

### **III. THE PLAN FOR PASADENA**

#### **A. VISION STATEMENT**

Pasadena is intertwined with the bicycle—the “Golden Age” of bicycling occurred during Pasadena’s development. Early photographs of street scenes always show bicycles, intermixed with pedestrians, horses, and trolleys. Pasadena’s first streets were arranged for these users. Pasadena was ahead of its time—this development pattern is now recognized as an essential element of a “livable community.”

The Pasadena General Plan calls for creating “a city where people can get around without cars.” This bicycle plan provides guidance for implementing that goal. Beyond that, this bicycle plan envisions that Pasadena should be a place where it is easier to ride a bicycle than to drive a car. Pasadena should be a place where bicyclists should be able to freely and safely circulate along all streets. At the bicyclist’s destination, secure parking should be available and conspicuous, and it should be free.

Pasadena has a long history of encouraging bicycling. Continuing to encourage more bicycle riding in Pasadena provides many benefits by decreasing congestion while increasing mobility, and improving economics and health.

This plan accommodates existing bicyclists and encourages others to ride their bicycles. Evidence from other cities throughout America and the world shows that connecting people to their destinations with streets accommodating bicyclists encourages people to bicycle to their destinations.

The first step toward making a network to enable people to bicycle is to focus on their destinations. Most of Pasadena’s major destinations are on Colorado Boulevard and Lake Avenue. People need to be able to bicycle along them as well as to them. These streets are the backbone of Pasadena.

With the construction of the Blue Line light rail, the train stations and the streets leading to them will become especially important for bicyclists.

Making these streets bicycle friendly, along with arterial streets at one-mile increments, creates the first step toward making a network to enable people to bicycle to their many destinations.

This plan identifies a network of bikeways that connect bicycle riders to their destinations.

However, bicyclists need more than just streets to accommodate them—they need safe streets to ride upon. Creating safe streets for everyone, not just bicyclists, is part of the vision.

This plan envisions a list of projects and programs to be added to the Transportation Improvement Plan, along with possible sources of supplemental funding to enable Pasadena to continue to implement this vision.

## **B. BICYCLE PLAN**

### **1. City Streets**

The major streets of Pasadena are presented with east-west streets first, presented from north to south; then north-south streets, presented from west to east. Appendix A contains scaled cross-sections for many of these streets, both existing, and with possible configurations for making them bicycle-friendly.

#### *a) East-West Streets*

##### **Washington Boulevard**

The General Plan designates this boulevard as a de-emphasized street, and the North Lake Specific Plan calls for de-emphasizing it east of Lake. Washington Blvd. serves mostly commercial land uses. It is 16.8 to 18.3 m (55 to 60 feet) wide, currently striped for four travel lanes. Parking is allowed along both sides. It is recommended that bike lanes be installed when this street is de-emphasized.

##### **East Orange Grove Boulevard**

The General Plan designates this boulevard as a principal mobility corridor from Lincoln to Rosemead. It has two separate personalities. West of Wilson, it is commercial, 16.8 to 18.3 m (55 to 60 feet) wide, currently striped for four travel lanes. Parking is allowed along both sides. In this section, there is insufficient room for adding bike lanes without removing a travel lane or parking.

East of Wilson, it is residential, 21.3 m (70 feet) wide, currently striped for four travel lanes, sometimes with a two-way turn lane, sometimes with left turn bays. Parking is allowed along both sides. In this section, sufficient room exists for adding bike lanes, except where parking coexists with the turn lane. In these cases, the parking and the turn lanes will need to be coordinated to restrict parking near the intersections for the length of the turn bay and to eliminate the two-way turn lane between intersection in the few areas where it exists.

##### **Villa Street**

Villa Street serves mostly residential land uses. It has two personalities. Its western portion is narrow with one travel lane in each direction. In some stretches, parking is allowed along only one side of the street. Its eastern portion is wider with sufficient room for installing bike lanes.

##### **Maple and Corson Streets**

Maple and Corson streets are one-way couplet streets, mostly residential, except west of Lake Avenue where they serve offices. Bike lanes were installed on these streets when they were converted to frontage streets concurrent with the construction of the Foothill Freeway. However, some portions of these designated bike lanes need to be upgraded to meet California state standards for a Class II Bikeway and should be re-configured. Adding bike lanes east of

Altadena Drive to Sierra Madre Blvd. would allow a connection with the bike lanes in that street.

#### Walnut Street

The General Plan designates this boulevard as a principal mobility corridor. It is a truck route and it serves a light industrial area.

#### Colorado Boulevard

Colorado Boulevard serves commercial areas. As such, it is a popular destination for bicycle riders, and desirable as a bicycle route. Many of Pasadena's motor vehicle-versus-bicycle collisions occur on this street, indicating the high amount of bicycle usage. Colorado Blvd. serves as a regional bicycle route, connecting Pasadena to Glendale to the west, and to other towns in the San Gabriel Valley to the east. Monrovia has bike lanes on the boulevard.

Thirty years ago Colorado Boulevard was Route 66 and carried interregional traffic, but was superseded by the Foothill Freeway. Now it serves as access to the commercial areas along the street. The immediately parallel one-way couplet streets Union and Green serve as mobility corridors. Parking lots for the shops along Colorado Blvd. are accessed from these couplet streets.

#### Del Mar Boulevard

The General Plan designates this boulevard as a principal mobility corridor. It is a truck route and a bike route. It is four lanes, with parking on both sides, along its length. It serves the Blue Line station at Del Mar and Raymond.

