

Introduction

Long Beach Bicycle Master Plan Introduction

The City of Long Beach recognizes that a safe and effective bicycling environment enhances the quality of life for residents and visitors to the City. The City and its residents have called for a Bicycle Master Plan (BMP) that will create the foundation for bicycle friendly roads and bikeways which will serve commuter and recreational riders.

This Bicycle Master Plan serves as a policy document to guide the development and maintenance of bicycle friendly roads and bikeways, support facilities and other programs for Long Beach over the next 20 years. These policies address important issues related to Long Beach's roads and bikeways such as planning, community involvement, utilization of existing resources, facility design, multi-modal integration, safety and education, support facilities as well as specific programs, implementation, maintenance and funding.

The success of the plan will only be assured by continued support of the City Staff, the bicycling community and other residents who recognize the benefits of cycling in their community.

This Bicycle Master Plan establishes uniform policies and procedures. It is intended to be used by City Staff as a guideline for projects and programs but does not substitute for engineering knowledge, experience or judgment. Many of the policies and procedures are subject to amendment as conditions and experience seem to warrant. Special situations may call for variation from policies and procedures subject to approval of the City Council. The Bicycle Master Plan is neither intended nor does it establish a legal standard.

Setting

Long Beach is the fifth largest city in California. Throughout its history, the identity of the City has changed with the times. Founded in the late 19th Century, it became a prime seaside resort attracting Midwesterners to settle on the coast. When oil was discovered, in the 1920s, Long Beach experienced a building boom and an expansion of the port. During World War II, Long Beach became an important Navy town. With the recent closure of the Navy base and decline in the aerospace industry, Long Beach has revived itself as a seaside destination with the Aquarium of the Pacific, Queen Mary and Shoreline Village and one of the nation's most economically successful container ports.

The residents of Long Beach reflect its changing history. Long Beach has its base of original Midwesterners, combined with military transplants and large immigrant populations from Latin America and Asia. As a result of this diverse population, Long Beach experiences a rich mix of ethnic neighborhoods.

Today, residents and visitors of Long Beach have access to beaches, parks, harbors and river beds and exposure to diverse cultural amenities centered on the local schools and colleges. They also enjoy a healthy business economy, a lively downtown and marina district with nightlife, restaurants, movie theaters, the Aquarium and other tourist destination sites, and ethnic business districts that cater to the needs of local neighborhoods.

**Existing
Transportation**

As part of the greater Los Angeles region's transportation network, Long Beach includes major transportation corridors that link the Los Angeles and Long Beach harbors to other major cities via the 710 Long Beach Interstate Freeway and the 405 San Diego Interstate Freeway. Other nearby or connecting freeways include the 605 San Gabriel Interstate Freeway, 110 Harbor State Freeway, 105 Glen Anderson Interstate Freeway and 91 Artesia State Freeway. These corridors carry heavy truck and commuter traffic at all hours of the day. The scenic Pacific Coast Highway, which generates daily commuter traffic and holiday drivers, runs through the southern sections of the City.

**Existing Transportation,
continued**

The City is also connected to the region by public transportation services. Los Angeles Metropolitan Transportation Authority's Blue Line provides light rail transit service with a direct route from Long Beach to downtown Los Angeles, along with other bus routes throughout the City. Long Beach Transit is a local transit provider. It uses the Long Beach Veterans Hospital as a transfer point to connect regionally with the Los Angeles Metropolitan Transportation Authority, City of Torrance Transit, and Orange County Transportation Authority buses. Long Beach Transit also provides extensive services within the city, including approximately 32 local bus lines, a downtown Passport shuttle with four different routes, an Art Shuttle to local museums and galleries, and an AquaBus in the Queensway Bay. The Greyhound Bus coach service travels across the country and has a bus station in Long Beach.

The Long Beach Bikestation is a public bike center, located in downtown Long Beach, near the Los Angeles Metropolitan Transportation Authority's Blue Line. It provides valet bicycle parking, bicycle rental and other amenities.

The Long Beach Municipal Airport is used primarily for domestic flights on three major commercial air carriers, as an alternative to the Los Angeles International Airport. Private planes also use the airport for destination flights throughout the country.

**Bicycle Master Plan
Needed**

The economic vitality of the City of Long Beach brings with it traffic congestion for residents and visitors. For both long commutes and short commutes in the City, people tend to drive, adding to the traffic conditions they dislike. If there were better alternatives, people would be more likely to choose bicycling in the temperate climate, along tree-lined streets, to their destination. In order to achieve this goal, the bicycling environment in Long Beach must be enhanced. Having a planning document such as the Bicycle Master Plan (BMP) that identifies bicycle policies, routes, programs and facility priorities will enable the City to create an attractive alternative.

**Bicycle Master Plan
Needed, continued**

Another reason to have a Bicycle Master Plan is the enjoyment and quality of life for the residents of Long Beach. Since bicycling is one of the most popular forms of recreational activity in the United States (with 46% of Americans bicycling for pleasure), we can assume that based on 1995 data, that out of the 425,000 residents, approximately 195,000 of them would bicycle in Long Beach purely for pleasure, at least occasionally.

Safety is a primary reason to improve bicycling conditions in Long Beach. Concern for safety is the single greatest reason people don't commute by bicycle, according to a 1991 Lou Harris Poll. Addressing those concerns for bicyclists through physical and program improvements is another major objective of this Bicycle Master Plan.

Safety, access, quality of life, and effective implementation are imperative elements for Long Beach's success as a bicycle-friendly city.

Safety is the number one concern of citizens, whether they are avid or casual recreational cyclists or bicycle commuters. The City's wide residential streets in the northern sections of the city create a fairly safe cycling environment, however the widths of the traffic lanes can also contribute to higher vehicle speeds. Heavy traffic volumes combined with narrower streets in the downtown area and Belmont Shore neighborhood increase the likelihood of inexperienced bicyclists using side streets to avoid traffic along the commercial corridors, making safe access to employment centers and shopping destinations problematic. Although it may seem that truck traffic is an issue, the trucks mainly use the 710 Freeway while traveling through Long Beach to get to and from the ports, and only use the City designated truck routes on surface streets occasionally when it is necessary to divert truck traffic off the freeway.



**Access to Los
Angeles River Path is
Difficult**

Access improvements for bicyclists are important to help improve the ability to take utilitarian trips to destinations such as work, shops and schools. The 710 and 405 freeways, involve busy on and off ramps, requiring bicyclists to negotiate difficult interchanges. The unclear access to the river paths

**Bicycle Master Plan
Needed, continued**

makes it difficult for bicyclists to determine the designated bike lanes as potential routes. The most common access problem in Long Beach is the lack of continuous and connected roads with shareable lane width, including bikeways to the City's numerous destinations, including schools, parks, employment and shopping areas.

This Plan urges Long Beach to take measurable steps toward the goal of improving every Long Beach citizen's **quality of life**, creating a more sustainable environment, reducing traffic congestion, vehicle exhaust emissions, noise, and energy consumption. The importance of developing a roads and bikeways network that are attractive and inviting is a key element in preserving Long Beach as a city where people want to live, work, and visit. The attractiveness of the environment not only invites bicyclists to explore Long Beach, but more importantly, a beautiful environment helps to improve everyone's positive feelings about the quality of life in Long Beach.

Education, enforcement, engineering, and funding are the basic components of an **effective implementation** program for this Bicycle Master Plan. Education must be targeted to the bicyclist as well as to the motorist regarding the rights and responsibilities of the bicyclists and automobile drivers. Comprehensive enforcement of existing traffic and parking laws, coupled with the implementation of sound design and engineering principles for all roads is also critical. This plan proposes a systematic review of all new development projects, including public works efforts, to assure compliance with planning and building codes and the goals of this Bicycle Master Plan. Finally, this plan proposes an aggressive strategy for obtaining grants and competing for other funding sources in order to realize the physical improvements identified as the highest priorities.

**Major
Recommendations**

The plan contains recommendations that, if implemented over the next 20 years, will make Long Beach a model community for bicycling in the Los Angeles region. The City as well as the public has asked for a bold vision for Long Beach that will improve conditions for those who choose to ride a bicycle for commuter and recreational use. Through surveys, workshops,

**Major
Recommendations,
continued**

letters and meetings, residents have cited concerns about traffic congestion, safety and general livability as the primary impetus to implement the plan. The end result will be to dramatically increase the number of people bicycling for utilitarian trips such as work, school or shopping, as well as for recreational bicyclists. The BMP calls for a goal of increasing bicycle use for utilitarian trips from the current one percent to a targeted five percent by the year 2020.

The specific recommendations of the BMP includes bicycle friendly development including the completion of a roads and bikeways network, and the implementation of new educational and promotional programs to be implemented over the next 20 years. Short-term projects are listed in order of preference:

- Bicycle Signage Program
- Bicycle Parking Program
- Bicycle Safety Awareness Program
- Downtown-Alamitos Bay Bikeway
- Los Angeles River Access
- Midtown 10th Street Connection
- CSULB
- Alamitos Avenue-Orange
- Westminster Avenue Bikeway
- Pacific Avenue-San Antonio Drive Bikeway
- Del Amo Boulevard Bikeway
- Pacific Center Boeing Site
- Harding Street

Bikeways are described by Caltrans in Chapter 1000 of the Highway Design Manual as being one of three basic type.

Class I Bikeway Variously called a bike path or multi-use trail. Provides for bicycle travel on a paved right of way completely separated from any street or highway.

Class II Bikeway Referred to as a bike lane. Provides a striped lane for one-way travel on a street or highway.

Class III Bikeway Referred to as a bike route. Provides for shared use with pedestrian or motor vehicle traffic and is identified only by signing.

Public Process

This plan has been developed during the summer and fall of 2000 by the City of Long Beach, Public Works Department. A Technical Advisory Committee (TAC) of the City and other governmental agencies was established to oversee the project. The TAC includes representatives from the City's Public Works Traffic and Transportation Bureau, Planning Bureau, Neighborhood Resources Bureau, Police Department, Parks, Recreation and Marine Department, and other agencies including Long Beach Transit and Long Beach Unified School District. In addition, the public has been involved in the planning process at two public workshops that were held at four different neighborhood locations throughout the City. An additional public workshop was also held during the 30 day public review process at one central location in the City. The public workshops were advertised through the media, bicycle shops, city hall, local YMCA's, neighborhood meetings, mailings to neighborhood and community association leaders and other means. Public attendees included residents, Long Beach Cyclists and Los Angeles County Bicycle Coalition, Bikestation representatives, and the voluntary group known as Long Beach 90800. Additional information from the public was collected through bicycle surveys.



Long Beach Bicycle Master Plan Goals and Objectives

Specific goals and objectives have been created which help to establish the principles for a comprehensive Bicycle Master Plan. These goals and objectives include detailed policy and action items to support them.

In determining the goals and objectives, the relationship to other plans, policies and legislation are considered. Then the goals and objectives from the Technical Advisory Committee, public workshops and experience of the consultants are all incorporated together to form the basis of the Bicycle Master Plan.

Relationship between this Plan and other Planning Efforts in Long Beach

The Bicycle Master Plan is an implementation component of the Transportation Element of the General Plan. It has a comprehensive scope and authority required to coordinate and guide the provisions of all bicycle-related plans, programs and projects.

The Long Beach Bicycle Master Plan also ensures compatibility of all of other studies or planning efforts which relate to one element or aspect of the roads and bikeways. The studies or planning efforts listed below have been reviewed and consulted, reviewed for consistency, and where appropriate, folded into Long Beach's Bicycle Master Plan:

Long Beach General Plan Transportation Element (1991)

The Transportation Element has a goal to maintain or improve the City's current ability to move people and goods to and from activity centers while reinforcing the quality of life. A further recommendation states that bicycle movement should also be

Relationship between this Plan and Planning Efforts in Long Beach, continued

promoted as viable non-motorized means for personal as well as recreational travel, and that the roads and bikeways should be safe and provide convenient connections with major generators of trips. The Transportation Element of the General Plan contains a network of Class I, II and III bikeways illustrated in map form, as well as general guiding and implementing bikeway policies and objectives. These have been used as a starting point for the Bicycle Master Plan.

Long Beach Strategic Plan 2010

Adopted in December of 1999, the City of Long Beach released a new Strategic Plan for the next ten years. The purpose of the Strategic Plan is to create and refine a long-term vision for Long Beach to ensure the quality of life for the community. The Strategic Plan sets forth goals, policies and actions to ensure and enhance the quality of life for its citizens. In relation to the Bicycle Master Plan, there is a recommendation to encourage mixed-use developments that will enhance the use of public transit, bikes and pedestrian traffic, and reduce emissions from single passenger vehicles. It also specifically mentions the importance of the "development of linkages between transit, bicycles and other transportation modes, such as the Bikestation". Another strategic action suggests an "increase in transportation access to programs and services for youth".

Los Angeles County Metropolitan Transportation Authority (LACMTA) Countywide Bicycle Policy Document (1994)

In 1994, the LACMTA developed the Countywide Bicycle Policy Document to establish policies towards planning and programming of bicycle projects in order to ensure connectivity of bikeways on a regional level. It serves as a key reference and is used as part of a funding criterion for the development of regional bicycle routes for the sub regions of Los Angeles County. The City of Long Beach is included in the South Bay Area Bicycle Master Plan.

Southern California Association of Governments (SCAG) Regional Transportation Plan (1998)

In 1998, the Southern California Association of Governments prepared its most recent Regional Transportation Plan (RTP) the purpose of the RTP is to provide a coordinated approach to

Relationship Between this Plan and Planning Efforts in Long Beach, continued

mobility, air quality and other regional goals related to transportation. The RTP states a plan of action to improve or construct priority bicycle and pedestrian facilities identified in County and sub-regional non-motorized plans. It does not include its own bicycle plan, but rather incorporates the LACMTA regional plans. SCAG will be updating the RTP in the year 2001.

Bikeway Plans for Neighboring Cities

Bicycle Plans of neighboring cities are considered in order to ensure connectivity on a regional level. Plans for the neighboring cities of Los Angeles, Carson, Compton, Lakewood, Hawaiian Gardens, Signal Hill, Los Alamitos and Seal Beach have been analyzed carefully. Major connecting streets or routes that are considered include Pacific Coast Highway, Anaheim Street, Del Amo Boulevard, South Street, Candlewood Street, Carson Street, Paramount Boulevard, Downey Avenue, Lakewood Boulevard, Clark Avenue, Bellflower Boulevard, Woodruff Avenue, Palo Verde Avenue, Orange Avenue, Cerritos Avenue, Alamitos Avenue, Westminster Avenue and Marina Drive. In addition, the Los Angeles County has existing bike paths on the Los Angeles River, San Gabriel River and Coyote Creek which provide strong connectivity to areas outside of Long Beach.

Relevant Legislation and Policies

Aside from the City's own General Plan, which identifies specific goals and policies that are relevant to the bicycle master plan, there are other regional, state, and federal requirements for master plans which are primarily related to funding.

The Los Angeles Metropolitan Transportation Authority (MTA) is the regional organization, which is the main funding conduit for bikeway funds into Long Beach. A Countywide Bicycle Policy Document was developed by the MTA. This document establishes policies and programming of bicycle projects and divides the County into sub regions, of which Long Beach is a part of the South Bay Area Bicycle Master Plan. In addition, the Southern California Association of Governments (SCAG) has incorporated the MTA's Countywide Bicycle Policy Document as part of SCAG's Regional Transportation Document. Bicycle funding from the MTA is based on the regional Bicycle

Relevant Legislation and Policies, continued

Master Plan and a City's Bicycle Master Plan.

Caltrans has played an oversight and review role for federal funding programs for bicycle projects under the Transportation Equity Act for the 21st Century (TEA-21). On a state level, according to the California Bicycle Transportation Act (1994), all cities and counties should have an adopted bicycle master plan that contains:

- Estimated number of existing and future bicycle commuters
- Land use and population density
- Existing and proposed bikeways
- Existing and proposed bicycle parking facilities
- Existing and proposed multi-modal connections
- Existing and proposed facilities for changing and storing clothes and equipment
- Bicycle safety and education programs
- Citizen and community participation
- Consistency with transportation, air quality, and energy plans
- Project descriptions and priority listings
- Past expenditures and future financial needs

In addition to these required elements, the Caltrans Highway Design Manual contains specific design guidelines that must be adhered to in California. Chapter 1000: "Bikeway Planning and Design" of the Manual sets the basic design parameters of on-street and off-street bicycle facilities, including mandatory design requirements.

Los Angeles County

The County of Los Angeles has full jurisdiction of the Los Angeles River Trail, the San Gabriel River Trail and portions of the Coyote Creek Trail. The access, maintenance and other improvements of these trails are the responsibility of the County of Los Angeles. Long Beach will try to coordinate programs and projects with the County, if the opportunity arises.

Orange County

The County of Orange also has jurisdiction of sections of the Coyote Creek Trail, where it lies within their boundaries.

Goals and Objectives of the Bicycle Master Plan

Orange County is responsible for the access, maintenance and other improvements of the trail. Long Beach will try to coordinate programs and projects with the County, if the opportunity arises.

Goals provide the context for the specific policies and recommendations discussed in the Bicycle Master Plan. The goals provide the long-term vision and serve as the foundation of the plan. The goals are broad statements of purpose that do not provide details, but show the plan's direction and give overall guidance.

Objectives provide more specific descriptions of the goal and are supported by policy and action items. The following Goals and Objectives are intended to guide bicycle planning, design, and implementation.

These goals and objectives can be reached if there is adequate funding available. The listing of specific actions related to each goal and objective, significant changes to current funding levels or procedures are noted as follows:

- Capital Funding = C
- Operating Funding = O
- Regulatory Mechanisms Required = R
- Procedural Mechanisms Required = P

The time frame and sequence for implementing the actions listed will depend upon the availability of resources needed and prioritization.

Goals

Make bicycling safer, more convenient and more enjoyable for all types of bicyclists, transportation and recreation related, with a goal to increase bicycle use by 5% by the year 2020.

Encourage more people to bicycle for transportation to provide an attractive and healthy transportation option, which will reduce traffic congestion, air pollution, and noise pollution.



**Goals and Objectives,
continued**

Develop an economical transportation option that promotes social equity.

Objective 1.0 Bicycle Friendly Roads and Bikeways

Develop bicycle friendly roads and bikeways

Policies:

1.1 Consider every street in Long Beach as a street that bicyclists will use.

1.2 Integrate the City's bicycle friendly roads and bikeways with surrounding bicycle friendly roads and bikeways to maximize connectivity.

1.3 Develop bicycle friendly roads and bikeways that serves the full spectrum of bicyclists.

1.4 Consider bicycle friendly design using new technologies and innovative treatments on roads and bikeways.

Actions:

1.1 Whenever designated bikeways are removed, they should be replaced on nearby parallel routes. (C)

1.2 Clear bike route information shall be provided to bicyclists by installing adequate signs along bikeways and by publishing bikeway system maps. (C, O)

1.3 New bicycle paths on separate right-of-ways shall be sought where it can be done safely, with convenience to bicyclists as well as being cost effective. (C)

1.4 Each time arterial and collector streets are resurfaced they should be re-striped to add width to the curb lane without compromising safety; consider designating these streets with wide curb lanes as future Class III routes. In addition, designated Class II lanes can be added where there is enough width. (C)

1.5 When any road work repairs are done by the City or other agencies such as utilities, the road shall be restored to

**Goals and Objectives,
continued**

its original quality, with particular attention to surface smoothness and re-striping suitable for bicycling. (R)

1.6 Consider new bike lanes or wide curb lanes in new and redeveloped areas. (C)

1.7 Where feasible, design bikeways beyond the minimum required widths. (P)

1.8 Whenever capital improvement projects are done at intersections, vehicle actuation should detect bicycles. (P)

1.9 Where appropriate, consider lighting on bikeways. (C)

1.10 Auto travel lanes may be replaced by bike lanes where peak hour congestion levels are anticipated to maintain acceptable levels of service, in accordance with the General Plan, for at least five years. (P)

1.11 In order to maximize the total mileage of bicycle friendly roads and bikeways throughout the City, a combination of bike lanes and wide curb lanes may be provided on major streets even if it requires some discontinuous segments. (P)

1.12 When Class I and II lanes are added or removed or when Class III streets are reconfigured or narrowed, a public review process shall be held and should specifically include the input of the bicycle community. (P)

1.13 Consider reducing speed limits on streets with bikeways. (P)

1.14 When considering landscaping along bikeways, ensure that compatible plants or trees are used. (P)

1.15 Repeal Ordinance 10.48.60 that require cyclists to use off-street bike paths that are parallel to roadways.

Objective 2.0 Comprehensive Support Facilities

Develop comprehensive support facilities for bicycling

**Goals and Objectives,
continued**

Policies

2.1 The City shall strive to ensure that bicycle support facilities are provided throughout Long Beach

Actions:

2.1 Provide convenient and secure bicycle parking at public buildings and parks. (C)

2.2 Require the use of quality bicycle racks that support bicycles well and are easy to lock to. (R, P)

2.3 Develop and distribute a manual with a set of standard design and location details for bicycle rack and lockers. The design manual should be used as a guideline for developers and building owners who will be providing bicycle parking at their site. (O)

2.4 Strengthen the Zoning Code and Congestion Management Ordinance expanding the requirements for new developments to provide safe, convenient and secure bicycle parking in new commercial, retail, industrial developments and multiple dwelling residential units. (R)

2.5 Develop an ordinance or new development mitigations requiring showers and clothing lockers in new commercial, retail and industrial developments.

2.6 Develop standards allowing reductions in auto parking as a trade-off for the provision of bicycle parking and other bicycle amenities such as shower and changing facilities. (C, O, R)

2.7 Develop a program to assist businesses in installing bike racks in retail districts. (C,P)

2.8 Add amenities such as restrooms, benches, drinking fountains, shade facilities, emergency call boxes and waste receptacles along Class I bikeways where they are appropriate and cost effective. (C,O)

Goals and Objectives,
continued

Objective 3.0 Connecting to Other Transportation

Develop and enhance opportunities for bicyclists to connect with other forms of transportation

Policies

3.1 Encourage and support using bicycles in conjunction with other forms of transportation.

Actions:

3.1 Add bicycle lockers and racks at park and ride facilities for bicyclists to transfer to transit, carpools and vanpools. (C,O)

3.2 Develop a program to install bike racks on Long Beach Transit Buses. (C,O)

3.3 Encourage the Metropolitan Transportation Authority (MTA) to allow bicycles on all rail lines, especially the Blue Line light rail, at all times of the day.

Objective 4.0: Bicycle Safety Awareness

Build awareness for bicyclists and motorists on bicycle safety

Policies

4.1 The City will encourage and support the creation of comprehensive safety awareness programs for cyclists and motorists.

Actions:

4.1 Work with local schools to implement and institutionalize a comprehensive bicycle awareness program that teaches all children to follow the rules of the road. (O)

4.2 Encourage California State University of Long Beach and Long Beach City College to implement a comprehensive bicycle awareness program for their students, faculty and staff. (O)

4.3 Encourage employers to implement a comprehensive bicycle awareness program for their employees. (O)

**Goals and Objectives,
continued**

- 4.4 Support a comprehensive bicycle awareness program for the general public. (O)
- 4.5 Enhance the awareness of police officers and bicycle patrols regarding the laws affecting bicyclists. (O)
- 4.6 Encourage the inclusion of bicycle awareness for bus operators in their existing training programs. (O,P)
- 4.7 Initiate a bicycle planning awareness program for all City staff who may take action that affect bicyclists. (O)
- 4.8 Support a public relations campaign to make cyclists aware of the importance of proper riding behavior, wearing helmets, using lights, and other bicycle safety issues. (O)
- 4.9 Support a public relations campaign for motorists that helps them understand the rights of bicyclists. (O)
- 4.10 Encourage the Long Beach Municipal Court to initiate a bicycle traffic school for those who get tickets for bicycle related infractions. (O)

Objective 5.0: Bicycle Promotion

Promote bicycling activities for work and leisure

Policies

- 5.1 Actively encourage City staff, employees, residents and visitors to use bicycles as often as possible.

Actions:

- 5.1 Encourage City officials and employees as well as other employers to participate in "Bike to Work Week" every May. (O)
- 5.2 Encourage California State University Long Beach, Long Beach City College, Long Beach Unified School District and private schools to coordinate a "Bike to School Day" event. (O)
- 5.3 Coordinate with bike shops and the Bikestation to distribute bicycle safety and promotional materials. (O)

**Goals and Objectives,
continued**

5.4 Develop and provide a local bicycle map with promotional and safety information. (O)

5.5 Coordinate with the Long Beach Convention and Visitors Bureau and the Long Beach Chamber of Commerce to encourage bicycling. (O)

Objective 6.0 Funding Sources

Identify and pursue all potential funding sources

Policies

6.1 Prioritize projects to best use available funds

6.2 At a minimum, fund bicycle projects at a level commensurate with the current percentage of trips made by bicycle (currently 1%).

Actions:

6.1 Follow all federal, state, county and local funding source guidelines and prepare projects to meet these guidelines. (O)

6.2 Coordinate with neighboring cities and counties to apply for regional funds. (O)

6.3 Continue to seek opportunities to implement bicycle projects and/or bicycle friendly improvements as part of other capital improvement projects. For example, stripe new bike lanes when streets are resurfaced, reconfigured or reconstructed. (O)

6.4 Consider the construction of new bicycle facilities and/or bicycle friendly improvements in conjunction with new development. (O, R)

6.5 Consider using traffic mitigation funds for bicycle projects and/or bicycle friendly improvements. (O)

6.6 Seek additional funding which can be generated from other sources, programs, or organizations as they become available.(O)

Goals and Objectives,
continued

Objective 7.0 **Maintenance and Monitoring**

Enhance ongoing maintenance, and monitoring of BMP

Policies

7.1 Ensure ongoing efforts that support the Bicycle Master Plan in relation to maintenance and monitoring .

Actions:

7.1 All new capital improvement projects shall go through a review process to ensure consistency with the Bicycle Master Plan. (O,P)

7.2 Continue to implement a surface management system to maintain a smooth riding surface. Surfaces should be maintained at least as close to the curb as one foot which may require the use of alternative materials other than concrete or asphalt. (C,O)

7.3 Consider an accelerated surface maintenance schedule for all designated bikeways. (C,O)

7.4 Continue the maintenance program to sweep streets and designated bikeways on a regular basis. (O)

7.5 Continue the maintenance program to keep bikeway signage and paint in good condition. (O)

7.6 Establish a baseline of bicycle counts and then continue to count the progress of bicycle use on a regular basis, especially on recently installed bike lanes or paths. (O)

7.7 Continue to monitor bicycle accidents and their locations. (O)

7.8 Initiate a maintenance improvement program which would allow bicyclists to report hazards and inconveniences, and have those things repaired in a timely manner. (O)

7.9 Establish a bicycle hotline to report safety hazards, other problems or suggestions by telephone, fax, e-mail and other new technologies.(O)

Goals and Objectives,
continued

Objective 8.0 **Bicycle Planning**

Continue to maintain the bicycle programs with ongoing planning.

Policies

8.1 Ensure ongoing efforts that support the Bicycle Master Plan in relation to planning.

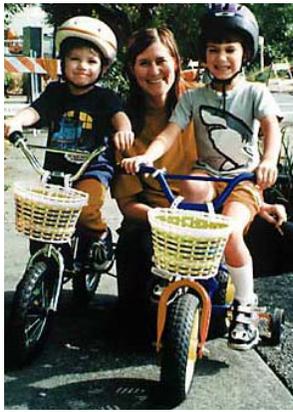
Actions:

8.1 Consider the creation of a City position of Bicycle Coordinator or Mobility Coordinator to plan and implement the Bicycle Master Plan. (O,P)

8.2 Consider the creation of a Bicycle Advisory Committee comprised of local bicyclists, City staff and other interested parties. (O,P)

8.3 Evaluate the needs to update the Bike Plan every two years. (O)

8.4 Prepare and submit to the City Council an annual Bicycle Master Plan implementation report. (O)



Long Beach Bicycle Master Plan Existing Conditions

It is important to evaluate existing conditions of the roads and bikeways in order to develop bicycle enhancements to the existing system and more importantly builds and improves upon it. Consideration of existing conditions include evaluating and assessing the bikeways, signage, support facilities, safety education, multi-modal connections and resource groups.

Definition of Bikeways

Bikeways are described by Caltrans in Chapter 1000 of the Highway Design Manual as being one of three basic types (Figure 1).

Class I Bikeway Variously called a bike path or multi-use trail. Provides for bicycle travel on a paved right of way completely separated from any street or highway.

Class II Bikeway Referred to as a bike lane. Provides a striped lane for one-way travel on a street or highway.

Class III Bikeway Referred to as a bike route. Provides for shared use with pedestrian or motor vehicle traffic and is identified only by signing.

It is important to ensure that all bikeways in Long Beach meet the Caltrans designated Class I, II and III standards. For example, Class I multi-use paths must meet specific width, clearance, curve radii, gradient, and other requirements, while Class II bike lanes and Class III bike routes must meet specific striping, signing and other requirements. Off-street paved paths do not necessarily need to meet Caltrans standards, but should not be identified as Class I paths on maps or plans. The design guidelines provided later in this plan should

Existing Conditions

help ensure consistency with accepted state and national standards.

An extensive field review was conducted of all the existing roads and bikeways in Long Beach. There are approximately 63 miles of Class I, II and III bikeways. The breakdown of the bikeways by class includes approximately 29 miles of Class I, 19 miles of Class II and 15 miles of Class III. Table 1 provides a detailed inventory of each class type, destinations, condition, comments and length in miles of each existing bikeway. Figure 2 shows the Existing Bikeways Map.

Like most cities, Long Beach has bikeways that do not provide a cohesive, gap-free network. However, the bicycling community, ranging from experienced club riders to school children, currently use the existing streets and routes for their own purposes. This plan looks at the existing opportunities and constraints to help develop a comprehensive roads and bikeways system which will make it easier for bicyclists to travel to their destinations.

