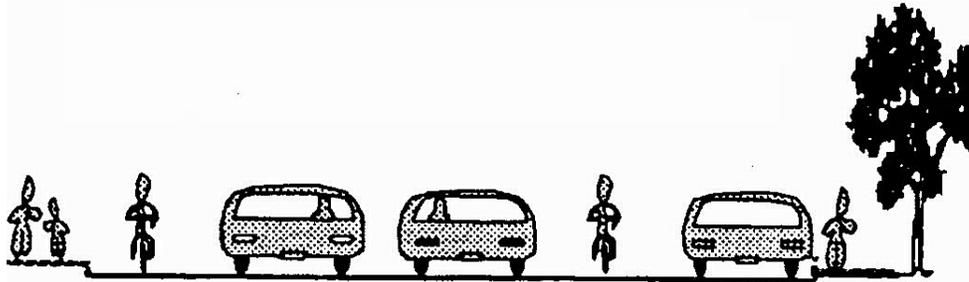
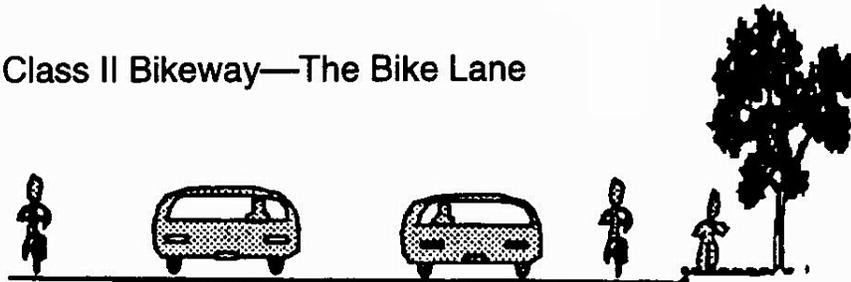
Bike Path (Class I Bikeway): A Bike Path is a special pathway for the exclusive use of bicycles and is either spatially or physically separated from the motor vehicle facility. This is the safest and most pollution-free type of bikeway, but it

## Table 4-6: Bikeways

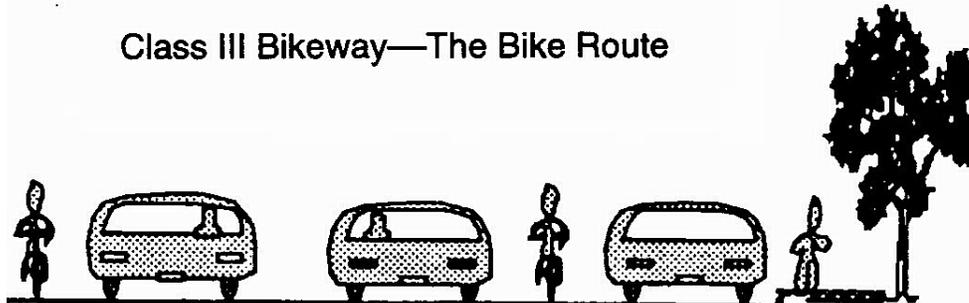
Class I Bikeway—The Bike Path



Class II Bikeway—The Bike Lane



Class III Bikeway—The Bike Route



is also the most expensive because it involves the construction of either a separate path or physical barrier between cars and bicycles.

Bike Lane (Class II Bikeway): A Bike Lane is a lane located on the edge of the paved area of an existing road or street. It is identified by signs, painted lines and pavement markings. Bicycles enjoy the exclusive use of lanes for longitudinal travel, but must share them with vehicular and pedestrian cross traffic.

Bike Route (Class III Bikeway): A Bike Route is a street designated as a joint motor vehicle/bicycle facility and is identified by signs. There are no special markings and the only thing that differentiates the route from a regular street is the existence of bicycle route signs. This is the least expensive type of bikeway, but it is also the least desirable from a safety perspective.

### *Connection to Transit*

If the bicycle is to be used as a significant alternative to the auto, connections with major public transit lines must exist. Therefore, it is important to tie into transit services provided by BART, Caltrain and SamTrans.

### *Implementation*

Implementation of the Bikeway Plan would therefore be made with the use of grant funds from various sources. A primary requirement for obtaining these grant funds is a Bikeway Plan consistent with the County Plan.

### *Proposed Bikeways*

The Draft Map of Bicycle and Trail Routes (Figure X) shows existing and proposed bikeways color-coded by class. Routes labeled “existing” refer to facilities (such as bike paths, including the North-South Commuter Bike Route and the Colma-Millbrae Bikeway Project) currently available for use as a bike route within the designated class, while routes labeled “proposed” refer to facilities (such as streets) which exist but are not currently signed or otherwise officially marked as a designated bike route.

The purpose of this draft bike plan is to connect and/or extend existing facilities in order to provide bicycle access to the majority of City parks and schools, the Downtown, and the BART Station, as well as to nearby recreational amenities outside the city. The topography of the City, as well as the existing destination have been taken into account in the preparation of the Draft Map.

### Class I (bike paths)

Class I bikeways exist within two segments of the Spur Trail between Richmond Dr. and Hillcrest Blvd. (at Taylor Middle School) and between South Ashton Ave. (at Mosta Grove Park) and Magnolia Ave. (near the Skate Park and Mills High School), within Central Park (at the Recreation Center), within Monterey Park, and along Old Bayshore Hwy. (a segment of the Bay Trail System). Bike path extensions are proposed in three of these four areas (a bike route is proposed to access the Central Park bike path).