#### California Boulevard

The General Plan designates this boulevard as a de-emphasized street. California Boulevard serves mostly high density residential. This boulevard will also serve the Blue Line Huntington Station at Fillmore Street. It also serves Caltech, and the Caltech-to-Fair Oaks BioTech corridor.

East of Lake Avenue, the road has been de-emphasized, reducing the number of lanes, possibly allowing room for bike lanes. Between Marengo and Lake, the roadway has four lanes, and the General Plan designates it to be de-emphasized, which would possibly allow room for bike lanes.

#### La Loma Road

La Loma Road serves residential land uses. It will serve as a corridor for San Rafael residents to access the Huntington Blue Line station at Fillmore.

## Columbia Street

Columbia Street serves residential land uses. It will serve as a corridor for southwest Pasadena residents to access the Huntington Blue Line station at Fillmore. It connects to planned bike lanes in South Pasadena on Fair Oaks and Beacon Avenue, which connect to Meridian.

### *b) North-South Streets*

#### Avenue 64

Avenue 64 serves residential land uses, although it is used as a short cut between the Foothill Freeway and the Pasadena Freeway. It has been de-emphasized with the addition of striped parking lanes and a center two-way turn lane. It is an important regional connector for bicyclists traveling to Los Angeles.

#### Linda Vista Avenue

Linda Vista serves residential land uses. This avenue is popular with both commuter cyclists and sport and recreation cyclists.

#### Arroyo Boulevard

Arroyo Boulevard serves residential land uses and is a signed bike route. Arroyo is popular with both commuting cyclists and sport and recreational cyclists. It is the Kenneth Newell Bikeway that runs from Los Angeles through South Pasadena and Pasadena to Altadena. The Kenneth Newell Bikeway is popular with recreational bicyclists. Arroyo's winding roads and shade tree canopy make it a pleasant bicycle ride. It draws bicyclists from considerable distances.

Portions of Arroyo Boulevard have bike lanes; in other locations the centerline has been placed asymmetrically, allowing more lane width in the uphill direction. (Narrower lane widths are more acceptable in the downhill direction because bicyclists can maintain speeds closer to motor vehicle speeds.) In the section between the Holly Street and Highway 134 bridges, Arroyo goes up a steep hill. Bicyclists go slowly up that hill, and although the roadway is posted 25 mph (40 km/h), motorists go faster up the hill. Danger to bicyclists could be reduced by moving the centerline off center, to allow more lane width (or a bike lane, if room is available) on the uphill direction. A bike lane in the downhill direction is less important since bicyclists can maintain higher speeds going downhill.

Arroyo Boulevard suffers from being used by motorists as a short cut route to the Rose Bowl even during non-event times. Indeed, two permanent signs at Orange Grove and California and another at California and Arroyo Boulevard direct Rose Bowl traffic to Arroyo Boulevard.

#### Lincoln Avenue

The General Plan designates this boulevard as a principal mobility corridor. Thirty years ago, Lincoln Avenue was State Highway 118 and carried interregional traffic, but was superseded by the Foothill Freeway. Now it serves as access to the commercial area along the street. Forest Avenue parallels much of Lincoln and is signed as a bicycle route.

### South Orange Grove Boulevard

Orange Grove serves residential land uses although it is used as a short cut by through traffic between the Foothill Freeway and the Pasadena Freeway. The General Plan designates this boulevard as a de-emphasized street, and the West Gateway Specific Plan also calls for de-emphasis of Orange Grove.

### St. John Avenue

St. John serves residential land uses although it is used as a short cut between the Foothill Freeway and the Pasadena Freeway. The General Plan calls for traffic mitigation control, particularly for noise along this avenue.

### Pasadena Avenue

The General Plan calls for traffic mitigation control, particularly for noise along this avenue. North of Del Mar Blvd., the street has bike lanes.

### Fair Oaks Avenue

The General Plan designates this boulevard as a principal mobility corridor. It is a designated truck route. South Pasadena plans to install bike lanes on most of the length of Fair Oaks in their city.

### Marengo Avenue

The General Plan designates this avenue as a de-emphasized street both north of Orange Grove Blvd. and south of Del Mar Blvd. It has bike lanes south of Del Mar to Glenarm. Between Orange Grove Blvd. and Washington Blvd., the last block at each end has been signed for one-way travel out of the neighborhood.

The sections between Orange Grove and Del Mar and between Glenarm and Los Robles have a high need for bike lanes. Not only is the first section a gap between the bike-friendly portions south of Del Mar, but also it crosses the Foothill Freeway, a barrier to bicycle traffic. In addition, if Marengo were made bicycle-friendly for its entire length, it would provide Pasadena's first continuous north-south route, making a strong foundation for a network of bike-friendly streets. Furthermore, Marengo serves the Civic Center, Old Town Pasadena and Blair High School.

### Los Robles Avenue

The General Plan designates this avenue as a principal mobility corridor north of Del Mar Blvd. and as a de-emphasized avenue south of Del Mar Blvd. South of Del Mar, it serves residential land uses and has been striped with parking lanes and a two-way turn lane.

### El Molino Avenue

The General Plan designates the entire length of this avenue as a de-emphasized street. It is especially valuable to bicyclists since it is a relatively low traffic volume street that crosses the Foothill Freeway without on- and off-ramps.

At Washington Blvd. a semi-diverter has been installed to prevent southbound traffic.

### Lake Avenue

The General Plan designates this boulevard as a principal mobility corridor. This avenue serves mostly commercial areas. North of the freeway, it is characterized by automobile-oriented businesses; and south of the freeway, it is pedestrian-oriented.

It serves a Blue Line station that will have no automobile parking. It is anticipated that passengers will walk, bike or be driven (kiss and ride) to the station. Accordingly, it is important that access to the station be made pedestrian- and bicycle-friendly.