Major Existing Bikeways

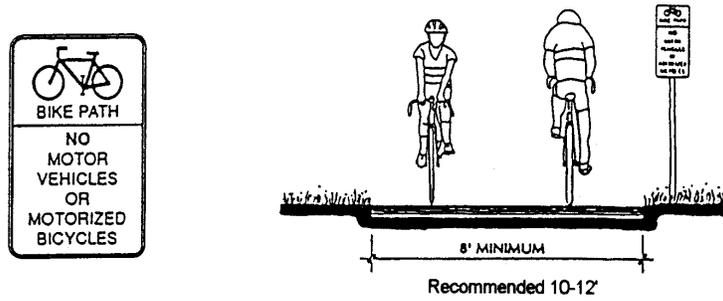


**Los Angeles River
Bike Path**

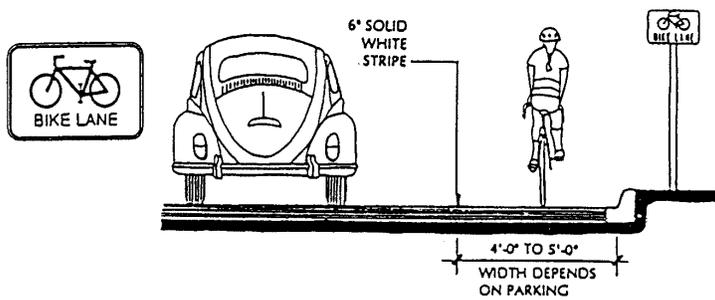
Los Angeles River Bike Path

The Los Angeles River bike path is under the jurisdiction of the County of Los Angeles and is a regional route that runs north-south throughout most of Los Angeles County and may eventually continue all the way from the San Fernando Valley to the beach in Long Beach. In Long Beach, the Los Angeles River bike path runs from the northern city limits to the beach. It links with the Shoreline Drive bike path beach bike path and then the Shoreline Beach bike path. This bikeway serves as an excellent place to ride recreationally and also provides a way to travel by bicycle most of the way from the northwest area of the city to downtown Long Beach. It has benches, trash receptacles and bicycle parking at some locations.

BIKE PATH



BIKE LANE



BIKE ROUTE

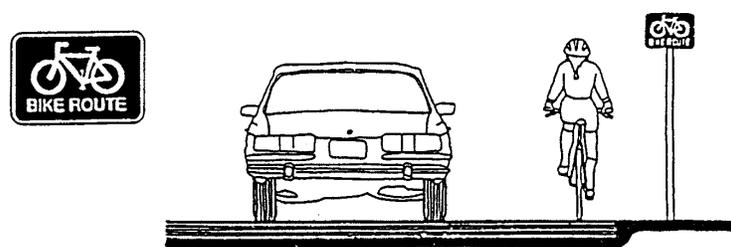
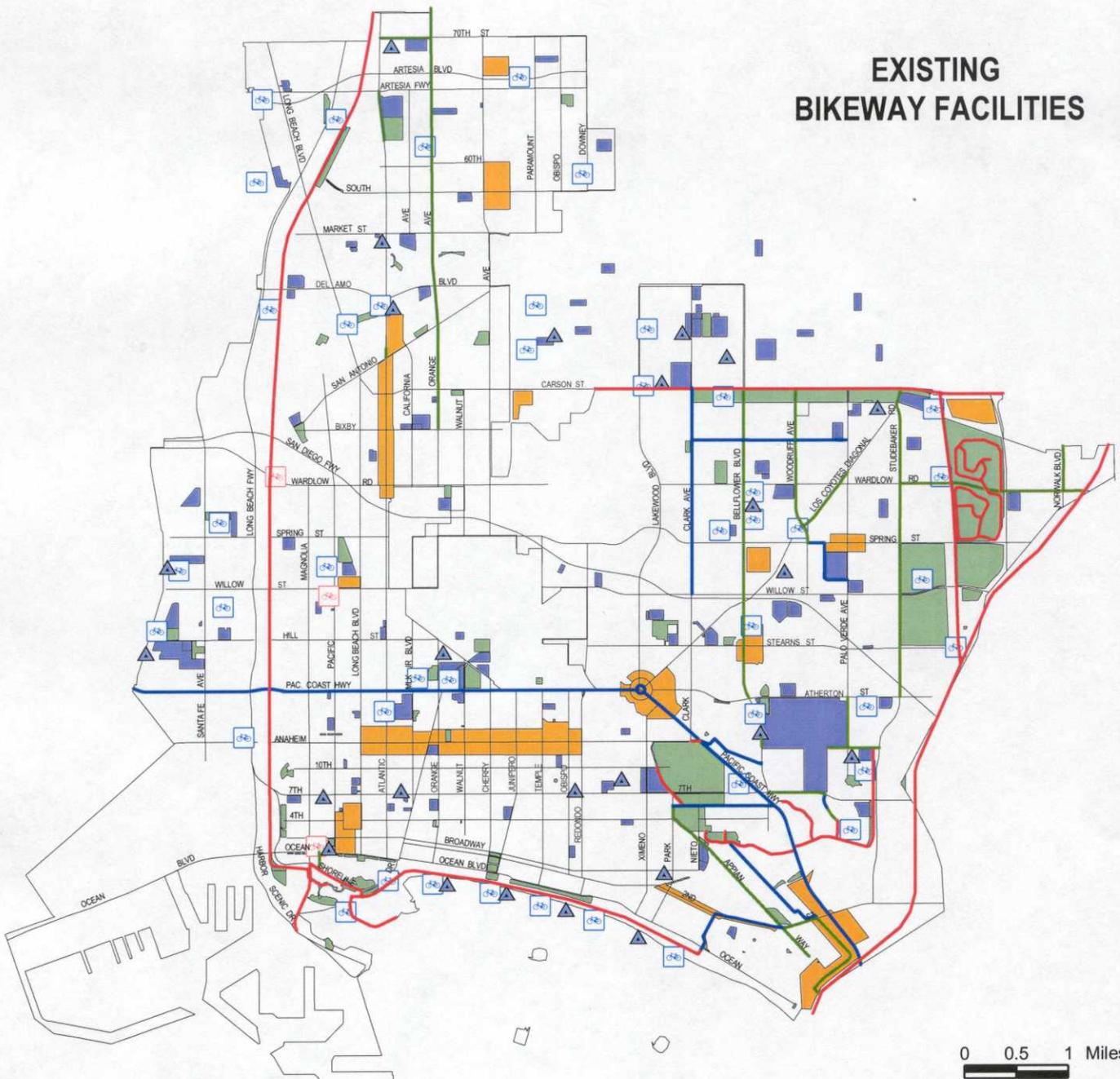


Figure 1 Types of Bikeway Facilities

EXISTING BIKEWAY FACILITIES



0 0.5 1 Miles

Existing Bike Routes:					
—	Class I		Existing Bicycle Parking		Schools
—	Class II		Existing Bicycle Parking at Transit Stations		Parks
—	Class III		Showers/Changing Facilities		Retail Centers

Figure 2
EXISTING BIKEWAY FACILITIES
 Long Beach Bicycle Master Plan

Table 1 Existing Long Beach Bikeways

Bikeway	Class	From	To	Condition	Miles
Los Angeles River bike path	I	north city limits	Shoreline bike path	good	8
Shoreline beach bike path	I	Los Angeles River	54th Place	excellent	4
San Gabriel River bike path	I	north city limits	beach	good	7
Coyote Creek bike path	I	north city limits	San Gabriel River	poor	1.5
Los Cerritos Channel bike path	I	Loynes Drive	Anaheim Road	good	1
Hartwell Park bike path	I	Lakewood Golf Course	Long Beach Towne Center; also down Studebaker and along Parkcrest Street to Karen Avenue	good	3
Atherton bike path	I	west end of CSULB	Palo Verde Avenue	non-existent	0
Eliot Street-Loynes Drive	I	Appian Way	Margo Avenue	good	1.5
Bixby Village Drive	I	Loynes Drive	Margo Avenue	good	0.5
El Dorado Park bike path	I	in El Dorado Park		fair	2
Recreation Park	I	about 1 block to end of service road; picks up again south of Deukmejian Way	Clark Avenue on the north end; 6th Street on south end	poor	0.1
Shoreline Drive bike path	I	Chestnut Place	Linden Avenue	good	0.5
Queensway Bridge	I	Shoreline Drive	Harbor Scenic Drive	good	0.5
70th Street	II	Atlantic Avenue	Orange Avenue	good	0.5
Chestnut Avenue	II	Ocean Avenue	Shoreline Drive	fair	1
Atlantic Avenue	II	Artesia Boulevard to Harding Street	43rd Street to San Antonio Drive	good	0.5
Orange Avenue	II	north city limits	Bixby Road	good	4
Bellflower Boulevard	II	Carson Street to Los Coyotes Diagonal, Stearns Street to Garfield Street	State University Drive to Anaheim Road	good	2

Bikeway	Class	From	To	Condition	Miles
Woodruff Avenue	II	north city limits	Spring Street	good	2
Palo Verde Avenue	II	Atherton Street	Anaheim Road	good	0.5
Studebaker Road	II	north city limits	Atherton Street	good	3
Margo Avenue	I/II/III	7th Street	Loynes Drive	fair	0.5
Norwalk Boulevard	II	north city limits	Wardlow Road	good	0.5
Harding Street	II	Atlantic Avenue	Orange Avenue	non-existent	0
Anaheim Road	I/II	Studebaker Road	CSULB campus	fair	0.5
Wardlow Road	II	Studebaker Road	Coyote Creek	good/fair	1.5
Marina Drive	II	2nd Street	San Gabriel River	good	1
Los Coyotes Diagonal	II	Palo Verde Avenue	Woodruff Avenue	good	0.5
Appian Way	II	6th Street	marina	fair	1.5
7th Street	II	Bellflower Boulevard	West Campus Drive	fair	0.5
Conant Street	III	Clark Avenue	Palo Verde Avenue	good	2
Spring/Snowden/Barbanell	III	Woodruff Avenue	Palo Verde Avenue	fair	.5
Pacific Coast Highway	III	west city limit	east city limit	poor	8
Anaheim Road	III	Clark Avenue	Bellflower Boulevard	good	1
6th Street	III	Park Avenue	Manila Avenue	good	1
Marina Drive	III	Eliot Street	Los Cerritos Channel	fair	0.5
54th/Bayshore/2nd	II/III	beach bike path	Marina Drive	fair	1.5

Table 1 Existing Long Beach Bikeways (continued)

**Major Existing
Bikeways, Continued**

Shoreline Beach Bike Path

The Shoreline beach bike path, on an east-west route, takes cyclists along the beach from the Catalina Island ferry terminal to Belmont Shore. It connects with the Los Angeles River bike path and the Queensway Bay bikeway. It provides a designated route to ride to the Long Beach Aquarium, the Long Beach Convention and Entertainment Center and other tourist destinations. Close to downtown, the Shoreline beach bike path can also be used to commute to work. This bikeway has restrooms, drinking fountains and bicycle parking along the way.

San Gabriel River Bike Path

The San Gabriel River bike path is under the jurisdiction of Los Angeles County. It is the longest continuous bikeway in the County following the river, north-south, from the San Gabriel Mountains to the Pacific Ocean, as well as connecting to the Coyote Creek bike path near the Orange County border. In Long Beach the San Gabriel River bike path runs from the northeast city limits to the beach. The San Gabriel bike path offers a way to commute much of the distance to the Cal State Long Beach campus, and provides access to El Dorado Park as well as the Towne Center shopping mall. It is also an excellent place for a recreational ride.

Coyote Creek Bike Path

The Coyote Creek bike path is under the jurisdiction of Los Angeles County. It begins near the east side of town where Coyote Creek flows into the San Gabriel River and continues north to Buena Park. Its link to the San Gabriel River bike path provides regional access to the San Gabriel Valley area and to Orange County. It is an excellent path for both regional commuter and recreational cyclists.

Queensway Bridge Bike Path

The Queensway Bridge bike path, in the southwestern most section of the City, provides a way for cyclists to cross over the harbor to the Queen Mary, linking the Queen Mary with other tourist destinations. On the north end it connects with the Shoreline bike path and the Los Angeles River bike path.



Orange Avenue

**Major Existing
Bikeways, Continued**



Studebaker Road

Orange Avenue Bikeway

Orange Avenue has bike lanes from the northern city limits to Bixby Road. It provides an excellent north-south route for cyclists in northwest Long Beach.

Bellflower Boulevard Bikeway

Bellflower Boulevard has bike lanes from Carson Street south, most of the way to the campus of California State University, Long Beach. It provides a north-south route between Cal State Long Beach and Long Beach City College.

Studebaker Road Bikeway

In Long Beach bike lanes on Studebaker Road run from the northern city limits to Atherton Street near Cal State Long Beach. On the north end, it links with bike lanes continuing up into the City of Lakewood. It provides access to El Dorado Park and Cal State Long Beach.

54th Street/Bayshore Avenue/2nd Street/Marina Drive

This route connects the Shoreline beach bike path with the San Gabriel River bike path. It has bike lanes part of the way, and runs as a signed bicycle route the rest of the way. It also serves the retail district along 2nd Street.

**Major Existing
Constraints**

General

The City of Long Beach is primarily a built out City with few opportunities for new development. Neighborhoods and commercial districts in the western and southern sections of the City have narrow streets and a high level of building and population density compared to the eastern and northern sections of the City, which are more suburban with long wide streets.

San Gabriel and Los Angeles River Paths

Access to both the San Gabriel and Los Angeles River Paths is difficult. In addition, there is little or no signage indicating where the entrances or exits are located.

San Gabriel River, Los Angeles River and Shoreline Beach Paths

Gaps and relatively unpleasant Class II and Class III connections on busy roads make connections between the San

Major Existing Constraints, continued

Gabriel River, Los Angeles River and Shoreline Beach Paths difficult. In particular, there is a major concern on how to connect over the Alamitos Bay, near the Long Beach Marina.

Sidewalk Paths

Long Beach has a significant number of sidewalk bikeways, mapped as Class I paths. These bikeways have significant disadvantages and should be used only in circumstances where there is "high speed or heavily traveled roadways having inadequate space for bicycles" or along bridges as described by Caltrans in the Highway Design Manual. Signage and other safety measures should be improved along these routes.

California State University of Long Beach

The California State University of Long Beach is a major destination, however there are no existing designated routes. When traveling from either the north, west or downtown areas of the City, there is no clear way to get to campus. In addition, there is no designated link to the San Gabriel River bike path, which would connect people traveling from outside the City to the University.

Airport

The Long Beach Airport, which is located in the center of the City, poses a major physical obstacle. A tunnel along Spring Street, with high speed automobile traffic and no bikeway facility or safety signage, is the only way to traverse the airport.

City Boundaries

The City of Signal Hill is located directly in the middle of the City of Long Beach, requiring inter-jurisdictional cooperation with that City for many bicycle improvements.

Existing Signing

Implementing a well planned, attractive, and effective system of network signing greatly enhances bikeway facilities by promoting their presence to both potential and existing bicyclists as well as motorist. Signing helps increase bicycle use by leading people to city bikeways and also helps increase visibility for safety reasons. There are four major types of signs, including those used to identify a route, destination signs,

**Existing Signing,
continued**

access signs and safety signs warning cyclists and motorists of each other. Surveys indicate that signage is lacking in Long Beach, and good signage would improve bicycling in the City.

Currently, the City of Long Beach has very few bike route signs. Many of the local street connections are not identified and very few continuous signs are identified at all. Some of the existing signs are difficult to read or are vandalized.

There are no destination signs in the City. These types of signs identify major destination centers and indicate the approximate number of miles to that location.

Access signs are an issue, especially at the River Bike Paths where it is difficult to find the entrances. Surveys have indicated that there are no existing signs and the installation of signs would help bicyclists access the paths.

The most common safety signs can either warn motorists of bicyclists or caution bicyclists to on coming traffic.

**Bikeway Support
Facilities**



**Blue Line Station -
Lack of Bike
Parking**

In a nationwide Harris Poll conducted in 1991, almost half the respondents stated that they would sometimes commute to work by bicycle or commute more often if there were showers, lockers and secure bicycle storage at work.

There is a need for potential commuting cyclists to have access to shower, locker and changing facilities at the end of their destination. For those cyclists needing to dress more formally, traveling longer distances or cycle during inclement weather, the ability to shower and change clothing can be as critical as bicycle storage. There are existing shower and changing facilities in most educational institutions such as the Jr. High and High Schools as well as Long Beach City College and California State University of Long Beach campuses. In addition to the City of Long Beach a few private companies and industrial sites such as Boeing have been known to have these facilities, although there is no easy way to account for them.

A bicyclist's needs for bicycle parking or storage ranges from simply locking a bike to a convenient piece of street furniture,

**Bicycle Support
Facilities, continued**



**Blue Line Station
Bike Lockers**

to storage in a bicycle locker that affords weather, theft and vandalism protection, gear storage space and 24-hour access. Bicycle parking is determined by several factors:

- Type of trip being made: whether or not the bicycle will be left unattended all day or for just a few minutes.
- Security of area: A well lighted area with supervision is optimal, although security is often determined by the bicyclist's perception.
- Value of the bicycle: the more a bicyclist has invested in a bicycle relative to their income, the more there will be a concern for protection or theft.

Class I bicycle parking facilities accommodate employees, students, residents, commuters and others who are expected to park more than two hours. This type of parking is to be provided in a secure, weather protected manner and location. Class I bicycle parking is either a bicycle locker, or a secure area like a bike corral that can be accessed only by bicyclists.

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

Bike corrals usually involve multiple racks with a movable fencing system around them that can safely store large numbers of bicycles. Either locking the enclosure or locating it near other activities with supervision provides security. Bike corrals can be found at schools, stadiums, special events, and other locations, such as a bike station.

Class II bicycle parking facilities are best used to accommodate visitors, customers, messengers, and others who are expected to depart within two hours. Bicycle racks provide support for the bicycle but do not have locking mechanisms. Racks are relatively low-cost devices that typically hold between two and eight bicycles, allow bicyclists to securely lock their frames and wheels, are secured to the ground and are

Bicycle Support Facilities, continued



Long Beach BikeStation

located in highly visible areas. They are usually located at schools, commercial locations, and activity centers such as parks, libraries, retail locations and civic centers.

A field review of Long Beach revealed that there are existing bicycle parking facilities that range from a simple bike rack to a BikeStation. In general there are bicycle parking facilities at all schools, parks and at most public buildings. Locations of these existing bicycle parking facilities are shown on the Existing Bikeways Map (Figure 2). A few notable parking and support facilities are inventoried in Table 2.

Table 2 Existing Bicycle Parking and Support Facilities

Location	Facilities
Bikestation - on 1 st Street and the Promenade	Attendant bicycle parking for 150 bicycles; 4 bicycle lockers, bicycle racks; restrooms/changing area; bicycle rental and repair; serves 1 st Street, Transit Mall and Blue Line Stations
Willow Blue Line Station	Lockers for 12 bikes at the station; bicycle racks; lockers for 20 bicycles in adjacent parking structure
Wardlow Blue Line Station	Lockers for 8 bikes; bicycle racks
Los Angeles River bike path	Scattered bicycle racks; benches, trash receptacles
Shoreline beach bike path	Scattered bicycle racks; restrooms, drinking fountains, trash receptacles
Towne Center shopping center	Bicycle racks
Shopping center at Atlantic and 45 th	Bicycle racks
California State Long Beach and Long Beach City Colleges	Bicycle racks; clothing lockers and showers

**Bikeway Support
Facilities, continued**

The survey conducted as part of this Plan, indicates that there is inadequate bicycle parking in Long Beach. In particular, not all of the Blue Line Transit stations have racks or lockers: 5th Street, Pacific, Anaheim, and Pacific Coast Highway stations. Both park-and-ride lots near the Long Beach Airport and near the Long Beach Freeway at Artesia Boulevard, do not have bicycle parking. Other major activity centers such as the Catalina Boat Dock, Belmont Pier, and shopping districts have bicycle facilities that do not seem to be conveniently located for some bicycle users.

Many of the bike racks that are provided at public buildings, parks, schools, commercial and retail areas may not meet current users preference. The racks support only the front wheel and not the entire frame of the bicycle which would provide more secure lock.

**Bicycle Safety
Education Programs**

Education is another important element in increasing the use of bicycles and improving safety. Proper educational outreach should teach bicyclists, motorists and pedestrians bicycle safety and rules of the road. Education has proven to be effective in other communities.

Currently the City of Long Beach, through its Family Safety Initiative Program, administered by the Neighborhood Services Bureau and in conjunction with the Police Department and Public Health Bureau, has received grant monies from the Office of Traffic Safety (OTS) for bicycle education at elementary schools within the Neighborhood Improvement Strategy Areas. Thirteen schools have been selected as sites for these programs. The bicycle education programs targets elementary school children grades three to six, and reaches more than 1,000 students per year. The program teaches them bicycle skills and safety rules using a standard "bicycle rodeo" exercise. Other educational games such as Safety Bingo and Safety Jeopardy test comprehension of child passenger safety, car passenger safety, pedestrian safety, school bus safety as well as bicycle safety.

In addition, the Long Beach Parks and Recreation allows volunteers from groups known as Bikes 90800, Central Bikes

**Bicycle Safety
Education Programs,
continued**

90800 and Bikes 90800 LIRO to hold bicycle repair and safety workshops. The bicycle repair and safety workshops are held every Saturday, and some weekdays. The program attracts approximately 10-30 children each week. Children can have their bicycles repaired and are also given a bicycle safety handbook, printed by the Long Beach Police Department.

Adults in Long Beach can sign up for the League of American Bicyclists' Bike Ed course offered by the Long Beach Cyclists advocacy group. This group of seasoned cyclists teaches others the rules of the road, and more importantly gives seasoned advice on how to best negotiate riding on the streets.

**Multi-Modal
Connections**

A multi-modal connection allows bicyclists to connect to some other form of transportation. These types of transportation may include buses, light rail, ferries and carpools or vanpools. It is important to link bicycles with multi-modal locations such as public transportation stations and stops as well as park and ride lots where there are carpools and vanpools. Improving these multi-modal connections is an integral part of making bicycling a viable transportation option in Long Beach.

Linking bicycles with multi-modal overcomes such barriers such as long commute trips, lack of door -to- door service, challenging routes, and other personal security concerns. There are also other commute benefits which reduce taxpayer costs, air pollution and traffic congestion with relatively low cost of investment.

In particular the four main components of integrating bicycles with public transportation are:

- Allowing bicycles on transit buses and light rail trains
- Offering bicycles parking at transit locations
- Improve road and bikeway access to transit
- Encouraging use of bicycles with transit

The two most important components of integrating bicycles with carpools or vanpools at park and ride lots are:

Multi-Modal Connections, continued

- Offering bicycle parking at park and ride lots
- Increasing the awareness of using park and ride lots for carpool connections

The Los Angeles Metropolitan Transportation Authority (MTA), which has bus service in Long Beach, has installed bike racks on most of their fleet of buses, with plans to ensure that all buses have them. The MTA bike racks are located on the front of the buses and have a capacity to hold two bicycles. Long Beach Transit (LBT), the local transit provider, does not have any bicycle racks on their fleet of buses. Bicycles are allowed on Long Beach Transit's AquaBus, which runs from Shoreline Village to the Aquarium and Queen Mary, although this primarily functions as a tourist service.

There are a few bicycle racks at some of the MTA's Blue Line light rail stations where bicyclists can secure their bicycle and then use the light rail. Bicycles are allowed on the Blue Line light rail during off peak hours, but not during peak commute hours.

At the park and ride lots, there are no bicycle racks to allow bicyclists with long commutes to meet a carpool or vanpool halfway.

There are other resources and support programs, organized by private organizations and voluntary groups that make up the bicycling community in Long Beach. The bicycle community is an important factor to consider when implementing the Bicycle Master Plan. These people will continue to act as liaisons and advocates for the Bicycle Master Plan.

Other Resources and Support Programs

Bicycle Shops - Currently, there are ten bicycle shops in Long Beach, which provide bicycle sales, supply, repair and rental. Two of the shops are advocacy-oriented and have a section of the store dedicated to bicycle information about events, safety, and other promotional material.

Long Beach Cyclists (LBC) is a local advocacy group that promotes bicycling in Long Beach. Their focus is on encouraging

Other Resources and Support Programs, continued

the use of cycling as a safe and environmentally friendly alternative to cars, educating the public on bicycle safety and improving street conditions in the City. Members of the LBC, continue to encourage Long Beach City staff and City officials to improve the bicycling environment in the City. LBC has recently affiliated itself with the Los Angeles County Bicycle Coalition, but still retains its identity and focus on local advocacy. P.O. Box 32352, Long Beach CA 90832, e-mail LBCyclists@aol.com or www.LongBeachCyclists.org.

Los Angeles County Bicycle Coalition (LACBC) is a regional advocacy organization. Its mission is to improve the bicycling environment and quality of life in the entire County of Los Angeles, which includes the City of Long Beach. Members of LACBC encourage and support the efforts of the LBC. 634 S. Spring St., #820, Los Angeles CA 90014, (213) 629-2142 phone, (213) 629-2259 fax, e-mail rpm@labikecoalition.org.

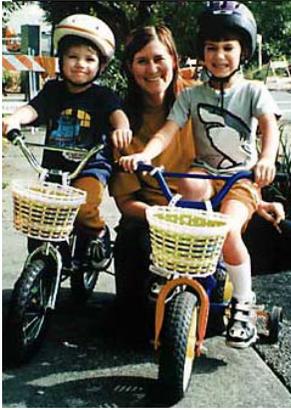
Long Beach BIKESTATION is a full service bicycle facility located in downtown Long Beach. Services offered at the BIKESTATION include valet bicycle parking, bike rentals, accessory shop, changing rooms, repairs and an outdoor café. The BIKESTATION also advocates bicycle use as a means of transportation by having educational programs, frequent rider programs, bike tours and featured speakers. First Street and the Promenade (562) 436-BIKE phone, (562) 595-0446 fax, web site www.bikestation.org

The **Bikes 90800** are a volunteer group focused on cycling for children. They work with the Long Beach Parks, Recreation and Marine Department to provide bicycle repair and education. Contact Long Beach Neighborhood Resource Center (562) 570-1010.

Long Beach Area Transportation Resource Association (LBATRA) oversees transportation programs which use traffic mitigation funds from the Airport Area Assessment District Program. LBATRA's goal is to work closely with employers, developers and the community to encourage the use of alternative transportation that will reduce traffic congestion and improve air quality in the airport area. Bicycling is one of the alternatives that they promote annually in the Bike to Work

**Other Resources and
Support Programs,
continued**

Day, held at the Long Beach BIKESTATION. 333 E. Spring Street Suite 217, Long Beach CA 90806, (562) 427-0425 phone, (562) 427-9643 fax, e-mail info@lbatra.com.



Long Beach Bicycle Master Plan Needs Analysis

The purpose of reviewing the needs of commuter and recreational bicyclists is twofold: (1) it is instrumental when planning a system which must serve both user groups of commuter and recreational riders and (2) it is useful when pursuing competitive funding and attempting to quantify future usage and benefits to justify expenditures of resources.

Bicycle Commuter Needs

Commuter bicyclists in Long Beach range from employees who ride to work to a child who rides to school. Millions of dollars nationwide have been spent attempting to increase the number of people who ride to work or school, with moderate success. Despite this fact, Long Beach has a great potential to increase the number of people who ride to work or school because of (a) the moderate size of the city, (b) moderate density residential neighborhoods near employment centers, (c) a city of easy to moderate terrain (d) favorable climate throughout most of the year, (e) high percentage of residents who work in the city, and (f) a bicycle station located in the downtown employment center. Key bicycle commuter needs in Long Beach are summarized below.

- Commuter bicyclists typically fall into one of three categories: (1) adult employees, (2) younger students (typically ages 7-15), and (3) shoppers.
- Commuter trips range from several blocks to up to five miles or more.

**Bicycle Commuter
Needs, continued**

- Commuters typically seek the most direct and fastest route available, with regular adult commuters often preferring to ride on arterials rather than side streets.
- Commute periods typically coincide with peak traffic volumes and congestion, increasing the exposure to potential conflicts with vehicles.
- Places to safely store bicycles are of paramount importance to all bicycle commuters.
- Major commuter concerns include changes in weather (rain), riding in darkness, personal safety and security.
- Rather than be directed to side streets, most commuting adult cyclists would prefer to be given bike lanes or wider curb lanes on direct routes.
- In general, a primary concern to all bicycle commuters is uncontrolled crosswalks and intersections with no stop sign or signal control.
- Commuters generally prefer routes where they are required to stop as few times as possible, thereby minimizing delay.
- Students riding the wrong-way on a street are common and account for the greatest number of recorded accidents in California, pointing to the need for safety education.

**Recreational Bicycle
Needs**

The needs of recreational bicyclists in Long Beach must be considered, as they are often different from commuter bicycle needs. Most recreational cyclists are riding in neighborhoods to destinations such as parks, schools, beaches, etc. Recreational cycling in Long Beach is attractive because: (a) a variety of recreational destinations such as parks, beaches, river paths, Queensway Bay, etc (b) moderate to easy terrain (c) moderate climate throughout most of the year (d) a diverse population of children, adults and seniors who enjoy leisure time on a bicycle.

Recreational Bicycle Needs, continued

The following points summarize recreational needs:

- Recreational bicycling in Long Beach typically falls into one of three categories; (1) exercise, (2) non-work destinations such as parks or beaches (3) touring, long distance treks or events.
- Recreational users range from healthy adults to children to senior citizens. Each group has their own abilities, interests and needs.
- Directness of the route is typically less important than routes with less traffic conflict. Visual interest, shade, protection from weather elements, moderate gradients or other "comfort" features are also very important.
- People exercising or touring often prefer a loop route rather than having to backtrack.

General Bicycle Safety Needs

Safety ranks as one of the top concerns for bicyclists when considering riding either for commuter or recreational purposes. Although there are bicycle safety programs in Long Beach held through the City's Family Safety Initiative in conjunction with the Neighborhood Services Bureau, Police Department, Public Health Bureau, Parks and Recreation volunteer programs, and League of American Bicyclists Bike Ed course conducted by the Long Beach Cyclists, there is no standardized reporting system. Thus, it is difficult to determine their effectiveness. Other communities with successful bicycle safety programs have found such programs to be of great value in improving safe cycling.

Although there were no outstanding safety hazards noted during field research conducted for this Plan, bicyclists mentioned some of their safety concerns through the public workshops. These include potholes, railroad tracks, narrow streets in the downtown area, multiple driveways in commercial districts and neighborhoods, poor or no lighting along some bike paths, and increased speed of traffic.