Two connections within the Spur Trail are proposed: between Hillcrest Blvd. and South Ashton Ave. (through Josephine Waugh Park and Rotary Park), and between Larkspur Dr. and the northern city limits (near Lomita Ave.). These connections (coupled with the Class III bikeways listed below) will enable more productive use of the Spur Trail within the citywide bike system and provide a bike path link to San Bruno.

Additional bike paths are proposed between Aviator Ave. (along the east side of the Southern Pacific Rail Road tracks) and the northern city limits (at San Juan Ave.). Included within this route is the existing bike path through Monterey Park. These connections will provide access to Lomita Elementary School and will also provide another bike path link to San Bruno.

An additional bike path is also proposed as an upgrade to the existing U.S. 101 overpass. This would connect the BART Station with Bayfront Park and the Bay Trail.

Outside the city are two segments of the Sawyer Camp Trail that also contain bike paths. These facilities are included on the City's bike plan map because of the recreational value which is the rationale for the proposed bicycle/pedestrian linkage between them and to the city-wide bike system.

### Class II (dedicated bike lanes)

No Class II bikeways are proposed for the following reasons: 1) existing right-of-way widths of all local and some collector streets are too narrow to accommodate the 6 to 8-foot wide area needed for a bike lane in conjunction with the on-street parking that is typical along both sides of those streets; 2) although the existing right-of-way widths of other collector streets and all arterial roadways may be wide enough for bike lanes, their high traffic volumes and vehicle speeds make them unsuitable for most riders; and 3) there are no prospects for the City to annex additional lands (within which new streets with rights-of-ways wide enough to accommodate bike lanes could be constructed). Should conditions become more favorable over time, the provision of Class II bike lanes will be re-evaluated for possible inclusion in a future bike plan.

### Class III (bike routes)

Class III bikeways are the majority of the new bike trails being proposed and they are as follows:

- 1) Hillcrest Blvd. between the Sawyer Camp Trail and the Spur Trail;
- 2) Larkspur Dr. between the Sawyer Camp Trail and the Spur Trail;
- 3) Helen Dr. between Larkspur Dr. and the northern dead-end of Helen Dr.
- 4) Richmond Dr. between Magnolia Ave. and Tioga Dr. (at Lion's Park);
- 5) Helen Dr./Evergreen Way between Tioga Dr. and Larkspur Dr.;
- 6) Lincoln Circle (at the Recreation Center)/Lansdale Ave. (at Central Park)/Library Lane (at the Millbrae Library) between Richmond Dr. and Magnolia Ave. (at City Hall);
- 7) Magnolia Ave. (past Green Hills Park and St. Dunstan's School) between Millwood Dr. (at Capuchino High School) and Murchison Dr. (near Mills High School);
- 8) Hillcrest Blvd./Aviador Ave. between Magnolia Ave. and East Millbrae Ave.;
- 9) Murchison Dr./California Dr. between East Millbrae Ave. and the southern city limits (at Frontera Way);
- 10) Millbrae Ave. between Magnolia Ave. and Aviador Ave.; and
- 11) Rollins Rd. between East Millbrae Ave. and the southern city limits.

Cumulatively, and by interfacing with the Class 1 bikeways, these connections will provide bicycle access to most of the major recreational, educational, employment, and shopping destinations in and around Millbrae.

### *Bicycle Parking*

One of the most important requirements of a successful bicycle system is the provision of bicycle parking facilities at appropriate locations. Because theft is especially a problem with bicycles, the lack of safe and secure bike racks or lockers is a significant deterrent to bicycling. Except for schools, most playgrounds, and some libraries, bike racks are almost non-existent at apartments, stores, offices, restaurants, etc. The current practice of chaining bikes to lamp posts, power poles, and parking meters is inadequate.

The City's zoning ordinance contains minimum requirements for the provision of bicycle parking. Application of these requirements is a function of the design review process. In assessing the adequacy of bicycle parking facilities at a particular development, the following criteria shall be considered:

- 1) The quantity of parking shall be in keeping with the nature of the land use, its proximity to existing and planned bike routes, and other factors that may affect bicycle parking;
- 2) The location of bicycle parking on the project site shall promote its use (for example, bike racks should be visible and placed as close as possible to the main entrance/doorway);
- 3) The path of travel to the parking facilities shall minimize potential circulation conflicts with motor vehicles;

- 4) If bicycle racks are provided, they should be designed for compatibility with the most common locking devices;
- 5) Night illumination should be provided for bicycle parking in the downtown areas and at the civic buildings;
- 6) Bicycle parking should be sheltered whenever possible;
- 7) Bicycle parking should be at least as convenient as motor vehicle parking; and
- 8) For large developments, more locations of smaller amounts of parking are preferable to fewer locations of larger amounts of parking.

In addition to requiring bicycle parking/storage for new development, the City should provide bike racks at all City parking lots and facilities, and should also find ways to require bike racks at existing commercial locations, such as when substantial site or building renovation is performed or when an incoming tenant warrants it.

#### *Bikeways Maintenance*

Bike lanes tend to collect debris swept off the roadway by cars, as well as rocks and dirt washed from grade cuts and other areas which drain onto the road surface. This debris is a danger and an inconvenience to cyclists and causes many to ride almost entirely outside of bike lanes. Bike lanes should be swept regularly. Maintenance should be insured for any new lanes.

#### *Pedestrian Trails*

Currently, the City's Class I bike trails also serve as pedestrian trails. More study of potential pedestrian trails is required.

#### *Public Participation*

This plan was prepared by City staff for review by the City's Parks and Recreation Commission and the Millbrae Planning Commission prior to adoption by the City Council. A total of (9) public meetings were held over a (15)-month period.