The North Lake Specific Plan calls for a “move away from automobile-oriented uses.” There are proposed street tables and street plazas, as well as a pedestrian and food garden district. The South Lake Specific Plan includes bike and pedestrian features and recommends serving the area with bicycle lanes.

### Hill Avenue

The General Plan designates this boulevard as a principal mobility corridor south of the freeway and as a de-emphasized street north of the freeway. The section north of the freeway provides another opportunity to create a bicycle boulevard. In the section south of the freeway, parking is restricted during peak travel periods. It accesses Pasadena City College and Caltech.

### Sierra Bonita

This street crosses the Foothill Freeway without on- and off-ramps and serves Pasadena City College.

### Allen Avenue

The General Plan designates this boulevard as a principal mobility corridor north of the freeway and as a de-emphasized street south of the freeway. This avenue serves mostly residential areas.

It serves a Blue Line station, which will have no automobile parking. It is anticipated that passengers will walk, bike or be driven (kiss and ride) to the station. Accordingly, it is important that access to the station be made pedestrian- and bicycle-friendly.

North of the Freeway, the pavement width is wide enough to allow adding bicycle lanes. South of the Freeway, it is possible to add bike lanes with limiting parking to only one side of the street as is done on El Molino. Overnight parking is prohibited on this street.

### Craig Avenue

This street crosses the Foothill Freeway without on- and off-ramps. Because of this factor, it is valuable to bicyclists.

### Altadena Drive

The General Plan designates this boulevard as a principal mobility corridor. A portion is already designated as a bike route.

### Sierra Madre Boulevard

The General Plan designates this boulevard as a principal mobility corridor north of the freeway. The entire length has bike lanes, from Sierra Madre to San Marino.

### San Gabriel Boulevard

The General Plan designates this boulevard as a principal mobility corridor.

### New York Drive/Woodbury Drive

This route is popular with bicyclists. Both of these streets are situated on the border with Los Angeles County, and will require coordination with the County.

### Sierra Madre Villa

The General Plan designates this boulevard as a principal mobility corridor north of the freeway. It serves the Blue Line station at Sierra Madre Villa.

### Halstead Avenue

Serves the Blue Line station at Sierra Madre Villa. The East Pasadena Specific Plan calls for creating a bicycle and pedestrian mall along these streets.

### Rosemead Boulevard

The General Plan designates this boulevard as a principal mobility corridor.

## **2. Rose Bowl Environs**

Bicycle plans normally view bikes as transportation; but the fun and fitness components should not be overlooked. Recreational riders are more likely to make the transition to using their bike for shopping and commuting. Terrain and weather keep recreational cycling a strong force in the Pasadena area. The most central feature in Pasadena for recreation is the Rose Bowl Loop as shown in Figure 4: Rose Bowl Loop. The Loop is located in an area known as the Middle Arroyo and consists of Rosemont Avenue, Seco Street, West Drive, and Washington Boulevard. These streets form a 3.1-mile-long loop around the Rose Bowl Stadium, Brookside Golf Course, and their adjacent parking lots. It is next to Brookside Park, the Aquatic Center, baseball diamonds, and tennis courts. With many trees and grassy areas, it is a scenic and pleasant location for a bicycle ride. The 1932 Olympics bicycle track events and 1947 National

Bicycling Road Race Championships were held there. During the 1984 Los Angeles Olympics many national teams trained there.

The General Plan calls for the Rose Bowl area to be considered first and foremost a “recreation area.” Many additional recreational uses have developed in the last decade. The perimeter roads area has evolved from literally a dumping ground to a popular walking, roller skating, running, and bicycling loop. At the request of the Bicycle Advisory Committee in 1991, several traffic-related changes on the Loop were made. Much of the success of the Loop stems from re-arranging the stop signs on the perimeter roads to allow non-stop clockwise circulation. That change, Phase One of the three phase



Insert Figure 4: Rose Bowl Loop here

program outlined in the *Plan to Make Pasadena Bicycle Friendly*, reduced conflict between Loop users and other traffic in the area. Use of the Loop has blossomed in recent years, undoubtedly aided by these changes. It is recommended that further improvements be made.

**a) *Develop Sense of Community***

Foremost, the City needs to build a sense of community among the Loop users. It is recommended that signs identifying the Loop as a recreation area be installed on all roads approaching the Loop, as recommended in the 1991 *Plan to Make Pasadena Bicycle-Friendly*. It is recommended that resources available for users such as water fountains, rest rooms, and telephones, be mapped and clearly identified. It is recommended that a kiosk for Loop users be installed at the existing rest rooms and proposed Bike Stations. In addition to the map of resources, it is recommended that the kiosks display courtesy guidelines for users as shown in Table III-1. It is recommended that the kiosks include a bulletin board to facilitate *ad hoc* communication among Loop users.

**Table III-1  
Courtesy Guidelines**

Courtesy Code	Bicyclists	Dogs
<ul style="list-style-type: none"> <li>• Obey all signs and regulations</li> <li>• Show courtesy for other users</li> <li>• Exercise caution in congested areas</li> <li>• Ride, walk, skate, or run in a consistent and predictable manner</li> <li>• Don't block the path of others, they may have difficulty passing</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain a safe speed</li> <li>• Note that bicyclists are subject to the Vehicle Code</li> </ul>	<ul style="list-style-type: none"> <li>• The law requires owners to leash and clean up after their dogs</li> </ul>

**b) *Improve Access***

The City recently added bike lanes on Arroyo Boulevard help improve access for bicyclists and help to set a tone for the area. Rosemont Avenue between the Loop and Orange Grove Boulevard is a high-need route for Loop users. It is one of two gateways connecting the Rose Bowl to Old Town Pasadena and to many residents of Pasadena. It is relatively narrow and motorists using it as a shortcut travel at high speed. Because of the uphill grade, bicyclists however, travel much more slowly. Moving the centerline to provide more space for the uphill direction potentially would ease conflicts between motorists and bicyclists. Another option might be creating a bike lane only on the uphill side if there is room for only one bike lane.

c) *Reduce Conflicts with Other Users*

Improvements for the Loop consist of reducing conflicts between Loop users and others using the roads. Conflicts for bicyclists (and to a lesser degree other loop users) stem from two concerns: overtaking and turns across the Loop.