Identified Needs

Public Workshops

Two sets of public workshops were held in Long Beach on April 18, 19, 25, and 26 and on July 25, 26 and August 1 and 2 during the year 2000. Announcements for the public workshops were made through the City of Long Beach Public Information Office, local newspapers, ten bicycle shops, and the Bikestation. Workshops were held at four different neighborhood locations for residents' convenience. Spanish and Khmer translators were available at two of the meetings. At the first set of workshops, attendees were asked to identify their bicycle needs both verbally and on a written survey. They were also asked to show on large-scale maps of the City their current riding habits and views on bicycling opportunities and constraints in Long Beach. A presentation was made of preliminary recommended routes and policies at the second set of workshops.

In addition to the two sessions of workshops mentioned above, the public was given a final opportunity to comment on the Draft Bicycle Master Plan at a single workshop held on February 12, 2001 during the 30 day review process. The same public outreach and notification that was done for the previous workshops were carried out for the final public workshop and translators were also provided.

Bicycle Survey

Additionally, 1,000 surveys were distributed at ten local bicycle shops and the BikeStation, two YMCAs, at City Hall and in coordination with the Long Beach Unified School District. Surveys were available in English and Spanish. There were 56 surveys returned, of which approximately half were from the general adult public and the other half were from school aged children. Results of the surveys, workshop and subsequent correspondence, especially from the Long Beach Cyclists organization, and field review are presented in Figures 3 through 7. A sample survey and additional detailed comments are included in Appendix A and B.

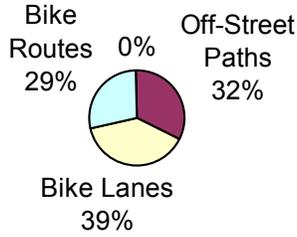
Although a statistically insignificant number of surveys were returned, there are deductions and trends that can be summarized:

*Bicycle Survey,
continued*

- The preferred type of bicycle facility is on street bike lanes, which ranked as number one at 45%.
- The majority of riders, 52%, ride their bicycles occasionally 1-6 times per month. The daily riders only make up 23% of bicyclists.
- The trip purpose for bicyclists fall into highest order of use: 71% recreation, 46% shopping, 46% other, 36% work and 29% school.
- Distance from work or school is quite close in proximity to home with 62% stating that their distance is 1-5 miles. Longer distances rank more evenly with 13% at 6-10 miles and 14% at 11 miles or more.
- The primary reason for not riding a bicycle more often is the lack of bikeways, which ranked number one by 32% of the respondents. The other number one rankings noted as reasons not to cycle are 18% for weather, 16% for safety and 16% for parking.

As part of the survey, people were also given the opportunity to list specific comments about constraints and opportunities. These comments have been organized by category: marketing or education, connectivity or multi-modal, activity centers, maintenance, signage, signals or intersections, safety, parking and other.

**Figure 3:
Most Preferred Bikeway Facility**



**Figure 4
Current Level of Bicycling**

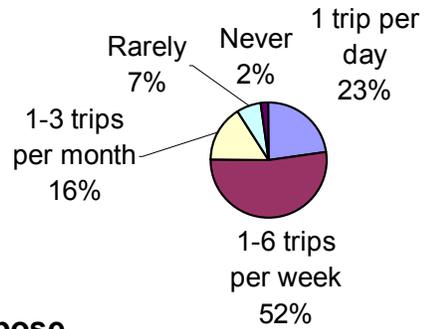
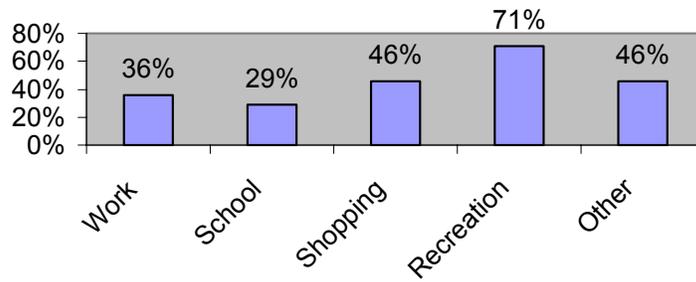
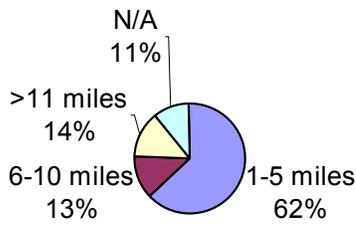


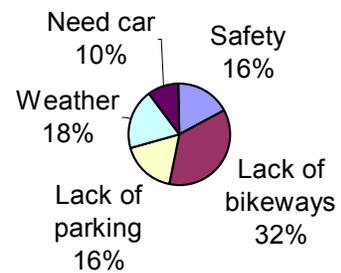
Figure 5 Bicycle Trip Purpose



**Figure 6
Distance of home from work/school**



**Figure 7
Factors inhibiting more frequent riding**



***Bicycle Survey,
continued***

Additional comments concerning constraints and opportunities include:

- Marketing and education is mentioned as a top concern with 43% of the respondents seeing the need for education to schools, adults, courts and general classes for the public. Suggestions of providing bike route maps are also included as part of a marketing campaign by 7% of the respondents. In addition marketing campaigns to Chambers of Commerce and the Convention and Visitors Bureau was mentioned in workshop discussions.
- The importance of access to activity centers such as the colleges, entertainment areas, shopping and public buildings is important to 31% of the respondents.
- Parking is another issue for bicyclists, generating comments by 29% of the respondents. Various types of parking issues including more parking in general, location of parking and types of parking racks was mentioned.
- Safety issues are mentioned by 28% of the survey respondents who have concerns ranging from lighting to law enforcement.
- Improvements in signals, intersections and auto lane issues generated a response by 27% of the survey respondents who want to see things such as signal detectors sensing bicycles, wider curb lanes and a variety of other improvements.
- Signage is an issue for 27% of the respondents asking for general signs, directional signs, access signs and warning signs.
- The concern for maintenance issues ranging from general maintenance to potholes and resurfacing streets is mentioned by 22% of the respondents.

*Bicycle Survey,
continued*

- Multi-modal connections are important to 14% of the respondents who want to have racks on buses and parking at light rail stations.
- Other miscellaneous comments ranged from 7% suggesting a bicycle coordinator, 5% hoping for more funding dedicated to bicycles, 4% wanting bicycle incentives, 4% suggesting that all capital improvements comply with the plan and 2% of the comments ranged from issues referring to a bicycle advisory committee, bathrooms along the river, car conflicts, international bicycle standards, changing facilities and turn outs for diagonal railroad crossings.

People were also given the opportunity to identify specific streets where they thought there were opportunities for bicycle paths or routes, as noted in Table 3.

This preliminary list of routes provides a base map to consider, especially since active bicycle riders suggested the streets. The suggested routes which rank more than 9% on the survey are mentioned below:

- All river bed bicycle paths in or near Long Beach, which includes the San Gabriel River, Los Angeles River and Coyote Creek.
- Clark Avenue which runs north/south through the City of Long Beach
- Improvements on Pacific Coast Highway, an existing east/west route, known as the bikecentennial national bikeway system throughout the United States.
- Second Street as an east/west route near downtown Long Beach to the Belmont Shore area .

Bicycle Enforcement

Many potential bicyclists cite the fear of traffic as one of their main objections to riding a bicycle in an urban community such as Long Beach.

In order to attempt to make bicycling safer, the Long Beach Police Department enforces all traffic laws, for bicycles and motor vehicles as part of their regular duties. This includes bicyclists who break traffic laws, as well as motorists who disobey traffic laws and make the cycling environment more dangerous. The level of enforcement depends on the availability of officers.

It is difficult to assess the effectiveness of police enforcement, since there is no monitoring system in place.

Accident Analysis

Bicycle related accidents were collected for the past three year from 1997, 1998 and 1999 in Long Beach. Accident data was generated from both the City of Long Beach Police reports and the California Highway Patrol SWITRS data. Both the Long Beach Police reports and SWITRS were cross referenced for duplicate as well as additional accidents. The total bicycle related accidents for the three years is 936, with the following breakdown :

- 1997 = 294 bicycle related accidents
- 1998 = 345 bicycle related accidents
- 1999 = 297 bicycle related accidents

Given the 936 accidents reported during the three year period, it seems that bicycle related incidents are to be considered as an important issue in Long Beach. Compared to other communities in California based on the number of incidents per 1,000 persons, Long Beach's rate is approximately 0.71% calculated by an average of 300 accidents each year and a 1995 estimated population of approximately 425,000 residents. This 0.71% rate of incidents is slightly above the average of 0.67% of incidents per 1,000 persons in over 30 other California cities.

Like most communities, there are no accident areas of high

**Accident Analysis,
continued**

concentration. In fact, in over three years only one accident was reported at the same location twice. The accident incidents are scattered throughout the City with no single intersection or major street having the most reported accidents. In addition, the accidents are reported on major streets with high traffic volumes as well as in neighborhoods with less traffic.

The data indicates that there is not a huge variance as to which days accidents occur. Thursday accounts for the highest percentage of accidents at 20% while Wednesday, Saturday and Sunday all account for the lowest percentage at 12%.

Most accidents occur in the summer months of July and August with a percentage of 11% and 13% respectively. All other months range from 5% to 9% each month.

The majority of accidents occur during the afternoon and evening hours at a rate of 79%, while only 21% of the accidents occur during the morning hours.

The number of bicycle-related accidents hasn't changed much in the past three years, so it is difficult to assess the effectiveness of the safety program and police efforts. However, since the accident rate is within the range of the state average, these efforts are likely helping.

**Traffic and Air
Quality Benefits**

A key goal of the Bicycle Master Plan is to maximize the number of bicycle commuters in order to help achieve larger transportation goals such as minimizing traffic congestion and air pollution. In order to set the framework for these benefits, national statistics and policies are used as a basis for determining the benefits to Long Beach.

- Currently, nearly 3 million adults (about 1 in 60) commute by bicycle. This number could rise to 35 million if adequate facilities were provided (according to a 1991 Lou Harris Poll).
- Bicycling is one of the most popular forms of recreational activity in the United States, with 46% of

**Traffic and Air
Quality Benefits,
continued**

Americans bicycling for pleasure. These figures indicate that based on the total population of 425,000 Long Beach residents in 1995, more than 195,000 residents in Long Beach do or would like to bicycle for pleasure. If nothing else, this indicates a latent demand for facilities and a potent constituency to push for better facilities. Another way of saying this is, if you build it, they will come.

- The latent need for bicycle facilities, versus actual bicyclists, is difficult to quantify; we must rely on evaluation of comparable communities to determine potential usage.
- Mode split refers to the choice of transportation people make whether for work or non-work trips. Currently, the average household in the U.S. generates about 10 vehicle trips per day. Work trips account for less than 30% of these trips on average.
- Using the 1990 U.S. census data adjusted for current population numbers, about one percent all employed Long Beach residents commute primarily by bicycle. This does not include those who ride to work less than 50% of the time, nor does it always include those who may walk or ride to transit and list transit as their primary mode. Based on a total employed population of 211,833 in 1990 approximately 3,175 people in Long Beach would use a bicycle to commute.
- Nationally, the mean travel time for bicycle and pedestrian commuters was 14.2 minutes, which translates roughly into a commute distance of about 3.5 miles for bicyclists.
- The U.S. Department of Transportation in their publication entitled National Walking and Bicycling Study (1995) sets as a national goal the doubling of current walk and bicycling mode shares by the year 2010, assuming that a comprehensive bicycle system was in place. This would translate into a full-time commute bicycle mode share of 2.0% or about 4,000 commuters in

Long Beach. However, adding in the estimated number of commuters who bicycle occasionally, bike-to-transit, and students at local schools, the average number of daily bicyclists in Long Beach increases to over 25,000, with an estimated 50,000 bicycle commuters by 2010. These bicyclists will be saving an estimated 35,000 vehicle trips and over 135,000 vehicle miles per year.

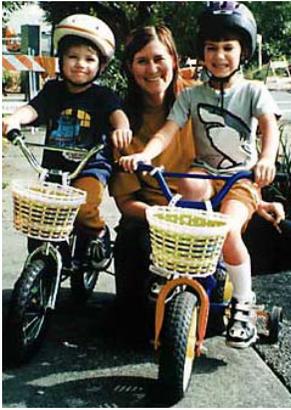
- The combined air quality benefits of these future bicycle commuters over the next 20 years are an annual reduction of tens of thousands of pounds of reduced air pollutants like particulate matter (PM10), nitrogen oxides (NOX) and reactive organic gases (ROG). The annual reduction of pollutants is estimated at 2,457 pounds of PM10, 6,660 pounds of NOX and 9,694 pounds of ROG.

Table 3 provides a detailed summary of current and future bicycle demand and benefits.

Table 3 Bicycle Demand and Air Quality Benefits

Population (1990 census)	425,000
Land area (estimated)	50 sq. miles
Population Density	8,500 persons/sq. mile
Estimated Long Beach residents who would like to bicycle	195,000
Current bicycle commute mode share (1990 census, full-time identified bike commuters)	1,929 (.97%)
Estimated current bicycle commuters, including students, part-time commuters, and bike-to-transit	25,175 (5%)
Potential future bike commuters, full-time	4,858 (2%)
Potential future bike commuters, including students, part-time commuters, and bike-to-transit	44,492 - 70,167*
Current reduced vehicle trips/year	35,739
Current reduced vehicle miles/year	133,522
Current reduced PM10/lbs/year	2,457
Current reduced NoX/lbs/year	6,660
Current reduced ROG/lbs/year	9,694

* The range of potential commuters depends on the implementation rate of the proposed bikeway system. The higher end number reflect the potential ridership once the network is completely built-out, while the lower number reflects the implementation of the short-term improvements only.



Long Beach Bicycle Master Plan Recommended Improvements

The recommended system and improvements consists of three distinct components 1) a bicycle friendly roads and bikeways system 2) bicycle parking and support facilities and 3) related safety, education and community and employer outreach.

Bicycle System

Bicyclists are allowed on all streets and roads (except limited access highways) regardless of whether they are a part of the bikeway system. The bikeway system is a tool that allows the City to focus and prioritize its implementation efforts.

The recommended Long Beach bikeway system focuses on connecting existing segments of bike lanes, addressing routes used by bicyclists, and analyzing specific opportunities and constraints. The street grid pattern offers several distinct through corridors connecting residential areas with activity centers such as downtown, schools, and parks. The bicycle network is based on a primary system of north-south and east-west corridors, using a combination of paths, lanes and routes. The bikeway projects are broken down into short, mid-and long-term categories. The proposed short-term bikeway system improvements are shown in Figure 8 and the medium/long-term in Figure 9.

The top short-term bikeway projects were selected by staff, the public, and consultants based on their local knowledge and cycling experience, the orientation of funding programs, and other planning criteria.

PROPOSED BICYCLE FACILITIES -- SHORT-TERM

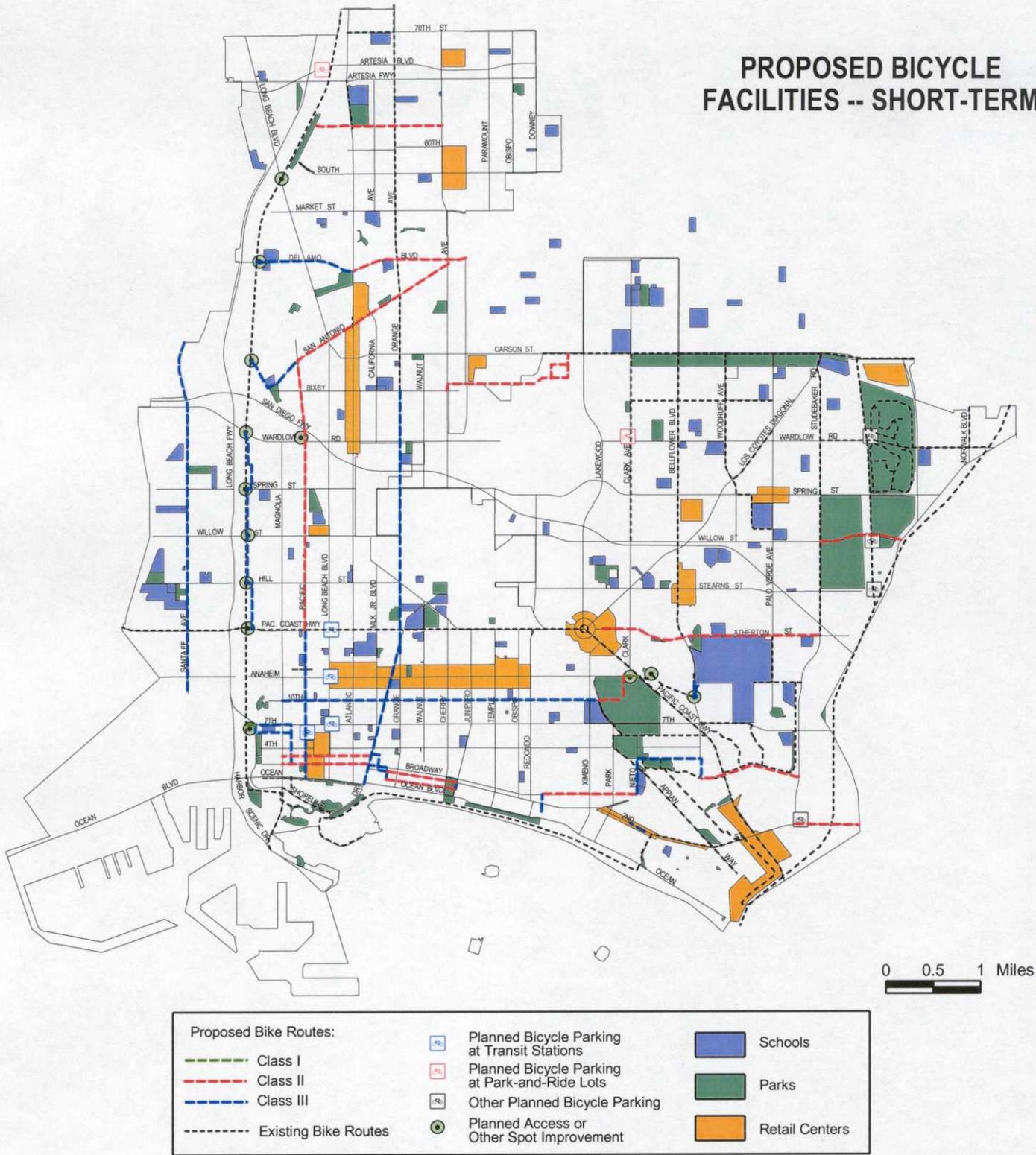


Figure 8

PROPOSED BICYCLE FACILITIES -- SHORT-TERM

Long Beach Bicycle Master Plan

PROPOSED BICYCLE FACILITIES -- MEDIUM AND LONG-TERM

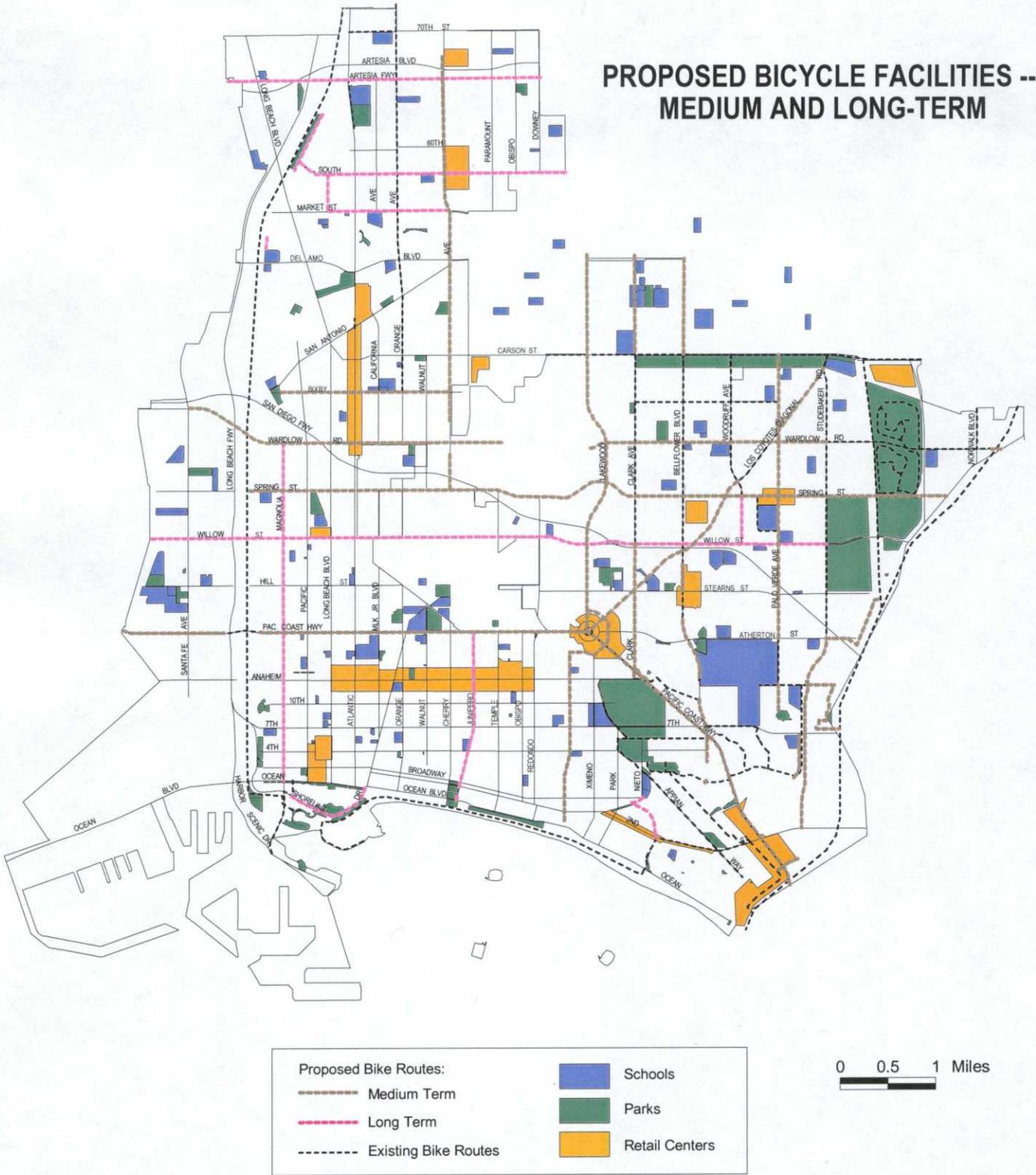


Figure 9
PROPOSED BICYCLE FACILITIES -- MEDIUM AND LONG-TERM
 Long Beach Bicycle Master Plan

Creating a Bikeway System

There is an established methodology for selecting a bikeway system for a community which includes careful assessment of the existing system, the input from the community and consultants expertise.

The existing network of bikeways in the City and in adjacent cities and counties provides a basis for Long Beach. The process and specific analysis of the existing conditions is explained in the previous chapters.

The real human factor is input from the local bicycle community and City staff who are already familiar with the constraints and opportunities in Long Beach. Input was received through three public workshops sessions, Technical Advisory Committee meetings and surveys at which time participants were asked to identify and prioritize potential routes and programs that would meet their bicycle needs.

In addition, the consultant team considered more technical criteria to select the most feasible projects.

- Connectivity
- Travel volumes and speeds
- Amount of side friction (driveways, side streets)
- Curb-to-curb width
- Pavement condition
- Access from residential areas
- Number of destinations served (schools, employment centers, transit stations, parks, etc.)
- Topography
- Integration into the regional system
- Adjacent land use
- On-street parking
- Accident data and safety concerns
- Existing bicycling patterns
- Existing bottlenecks or constraints
- Existing opportunities such as planned roadway improvements

The Long Beach bikeway system has been developed using such criteria and the results total 35 ranked bikeway projects. The bikeway projects are ranked (see Table 4) based on a weighted

Recommended Short-Term Bikeway System and Projects

scoring system from 1 to 5; 1 being the lowest and 5 being the highest score based on the following criteria:

1. Destinations served
2. Public and Technical Advisory Committee (TAC) preferences
3. Coverage and connectivity
4. Cost-effectiveness and ease of construction
5. Safety (elimination of problems or improvement of existing conditions)

The scores are based on the information returned from the public, TAC and the judgment of the consultant team.

The projects that received a score of 19 or above are the top priority projects for short-term project implementation and are targeted for completion in the next five years. There are ten bikeway projects ranked in the short-term category:

- Downtown-Alamitos Bay Bikeway
- Los Angeles River Access
- Midtown 10th Street Connection
- CSULB
- Alamitos Avenue-Orange
- Westminster Avenue Bikeway
- Pacific Avenue-San Antonio Drive Bikeway
- Del Amo Boulevard Bikeway
- Pacific Center Boeing Site
- Harding Street

In addition to the nine ranked projects, three additional projects are suggested for the short-term. These other programs include:

- Bikeway signing program
- Bicycle parking
- Bicycle safety education

Recommended Mid- to Long-Term Bikeway System

Those projects that scored between 14 and 18 are mid-term Projects that are planned for implementation between six and 15 years. Fifteen mid-term projects include:

- Spring Street Bikeway
- Shoreline Pathway Feasibility Study
- West Wardlow Road
- Termino Avenue -Lakewood Boulevard
- Bellflower Boulevard
- Studebaker Road
- Los Coyotes Diagonal
- College Park Drive - Stevely Avenue - Anaheim Road
- Clark Avenue
- Santa Fe Avenue
- Cherry Avenue
- Palo Verde Avenue
- Bixby Road
- Pacific Coast Highway
- East Wardlow Road

The remainder of the bikeway projects ranking 9 to 13 are long-term Projects, planned for implementation between 16 and 20 years from plan adoption. There are ten projects in the long-term:

- Junipero Avenue
- Magnolia Avenue
- Willow Street
- Artesia Boulevard
- Woodruff Avenue
- Toledo-Livingston Drive
- Shoreline Drive
- Market Street
- South Street
- Atherton Street Bridge at Willow

The short, mid-and long-term schedule may change according to available funds, changing priorities, other roadway projects that coincide, or other factors. Mid-term and long-term projects are less defined than short-term projects.

***Recommended Project
Sheets***

Each recommended short-term project is presented on its own Project Sheet. The Project Sheets are designed to be used as a direct resource and addendum to funding applications. Each Project Sheet provides key information on the proposal including cost, location, and sample cross sections.

In addition to implementing the recommended short-term projects, all of the action items identified in the goals and objectives section should be implemented, as resources become available. The action items create the framework for an effective bicycle system and are an important means of implementing and maintaining the policies established in the Plan.

Table 4 Bikeway Project Rankings

Bikeway Project	Destinations Served	Public/TAC Preference	Coverage/Connectivity	Cost-Effectiveness/Ease of Construction	Safety	TOTAL
Downtown-Alamitos Bay	5	5	5	3	4	22
Los Angeles River Access	5	5	5	3	3	21
Midtown 10 th Street Connection	5	4	5	3	3	20
CSLUB	5	3	4	5	3	20
Alamitos Avenue-Orange Avenue	5	4	4	5	2	20
Westminster Avenue	3	3	4	5	4	19
Pacific Avenue-San Antonio Drive	5	2	5	4	3	19
Del Amo Boulevard	3	5	4	3	4	19
Pacific Center Boeing Site	3	5	3	5	3	19
Harding Street	3	5	2	5	4	19
Spring Street	3	3	5	4	3	18
Shoreline Pathway Feasibility Study	4	2	5	2	5	18
West Wardlow Road	4	2	4	4	4	18
Termino Avenue-Lakewood Boulevard	3	3	4	4	3	17
Bellflower Boulevard	4	3	2	4	4	17
Studebaker Road	2	3	3	5	4	17
Los Coyotes Diagonal	3	3	3	5	3	17
College Park Dr.-Stevely Ave.-Anaheim Rd.	5	2	3	4	2	16
Clark Avenue	3	2	4	4	3	16
Santa Fe Avenue	2	2	4	5	2	15
Cherry Avenue	2	2	3	4	4	15
Palo Verde Avenue	3	3	3	3	3	15
Bixby Road	2	2	3	5	3	15
Pacific Coast Highway	3	3	4	3	2	15
East Wardlow Road	2	2	2	5	3	14
Junipero Avenue	2	1	4	5	1	13
Magnolia Avenue	3	2	3	3	2	13
Willow Street	3	3	2	2	2	12
Artesia Boulevard	2	1	3	3	3	12
Woodruff Avenue	1	1	2	5	2	11
The Toledo-Livingstone Drive	2	1	3	3	2	11
Shoreline Drive	3	1	1	4	2	11
Market Street	2	1	3	3	1	10
South Street	1	1	3	3	1	9
Atherton Street Bridge at Willow	3	1	3	1	1	9

**Project 1:
Bikeway Signing
Program**

Signs help bicyclists find and travel on routes. The signs also provide a safety measure for both bicyclists and motorists.

*Ranking - Short-term
General*

This project consists of bicycle logo signs, directional signs, safety signs, location signs, bicycle stencils and kiosks as approved by Caltrans.

*Responsibility - Long
Beach City*

- Bicycle Logo Signs posted along the primary north-south and east-west corridors. This type of sign helps direct travel by having a bicycle logo and can also have signs that indicate the total number of miles to the end destination. A recommended bike logo sign for Long Beach is shown in Figure 10.

*Existing Problem - Lack
of existing signs*

Classification - N/A

Length/Width - N/A

- Bike Route and Bike Lane Signs are posted where existing or new bikeways conform to specific Caltrans standards. These signs provide assurance to cyclists that they can expect a consistent type of bikeway. In addition, the signs help advise motorists to expect bicycles on the designated street. This type of signage also illustrates a bicycle logo and can have distance indicators in miles to the final destination.
- Safety Signs can be created that warn either motorists of bicyclists or caution bicyclists of oncoming motor vehicles. Both of these types of signs help increase safety.
- Location signs are needed to help bicyclists use off street bike paths more easily. In particular, it is difficult to find the riverbed bike paths entrances, and once on the bike path it is difficult to determine where to get off the path to access other routes or destinations in the City. Location signs for access and street exits are recommended for the river bike paths as well as the beach bike paths.
- Kiosks could be placed along some Class I bicycle paths such as the beach bike path and river bike paths that include a map and other helpful information about the route, safety and the City.