Overtaking

Motor vehicle speeds all too often are incompatible with Loop users. Posted speed limits are too high considering the large number of pedestrians and bicyclists using the Loop. West Drive is posted 40 mph (65 km/h) and Rosemont is posted 35 mph (60 km/h). A letter to the Star-News (Dec 12, 1997) noted the inappropriateness of these speeds:

Everywhere in the city, the speed limit ranges from 25 mph (where pedestrians are present) to 35 mph. On West Drive, however, where mothers push their strollers in the street, the speed limit is 40 mph.

Given the large volume of users and their diversity, it is recommended that the speed limit be set at 25 mph (40 km/h). Note that the California Vehicle Code allows a lower speed limit to be set near parks.

22357.1. Notwithstanding Section 22357, a local authority may, by ordinance or resolution, set a prima facie speed limit of 25 miles per hour on any street, other than a state highway, adjacent to any children's playground in a public park but only during particular hours or days when children are expected to use the facilities. The 25-mile per hour speed limit shall be effective when signs giving notice of the speed limit are posted.

*The Plan to Make Pasadena Bicycle Friendly* called for three phases to improve the area. One of the Phase Two improvement called for making the Loop roads one-way. This idea could be implemented gradually. At first, the restrictions could be imposed during peak recreational use times on the Loop, such as evening hours from 4:00 to 7:00 p.m. Then, depending upon an evaluation, the hours could be extended. Alternatively, the one-way restriction could be placed first on the west side of the Loop, minimizing impact to people driving to the golf course.

Turns Across the Loop

By definition, Loop users circulate around the Loop. They encounter conflicts when other park users enter or exit parking lots inside the Loop. During non-event times, essentially three user communities park within the Loop: golfers, park users (e.g. soccer players), and Loop users (e.g., walkers, runners, roller skaters, and bicyclists). Reducing the demand for parking within the Loop would reduce these conflicts.

A particular concern centers on Lot K, which is located at the southwest corner of the Loop. It is popular with Loop users. Approximately three-quarters of the ingress and egress are through the south driveway. Often this driveway is congested by traffic exiting the driveway and attempting to turn east (over double yellow lines). Because the bridge immediately east blocks sight lines and because of the large number of Loop users, this particular turn is difficult to execute. Additionally, exiting vehicles sometimes block entering traffic in a relatively narrow section of the roadway, blocking all traffic on the Loop.

**d) Provide Bicycle Parking At Large Public Gatherings**

The General Plan calls for bicycle parking at large public gatherings:

4.2.D At public events where large crowds gather—for instance, sports events, concerts, and conventions—promoters should be required to provide Class 1 bike parking facilities at numerically adequate levels.

Secure, ad hoc parking can be easily provided. Experience in other jurisdictions provides insight. At the Stanford University stadium in Palo Alto, the stadium operator ropes off corrals in visible locations near stadium entrances. Bicycle riders lock their bikes within the corral and the stadium guards the bicycle during the event. According to John Ciccarelli with Stanford University Transportation Program, as many as 1,200 bikes have been watched during an event. The stadium pays a fee \$100 to \$500 (depending on the number of corrals) to a nonprofit bicycle advocacy organization, Silicon Valley Bicycle Coalition. (A bicycle advocacy group has a vested interest in promoting bicycle use and therefore maximizing the use of the bicycle parking.) It is recommended that the Rose Bowl Operating Company develop a similar relationship and bicycle parking corral concept for every large event. It is recommended that they also promote the availability of the secure bicycle parking with every appropriate opportunity.

The Rose Bowl currently has bicycle-parking lockers that are unused. Bicycle lockers are more appropriate for daily use, as opposed to the greater volume *ad hoc* use needed during events.

**3. Horace Dobbins Cycleway**

The California Cycleway Company was incorporated on August 23, 1897, by the visionary (and Pasadena Mayor), Horace Dobbins, to develop an elevated wooden bicycle toll way from the Green Hotel to downtown Los Angeles. Early investors included the following: Henry Markam (Governor of California), Professor Thaddeus Lowe (balloonist and aviation pioneer) and E. R. Braley (of Pasadena’s Braley Bicycle Emporium). On January 1, 1900, the first section was opened to the public and 600 cyclists made the ride.



Rail magnate Henry Huntington, worried that the Cycleway would compete with his new Red Cars, moved to block Dobbins’ acquisition of the last key quarter-mile reach into downtown Los Angeles; but it remained for the invention of the motor-car, to deliver the Cycleway’s final death-blow. In 1917 Dobbins sold the right-of-way, which later became the Pasadena Freeway.

Currently, a Pasadena to Los Angeles bikeway is in the Regional Transportation Improvement Program. \$2.1 million is dedicated to the construction of an elevated bike-bridge over the Los Angeles River, as well as an interchange with the Los Angeles River Bikeway, under

construction now. An additional \$1.5 million is earmarked for the on-grade portions. South Pasadena and Caltrans have both voiced support for the project.