**Bikeway Signing
Program, continued**

- Bicycle stencils on the pavement, once approved by Caltrans are recommended on bikeways.

Implementation

The implementation phasing of a bicycle signing program would prioritize signs by

- Improving or replacing signs on existing bikeways
- Determining and installing location signs on off street bike paths
- Determining and installing safety signs throughout the city
- Determining and installing kiosks on certain bike lanes
- Including signs on all short-term priority bikeways
- Including signs on mid- and long-term bikeways

**Figure 10
Recommended
Bike Logo Sign
for Long Beach**



**Project 2:
Bicycle Parking
Program**

The bicycle community has identified the lack of bicycle parking as one of the major obstacles in using cycling for transportation.

*Ranking - Short-term
General*

Specific bicycle parking design guidelines should be developed to help city staff, developers and commercial districts.

*Responsibility - Long
Beach City and Private
Businesses*

Guidelines will determine the location and type of bicycle parking to be provided as well as create standards for new development in which a required amount of bicycle parking be allocated based on gross leaseable square feet. An example of parking guidelines are provided in the Design and Maintenance Chapter of this Plan.

*Existing Problem -
Inadequate bicycle
parking throughout the
City*

This Citywide program would provide and install and upgrade bike racks at parks, public buildings, transit centers and stops, park and ride lots and some bike paths:

Classification - N/A

- Bicycle lockers and racks at the park-and-ride stations at Artesia Boulevard and the Long Beach Freeway; and at Donald Douglas Loop and Wardlow Road

Length/Width - N/A

- Racks in all parks that now have no bicycle parking
- Racks in front of all City buildings, community centers and libraries that have no bicycle parking
- Racks along the San Gabriel River bike path scattered near the exits (Westminster Avenue, Pacific Coast Highway, the intersection of Coyote Creek, Willow Street, Wardlow Road and Del Amo Boulevard)

The City should also set up a "business bicycle parking program" to permit racks on request of the local businesses on City property in retail districts citywide. The following locations are suggested and should be considered as priorities:

Disposal/Re-use

- Downtown
- The Convention Center area

**Bicycle Parking
Program, continued**

- 2nd Street in Belmont Shore
- The Queensway Bay
- The entire length of 4th Street
- The entire length of Broadway
- 10th Street from Pacific Avenue to Ximeno Avenue
- Anaheim Street from Long Beach Boulevard to Ximeno Avenue
- The area of the intersection of Pacific Coast Highway, Atherton Street, Lakewood Boulevard, and Ximeno Avenue
- Atlantic Avenue from 33rd Street to 45th Street
- The entire length of Long Beach Boulevard
- Cherry Avenue from Market Street to 60th Street and just north of the Artesia Freeway
- Bellflower Boulevard near the intersection of Stearns Street
- Spring Street near the intersection of Palo Verde Avenue

The implementation program would:

Implementation

- Install at all locations governed by the City such as parks, libraries, and City hall
- Create the "business bicycle program" targeting the areas listed above
- Coordination with MTA for Blue Line locations
- Coordination with Park-and-Ride Lots
- Coordination with County bike paths
- Ensure bicycle parking at new developments
- All bicycle facility parking should be considered for safety, access and other issues

**Project 3:
Bicycle Safety
Awareness Program**

The bicycle safety awareness program will teach bicycle safety to children, adults and other groups that encounter bicyclists. A specific curriculum geared for each audience, along with a handbook or other literature is recommended.

*Ranking - Short-term
General*

*Responsibility - Long
Beach City and other
organizations*

*Existing Problem - Need
to improve bicycle
safety for various user
groups*

Classification - N/A

Length/Width - N/A

- Children - Although a bicycle safety program exists in the way of bike rodeos, there should be some monitoring of the programs to ensure that all children in public schools go through a bicycle safety program before they graduate. In addition, comprehensive bicycle safety should be taught to junior high students as well as those who are taking drivers education classes.
- Adults - A safety education component will also be available to adults at employment sites, college campuses and on selected weekends for the general public. The safety education should include both bicyclists and motorists.
- Other Groups - Safety education should be taught to those people who come into contact with bicyclists or are involved in bicycle programs. These groups of people may include Long Beach Transit drivers, Long Beach Police, and Long Beach City staff. Bicycle safety education can be incorporated into existing training or orientations.

Implementation

The implementation of this program should prioritize those groups that are most easily accessible, and then develop programs for other groups as follows:

- City staff
- City police
- School-aged children
- Adults on college campuses
- Adults at employment sites
- Adults in the general public
- Long Beach Transit drivers

**Project 4:
Downtown-Alamitos
Bay Bikeway**

A major east-west connector and alternate route to Ocean Boulevard and Westminster Avenue for bicyclists. This bikeway will link downtown with the south side of the Cal State Long Beach campus, traveling through multi-family and single family neighborhoods on the way.

*Ranking - Short-term
#1*

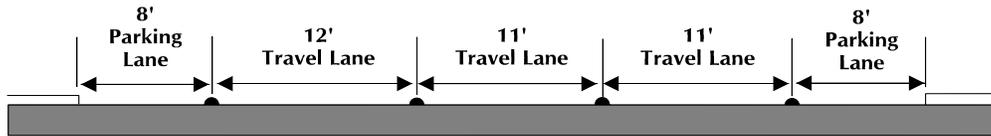
*Responsibility - Long
Beach City*

*Existing Problem - Need
for East-West
Connector*

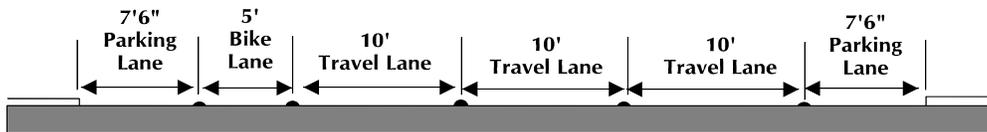
*Classification - mix of
Class II and Class III*

*Length - approximately
8 miles*

- One-way couplet 3rd Street and Broadway from Magnolia Avenue to Alamitos Avenue with Class II bike lanes; Broadway is wide enough for Class II bike lanes with restriping, 3rd Street may require removal of one of the three lanes, if feasible for Class II bike lanes, and if not would therefore need to be Class III or an alternative route (see Figures 11, 12, and 16)
- Broadway eastbound route continues from Alamitos Avenue to Cerritos Avenue, and down Cerritos Avenue to 1st Street as a Class III route; 3rd Street connection follows Bonito Avenue from 2nd Street to 3rd Street as a Class III route
- From Cerritos Avenue/Bonito Avenue to Junipero Avenue Class II bike lanes on the right side of 1st and 2nd Streets coupled one-way with angled parking; at Junipero Avenue the eastbound route connects 1st and 2nd Streets as a Class III (see Figure 13)
- There is no designated connection from Junipero Avenue to Loma Avenue. Bicyclists are free to find a convenient route.
- Class III route up Loma Avenue from 1st Street to Broadway
- Class II bikeway on Broadway from Loma Avenue to Nieto Avenue (see Figure 14)
- Class III route on Nieto Avenue from Broadway to Colorado Street
- Class III route on Colorado Street to Bellflower Boulevard

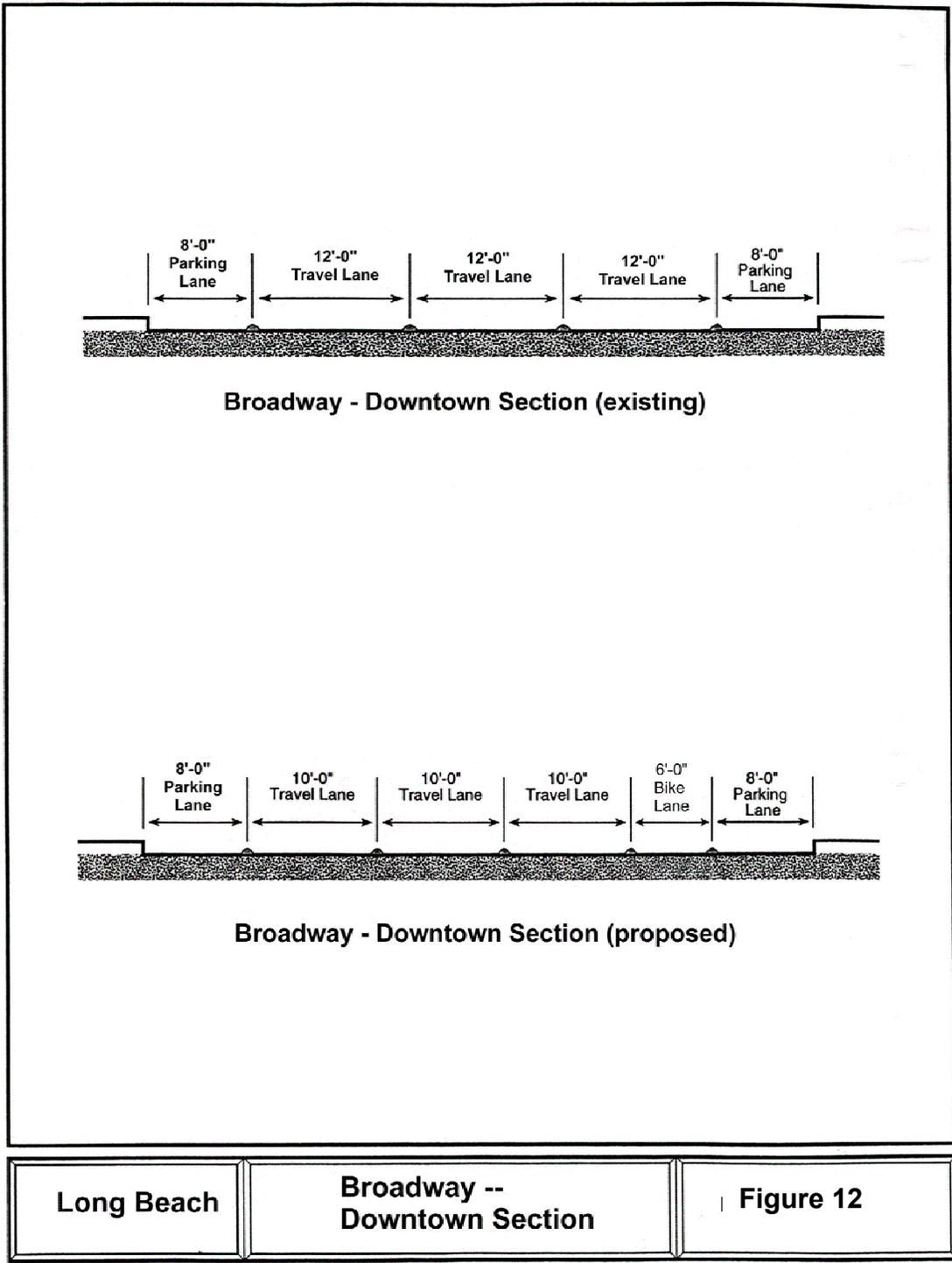


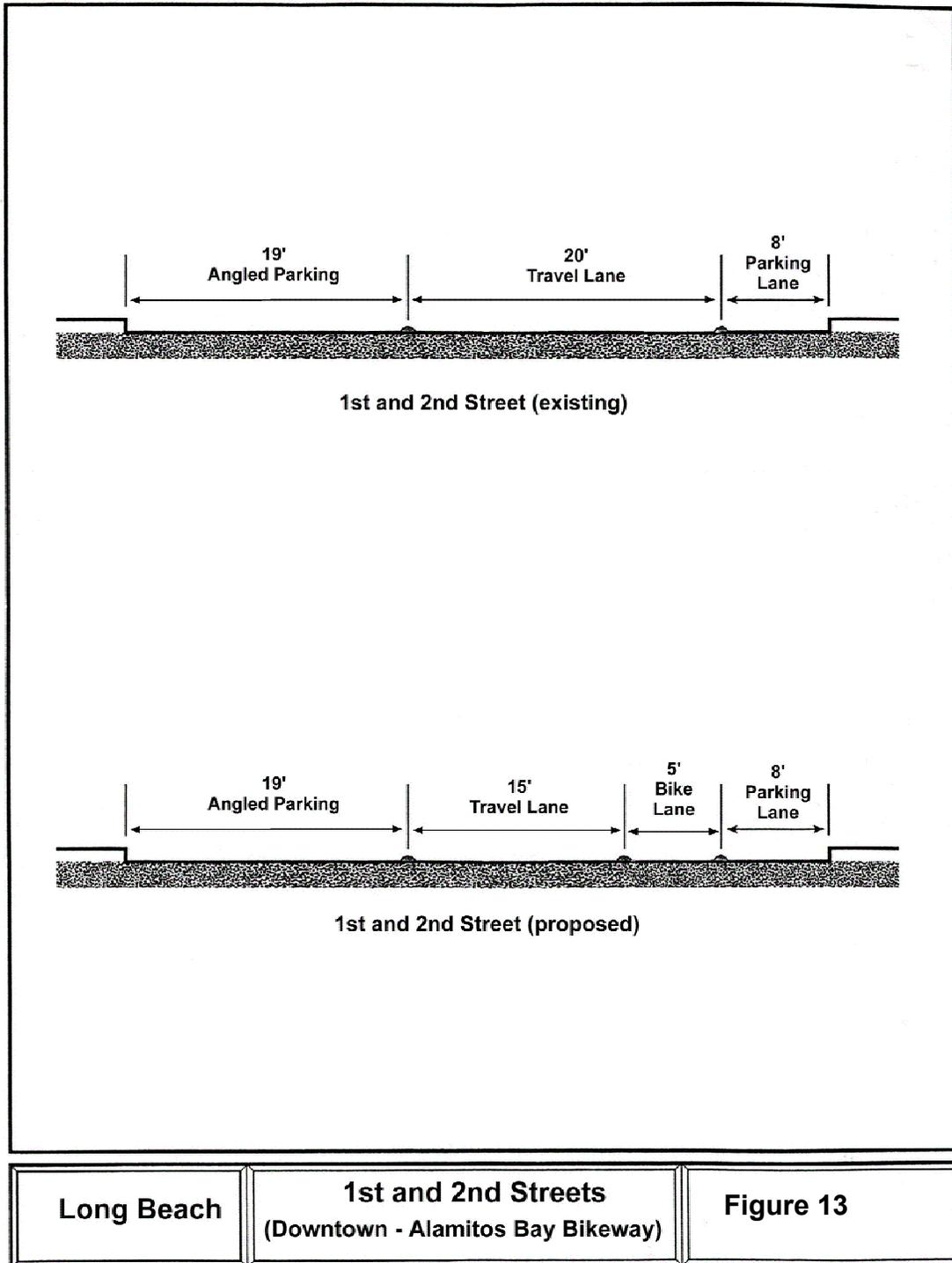
3rd Street -- Downtown Section (existing)

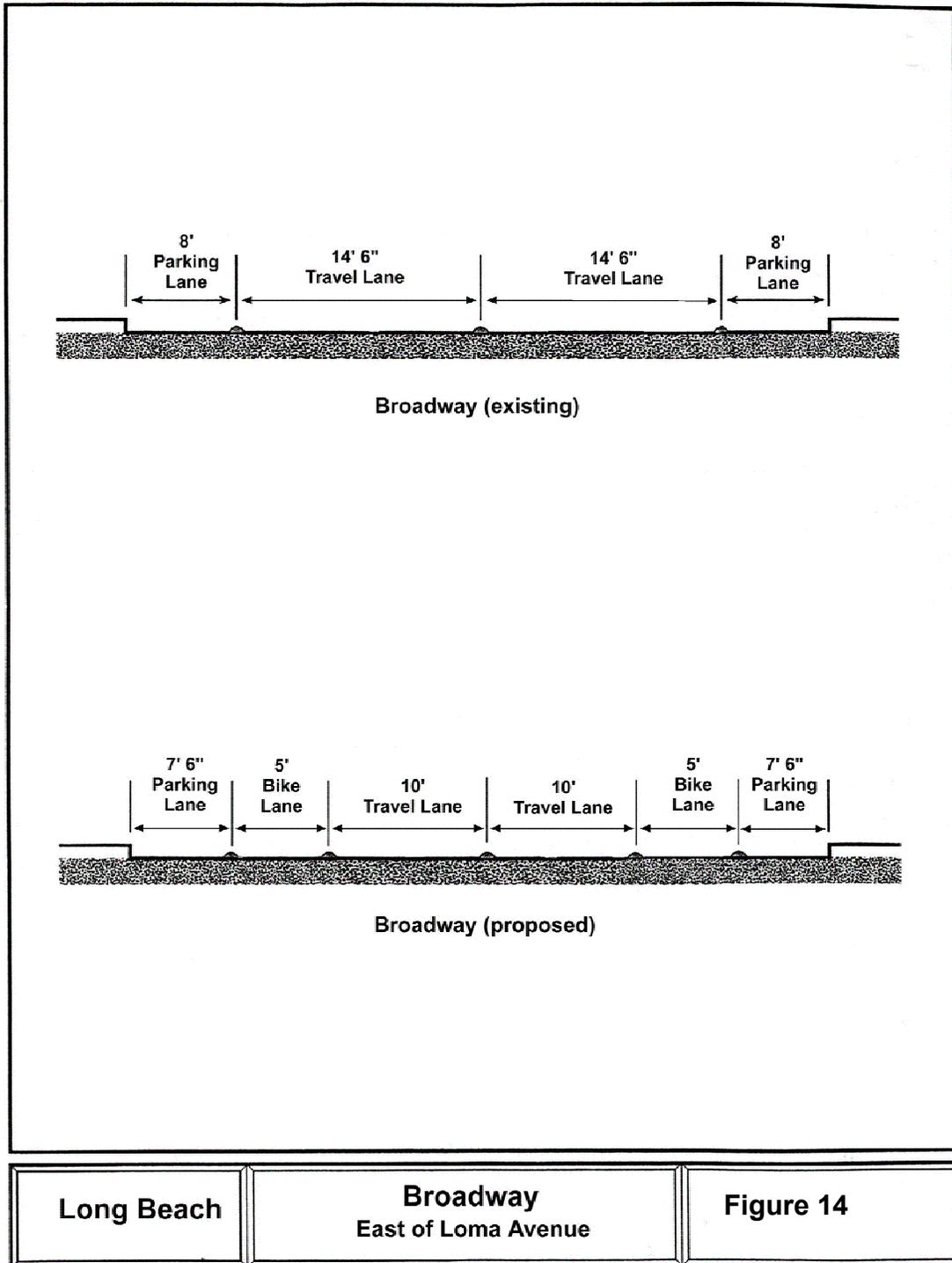


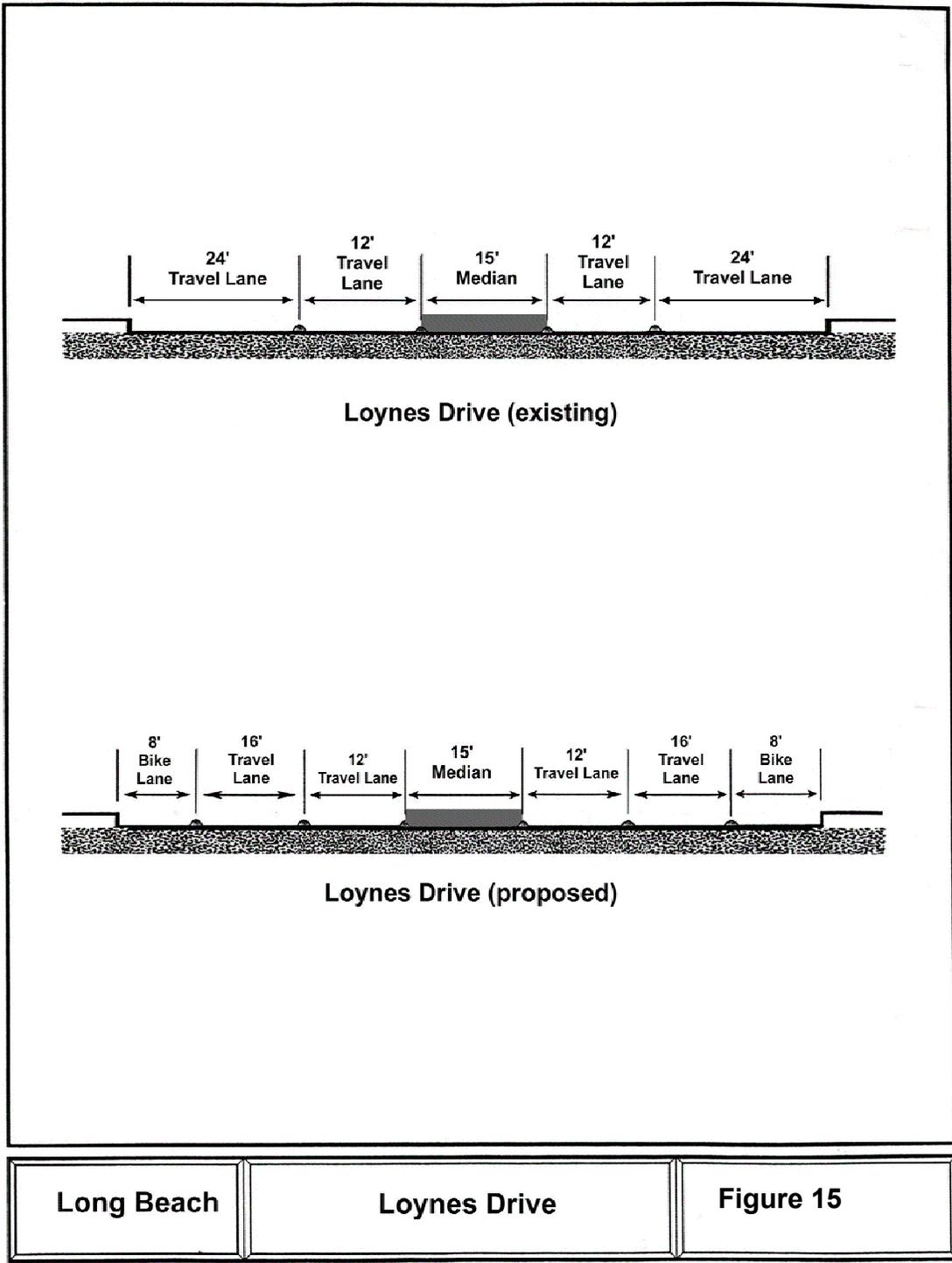
3rd Street – Downtown Section (concept)

Long Beach	3rd Street Downtown	Figure 11
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**Project 5:
Los Angeles River
Bike Path Access
Project**

This project would improve access to the Los Angeles River Pathway in western Long Beach from local neighborhoods.

*Ranking - Short-term
General*

*Responsibility - Long
Beach City and Los
Angeles County*

*Existing Problem - lack
of signage to existing
access points, poor
condition of access
ramps; too few access
points*

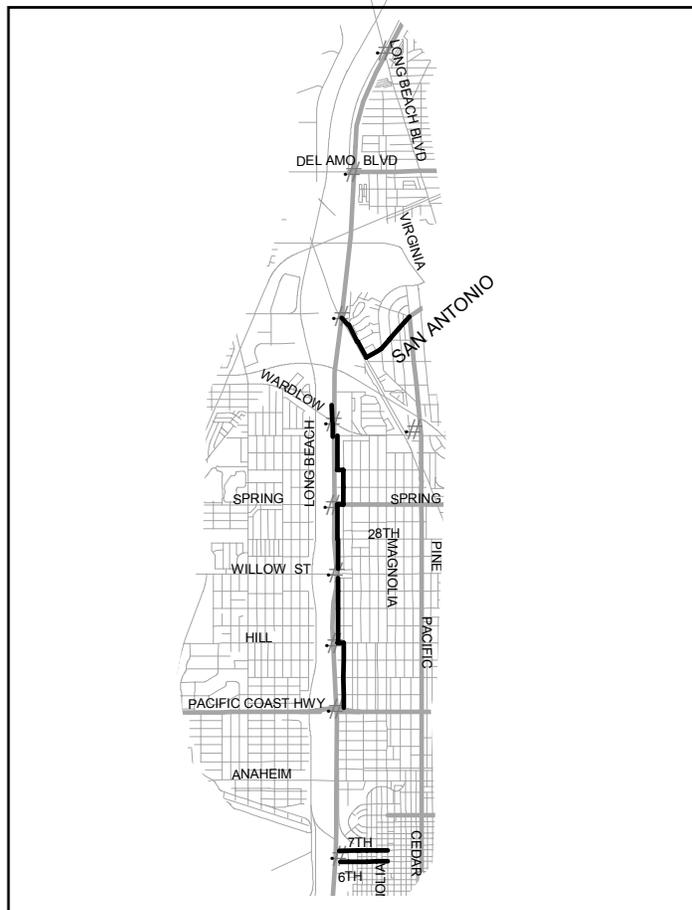
*Classification - Class I
Bike Path and Class III*

*Length - approximately
3.9 miles*

- Improve access at Long Beach Boulevard: pave existing 200' long access ramp; add signage; add a signalized crosswalk for northbound cyclists
- Improve access at Del Amo Boulevard: improve signage; keep gate open
- Create new access point at Del Mar Avenue: pave new trail (1,000' long); some grading necessary; trees need to be trimmed ; sign Class III route on Del Mar Avenue to San Antonio Drive and up San Antonio Drive to Pacific Avenue
- Improve access at Wardlow Road: on north side of Wardlow Road construct new access path (500') - some grading required; on south side of Wardlow Road; construct new access path (500') to link with existing access ramp - some grading required; add signage
- Create access from Spring Street: no new access point is needed; sign northbound cyclists along a Class III route on San Francisco and De Forest Avenues to access point at Wardlow Road; sign southbound cyclists along a Class III route on De Forest Avenue to access point at Willow Street
- Improve access at Willow Street: improve signage
- Create access from Hill Street: no new access point is needed; sign northbound cyclists along a Class III route on De Forest Avenue to access point at Willow Street; sign southbound cyclists along a Class III route on De Forest Avenue to access point at Pacific Coast Highway
- Improve access at Pacific Coast Highway; improve signage

- Create new access at 6th and 7th Streets: construct a combination of Class I and Class III routes from Chestnut Avenue and Broadway near Civic Center , eastbound on 6th Street and westbound on 7th Street, with some connections via San Francisco, to the River Trail Access.

Location Map



**Project 6:
Mid-Town 10th Street
Connecting Bikeway**

*Ranking - Short-term
General*

*Responsibility - Long
Beach City*

*Existing Problem - no
good east-west route
through mid-town*

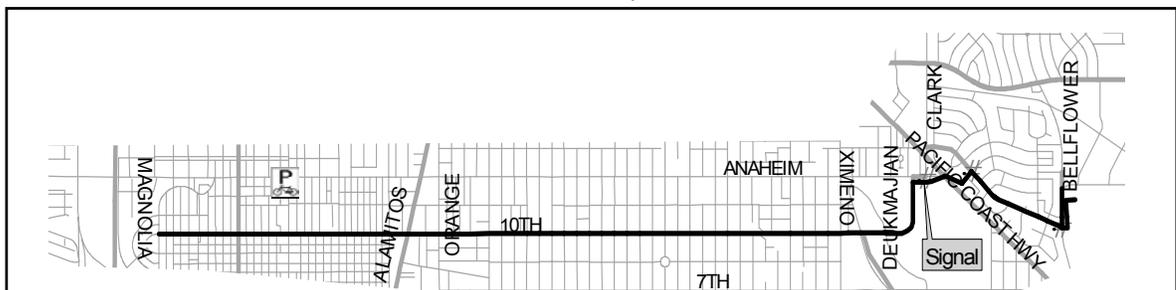
*Classification - a mix of
Class I, II and III*

*Length - approximately
4.9 miles*

Another major east-west route connecting central Long Beach with Cal State Long Beach. This bikeway would travel through high-density multi-family residential neighborhoods and retail neighborhoods most of the way. It would also traverse Recreation Park and a single-family neighborhood.

- Class III bikeway on 10th Street from Magnolia Avenue to Ximeno Avenue
- Class III route on Deukmejian Way, following road through the Recreation Park to the existing Class I bikeway just south of Anaheim Street; follow that to its end at Clark Avenue
- Signalize the intersection at Clark for cyclists to cross
- Extend the Class I path about 400' to the intersection of Pacific Coast Highway; sign cyclists through the intersection to Anaheim Road
- Enhance existing Class III along Anaheim Road to Bellflower Boulevard
- Option 1: provide new signal across Bellflower Boulevard into the Veteran's Administration property, following along the west and north sides of the property to a new gate to Cal State Long Beach campus (will require approval from the VA)
- Option 2: put new Class II lane on northbound side of Bellflower Boulevard from Anaheim Road to State University Drive

Location Map



**Project 7:
CSULB Access
Bikeway**

A third east-west route the entire length of Atherton Street from Ximeno Avenue to the San Gabriel River, traveling through single-family residential neighborhoods and forms the northern border of Cal State Long Beach campus.

*Ranking - Short-term
General*

- Class II bikeway on Atherton Street from the traffic circle at Ximeno Avenue to Studebaker Road (see figure 16).

*Responsibility - Long
Beach City*

- Class II bikeway on Studebaker Road from Atherton Street to Willow Street (existing)

*Existing Problem -
there is no access
from the San Gabriel
River or Coyote Creek
bike paths to Cal
State Long Beach
campus from the
north*

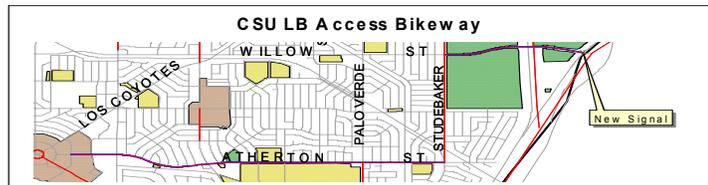
- Class III bikeway on Willow Street, through El Dorado Nature Center Park to the San Gabriel River (see figure 17).