#### **4. Kenneth Newell Bikeway**

The Kenneth Newell Bikeway, running from Los Angeles to Altadena along the rim of the Arroyo Seco, is popular with recreational bicyclists. It was assembled as a service project by the Kiwanas Club and named to honor Judge Kenneth Newell, who enjoyed and promoted bicycling.

As has already been discussed, portions of Kenneth Newell Bikeway have bike lanes; in other locations, the centerline has been placed asymmetrically, allowing more lane width in the uphill direction. (Narrower lane widths are more acceptable in the downhill direction because bicyclists can maintain speeds closer to motor vehicle speeds.) In the section between the Holly Street and Highway 134 bridges, Arroyo goes up a steep hill. Bicyclists go slowly up that hill, and although the roadway is posted 25 mph (40 km/h), motorists go faster. Moving the centerline off center, which would allow a bike lane on the uphill direction, could reduce the danger to bicyclists. (A bike lane in the downhill direction is less important since bicyclists can maintain higher speeds going downhill.)

The Kenneth Newell Bikeway suffers from being used by motorists as a route to the Rose Bowl, even during non-event times. Indeed, two permanent signs at Orange Grove and California and another at California and Arroyo Boulevard direct Rose Bowl traffic to Arroyo Boulevard. It is recommended that these signs be removed to discourage use of this route during non-event times.

Arroyo Boulevard could be converted to a Bicycle Boulevard by constructing a movable semi-diverter at the intersection with Arroyo Drive (just south of the Highway 134 overpass). During non-event times, southbound motorized traffic from the Rose Bowl would be diverted up Arroyo Drive to Orange Grove, though bicycle traffic would be allowed to pass. Likewise, northbound motorized traffic would also be diverted up Arroyo Drive to Orange Grove. During event times, the diverters could be removed to maximize traffic to and from the Rose Bowl.

#### **5. Traffic Signals**

In Pasadena, approximately half of the signals are pre-timed and half are vehicle or pedestrian actuated. Vehicles are detected with wires buried in the pavement, usually in the shape of a circle or diamond. The loop detects the presence of ferrous metal in a vehicle. However, these embedded vehicle detectors sometimes may not be able to detect the presence of motorcycles and bicycles.

#### **6. Street Maintenance for Bicycling**

While implementing bicycle facilities is important, keeping them in good condition is equally important. When a bicycle lane becomes filled with glass and other debris, for example,

bicyclists are forced into motor vehicle lanes. Poor bikeway maintenance can contribute to accidents and deter potential bicyclists unwilling to risk flat tires and skidding in city streets.

An important fact for maintenance personnel to know is that a bicyclist is riding on two narrow, high-pressure tires. What may appear to be an adequate roadway surface for automobiles (with four wide, low-pressure tires) can be treacherous for bicyclists.

At the locations shown in Table III-2, signs direct bicycles onto the sidewalk. The Green Book states “sidewalks are generally not acceptable for bicycling.” A second set of signs advises bicyclists to watch for turning vehicles. It is recommended that both of these signs be removed and replaced, where these signs are located at the beginning of a right turn lane, with sign R4-4 (“Begin Right Turn Lane; Yield To Bikes”).

**Table III-2  
Sign Locations**

Street	Cross Street
Maple St.	Fair Oaks Ave.
Maple St.	Marengo Ave.
Maple St.	Lake Ave.
Corson St.	Fair Oaks Ave.
Corson St.	Marengo Ave.
Corson St.	Lake Ave.
Corson St.	Altadena Dr.
St. John Ave.	Del Mar Blvd.

## 7. Bicycle Parking

Every bicycle trip has two basic components: the route selected by the cyclist and the “end-of-trip” facilities available at the destination. These end-of-trip facilities include parking for the bicycle, showers and changing space for commuters. If the end-of-trip facilities do not meet users’ needs, other means of transportation will be substituted. In a nationwide Harris Poll conducted in 1991, 42 percent of the respondents said that they had ridden a bicycle in the past year. Of this group, almost half said that they would sometimes commute to work by bicycle, or commute more often, if there were showers, lockers, and secure bicycle storage at work. Clearly, the availability of convenient, secure bicycle parking is a critical factor in an individual’s decision whether or not to use a bicycle for transportation. Good, secure bicycle parking offers these benefits:

- it inexpensively and efficiently increases parking capacity;
- it serves those who use bicycles as a mode of transportation; and
- it encourages bicycle use.

Cyclists’ needs for bicycle parking range from simply a convenient piece of street furniture to storage in a bicycle locker that affords weather, theft and vandalism protection, gear storage space, and 24-hour personal access. Where a cyclist’s need lies on this spectrum is determined by several factors:

- Type of trip being made: whether or not the bicycle will be left unattended all day or just for a few minutes.
- Weather conditions: covered bicycle parking is apt to be of greater importance during the wetter months.
- Value of the bicycle: the more a cyclist has invested in a bicycle, the more concern she or he will show for theft protection. Most new bicycles cost \$400 and often considerably more.

- Security of area: determined by the cyclist's perception of how prone a given area is to bicycle theft.

This is fairly subjective, and probably predicated to a degree on an individual's experiences with bicycle theft. A final need for some potential commuting cyclists is for showers, lockers and changing rooms at trip destinations. For those cyclists needing to dress more formally, travel longer distances or cycle during wet or hot weather, the ability to shower and change clothing can be as critical as bicycle storage.

Common terms describing end-of-trip facilities are defined below.

**SHORT-TERM PARKING** Bicycle parking is meant to accommodate visitors, customers, messengers and others expected to depart within two hours and requires an approved standard rack, appropriate location and placement, and sometimes, weather protection.