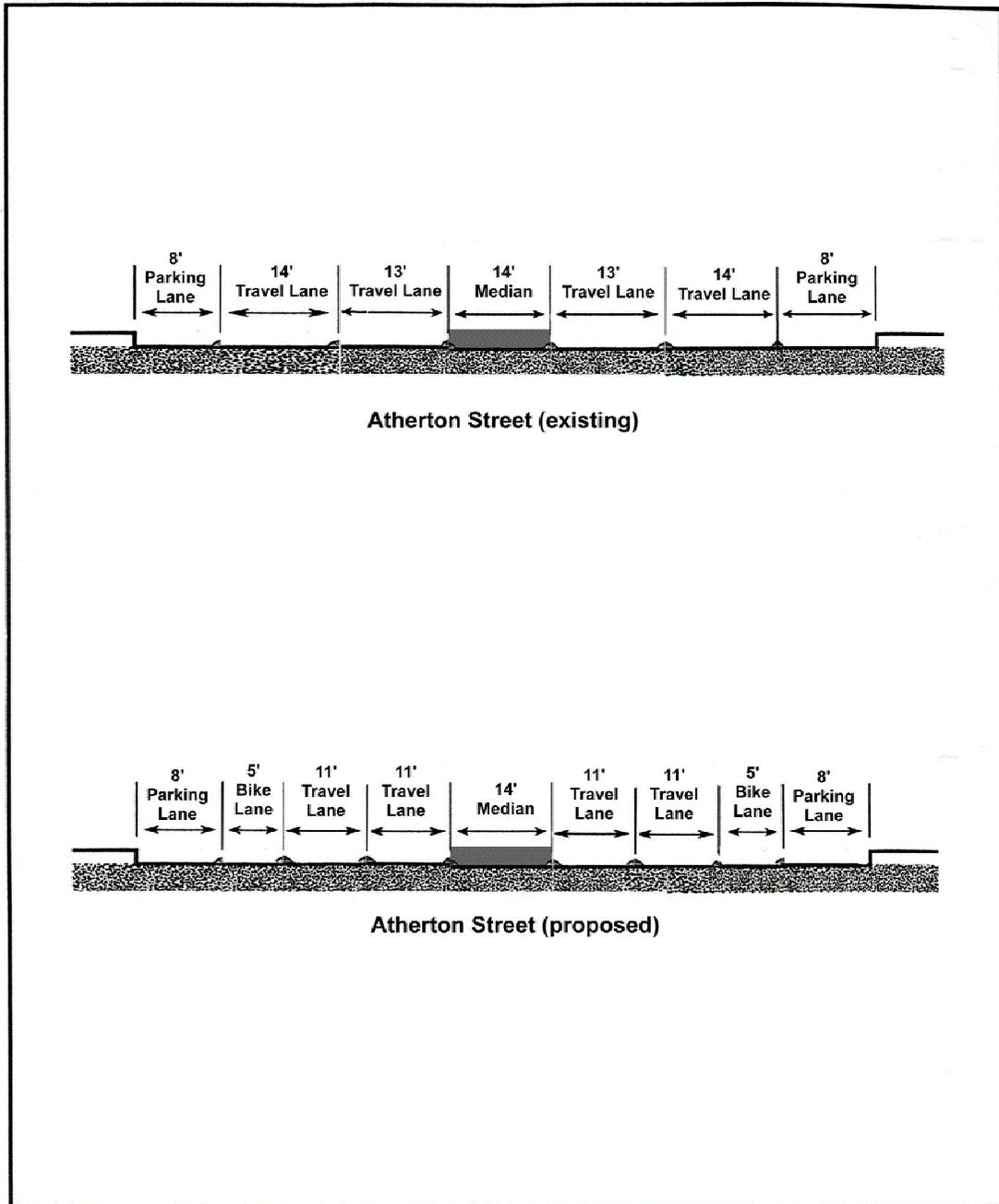
Access via a bridge over the San Gabriel River and Coyote Creek bike path is to be considered as a mid or long range project.

*Classification - Class
II*

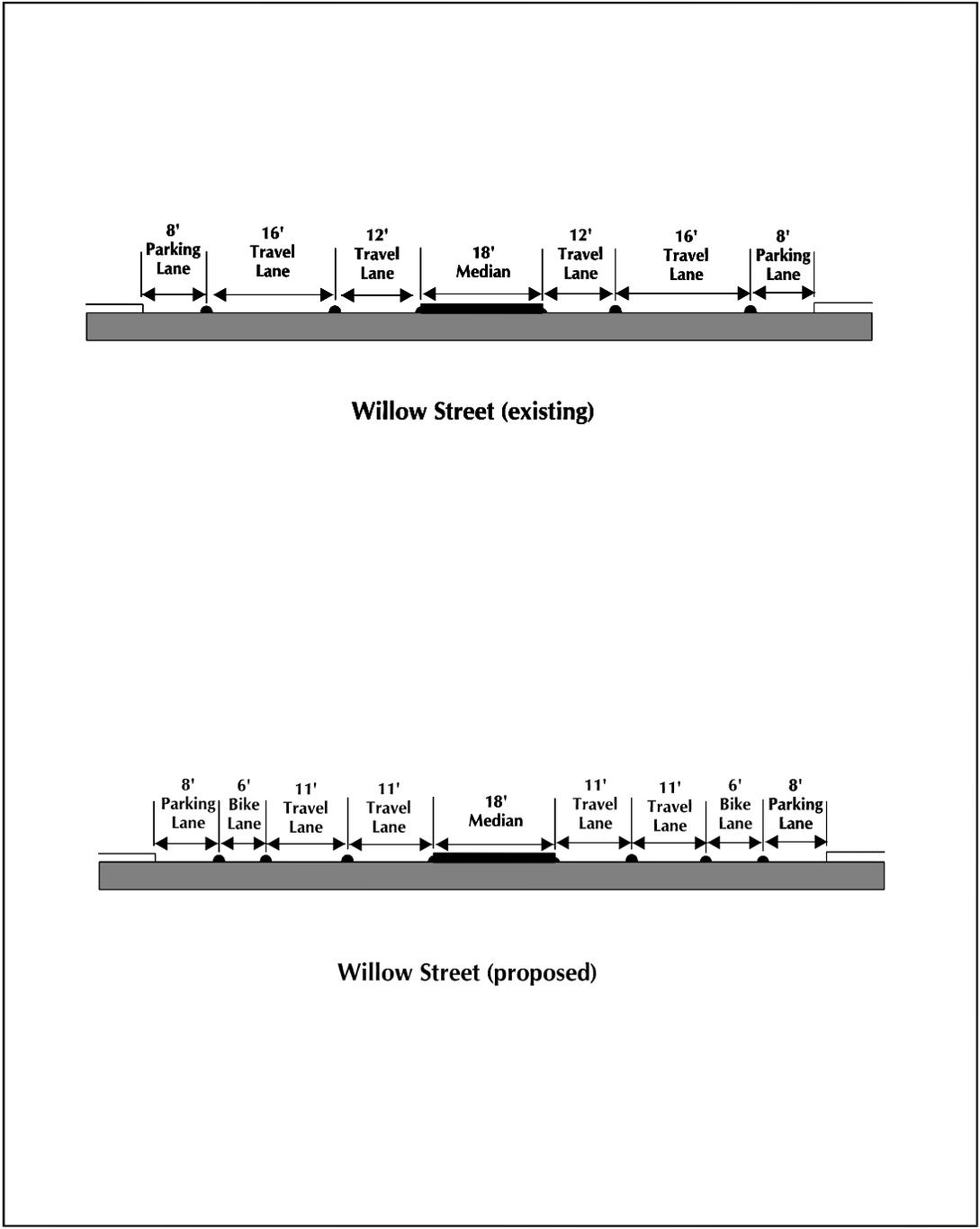
Location Map

*Length -
approximately 6 miles*





Long Beach	Atherton Street	Fig. 16
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Long Beach	Willow Street Studebaker Road to San Gabriel River Access	Figure 17
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**Project 8:
Alamitos Avenue-
Orange Avenue**

A north-south route taking cyclists into downtown. This links businesses on the south end, Long Beach City College, and both multi-family and single-family residential neighborhoods. It will also link the proposed sports park to the bikeway network.

*Ranking - Short-term
General*

*Responsibility - Long
Beach City*

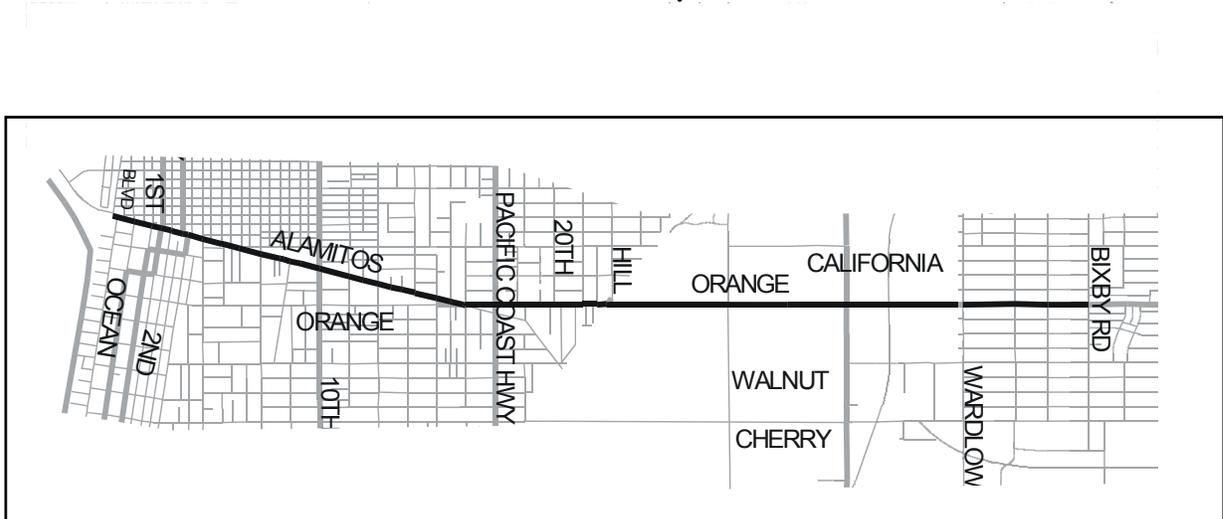
*Existing Problem - a
need to connect Orange
Avenue bike lanes with
downtown and the
beach in this part of
Long Beach*

*Classification - Class
III*

*Length - approximately
4.4 miles*

- Class III route on Alamitos Avenue from Ocean Boulevard to Orange Avenue; this will be added in conjunction with a planned street improvement project
- Class III route on Orange Avenue from Alamitos Avenue to Bixby Road

Location Map



**Project 9:
Westminster Avenue**

An east-west route connecting with bike lanes in Orange County and to the San Gabriel River. It links a single-family residential area with the bike path.

*Ranking - Short-term
General*

- Bike lanes on Westminster from the Orange County line to Studebaker Road; remove on-street parking from Orange County line to San Gabriel River (see Figure 18)

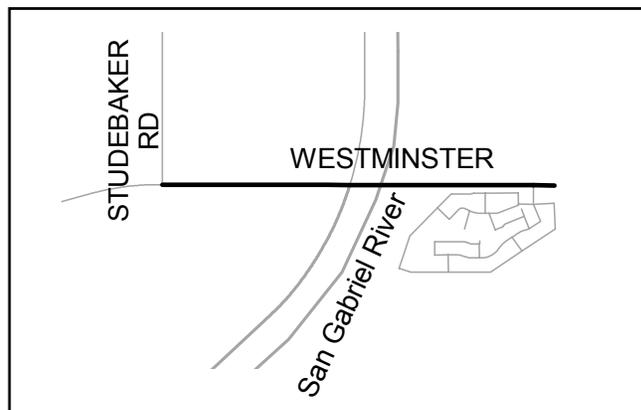
*Responsibility - Long
Beach City Staff*

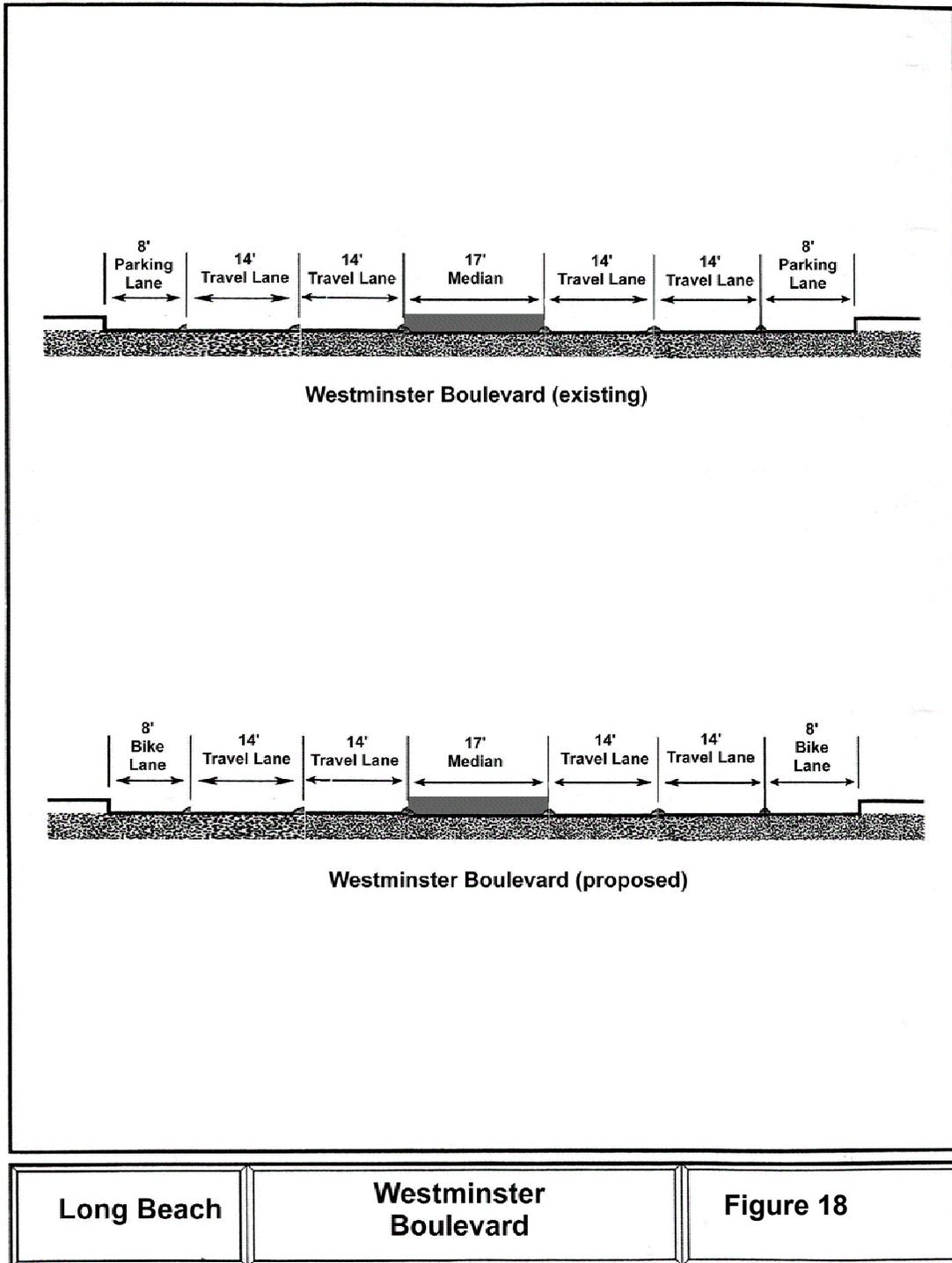
*Existing Problem - poor
access to the San
Gabriel River path on a
busy highway*

Classification - Class II

*Length - approximately
.7 mile*

Location Map





**Project 10:
Pacific Avenue-San
Antonio Bikeway**

*Ranking - Short-term
General*

*Responsibility - Long
Beach City Staff*

*Existing Problem - a
lack of north-south
routes to downtown; no
route to the Wardlow
Blue Line station*

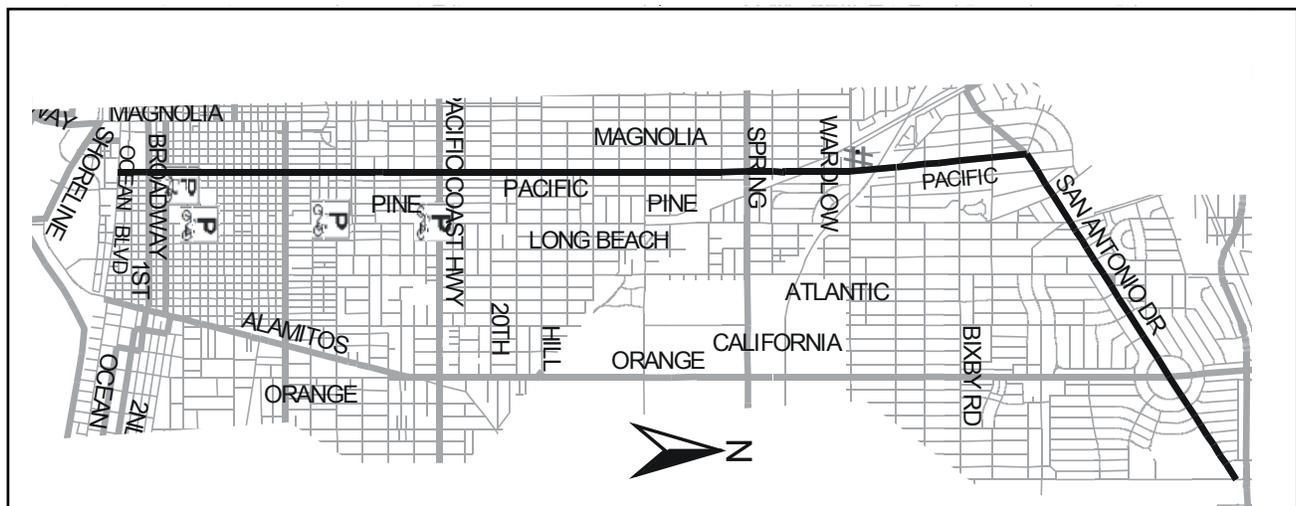
*Classification - a mix of
Class II and Class III*

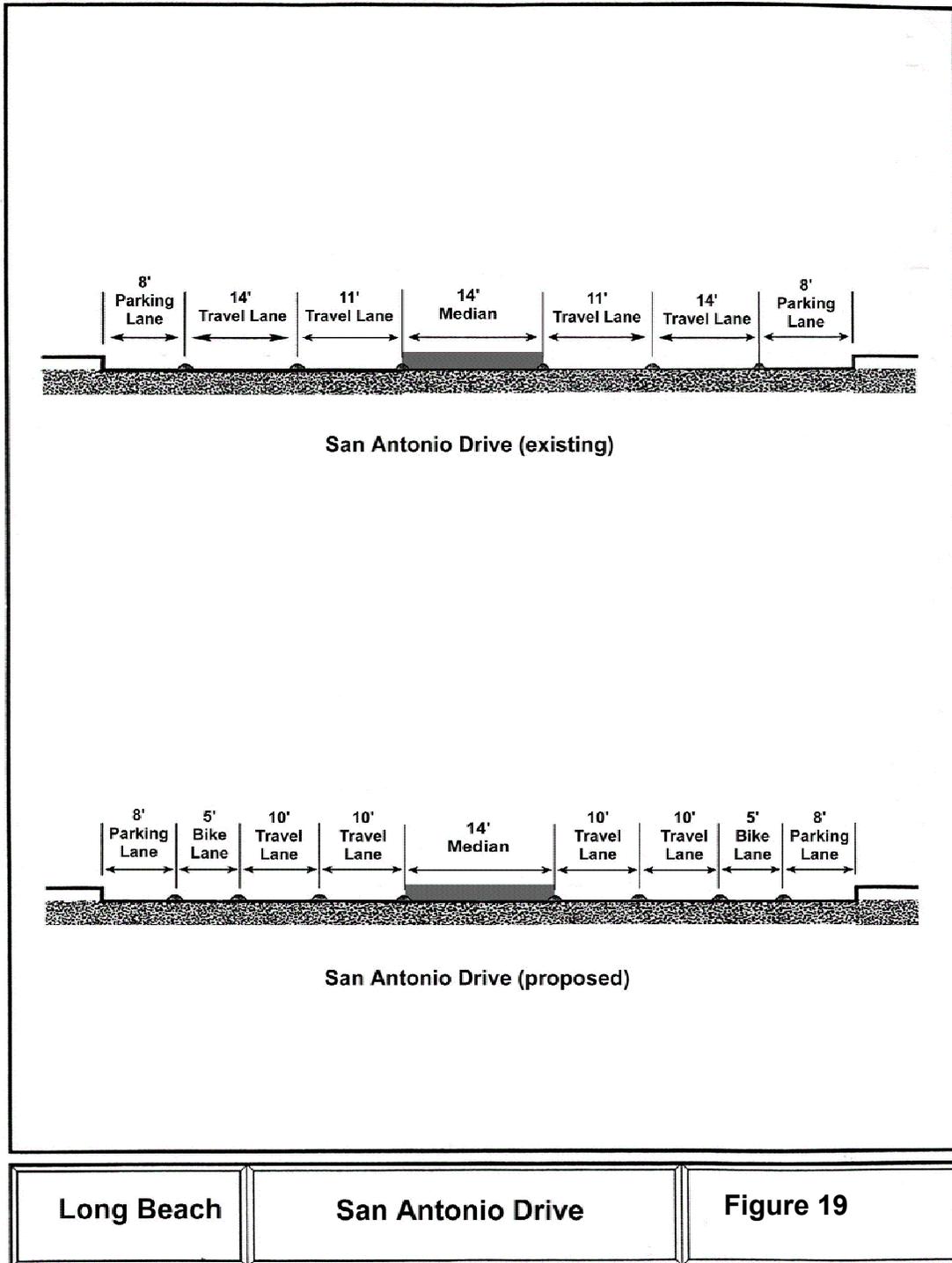
*Length - approximately
6.1 miles*

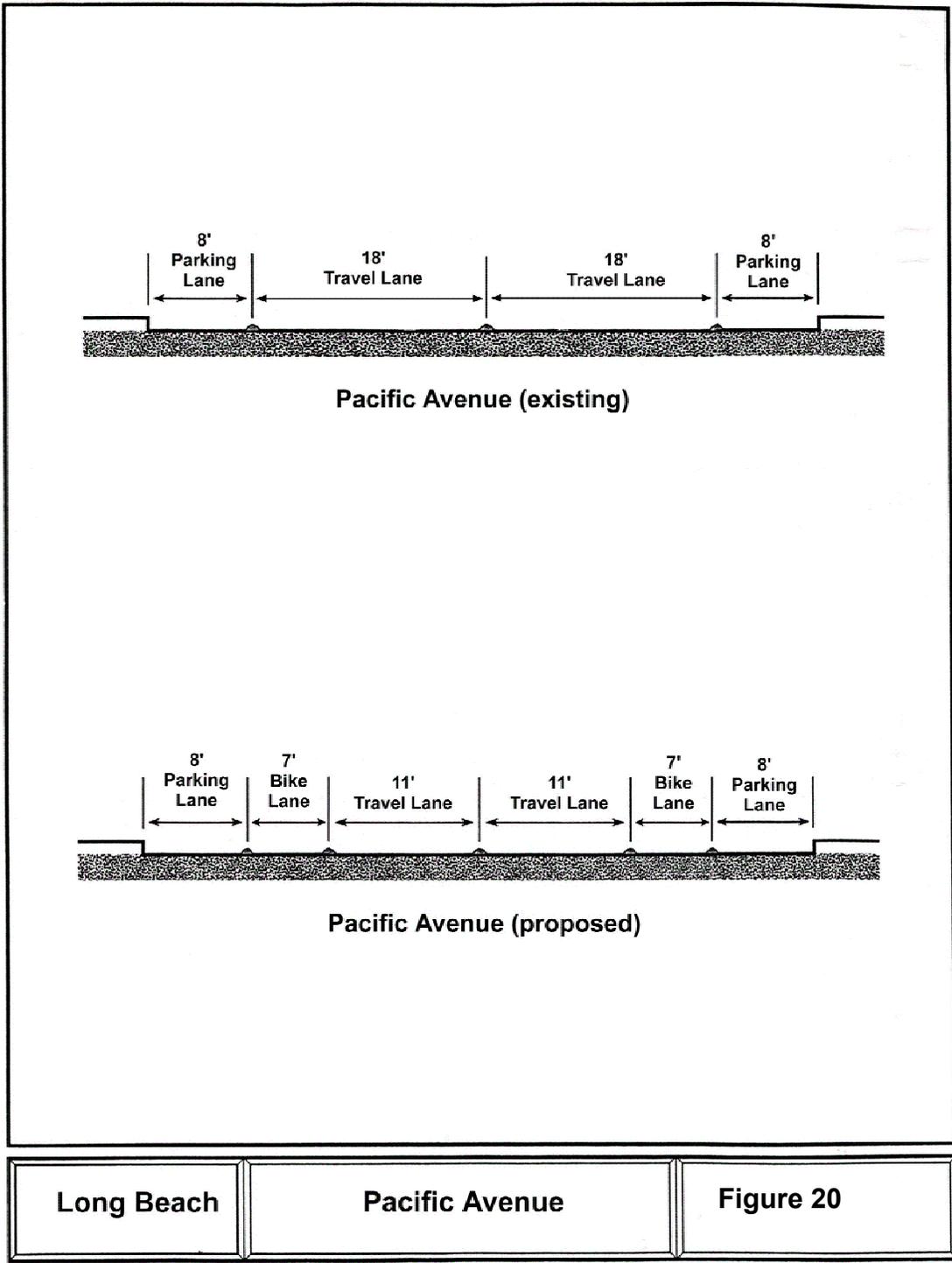
With the completion of this important north-south bikeway, bicyclists will have a completed bikeway from downtown Long Beach to the Cerritos Circle, where it connects with existing bike lanes on Orange that extend northward to the city limit. This route travels through single-family neighborhoods on the north end, provides access to the Wardlow Blue Line station and provides access to retail on the south end.

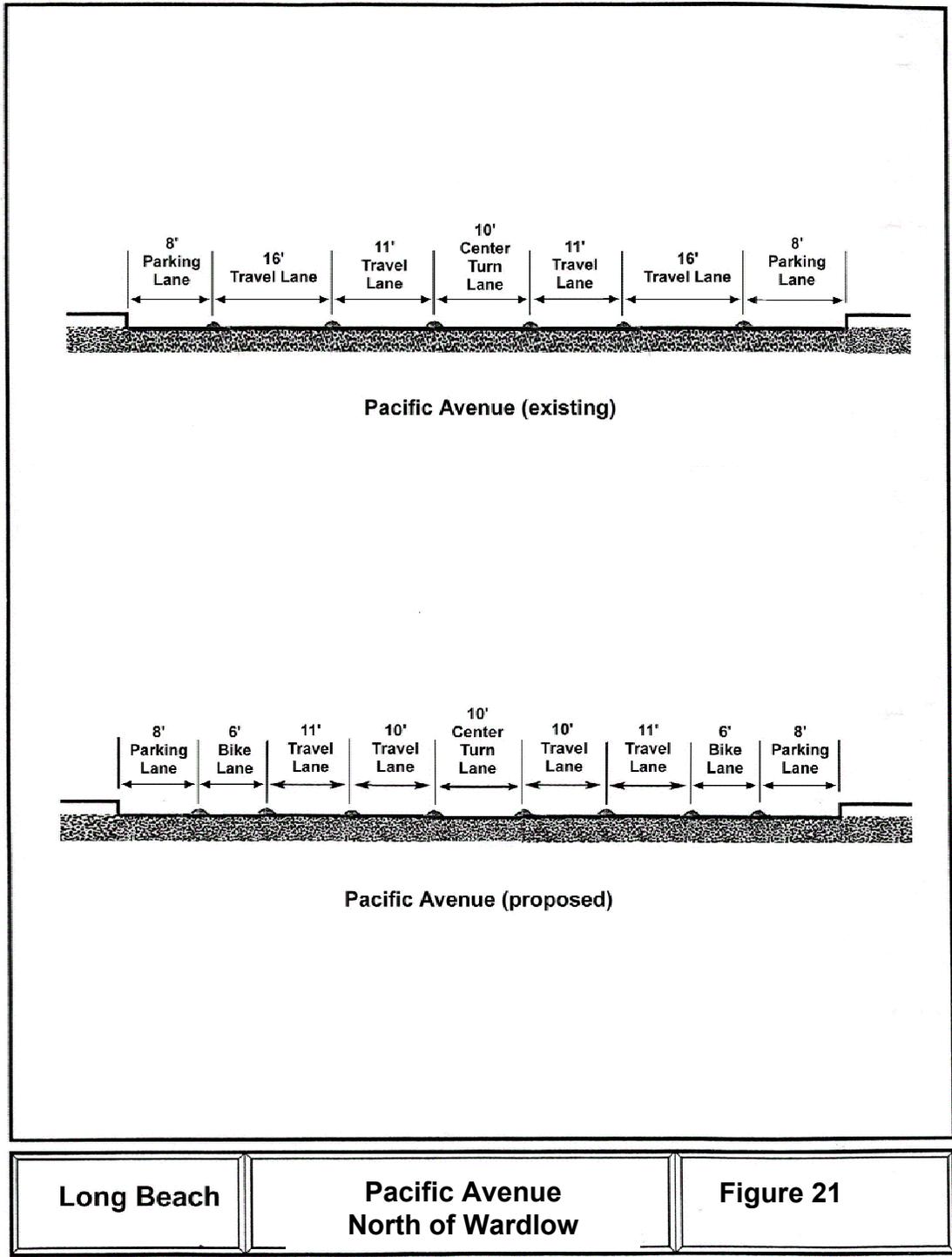
- Class II bike lanes or III route on San Antonio Drive from Cherry Avenue to Pacific Avenue (see Figure 19)
- Class II bike lanes on Pacific Avenue from San Antonio Drive to Wardlow Road (see Figure 20)
- Connect to Wardlow Blue Line station using service road; improve gap in fence
- Class II bike lanes or Class III route on Pacific Avenue from Wardlow Road to Willow Street (see Figure 21)
- Class II bike lanes or Class III route on Pacific from Willow Street to Pacific Coast Highway
- Class III route from Pacific Coast highway to Ocean Boulevard

Location Map









**Project 11:
Del Amo Boulevard
Bikeway**

This route provides connectivity between the Los Angeles and San Gabriel River bike paths. It also links with existing bike lanes in Lakewood. It travels primarily through strip retail.

*Ranking - Short-term
General*

- Class III route on Del Amo Boulevard from Los Angeles River to Atlantic Avenue

*Responsibility - Long
Beach City Staff*

- Class II bike lanes on Del Amo Boulevard from Atlantic Avenue to Lakewood city limit (see Figure 22)

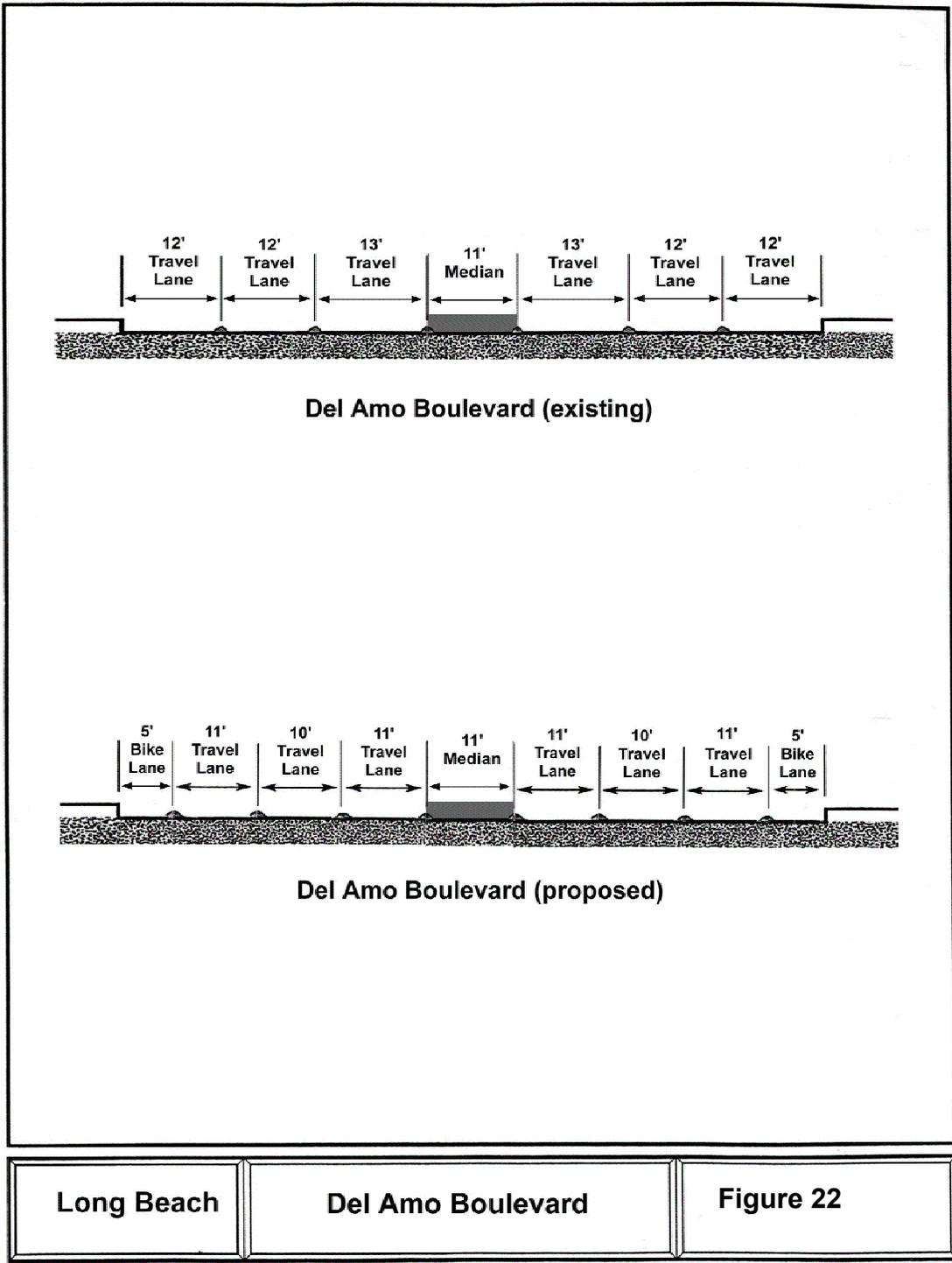
*Existing Problem - a
lack of east-west
routes in north Long
Beach; gap closure*

*Classification - a mix of
Class II and III*

*Length - approximately
2.2 miles*

Location Map





**Project 12:
Pacific Center Boeing
Site Bikeway**

This route is an opportunity to integrate bicycle facilities in a mixed use residential, commercial, industrial and retail development which will also provide an east-west connection from Bixby Road to Lakewood Boulevard.

*Ranking - Short-term
General*

*Responsibility - Long
Beach City Staff and
Developer*

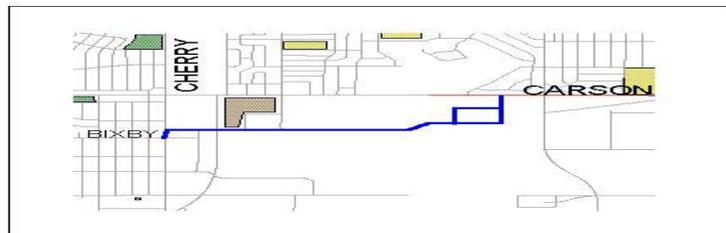
- Class II route from Bixby Road and Cherry Avenue on to Cover Street, then continuing east with a loop around a block of housing and retail, then north to Carson Street, just short of Lakewood Boulevard.

*Existing Problem -
opportunity in a new
development to add
bicycle facilities*

Classification - Class II

*Length - approximately
1 mile*

Location Map



**Project 13:
Harding Street**

This route is an opportunity to connect to Houghton Park and Jordan High School.

*Ranking - Short-term
General*

- Class II at Orange Avenue to Harding Street to Houghton Park, then connecting to the Class II route on Atlantic Avenue to Jordan High School.

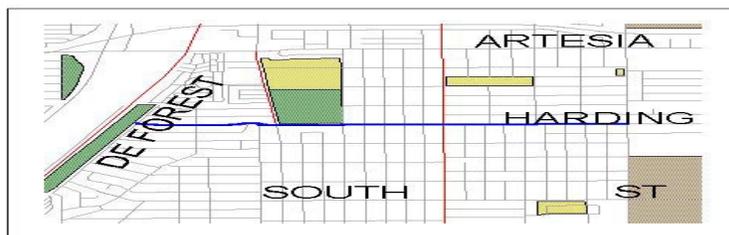
*Responsibility - Long
Beach City Staff*

*Existing Problem - no
connection to Houghton
Park and Jordan High
School*

Classification - Class II

*Length - approximately
.35 mile*

Location Map



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Long Beach Bicycle Master Plan Implementation

This section identifies costs for the proposed bicycle improvements, plus strategies on funding and financing.

Selection of Projects

Some of the primary goals of the Long Beach Bicycle Master Plan ensure that the City receives its fair share of competitive funding. Thus, the Plan prioritizes projects so that those projects providing the greatest benefit are implemented in the short term.

This plan recognizes that cooperation between local agencies in the selection of priority projects and the allocation of local funding (such as Transportation Development Act monies) is critical to ensuring an orderly implementation of an effective bicycle system.

Previous Funding

Previous expenditures on bicycle projects by the City of Long Beach over the past 5 years is approximately \$1,331,799.

- Bikeway Improvements \$391,072
- Queensway Bike Path \$686,310
- Park Bike Paths \$254,417

Funding Recommendation

Short-term projects identified in this plan represent the highest priority bicycle projects currently identified in Long Beach. Local available matching funds, such as Transportation Development Act(TDA), should be allocated whenever possible to these projects or to other locally-identified projects that meet the funding criteria of the TDA program. The actual schedule for implementation on a year-to-year basis should be

***Funding
Recommendation,
continued***

determined by (a) the readiness of each project in terms of local support, (b) California Environmental Quality Act (CEQA) approvals, (c) right-of-way control, (d) timing with other related improvements, and/or (e) success in obtaining competitive funding

The City should monitor the short- and mid-term projects identified in this Plan and subsequent updates, and keep a year-to-year list of projects and their TDA and other local funding allocations. Should a project not be ready or able to utilize its allocation, it may trade with another short-term project. This process eliminates the constant evaluation of new projects and ensures that viable top priority projects have access to matching funding. It provides the City with a five- to ten-year schedule so that it may program its resources and feel assured that its projects will be implemented in the short term. Each year the City should review the list of projects slated for that year, review the project readiness of each project to be funded, and listen to requests for changes to the sequencing of the projects.

Cost Breakdown

Costs are separated between bicycle facilities and programs. A complete breakdown of costs for the short-term bicycle projects is estimated at approximately \$2,737,050 (Table 5). Program costs for some of the operations and maintenance are estimated at approximately \$396,500 (Table 6). Of the total project cost over 20 years, it is assumed that the City will be responsible for only a portion of the costs while grants will comprise of the majority of the costs.

Table 5 Long Beach Bikeway System Cost Estimates Short Term 1-5 Years

Segment or Program	Year(s)	Units or Miles	Type	Cost	Notes
1. Bikeway Signing Program				\$ 237,000	(Retrofits existing system)
Stencils	2001-2006	16	for Class III's	\$ 32,000	
Signs	2001-2006	160	for Class III's	\$ 80,000	
Signs	2001-2006	190	for Class II's	\$ 95,000	
Signs	2001-2006	60	for Class I's	\$ 30,000	
2. Bicycle Parking Program				\$ 125,000	(Includes installation)
Racks	2001-2006	250	varies	\$ 50,000	
Lockers	2001-2006	50	2 bikes each	\$ 75,000	
3. Bicycle Safety Awareness Program				\$ -	(see O&M Table)
	2001-2006		varies		
4. Downtown-Alamitos Bay Bikeway				\$ 506,400	
New Class II	2001-2006	6.4	signs, striping, stencils	\$ 480,000	
New Class III	2001-2006	2.2	signs	\$ 22,000	
New Class III	2001-2006	2.2	stencils	\$ 4,400	
5. Los Angeles River Bike Path Access Project				\$ 400,200	
New Class I	2001-2006	0.3	construction	\$ 150,000	
New Class III	2001-2006	4.3	signs	\$ 43,000	
New Class III	2001-2006	3.6	stencils	\$ 7,200	
Other Access Elements:					
Signs	2001-2006	20	signs	\$ 10,000	
Access Improvements (misc)	2001-2006	9	misc	\$ 90,000	see plan for detail
Signalized Crosswalk	2001-2006	1	construction	\$ 100,000	
6. Mid-Town Connecting Bikeway				\$ 390,500	
New Class I	2001-2006	0.1	construction	\$ 50,000	
New Class II	2001-2006	3.3	signs, striping, stencils	\$ 247,500	
New Class III	2001-2006	1.5	signs	\$ 15,000	

Table 5 Long Beach Bikeway System Cost Estimates Short Term 1-5 Years, continued

Segment or Program	Year(s)	Units or Miles	Type	Cost	Notes
7. Mid-Town Connecting Bikeway				\$ 415,500	
New Class I	2001-2006	0.1	construction	\$ 50,000	
New Class II	2001-2006	3.3	signs, striping, stencils	\$ 247,500	
New Class III	2001-2006	1.5	signs	\$ 15,000	
New Class III	2001-2006	1.5	stencils	\$ 3,000	
New Traffic Signal	2001-2006	1	construction	\$ 100,000	
8. CSULB Access Bikeway				\$ 98,000	
New Class II or Class III	2001-2006	2.8	striping or signs	\$ 98,000	
New Traffic Signal	2001-2006	1	construction	\$ 100,000	
9. Alamos Avenue-Orange Avenue				\$ 52,800	
New Class III	2001-2006	4.4	signs	\$ 44,000	
New Class III	2001-2006	4.4	stencils	\$ 8,800	
10. Westminster Avenue				\$ 52,500	
New Class II	2001-2006	0.7	signs, striping, stencils	\$ 52,500	
11. Pacific Avenue-San Antonio Bikeway				\$ 356,700	
New Class II	2001-2006	4.5	signs, striping, stencils	\$ 337,500	
New Class III	2001-2006	1.6	signs	\$ 16,000	
New Class III	2001-2006	1.6	stencils	\$ 3,200	
12. Del Amo Boulevard Bikeway				\$ 102,000	
New Class II	2001-2006	1.2	signs, striping, stencils	\$ 90,000	
New Class III	2001-2006	1.0	signs	\$ 10,000	
New Class III	2001-2006	1.0	stencils	\$ 2,000	
13. Pacific Center Boeing Site				\$ 75,000	
New Class II	2001-2006	1.0	signs, striping, stencils	\$ 75,000	
14. Harding Street				\$ 26,250	
New Class II	2001-2006	0.4	signs, striping, stencils	\$ 26,250	
Total				\$ 2,737,050	

Note: The **total** is the sum of the listed costs. The actual costs of some types of projects -- especially Class II facilities -- may vary significantly. More

Table 6
Long Beach Bikeway System: Annual Operation and Maintenance Costs

Project	Unit Cost	Description	Existing Miles or Units	Proposed Miles or Units	Total Miles or Units	Total Cost
Class II Maintenance	\$2,000	Cost per mile	19	21.8	40.8	\$81,600
Class III Maintenance	\$1,500	Cost per Mile	16	18.6	34.6	\$51,900
						\$133,500
Traffic Signals	100,000			3	3	\$300,000
Bicycle Education						
Student Education	\$100,000					\$100,000
Adult Education	\$25,000					\$25,000
In House Training	\$5,000					\$5,000
General Promotion	\$5,000					\$5,000
Collateral Material	\$3,000					\$3,000
Bicycle Promotion						
Bicycle Fairs or Events	\$2,500					\$2,500
Bike to Work	\$2,500					\$2,500
Bicycle Staff						
Mobility Coordinator						\$120,000
TOTAL O & M COSTS						\$696,500

Table 7: Long Beach Bikeway System Funding Sources

Grant Source	Due Date	Agency	Annual Total	Matching Requirement	Eligible Applicants	Eligible Bikeway Projects			Comments
						Commuter	Recreation	Safety/Education	
Federal Funding									
F1. TEA-21 Surface Transportation Program (STP)	Jan. 10 Annually	Regional Transportation Agency, Caltrans, FHWA		20% non-federal match	federally certified jurisdictions	X	X		STP funds may be exchanged for local funds for non-federally certified local agencies; no match required if project improves safety
F2. TEA-21 Congestion Mitigation and Air Quality Program	Dec. 1 Annually	Regional Transportation Agency, CTC		20% non-federal match	federally certified jurisdictions	X			Counties re-designated to attainment status for ozone may lose this source
F3. TEA-21 Transportation Enhancement Activities (TEA)	pending	FHWA, Regional Transportation Agency		20% non-federal match	federally certified jurisdictions	X	X		Contact the Regional Transportation Agency
F4. TEA-21 National Recreational Trails	Oct. 15 Annually	State Dept. of Parks & Recreation		no match required	jurisdictions, special districts, non profits with management responsibilities over the land		X		For recreational trails to benefit bicyclists, pedestrians, and other users; contact State Dept. of Parks & Rec. , Statewide Trails Coordinator, (916) 653-8803

Table 7: Long Beach Bikeway System Funding Sources, Continued

Grant Source	Due Date	Agency	Annual Total	Matching Requirement	Eligible Applicants	Eligible Bikeway Projects			Comments
						Commute	Recreation	Safety/ Education	
State Funding									
S1. Flexible Congestion Relief (FCR) Program Major Projects, \$300,000+	Dec. of odd # years	Regional Transportation Agency			cities, counties, transit operators, Caltrans	X	X		Must be included in an adopted RTP, STIP, CMP, RTIP
S2. State and Local Transportation Partnership Program (SLPP)		Caltrans		none	Cities, counties, assessment districts	X	X		Any road projects being resurfaced or using local funds should include bike lane for reimbursement through this program; contact Caltrans
S3. Environmental Enhancement and Mitigation (EEM) Program	Nov.	State Resources Agency		not required but favored	Local, state and federal government non-profit agencies	X	X	X	Projects that enhance or mitigate future transportation projects; contact EEM Project Manager (916) 653-5800
S4. Bicycle Transportation Account (BTA)	Spring 2001	Caltrans	\$7.2 m annually	10%	Cities and counties	X			Contact local Caltrans district office for details
S5. Safe Routes to School (AB1475)	Varies	Caltrans	\$18 m	11.5%	Government agencies, non-profit groups, schools, community groups	X	X	X	Only two years of funding currently authorized as of 2000; submission dates and deadlines in flux

Table 7: Long Beach Bikeway System Funding Sources, Continued

Grant Source	Due Date	Agency	Annual Total	Matching Requirement	Eligible Applicants	Eligible Bikeway Projects			Comments
						Commute	Recreation	Safety/ Education	
Local Funding									
L1. Transportation Development Act (TDA) Section 99234 (2% of total TDA)	Jan.	Regional Transportation Agency		no match required	Cities, counties; currently allocated by population	X	X	X	Contact the Regional Transportation Agency
L2. State Gas Tax (local share)		Allocated by State Auditor Controller		no match required	local jurisdictions	X		X	
L3. Developer Fees or Exactions (developer fee for street improvements - DFSI)		Cities, or County		no match required		X	X	X	Mitigation required during land use approval process
L4. Vehicle Registration Surcharge Fee (AB 434)		Air Quality Control District		no match required	local agencies, transit operators, others	X	X	X	Competitive program for projects that benefit air quality
L5. Vehicle Registration Surcharge Fee (AB 434)		Air Quality Control Dist. or Congestion Management Agency		no match required	local jurisdictions	X	X	X	Funds are distributed to communities based on population
L6. Clean Air Fund (AB 2766)	Varies by region	Air Quality Control District	\$50,000-\$200,000	10-15%	local jurisdictions, transit agencies	X	X	X	Consult local air quality control district for program details

Funding

There are a variety of potential funding sources including local, state, regional, and federal funding programs that can be used to construct the proposed bicycle improvements. Most of the federal, state, and regional programs are competitive, and involve the completion of extensive applications with clear documentation of the project need, costs, and benefits. Table 7 presents a summary of available funding along with timing, criteria, and funding agency.

Transportation Equity Act for the 21st Century (TEA-21)

In 1998, TEA-21 (Transportation Equity Act) was adopted and now provides the bulk of transportations funding. TEA-21 currently contains three major programs, STP (Surface Transportation Program), TEA (Transportation Enhancement Activities), and CMAQ (Congestion Mitigation and Air Quality Improvement) along with other programs such as the National Recreational Trails Fund, Section 402(Safety) funds, Scenic Byways funds, and Federal Lands Highway funds.

TEA-21 funding is administered through the state (Caltrans or Resources Agency) and regional governments (Los Angeles Metropolitan Transportation Authority). Most, but not all, of the funding programs are transportation versus recreational oriented, with an emphasis on (a) reducing auto trips and (b) providing an inter-modal connection. Funding criteria often includes completion and adoption of a bicycle master plan, quantification of the costs and benefits of the system (such as saved vehicle trips and reduced air pollution), proof of public involvement and support, CEQA compliance, and commitment of some local resources. In most cases, TEA-21 provides matching grants of 80 to 90 percent--but prefers to leverage other moneys at a lower rate.

With an active and effective regional agency such as the Los Angeles Metropolitan Transportation Authority, Long Beach should be in a good position to secure TEA-21 funding.

1. The Surface Transportation Program (STP) was amended as follows:
 - Approximately \$33 billion available nationwide.
 - Bicycle and pedestrian projects remain eligible.
 - Sidewalk improvements to comply with the Americans

*TEA-21 Highlights,
continued*

- with Disabilities Act (ADA) are now eligible for Surface Transportation Program funds.
2. The National Highway System (NHS) program was amended as follows:
 - Pedestrian projects may now be funded with NHS funds.
 - NHS funds may now be used on bicycle and pedestrian projects within Interstate corridors.
 3. The Transportation Enhancement Activities (TEA) program was amended as follows:
 - \$3.3 billion available nationwide
 - Bicycle and pedestrian safety and education programs
 - Tourist and welcome centers
 - Environmental mitigation to provide wildlife corridors
 - Requirement that each project be directly related to a surface transportation project
 - Eighty percent federal matching requirement applies only to total non-federal share rather than total project cost.
 - Twenty-five percent of the TE funds received over the amount received in FY 1997 may be transferred to other STP activities.
 - Eight specific projects are funded off the top of the TEA program, none in the western United States.
 4. The Congestion Mitigation and Air Quality Improvements (CMAQ) program was amended as follows:
 - \$8.12 billion available nationwide
 - Bicycle project eligibility remains essentially the same
 - A small percentage can be transferred to other programs
 5. The Recreational Trails Program was amended as follows:
 - \$270 million available nationwide over the next six years
 - Bicycle project eligibility remains essentially the same
 6. The Hazard Elimination Program was amended as follows:
 - Now can be used for bicycling and walking hazards
 - Definition of a "public road" now expanded to include bikeways, pathways, and traffic calming measures.
 7. A new category, Transit Enhancements Program, was created that calls for transit agencies in urbanized areas over 200,000 population to use 1 percent of their Urban Formula Funds for Transit Enhancements Activities. Up to \$50 million per year may be available for pedestrian access, walkways, bicycle access, bike

***TEA-21 Highlights,
continued***

- storage facilities, and bike-on-bus racks. The program calls for 95% Federal/5% local match.
8. Scenic Byway, bridge repair, transit, safety (non-construction), and Federal Lands programs all remain essentially the same under TEA-21, with the amounts either the same or increasing from ISTEA.
 9. Planning provisions for states and Metropolitan Planning Organizations (MPOs) such as the Los Angeles Metropolitan Transportation Authority, have been streamlined, with bicycle and pedestrian needs to be given due consideration in the development of comprehensive transportation plans
 10. When state or local regulations permit, allow use of bicycle facilities by electric bicycles and motorized wheelchairs.
 11. Railway-highway crossings should consider bicycle safety.
 12. A new Surface Transportation-Environment Cooperative Research Program is established for funding non-motorized research.
 13. In cooperation with AASHTO, ITE, and other groups, establish new bicycle design guidelines within 18 months.

TDA Article III (SB 821)***State Funding***

Transportation Development Act (TDA) Article III funds are state block grants awarded annually to local jurisdictions for bicycle and pedestrian projects in California. These funds originate from the state gasoline tax and are distributed to local jurisdictions based on population.

AB 434

AB 434 funds are available for clean air transportation projects, including bicycle projects, in California.

AB 2766

Clean air funds are generated by a surcharge on automobile registration. The Air Quality Management District may allocate some of these funds for external bicycle projects. The grants are generally in the range of \$50,000 to \$200,000

***State Funding,
continued***

and are based on a cost-benefit formula for air quality developed by the District. Projects must have a direct and positive effect on reducing air pollutants through transportation programs or projects in the City.

Bicycle Transportation Account

The State Bicycle Transportation Account (BTA) is an annual statewide discretionary program that is available through the Caltrans Bicycle Facilities Unit for funding bicycle projects. Available as grants to local jurisdictions, the emphasis is on projects that benefit bicycling for commuting purposes. While the fund is currently small (1 million dollars available annually), it will be increased to over seven million dollars per year starting fiscal year 2001. The City of Long Beach may apply for these funds through the Caltrans Office of Bicycle Facilities.

Safe Routes to School (AB1475)

The Safe Routes to School program is a newly created State program. For the year 2000, this program is meant to improve school commute routes by eliminating barriers to bicycle and pedestrian travel through rehabilitation, new projects and traffic calming. A local match of 11.5% is required for this competitive program, which will allocate 18 million dollars annually. Planning grants are not available through this program.

New Construction***Local Funding***

Future road widening and construction projects are one means of providing bike lanes and wide curb lanes. To ensure that roadway construction projects provide bike lanes and wide curb lanes where needed, appropriate and feasible, without compromising safety, it is important that an effective review process is in place so that new roads meet the standards and guidelines presented in this master plan.

Impact Fees

Another potential local source of funding is developer impact fees, typically ties to trip generation rates and traffic impacts

Local Funding, continued

produced by a proposed project. A developer may reduce the number of trips (and hence impacts and cost) by paying for on- and off-site bikeway improvements which will encourage residents to bicycle rather than drive. In-lieu parking fees may be used to help construct new or improved bicycle parking. Establishing a clear nexus or connection between the impact fee and the project's impacts is critical in avoiding a potential lawsuit.

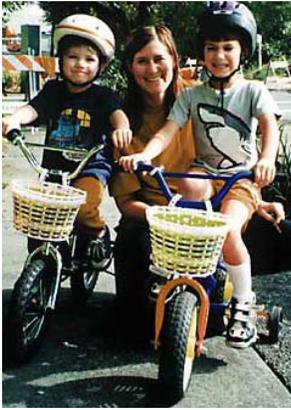
Mello Roos

Bike paths, lanes, and pedestrian facilities can be funded as part of a local assessment or benefit district. Defining the boundaries of the benefit district may be difficult unless the facility is part of a larger parks and recreation or public infrastructure program with broad community benefits and support.

Other

Local sales taxes, fees, and permits may be implemented, requiring a local election. Volunteer programs may substantially reduce the cost of implementing some of the proposed pathways. Use of groups such as the California Conservation Corp will be effective at reducing project costs. Local schools or community groups may use the bikeway or pedestrian project as a project for the year, possibly working with a local designer or engineer. Work parties may be formed to help clear the right of way where needed. A local construction company may donate or discount services. A challenge grant program with local businesses may be a good source of local funding, where corporations 'adopt' a bikeway and help construct and maintain the facility.

Other opportunities for implementation will appear over time which may be used to implement the system.



Long Beach Bicycle Master Plan Design & Maintenance

This chapter provides details on the recommended design and operating standards for the Long Beach Bikeway System.

Existing Design Standards and Classifications

National design standards for bikeways have been developed by the American Association of Highway and Transportation Officials (AASHTO) and the California Department of Transportation (Caltrans). The Caltrans Highway Design Manual, Chapter 1000: Bikeway Planning and Design, serves as the official design standard for all bicycle facilities in California. Design standards in Chapter 1000 fall into two categories, mandatory and advisory. Caltrans advises that all standards in Chapter 1000 be followed, which also provides a measure of design immunity to the City. Not all possible design options are shown in Chapter 1000. For example, intersections, ramp entrances, rural roads, and a variety of pathway locations are not specified in the Caltrans Highway Design Manual.

The following section summarizes key operating and design definitions:

- Bicycle: A device upon which any person may ride, propelled exclusively by human power through a belt, chain, or gears, and having either two or three wheels in tandem or tricycle arrangement.
- Class I Bikeway: Variously called a bike path or multi-use trail. Provides for bicycle travel on a paved right of way completely separated from any street or highway.

- Class II Bikeway: Referred to as a bike lane. Provides a striped lane for one-way travel on a street or highway.
- Class III Bikeway: Referred to as a bike route. Provides for shared use with pedestrian or motor vehicle traffic.

Graphic descriptions of Class I, II, and III bikeways are shown in Figure 1.

Class I, II and III Bikeway Design Guidelines

The following guidelines present the recommended minimum design standards and other recommended ancillary support items for Class I bike paths (also referred to as multi-use trails), Class II bike lanes, and Class III bike routes. All bikeways should meet minimum Caltrans standards as spelled out in the California Highway Design Manual, Chapter 1000. Where possible, it may be desirable to exceed the minimum standards for bike paths or bike lane widths, signage, lighting and traffic signal detectors.

Recommendation 1:

Design Recommendations

Class I Guidelines.

1. All Class I bike paths should generally conform to the design recommendation by Caltrans.
2. Multi-use trails and unpaved facilities that serve primarily a recreation rather than a transportation function and will not be funded with federal transportation dollars may not need to be designed to Caltrans standards.
3. Class I bike path crossings of roadways require preliminary design review. A prototype design is presented in Figure 27. Generally speaking, bike paths that cross roadways with Average Daily Trips (ADTs) over 20,000 vehicles will require signalization or grade separation. No multi-use trails are proposed to cross a major arterial at an unprotected

**Class I Guidelines,
continued**

- location with ADTs over 20,000 vehicles in Long Beach.
4. Landscaping should generally be low water consuming native vegetation and should have the least amount of debris.
 5. Lighting should be provided where the bike path will be used by commuters in the evenings.
 6. Barriers at pathway entrances should be clearly marked with reflectors and ADA accessible (minimum five feet clearance).
 7. Bike path construction should take into account impacts of maintenance and emergency vehicles on shoulders and vertical requirements.
 8. Provide two feet wide unpaved shoulders for pedestrians/runners, or a separate tread way where feasible. Direct pedestrians to right side of pathway with signing and/or stenciling.
 9. Provide adequate trailhead parking and other facilities such as restrooms, drinking fountains at appropriate locations.
 10. Consider modifying design of horizontal bar, which requires bicyclists to lift bicycles, at path entrances in Long Beach. Recommendation would need to be made to the County of Los Angeles since it is in their jurisdiction.

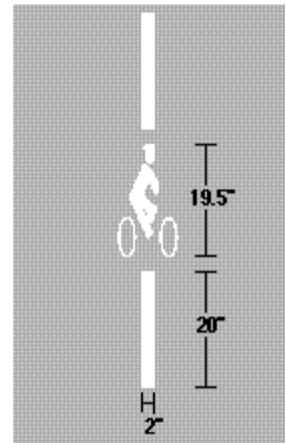
Recommendation 2:

Design Recommendations

Class II Guidelines

1. All Class II bike lanes should generally conform to the minimum design recommendations in Figure 23.
2. Whenever possible the Department of Public works should recommend that wider bike lanes, beyond the minimum standard are installed.
3. Intersection and interchange treatment. Caltrans provides recommended intersection treatments in Chapter 1000 including bike lane 'pockets' and signal loop detectors. The Department of Public Works should develop a protocol for the application of these recommendations, so that improvements can be funded and made as part of regular improvement projects. Figure 23 Class II Bike Lane Crossing at Intersections, figure 24 Bicycle Lane Intersection Design and Figure 25 Recommended Right Turn Channelization provides details for recommended intersection treatments.

4. Signal loop detectors which sense bicycles should be considered for all arterial/arterial, arterial/collector, and collector/collector intersections. The location of the detectors should be identified by a stencil of a bicycle and the words 'Bicycle Detector'.



5. When loop detectors are installed, traffic signalization should be set to accommodate bicycle speeds.
6. For safety reasons, bicycle-sensitive loop detectors are preferred over a signalized button specifically designed for bicyclists.