**LONG-TERM PARKING** Bicycle parking is meant to accommodate employees, students, residents, commuters and others expected to park more than two hours. This parking is to be provided in a secure, weather-protected manner and location. Long-term parking typically will be a bicycle locker, a bicycle station, a locked room with standard racks and access limited to bicyclists only, or standard racks in a monitored location.

**STANDARD RACK** A non-enclosed rack that is designed to reasonably protect the wheels from accidental damage and allow use of a high security, U-shaped lock to secure the frame and one wheel.

**SECURE** As invulnerable as possible to theft, depending on an appropriate combination of parking type, location, and access.

**PLENTIFUL** Enough short- and long-term bicycle parking spaces to exceed peak demand.

**EASILY ACCESSIBLE** Indoor bicycle parking must be on a floor that has an outdoor entrance open for use and a floor location that does not require stairs to access the space; exceptions may be made for parking on upper stories with elevator access within multi-story buildings. Directional signs should be used to locate bicycle parking areas when they are not visible from the street.

**ADJACENT TO DESTINATIONS** Short-term bicycle parking should be located no farther from the main entrance than the closest auto parking, and within 50 feet of a main entrance to the building. Close proximity to a main entrance is desirable for long-term parking but is not required.

**COVERED** Means having sufficient shelter to protect the parked bicycle from the elements, particularly rain.

**SHOWER AND LOCKER FACILITIES** Any facility providing showers, changing space, and permanent clothes storage lockers sufficient to the needs of bicycle commuting employees.

Pasadena has bicycle lockers installed at the Rose Bowl and in city-owned parking lots near Old Town. However, these lockers are installed in out-of-the-way locations without any identification or contact information. In the Old Town lots, parking lot attendants were unaware

of their existence when asked. It is recommended that the City post signs on these lockers identifying them as bicycle parking lockers and provide a phone number for potential users to call to obtain information and a key. The lockers should be moved close to the entrances to increase their visibility and convenience. If they cannot be moved, directional signs should be used to locate them.

The City of Anaheim and Caltrans have adopted the following policy for use of bicycle lockers. The use of the lockers is free of charge, but the lockers must be used. To obtain a key to a locker, the user calls the number posted on the locker, and the agency sends a contract for its use. The user agrees to the contract and returns it with a key deposit. The agency then sends the key. After a short time period and periodically thereafter, the agency slips a postcard into the locker and the user is expected to return the postcard within a reasonable amount of time. (A reasonable length of time depends on the competition for locker use.) Upon return of the key, the agency refunds the deposit. Such a policy would be consistent with the General Plan, which calls for bicycle parking to be free.

Bicycle racks in historic areas could be of suitable design and possibly be custom-designed as public art as well as racks. The City of Los Angeles has installed “art-racks” at the Museum of Contemporary Art, Pershing Square, Grand Central Market, and other locations.

As indicated in the *Bicycling in Pasadena Today* section, Pasadena has installed rail racks at many locations. Bicyclists highly regard this design; it is simple, safe and inexpensive. In some locations, where these racks have suffered from vandalism, it is recommended that larger-diameter (2¼ -inch-diameter), thicker-wall (Schedule 40) tubing and larger, thicker footplates be used to harden them. It is recommended they be firmly anchored with rawls spikes and coated with PVC for better durability.

Locations for these racks were proposed by the City’s Bicycle Advisory Committee. The Committee visited and provided locations for every City parking garage and library, and wrote general location and installation guidelines. Many racks were installed on public right-of-ways, mostly on the sidewalk. In the older parts of the City, this approach works well, however in the newer parts, parking lots often separate the sidewalk from front entrances. In these locations businesses should be encouraged to place additional bicycle parking immediately adjacent to store and business entrances.

Bike racks should be located as close as possible to building entrances, preferably within twenty-five feet. Other criteria include maintaining adequate sidewalk clearance, locating racks outside of bus stop and vehicle loading zones, and away from fire hydrant and newspaper boxes.

To achieve a greater bicycle-transit link, two types of transit facilities need bicycle parking: light rail stations and park-and-ride lots. The General Plan calls for bicycle parking at major bus, rail, and park-and-ride facilities. As of September 1998, the only permanent park-and-ride lot in Pasadena, the Caltrans lot located at the intersection of the Foothill Freeway and Sierra Madre Blvd., is equipped with bicycle lockers. The City has committed to equipping every planned



Blue Line station with bicycle lockers, racks, showers, and clothing lockers. Some will have also have bicycle rental.

Currently, the City provides its employees who commute via bicycle with showers and lockers in the first floor of City Hall. The City is undergoing planning for renovation of Paseo Colorado, a shopping mall in downtown along Colorado Boulevard. As part of this renovation, the City plans to install a bike station in the new mall with public bicycle lockers, racks, showers, rest rooms, clothing lockers, as well as bicycle rental.

## **8.     Bicycling Programs for Youths**

The 1974 Bicycle Plan says, “perhaps the bulk of bicycle trips in the foreseeable future will continue to be neighborhood riding by youth.” Contrary to this prediction, bicycle use by children has declined dramatically. This loss is not unique to Pasadena. An international study of children’s transportation showed that youth in the United States, Australia, and Canada rarely use bicycles, but youth in Sweden do.<sup>58</sup> However, this decline in youth bicycle use has occurred in one generation. Almost everyone reading this master plan remembers bicycling as a child.

One program worthy of emulation is the Center for Appropriate Technology in Eugene, Oregon. They use bicycle maintenance to teach not only tool skills, but also principles of physics and geometry as they relate to frame design. Each student completely restores a bicycle. Bicycles impounded by the Pasadena Police Department could be used for such a program.