Class II Guidelines

***Class II Guidelines,
continued***

7. Bike lane pockets (min. 4' wide) between right turn lanes and through lanes should be provided wherever available width allows, and right turn volumes exceed 150 motor vehicles/hour.
8. Where bottlenecks preclude continuous bike lanes, they should be linked with Class III route treatments.

Recommendation 3:***Class III Design.***

Class III bike routes are typically simply signed routes and don't provide much advantage for bicyclists. With proper selection, signage and other treatments they can add significant visibility, direction and advantages. Class III routes can become more useful when coupled with such techniques as:

- route, directional and distance signage
- wide curb lanes
- accelerated pavement maintenance schedules
- new stencils marking the bike routes
- traffic signals timed for cyclists
- traffic calming

Recommendation 4:***Other Guidelines to
Consider***

In addition to those identified by Caltrans, there are a variety of improvements which will enhance the safety and attraction of streets for bicyclists.

Signing

All bikeway signing in Long Beach should conform to the signing identified in the Caltrans Traffic Manual and/or the Manual on Uniform Traffic Control Devices (MUTCD). These documents give specific information on the type and location of signing for the primary bike system. A list of bikeway signs from Caltrans and the MUTCD are shown in Table 8 (Bikeway Signing and Marking Standards). A typical bike route sign is shown in Figure 26, while an example of a customized logo sign for Long Beach is shown as Figure 10.

Long Beach should also provide standard signing at signalized and unsignalized intersections on bikeways, as shown in Figures

Stripping

Striping

29 and 30. Additional warning signs and other signs are shown in Figure 31.

Stencils

In addition to the signing, striping and stencils should be considered according to Caltrans standards. This includes striping along bicycle lanes which differentiate the space between the bicyclist and the automobile. Striping, and other treatments such as colored pavement (Figure 27), double stripes, and new technologies should be considered for Long Beach.

Stencils can also be included on Class I and Class II bicycle facilities, to help cyclists and motorists more easily identify the bike lane or route. Stencils approved by Caltrans for Class III should also be used once they are approved (Figure 28).

Action***Parking***

A bicycle signing program is recommended as a high priority project for Long Beach. In addition new technologies and strategies for bicycle striping and stencils should be considered for bicycle lanes and routes where deemed appropriate.

Bicycle Parking is not standardized by any codes. However, there are preferable types of secure bicycle furnishing available on the market. When bicycle parking is being considered the types of bicycle lockers and racks in Figures 32 and 33 are recommended. More specific guidelines to determine bicycle parking capacity and location are suggested in Table 9.

Action***Sidewalks***

A bicycle parking program is recommended as a high priority project for Long Beach. Specific bicycle parking guidelines should be developed to help city staff, developers and commercial districts determine the types of furnishings and location of bicycle parking.

The use of sidewalks as bicycle facilities is not encouraged by Caltrans, even as a Class III bike route. There are exceptions to this rule. The California Vehicle Code states: 'Local

Sidewalks, continued

authorities may adopt rules and regulations by ordinance or resolution regarding the (...) operation of bicycles (...) on the public sidewalks.' (CA VC 21100, Subdiv. H). Caltrans adds in Chapter 1000: 'In residential areas, sidewalk riding by young children too inexperienced to ride in the street is common. With lower bicycle speeds and lower auto speeds, potential conflicts are somewhat lessened, but still exist. But it is inappropriate to sign these facilities as bikeways. Bicyclists should not be encouraged (through signing) to ride facilities that are not designed to accommodate bicycle travel.'

Long Beach Municipal Code section 10.48.070 entitled Riding on Sidewalks, specifically states that 'no person shall ride a bicycle upon a sidewalk within any business district; upon the sidewalks of bridges; in pedestrian underpasses; on pedestrian overpasses; upon sidewalks adjacent to any school building, church, recreation center, playground, or senior citizens' development; within the area south of Ocean Boulevard between the Long Beach Museum of Art on the west and Bluff Park on the east; on the northerly side of the Downtown Marina mole which directly abuts said marina, between Gangway A and Gangway B.' Section 10.48.110 also prohibits riding a bicycle, other than law enforcement officers, within the Civic Center Plaza or within Lincoln Park. The Traffic Engineer shall also have the authority to post signs noticing the prohibition of bicycles on sidewalks as stated in section 10.48.100.

Action

Long Beach has a number of existing sidewalks that are currently designated as bicycle facilities, but new sidewalks should be considered only when there are no other options.

Traffic Calming

Traffic calming includes any effort to moderate or reduce vehicle speeds and/or volumes on streets where that traffic has a negative impact on bicycle or pedestrian movement. Because these efforts may impact traffic outside the immediate corridor, study of traffic impacts is typically required. For example, the City of Berkeley instituted traffic calming techniques by blocking access into residential streets. The impact was less traffic on local streets, and more traffic on arterials and collectors. Other techniques include installing

***Traffic Calming,
continued***

traffic circles, intersection islands, partial street closings, 'bulb-out' curbs, pavement treatments, lower speed , signal timing, and narrowing travel lanes.

The City of Long Beach already has a relatively continuous street grid system with little filtering of through traffic into residential neighborhoods. Traffic circles, roundabouts, and other measures may be considered for residential collector streets where there is a desire to control travel speeds and traffic volumes but not to install numerous stop signs or traffic signals.

Action

Traffic calming alternatives should be considered where traffic speeds are exceedingly high, and when safety is an issue.

Bicycle Boulevards

Palo Alto pioneered the concept of a bicycle boulevard, which in that city is a street directly parallel to a major commercial corridor that was designed to promote bicycle movement and discourage through vehicle movement. This was achieved by partial street closures and lack of coordinated signals. In addition, wider curb lanes and frequent signing as a 'Bicycle Boulevard' helps increase the motorists' awareness.

Action:

The bicycle boulevard may be considered as an option if the City of Long Beach decides it can be feasible.

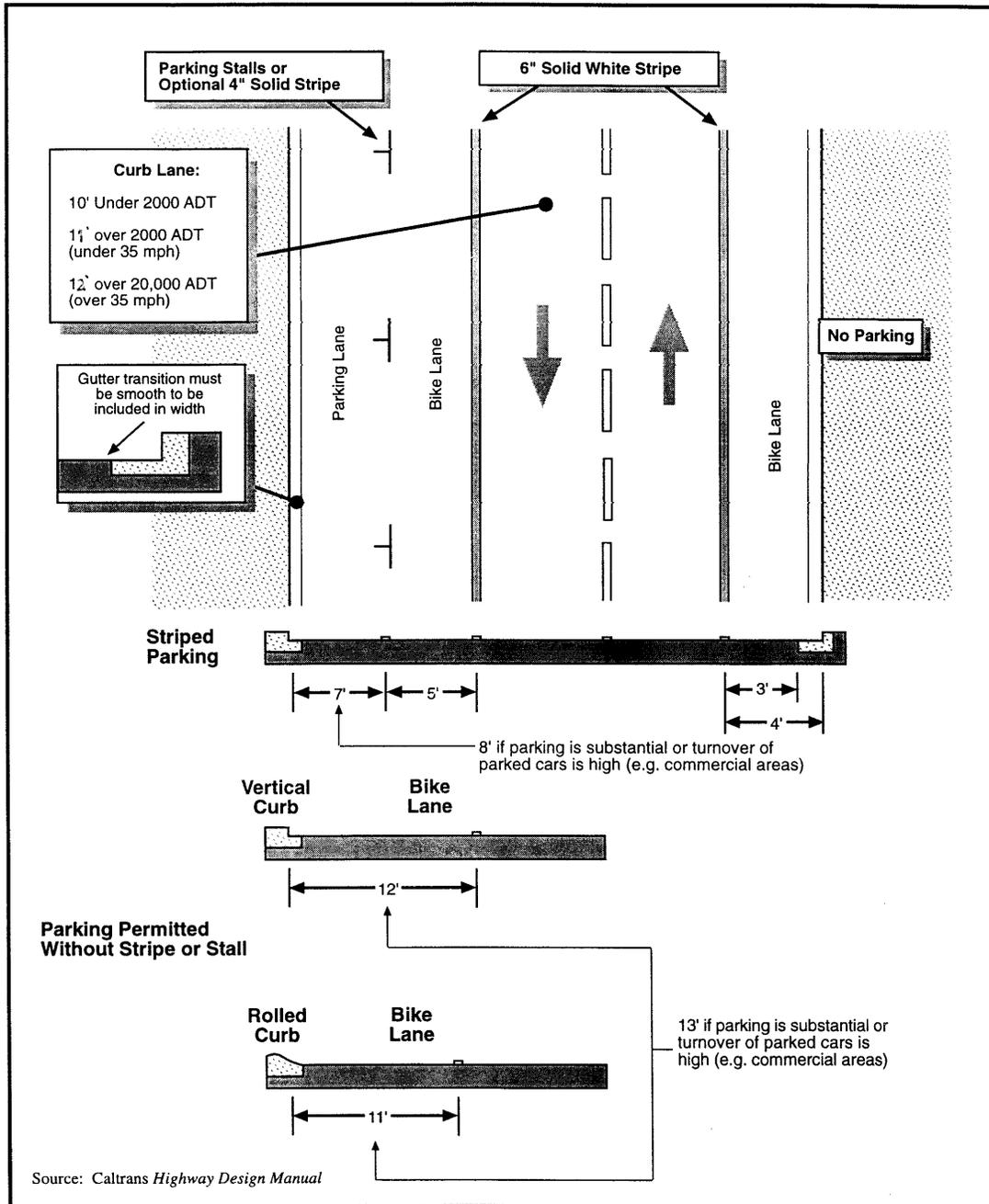


Figure 23: Class II Bike Lane Cross Section

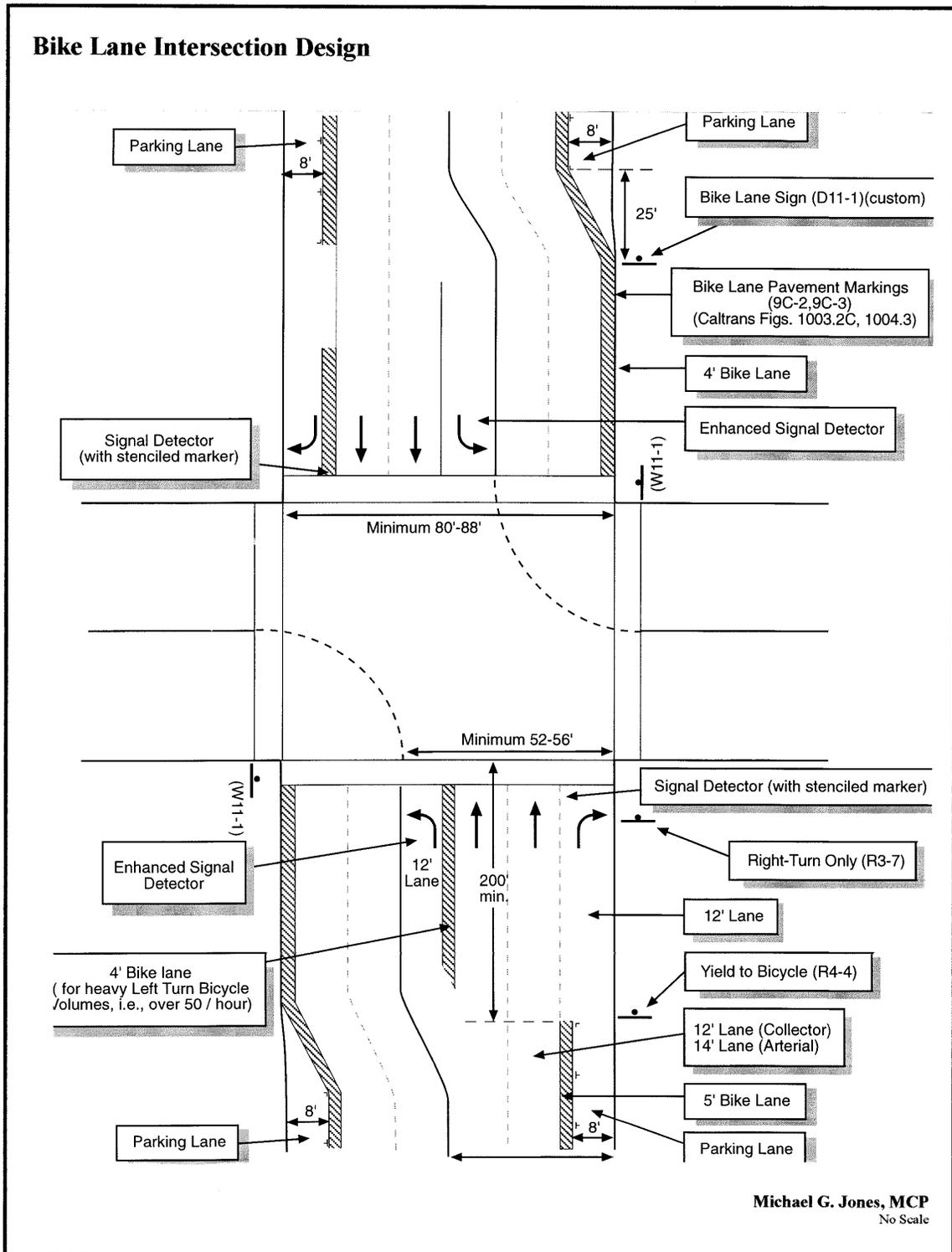


Figure 24: Bike Lane Intersection Design

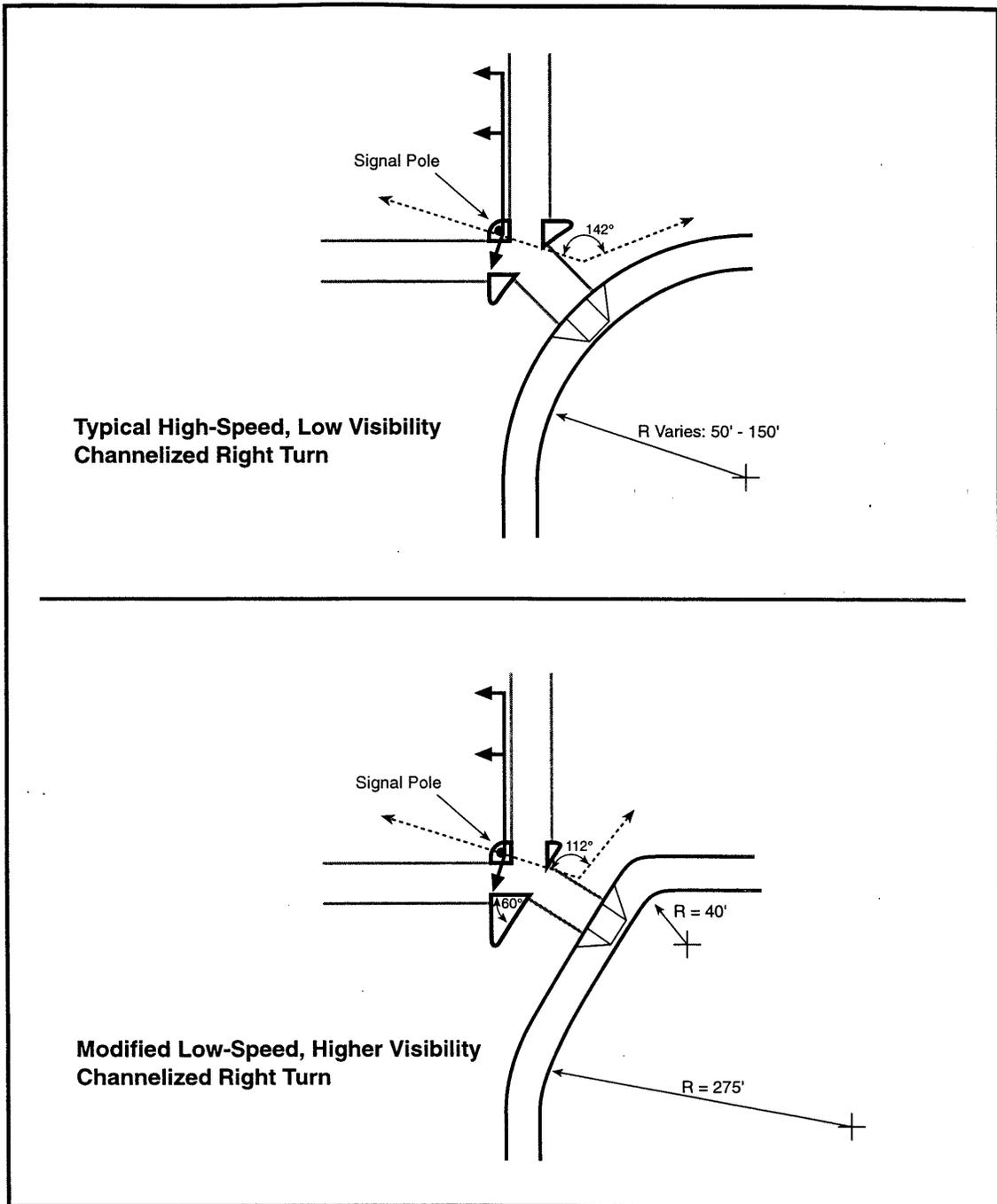


Figure 25: Recommended Right Turn Channelization

Table 8: Recommended Signing and Marking

Item	Location	Color	Caltrans Designation	MUTCD Designation
No Motor Vehicles	Entrances to trail	B on W	R44A	R5-3
Use Ped Signal/Yield to Peds	At crosswalks; where sidewalks are being used	B on W	N/A	R9-5 R9-6
Bike Lane Ahead: Right Lane Bikes Only	At beginning of bike lanes	B on W	N/A	R3-16 R3-17
STOP, YIELD	At trail intersections with roads and Coastal Bikeways	W on R	R1-2	R1-1 R1-2
Bicycle Crossing	For motorists at trail crossings	B on Y	W79	W11-1
Bike Lane	At the far side of all arterial intersections	B on W	R81	D11-1
Hazardous Condition	Slippery or rough pavement	B on Y	W42	W8-10
Turns and Curves	At turns and curves which exceed 20 mph design specifications	B on Y	W1,2,3 W4,5,6,14 W56,57	W1-1,2 W1-4,5 W1-6
Trail Intersections	At trail intersections where no STOP or YIELD required, or sight lines limited	B on Y	W7,8,9	W2-1, W2-2 W2-3, W2-3 W2-4, W2-5
STOP Ahead	Where STOP sign is obscured	B,R on Y	W17	W3-1
Signal Ahead	Where signal is obscured	B,R,G	YW41	W3-3
Bikeway Narrows	Where bikeway width narrows or is below 8'	B on Y	W15	W5-4
Downgrade	Where sustained bikeway gradient is above 5%	B on Y	W29	W7-5
Pedestrian Crossing	Where pedestrian walkway crosses trail	B on Y	W54	W11A-2
Restricted Vertical Clearance	Where vertical clearance is less than 8' 6"	B on Y	W47	W11A-2
Railroad Crossing	Where trail crosses railway tracks at grade	B on Y	W47	W10-1
Directional Signs (i.e. Cal State LB, Downtown, Train Station, etc.	At intersections where access to major destinations is available	W on G	G7 G8	D1-1b(r/l) D1-1c
Right Lane Must Turn Right; Begin Right Turn Here, Yield to Bikes	Where bike lanes end before intersection	B on W	R18	R3-7 R4-4
Trail Regulations	All trail entrances	B on W	n/a	n/a

Multi-purpose Trail: Bikes Yield to Pedestrians	All trail entrances	n/a	n/a	n/a
Bikes Reduce Speed & Call Out Before Passing	Every 2,000 feet	B on W	n/a	n/a
Please Stay On Trail	In environmentally-sensitive areas	n/a	n/a	n/a
Caution: Storm Damaged Trail	Storm damaged locations	B on Y	n/a	n/a
Trail Closed: No Entry Until Made Accessible & Safe for Public Use	Where trail or access points closed due to hazardous conditions	n/a	n/a	n/a
Speed Limit Signs	Near trail entrances: where speed limits should be reduced from 20 mph	B on W	n/a	n/a
Trail Curfew 10PM - 5AM	Based on local ordinance	R on W	n/a	n/a



Figure 26: Bike Route Sign

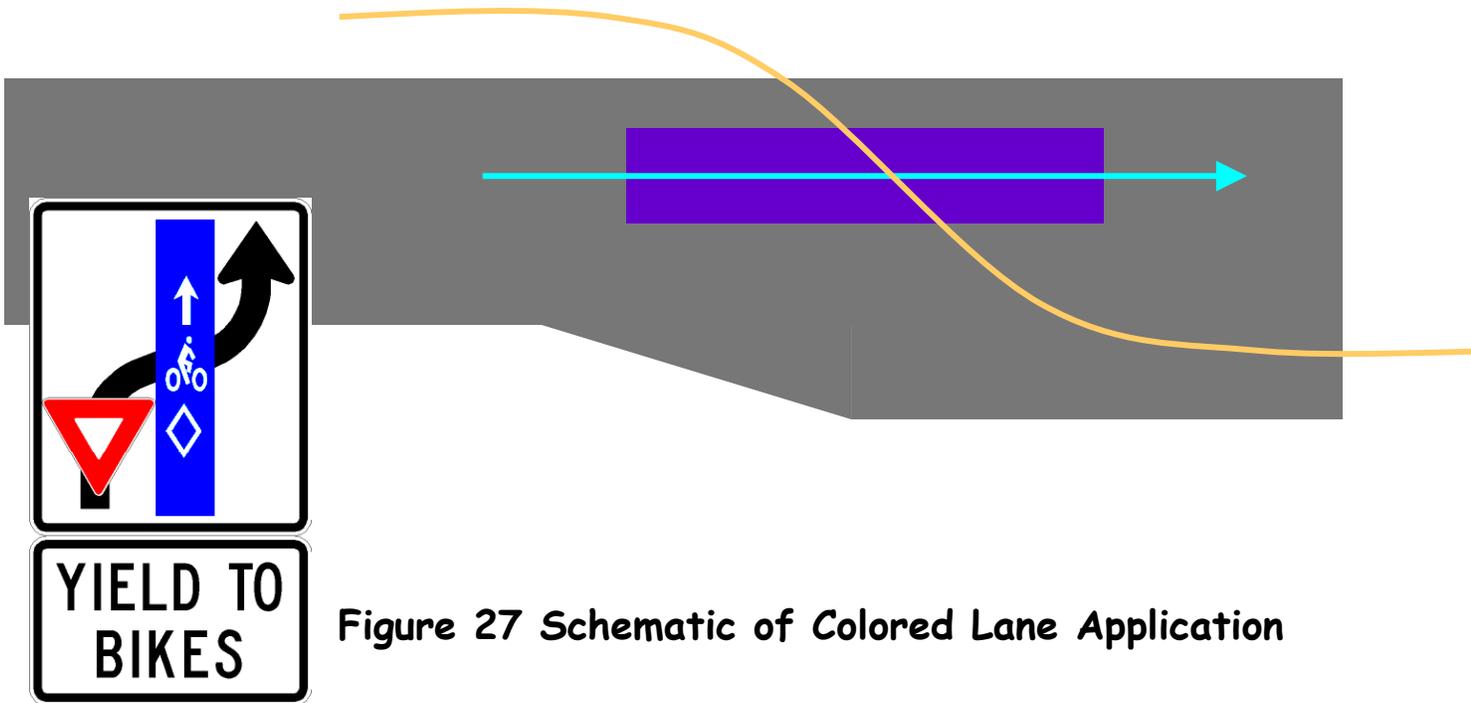


Figure 27 Schematic of Colored Lane Application

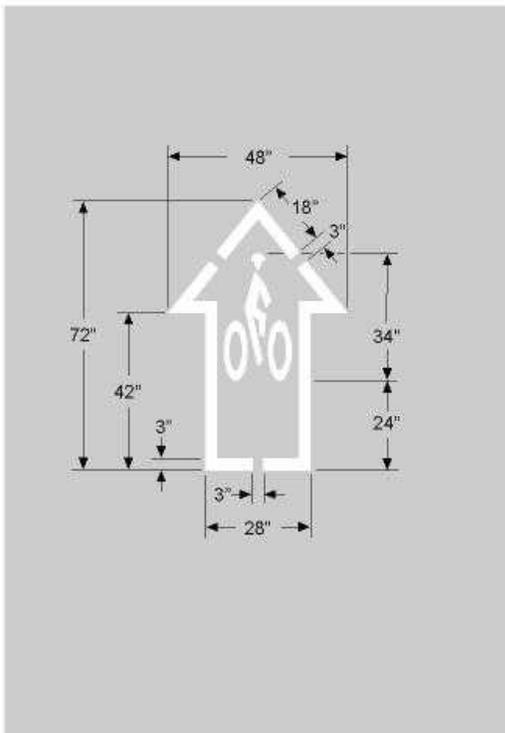


Figure 28
Schematic of Pavement Stencil
in use in San Francisco and
Denver

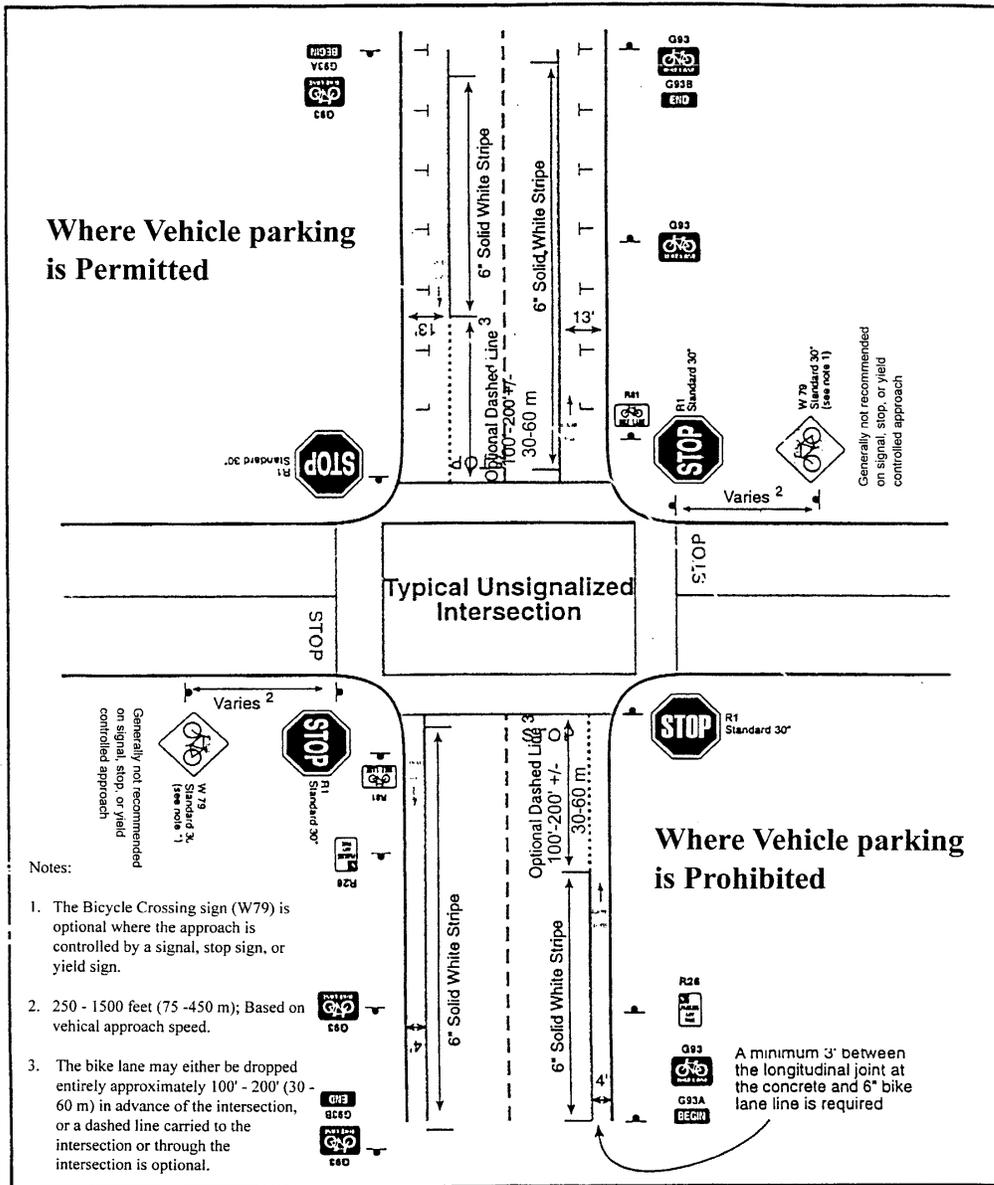


Figure 29: Signing at Unsignalized Intersections

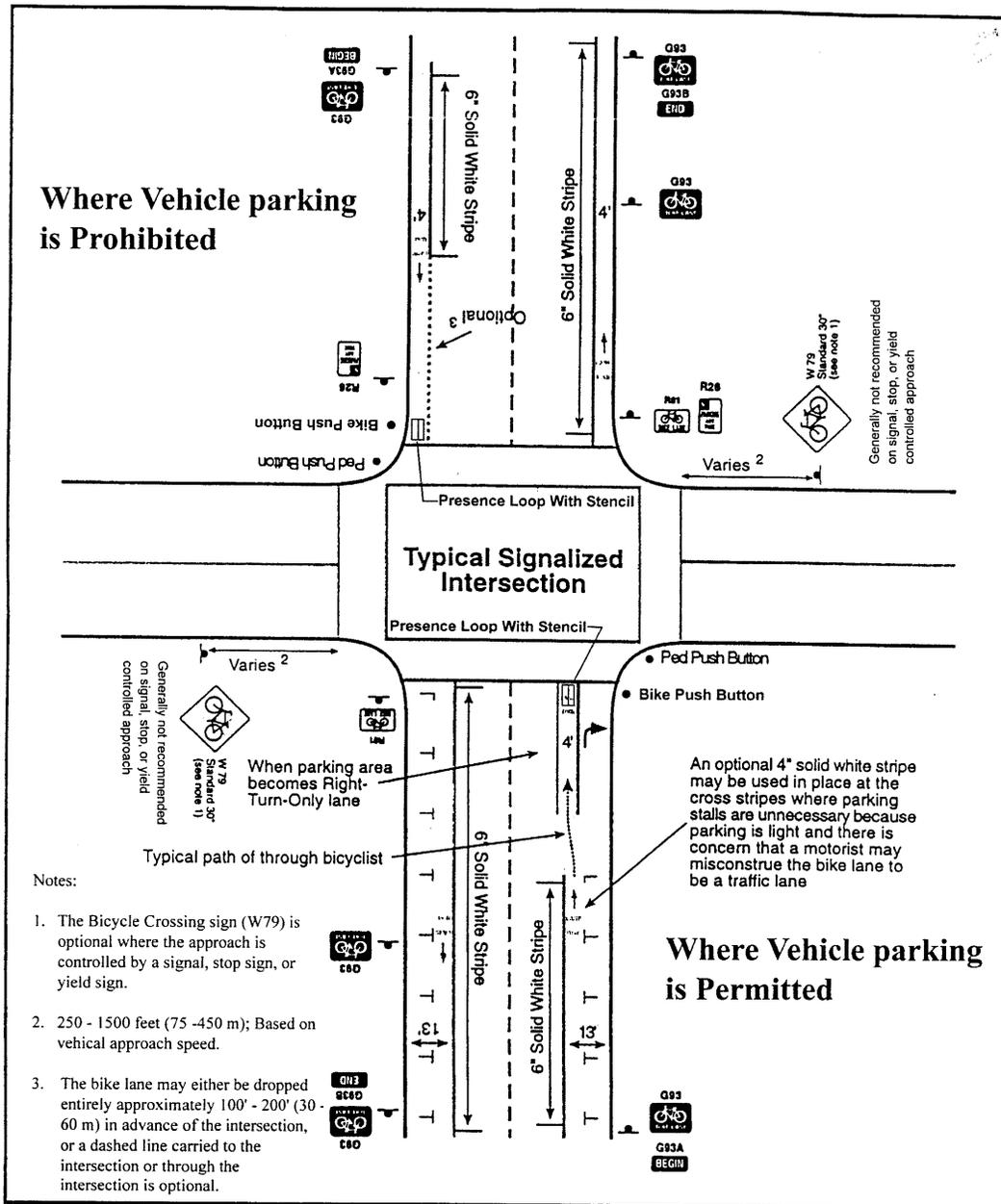


Figure 30: Signing at Signalized Intersections

WARNING SIGNS

	<p>Signs for locations on path near auto access points</p>	
	<p>Signs for bike lanes where there is no auto parking on right of lane</p>	
	<p>Signs for occasional use on Class 2 & 3 routes and Bicycle Boulevards. Can be interspersed with "Share the Road" signs. Possible sticker?</p>	
	<p>Signs for use at transition from Class 2 to Class 3; at the beginning of routes; and on non-bicycle-route roads where bicycle traffic might be expected or at intervals on all city streets. Possible sticker?</p>	<p>Signs used at intervals along bike routes with adjacent parallel parking. Frequency of signs should be related to parking turnover rates.</p>
	<p>Signs for use at transition from Class 2 to Class 3; at the beginning of routes; and on non-bicycle-route roads where bicycle traffic might be expected or at intervals on all city streets. Possible sticker?</p>	<p>Should be used throughout City at parallel parking locations, also.</p>
	<p>Signs for use at transition from Class 2 to Class 3; at the beginning of routes; and on non-bicycle-route roads where bicycle traffic might be expected or at intervals on all city streets. Possible sticker?</p>	

bikeSIGNS-4/16/97C

Figure 31: Signs

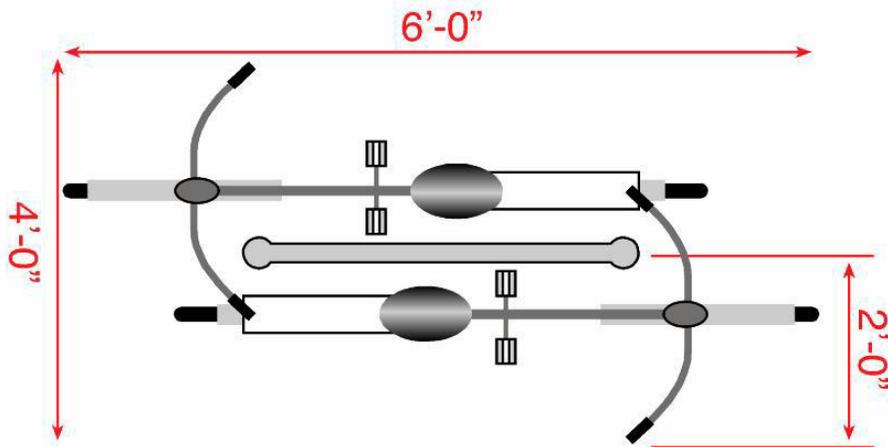
Table 9: Recommended Guidelines for Bicycle Parking Locations and Quantities

Land Use or Location	Physical Location	Type of Parking (existing & recommended)	Bicycle Capacity
City Park	Adjacent to restrooms, picnic areas, fields, and other attractions	A Frame, Staple, etc	8 bicycles per acre
City Schools	Near office entrance with good visibility	A Frame, Free Standing racks in fenced area, etc	8 bicycles per 40 students
Public Facilities (City Hall, libraries, community centers)	Near main entrance with good visibility	Staple or Free Standing racks, etc	8 bicycles per location
Commercial, Retail and Industrial Developments over 10,000 gross square feet	Near main entrance with good visibility	Staple or new technologies	1 bicycle per 15 employees or 8 bicycles per 10,000 gross square feet
Shopping Centers over 10,000 gross square feet	Near main entrance with good visibility	Staple or new technologies	8 bicycles per 10,000 gross square feet
Commercial Districts	Near main entrance with good visibility Not to obstruct auto or pedestrian movement	Staple or new technologies	2 bicycles every 200 feet
Transit Stations	Near platform or security guard	Enclosed Lockers	1 bicycle per 30 parking spaces

Recommended Locations

Prohibited Locations	4 Feet Minimum Distance From	5 Feet Minimum Distance From
Red zones, blue zones, bus zones, white zones, corners	Parking meters, newspaper boxes, trees, sign posts, light poles and public telephones.	Wheelchair ramps, driveways, fire hydrants, fire escapes, and doorways.

Hitching Post or Staple Racks



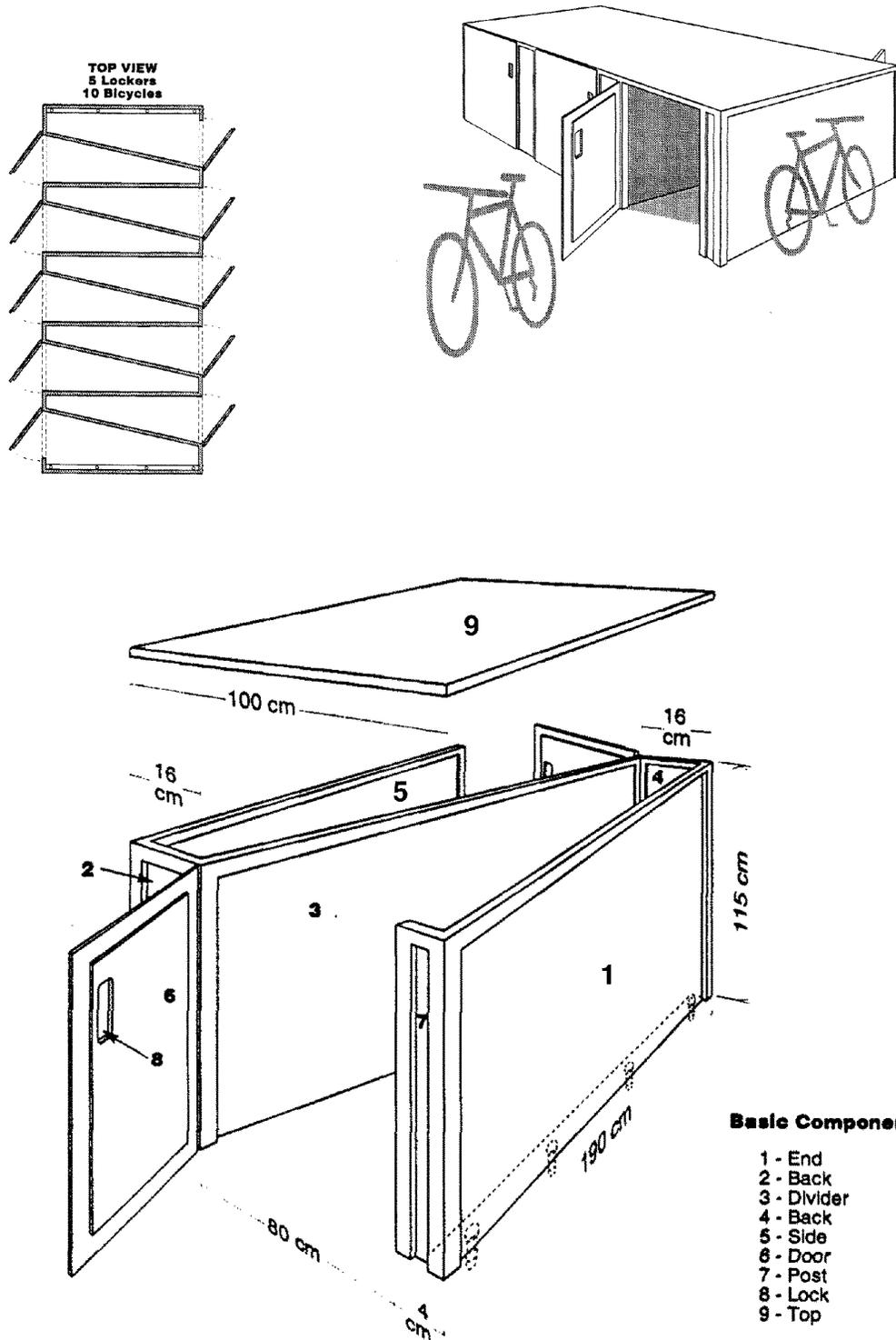
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**DIMENSIONS FOR
COMMONLY USED RACKS**



Figure 32 Bicycle Racks

Figure 33: Bicycle Lockers



Maintenance

The total annual maintenance cost of the primary bikeway system is estimated to be about \$133,500 annually once it is fully implemented (see Table 6). Most of the maintenance costs are associated with the proposed off-road bike paths, as bike lanes and routes are assumed to be maintained as part of routine roadway maintenance. However, as bicycle lanes do require occasional restriping and other maintenance, a cost of \$2000 per mile annually is used based on experience in other cities. This includes costs like sweeping, replacing signs and markings, and street repair. Class I bike path maintenance costs are based on \$8,500 per mile, which covers labor, supplies, and amortized equipment costs for weekly trash removal, monthly sweeping, and bi-annual resurfacing and repair patrols.

Maintenance access on the Class I bike path will be achieved using standard City pick-up trucks on the pathway itself. Sections with narrow widths or other clearance restrictions should be clearly marked. Class I bike path maintenance includes cleaning, resurfacing and restriping the asphalt path, repairs to crossings, cleaning drainage systems, trash removal, and landscaping. Underbrush and weed abatement should be performed once in the late spring and again in mid-summer. In addition, these same maintenance treatments should be performed on Class II and Class III facilities. These facilities should be prioritized to include an accelerated maintenance plan, that is already a part of the City's ongoing street maintenance. A maintenance schedule and checklist is provided in Table 10.

Action

Identify a reliable source of funding to cover all new Class I, II and III bike facility maintenance. All proposed designs should be closely examined to minimize future maintenance costs. In particular, maintenance on Class II and III facilities should be accelerated.

**Table 10
Bikeway Maintenance Check List and Schedule**

Item	Frequency
Sign Replacement/Repair	1 - 3 years
Pavement Marking Replacement	1 - 3 years
Tree, Shrub & grass trimming	5 months - 1 year
Pavement sealing/potholes	5 - 15 years ¹
Clean drainage system	1 year
Pavement sweeping	Weekly-Monthly/As needed
Shoulder and grass mowing	Weekly/As needed
Trash disposal	Weekly/As needed
Lighting Replacement/Repair	1 year
Graffiti removal	Weekly-Monthly/As needed
Maintain Furniture	1 year
Fountain/restroom cleaning/repair	Weekly-Monthly/As needed
Pruning	1 - 4 years
Bridge/Tunnel Inspection	1 year
Remove fallen trees	As needed
Weed control	Monthly/As needed
Remove snow and ice	Weekly/As needed
Maintain emergency telephones, CCTV	1 year
Maintain irrigation lines	1 year
Irrigate/water plants	Weekly-Monthly/As needed

Security

Security may be an issue along portions of the Class I bike paths. The following actions are recommended to address these concerns.

Action

Enforcement of applicable laws on the bike path will be performed by the City of Long Beach Police Department, using both bicycles and vehicles. Enforcement of vehicle statutes relating to bicycle operation will be enforced on Class II and Class III bikeways as part of the department's normal operations. No additional manpower or equipment is anticipated for Class II or III segments.

Liability

Liability is a major concern for all local governments. Liability for local agencies implementing and operating new bikeways and pedestrian facilities should be no different than the liability for new roads, parks, or schools. Local agencies should adhere to the following guidelines to minimize their liability.

1. Use of Design standards.

The designers, builders, and inspectors of a facility should adhere to widely accepted standards governing the design and construction of the trail. A standard of conduct includes adherence to published documents such as safety codes, standards, or guidelines which are sponsored or issued by government agencies or voluntary associations, even though such documents lack the force and effect of law. Provisions of state laws related to transportation facilities, if mandatory, may provide the basis for a finding of negligence per se.

Applicable California standards include the Uniform Building Code, and Caltrans Design Manual for Class I and II Bikeways. Other available design standards include AASHTO's Guide for the Development of Bicycle Facilities; Florida Department of

Transportations Trail Intersection Design Guidelines, Island Press's "Greenways: A Guide to Planning, Design, and Development," Americans with Disabilities Act (ADA), and the Rail-to-Trails Conservancy's Trails for the 21st Century: A

Liability, continuedPlanning, Design, and Management Manual for Multi-Use Trails.

Note that Caltrans requirements and guidelines are legally binding for all bikeways in California: deviations to these standards must go through the design exception process. Careful compliance with applicable laws, regulations, route selection criteria, and design standards should greatly reduce the risk of injury to bicyclists using the bikeway, and also provide strong evidence that the agency used reasonable care. A detailed Project Feasibility Report is specifically designed to address existing standards.

2. Traffic signals and warning devices.

CalTrans has adopted a Traffic Design Manual, which defines the circumstances under which traffic signals and warning devices are required. While California law limits the liability of public entities for failure to install regulatory traffic signals, signage and markings, non-regulatory warning signs must be installed where necessary to warn of dangerous condition, such as an intersection. All signals and warning devices must be adequately maintained, so as not to invite reliance on a defective warning device.

3. Usage of Professionals.

Facilities that have been reviewed and approved by unregistered or unlicensed professionals may increase liability exposure.

4. Adhere to Maintenance Standards.

Maintenance practice should be consistent along the entire facility, and conform to recognized maintenance practices. The responsible maintenance agency(ies) should have a written procedure to follow to maintain all portions of the facility, including pre-existing conditions such as drain grates.

5. Monitor Conditions.

The responsible agency(ies) should have an internal mechanism to monitor and respond to actual operating conditions on the

Liability, continued

Liability, continued

facility. This is typically done through the maintenance procedures, a record of field observations and public comments, and an annual accident analysis. Accidents should be reviewed to determine if physical conditions on the bikeway were a contributing cause.

6. Keep Written Records.

Written records of all maintenance activities and procedures, responses to reports of safety hazards, and other regular through numerous jurisdictions, it may make sense to have one contact persons/department responsible for the entire facility, rather than risk confusion by incidents being reported to the wrong jurisdiction. Mileposts on the route may also help maintenance and enforcement personnel respond to problems.

7. Correct Hazards.

Trail managers should correct all hazards known by public officials in a timely fashion.

8. Warn of Known Hazards.

Trail users should be warned that the trail is adjacent to an active railroad corridor and to use caution when crossing the tracks or at intersections with roadways.

9. Insurance.

Proper insurance coverage or budgeting for self-insurance to cover potential liability will do much to alleviate concerns.

10. Be Careful With the Word 'Safe'.

Do not make any verbal or written comments that the facility is safe or safer than a non-designated route. For example, a Project Feasibility Report should not make any blanket claims that the facility is safe or safer than comparable routes.

11. Do Not Rush to Settle.

Fear that juries will award a plaintiff large sums for damages

Liability, continued

has made many attorneys eager to settle cases before they come to court. Lawsuits related to bikeways and walkways may be settled more quickly than other types of lawsuits due to the misconception that walking or bicycling are inherently unsafe activities.

Attorneys may feel that a local government has an extra responsibility on designated bikeways or walkways—more than it does for motor vehicles on roadways for example—to prevent incidents. In fact, there is no evidence that bicycling or walking is inherently more or less safe than other transportation modes such as driving, flying, or other recreational activities such as swimming or playing soccer. This misconception is probably shared by the same public, who must be educated about the facts of bicycling and walking. The same exceptions for user responsibility and facility condition that apply to driving should apply to bicycling or walking. Since by law bicyclists and pedestrians are allowed on all roadways except where expressly prohibited, and roadway conditions vary widely, a public agency incurs no additional liability by identifying the route on a map or a plan. The net effect or prematurely settling a case is to incrementally reduce the types of improvements that can be offered by local government. In other cases, settling cases prematurely may simply encourage legal actions by others.

Appendix A
Bicycle User Survey
City of Long Beach

Name: _____ **Address:** _____

Date Completed: _____ **Age:** _____ **Sex:** _____

The City of Long Beach is developing a Bicycle Master Plan for a comprehensive and safe network of bikeways. This survey is intended to learn more about residents' preferences of bicycle routes and facility types.

1. Please rank your preference (1 through 3, 1 being highest) for:
off-street bike paths _____ on-street bike lanes _____ or, bike routes (local streets) _____
2. Describe your current level of bicycling:
At least 1x per day _____ 1 - 6x per week _____ 1-3x per month _____ Very rarely _____ Never _____
3. Describe your bicycle trip purpose. (Check all that apply)
Work _____ School _____ Shopping _____ Recreation/exercise _____ Other _____
4. How far do you live from work or school?
0-5 miles _____ 6-10 miles _____ 11 or more miles _____
5. Describe the reason you don't ride or ride more often: (Mark 1 as most important, 2...)
Concerns about safety _____ Lack of bikeways (e.g. paths, bike lanes, routes) to ride on _____
Lack of bicycle storage/parking _____ Weather/darkness _____ Need access to car _____
Other _____
6. On the back please describe or list the routes you bicycle on a regular basis including your destinations, plus other routes you know of that provide a good combination of directness and lower conflicts with the automobile. Feel free to attach extra sheets of paper or hand-drawn maps if preferred.
7. Identify the top five major constraints for bicycling in the City, such as specific intersections, stretches of road, lack of parking, lack of education, etc.
 1. _____
 2. _____
 3. _____
 4. _____
 5. _____
8. Please identify the top five bicycle projects or programs you would like to see implemented in the City. For example, education, signs, safety, lanes or paths* (*indicate location).
 1. _____
 2. _____
 3. _____
 4. _____
 5. _____

THANK YOU. PLEASE RETURN YOUR SURVEY NO LATER THAN MONDAY MAY 1, 2000 TO:

City of Long Beach
Tim Lee
333 Ocean Boulevard
Long Beach , CA 90802
(562) 570-6173 phone(562) 570-7161 fax

Alta Planning
Leslie Scott
137 N. Oak Knoll Avenue #2
Pasadena CA 91101
(626) 304-0768 phone (626) 796-4178 fax

Appendix B Survey Results

There were 56 surveys returned from either the workshops, mail or fax. In addition, the Long Beach Bicyclists submitted a formal letter with comments. Note: Comments from * Long Beach Bicyclists and ** City Council.

1. Please rank your preference:

RANKING	Off Street Bike Paths	On Street Bike Lanes	Bike Routes
1	38%	45%	34%
2	21%	34%	39%
3	36%	16%	18%
0	5%	5%	9%
Other Wide Curb	2%	0%	0%

2. Describe your current level of bicycling:

1 per day	1-6 per week	1-3 per month	Rarely	Never
23%	52%	16%	7%	2%

3. Describe your bicycle trip purpose

Work	School	Shopping	Recreation	Other
36%	29%	46%	71%	46%

4. How far do you live from work or school:

1-5 miles	6- 10 miles	11 or more miles	N/A
63%	13%	14%	11%

5. Describe your reason you don't ride or ride more often:

RANKING	Safety	Lack of Bikeways	Parking	Weather	Car
1	16%	32%	16%	18%	10%
2	18%	18%	4%	13%	9%
3	14%	7%	7%	9%	13%
4	9%	4%	4%	4%	2%
5	2%	2%	9%	0%	0%

As part of the survey, people were given the opportunity to list specific comments about constraints and opportunities. These comments have been organized by category: marketing or education, connectivity or multi-model, activity centers, maintenance, signage, signals or intersections, safety, parking and other.

MARKETING OR EDUCATION

Education to public and schools*	18%
Educate motorists	9%
General bicycle safety classes	2%
Bike route maps	7%
Marketing to courts	2%
General adult awareness campaigns*	5%

MULTIMODEL

Rack on buses*	9%
Bicycle parking at Metrolink	5%

ACTIVITY CENTERS

Colleges	12%
Queensway Bay	5%
City Hall	2%
Shopping Centers	2%
Libraries	4%
Long Beach Harbor	2%
Connectivity to Activity Centers*	4%

Appendix B Survey Results (continued)

MAINTENANCE

Potholes (Woodruff and Los Coyotes)	2%
Maintain routes	4%
Resurfaced streets restriped with wider curb lane*	2%
Compaction standards to prevent asphalt sinking*	2%
Require prompt road repairs*	2%
Repairs made parallel to direction of travel*	2%
Resurface evenly to the curb*	2%
Upgrade and maintain railroad crossings*	2%
Replace storm sewer grates for bicyclists*	2%
Develop and implement road hazard reporting system	2%

SIGNAGE

Directional Signs	2%
Driver awareness signs*	9%
General signs	7%
Riverbed signs*	9%

SIGNALS, INTERSECTIONS AND AUTO LANES

Widen curb lanes*	4%
Signal detectors sense bicycles*	9%
Bicycle emblem at signal detectors*	2%
Buttons for cyclists at intersection crossings	2%
More one way streets to make room for bike lanes	2%
Stop signs make it difficult	2%
Synchronize signals for bicyclists*	2%
Lengthen green signal time*	2%
All red signal phase for bicyclists to clear intersection*	2%

SAFETY

Street lights along routes	4%
Safety measures on LA river	2%
Traffic calming	7%
General safety	7%
Sharing close curb lane is dangerous	2%
Law enforcement*	4%

PARKING

Safe and secure bicycle parking*	7%
More bicycle parking*	14%
Bicycle parking at blue line*	2%
Bicycle parking at new residential developments*	2%
Less auto parking	2%
Prohibit pole, wave and wheel killer racks*	2%

OTHER

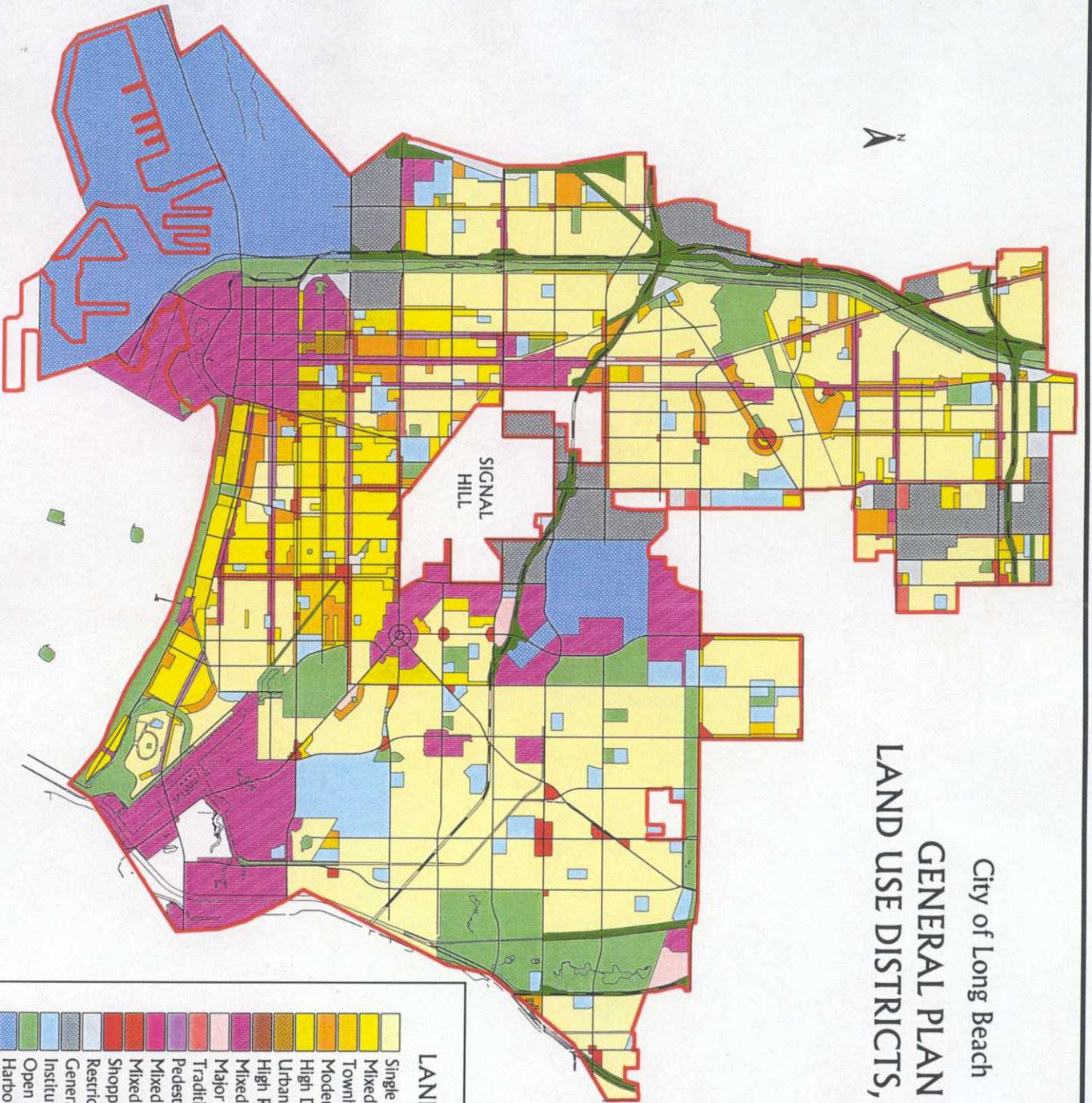
Bathrooms along river trail	2%
Bicycle Coordinator*	7%
Bicycle Advisory Committee	2%
Car doors opening bike lanes cause problems	2%
More funding (based on trips*)	5%
Bicyclists too aggressive	2%
Bicycle incentives*	4%
Adopt international bicycle standards	2%
Capital improvements comply with Bicycle Plan*	4%
All plans reviewed for Bicycle Plan compliance*	2%
New developments require shower and changing facilities*	2%
Turnouts for diagonal crossing*	2%

Appendix B
Survey Results (continued)

ROUTE	PERCENT
General Connectivity to all routes and lanes	2%
Westminster (connecting OC and SG River paths)**	2%
Relocate Nieto to Marine Stadium access to Ocean & 55 th **	2%
Ocean	4%
Los Coyotes Diagonal	2%
Clark	11%
PCH (improve)	11%
Bellflower	2%
LA River	2%
Willow	5%
Spring	5%
San Antonio	2%
Del Amo	4%
Atlantic	2%
Traffic Circle (improve)	2%
2 nd	9%
3 rd	2%
4 th	2%
7 th	5%
Riverbed Routes	14%
Beach bike path connections	2%
Any north/south routes	7%
Any east/west routes	7%
Bridge over Alamitos Bay	2%
Bridge Anaheim/PCH	2%
Bridge on Second to Belmont Shore	2%
To Palos Verdes	4%
Studebaker	2%
Ximeno (too narrow)	2%
Bicycle tunnel with lights under airport runways*	2%
Improve access points to paths*	2%
Broadway	4%
Toledo	4%
Bayshore	2%
Cerritos	2%
Colorado	2%
Anaheim	5%
Lakewood	2%
Stearns	2%
Atherton	2%
Carson	2%



City of Long Beach
GENERAL PLAN
LAND USE DISTRICTS, 2001



LAND USE DISTRICTS

- Single Family
- Mixed Style Homes
- Townhomes
- Moderate Density Residential
- High Density Residential
- Urban High density Residential
- High Rise Residential
- Mixed Uses
- Major Commercial Corridor
- Traditional Retail Strip Commercial
- Pedestrian-Oriented Retail Strip
- Mixed Retail/Residential Strip
- Mixed Office Retail/Residential Strip
- Shopping Nodes
- Restricted Industry
- General Industry
- Institutions/Schools
- Open Space/Parks
- Harbor/Airport
- Right-of-Way

Appendix D

Acronym List

1	AASHTO	American Association of Highway and Transportation Officials
2	ADA	American Disabilities Act
3	ADT	Average Daily Trips
4	BMP	Bicycle Master Plan
5	BTA	Bicycle Transportation Account
6	Caltrans	California Department of Transportation
7	CEQA	California Environmental Quality Act
8	CMAQ	Congestion Mitigation and Air Quality Improvement
9	ITE	Institute of Transportation Engineers
10	LACBC	Los Angeles County Bicycle Coalition
11	LACMTA	Los Angeles County Metropolitan Transportation Authority
12	LBATRA	Long Beach Area Transportation Resource Association
13	LBC	Long Beach Cyclists
14	MPO	Metropolitan Planning Organization
15	MUTCD	Manual on Uniform Traffic Control Devices
16	NHS	National Highway System
17	OTS	Office of Traffic Safety
18	RFP	Request For Proposal
19	RTP	Regional Transportation Plan
20	SCAG	Southern California Association of Governments
21	STP	Surface Transportation Program
22	SWITRS	Statewide Integrated Traffic Records System
23	TAC	Technical Advisory Committee
24	TDA	Transportation Development Act
25	TE Funds	Transportation Enhancement Funds
26	TEA	Transportation Enhancement Activities
27	TEA-21	Transportation Equity Act for the 21st Century