The Center also has a bicycle rack construction program, where young people make high quality tubular bicycle racks. The youths are involved at all levels, from site analysis to installation.

Students also provide valet bicycle parking for spectators at events. This parking program provides a service to event-goers who want to guarantee the security of their bicycles, and provides these youths an opportunity to work together as a team in a public and professional setting.

The 1991 *Plan to Make Pasadena Bicycle Friendly* called for creating a youth racing program.

The Recreation Department, working in cooperation with bicycle clubs, schools, and community organizations, should help establish a youth racing program with training and competition in road and track racing.

This youth racing program could provide a healthy, low-cost recreational outlet for Pasadena’s young people along the lines of the Little League or AYSO model, while increasing their bicycle proficiency and safety.

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<sup>58</sup> Roberts, Ian, John Carlin, Catherine Bennett, Erik Bergstrom, Bernard Guyer, Terry Nolan, Robyn Norton, I. Barry Pless, Ravi Rao, and Mark Stevenson. “An International Study of the Exposure of Children to Traffic.” *Injury Prevention* 3 (June 1997): 89-93.

## IV. IMPLEMENTING THE PLAN

### A. PRIORITIES

Pasadena’s General Plan states, “The street network must provide bicycle connections to transit-orientated development, commercial areas, and transit stops.” Following this plan, the streets proposed in the bikeway network were selected because they:

- Connect cyclists to desired destinations, such as employment centers, commercial districts, transit stations, institutions, and recreational destinations;
- Provide continuity with the interregional plans, thus providing connections with bikeways in neighboring cities.
- Provide the most direct and convenient routes possible;
- Provide a parallel bikeway approximately every half-mile.

Higher priorities were given to bikeways serving major destinations and transit stations, and providing a parallel bikeway approximately every mile. Second priority was given to bikeways completing a half-mile grid.

Priorities are presented in Table IV-1 and shown in Figure 5: Bikeways Network Implementation Plan.

**Table IV-1  
Bike Lane Projects**

Street	Length	Character	Comment
<b>FIRST PRIORITY</b>			
<b>East-West Streets</b>			
Colorado Blvd.	6.3	Mobility	Many destinations, possible bus/bike lane
<b>North-South Streets</b>			
Marengo		De-emphasis	
City limits to Washington	0.8		
Washington to Orange Grove	0.7		Make bicycle boulevard
Orange Grove to Del Mar	1.2		Crosses Freeway
Del Mar to Glenarm	0.9		Existing
Glenarm to Los Robles	0.7		Blair High School
Lake Ave.	2.6	Mobility	Many destinations. Serves Blue Line station
Allen			Serves Blue Line station
North of Freeway	1.2	Mobility	
South of Freeway	1.0	De-emphasis	
Sierra Madre Villa Dr.	1.9	Mobility	Serves Blue Line Station
Halstead	0.5		Serves Blue Line Station

<b>SECOND PRIORITY</b>			
<b>East-West Streets</b>			
Washington Blvd.	3.3	De-emphasis	
East Orange Grove Blvd.	4.4	Mobility	
Del Mar Blvd.	4.8	Mobility	Serves Blue Line station
California Blvd.	3.7	De-emphasis	Serves Blue Line station
La Loma	1.3	De-emphasis	
Columbia	0.4		
<b>North-South Streets</b>			
Avenue 64	1.1	De-emphasis	
Linda Vista	2.9	De-emphasis	
South Orange Grove	2.3	De-emphasis	
St. John Street Lincoln to Del Mar California to Bellefontaine	Existing 0.3		
Pasadena Avenue Lincoln to Del Mar Del Mar to Columbia	Existing 1.1		
Lincoln Ave.	2.1	Mobility	
Los Robles Ave. North of Del Mar South of Del Mar	2.7 1.4	Mobility De-emphasis	
El Molino Ave. North of Orange Grove Orange Grove to Del Mar South of Del Mar	1.4 1.2 1.5	De-emphasis De-emphasis De-emphasis	Make bicycle boulevard
Wilson Ave.		De-emphasis	Make bicycle boulevard Serves Caltech
Hill Ave. North of Freeway South of Freeway	1.6 1.1	De-emphasis Mobility	Serves City College
Craig Ave.	1.5	De-emphasis	
Altadena Dr.	1.8	Mobility	
New York Dr.	1.2	Mobility	
Rosemead Boulevard	0.9	Mobility	
<b>THIRD PRIORITY</b>			
<b>East-West Streets</b>			
Mountain	3.7		
Villa St. West of Hill St. East of Hill St.	1.6 1.9		Narrow
Walnut St.	3.5		
<b>North-South Streets</b>			
Arroyo Blvd.	4.2		Portions have bike lanes
Fair Oaks	3.8	Mobility	
Oak Knoll	1.4		
San Gabriel Boulevard	1.1	Mobility	

## B. SCHEDULES FOR IMPLEMENTATION

Phase 1	Cost
· Re-paint existing bike lanes throughout City. (11.7 miles)	66,000
· Remove and replace signs at locations in Table III-2	2,000
· Review traffic light synchronization policy to eliminate excessive speed	0
· Initiate pedestrian and bicyclist promotion and safe driving campaign.	100,000
· Convert Marengo and El Molino (Washington to Orange Grove) to bicycle boulevards	20,000
· Add bike lanes on Colorado Boulevard (6.3 miles)	38,000
· Add bike lanes on Marengo between Orange Grove and Del Mar (1.2 miles)	7,000
· Add bike lanes on Allen Avenue to Blue Line station (1.7 miles)	10,000
· Add bike lanes on Orange Grove between Wilson and Sierra Madre Villa (2.7 miles)	16,000
· Add bike lanes on Lake Avenue (2.6 miles)	20,000
· Provide bicycle parking at Rose Bowl events	20,000
· Begin conversion of traffic signal detectors to bicycle- and pedestrian-friendly forms (e.g. video)	50,000
· Prepare feasibility study on Horace Dobbins Cycleway	50,000
· Rose Bowl improvements, move centerline and add crosswalks and stop signs	25,000
· Install bicycle parking lockers and racks	10,000
· Install bike racks on ARTS buses	10,000
Total for Phase 1	444,000
Phase 2	
· Add bike lanes on North Lake Avenue to Blue Line station (2.2 miles)	13,000
· Add bike lanes on California Blvd. between Marengo and Lake (0.8 miles)	5,000
· Add bike lanes on California Blvd. between Lake and east City limits (1.3 miles)	8,000
· Add bike lanes on Avenue 64 (1.4 miles)	9,000
· Add bike lanes on South Orange Grove between Lincoln and Columbia (1.8 miles)	11,000
· Add bike lanes on New York (1.3 miles)	8,000
· Continue promotion and safety campaign.	200,000
Total for Phase 2	254,000
Phase 3	
· Add bike lanes on Halstead to Blue Line station (0.4 miles)	2,000
· Add bike lanes on Washington (4.7 miles)	25,000
· Add bike lanes on Lincoln (2.2 miles)	13,000
· Add bike lanes on Hill between Topeka and California (2.4 miles)	13,000
· Add bike lanes on Los Robles between Del Mar and south City limit (1.5 miles)	9,000
· Add bike lanes on El Molino between Del Mar and south City limit (1.6 miles)	10,000
· Continue promotion and safety campaign.	200,000
Total for Phase 3	272,000

## C. SAFETY PROGRAMS

Safety program should be aimed at altering the behavior of motorists. It should stress to motorists that motor vehicles are the leading cause of death and disability for children, and that children are especially vulnerable to traffic and are incapable of watching out for adults. Portland, Oregon promoted a comprehensive “For Kids Sake, Slow Down” campaign that used billboards, bus benches, and bumper stickers to assure that the message was widely viewed. An appropriately modified version of their brochure “Good Neighbor Traffic Tips!” is

attached. Such a brochure could be developed for Pasadena, and delivered with Water and Power bills or in the *In Focus* newsletter delivered to every household.

### GOOD NEIGHBOR TRAFFIC TIPS!

Pasadena is one of the most livable cities in the world. We each have a responsibility to keep it that way.

In every neighborhood, traffic is a big concern. Drivers who speed, cut through neighborhoods or don't share the road with pedestrian and cyclists make Pasadena less livable for all of us.

Here are some Good Neighbor Traffic Tips:

- **Slow Down**

Vehicle collisions are the leading killer andcrippler of young Californians. It's illegal *and* unsafe to exceed the posted speed limit. Don't do it. The life you save may be someone's child.

- **Stay on major streets.**

Residential streets are designed for local use. Cutting through neighborhoods may seem like a time-saver—but it's *not*. Don't turn neighborhoods into raceways. Stay on major streets.

- **Share the road.**

Bicyclists and pedestrians have as much right to the right-of-way as motorized vehicles. Share the road.

- **Link your trips.**

Not only are there more vehicles on the road, each vehicle is being driven more miles. Buck the trend. Combine several errands into one trip.

- **Curb your car**

Walk, bike or bus. The best way to keep Pasadena safe for pedestrians, bicyclists and transit users is to become one yourself. Curb your car. It's an easy way to help Pasadena's environment.

## D. HOW TO FUND THE VISION

### 1. Incorporate into Transportation Improvement Program

Pasadena lacks a specific bicycling program. Opportunities ought to be sought to create one and that a specific portion of Pasadena's transportation budget be devoted to bicycle facilities. The City Council has established a goal of five percent of all trips to be made by bicycle; and using more of the total transportation funding for this purpose seems reasonable. The General Plan supports such spending priorities, specifying "the focus of future planned transportation improvements in the City is on non-auto-oriented projects."

## **2. Supplemental Funds**

Additional potential funding sources for bicycle projects is wide and varied. Most programs can be classified as federal, state, regional, local, and private. Bike projects are often funded through LACMTA. However there are many other sources available, including environmental, recreational, and health grants. Mitigation funding from major government and private projects could also provide funds. Private, foundation and corporate funding should also be pursued.

### ***a) Federal Funding***

The Transportation Equity Act for the 21<sup>st</sup> Century, known as TEA 21, has greatly increased the amount of funding available to bicycle, pedestrian and inter-modal projects. Federal Transportation funding is prioritized and approved by Regional Planning Organizations as lead agencies, such as the LACMTA. These funds are distributed to projects in the Regional Transportation Plan. Unlike other transportation projects that require an 11.5% local match, for bicycle projects the federal share is 80%, with a 20% local, regional, or state match. That percentage may change (under TEA 21) to 88.5% to make the local match consistent with other transportation modes. A new provision calls for a 95% share for “providing bicycle access to mass transit.” In some instances, transportation enhancements may allow 100% funding, without local matching funds.

These funding programs, while familiar to transportation planners, quickly become an alphabet soup of acronyms (STP, CMAQ, TEA, etc.) to non-planners. This is a brief summary of some of those programs, which may provide funding for the City (as well as regional) bicycle projects.

#### **Congestion Management and Air Quality (CMAQ)**

In the new TEA 21, CMAQ funding was increased by 50 percent. Because bicycle transportation is the most cost-effective way to reduce air-pollution, CMAQ funds are available and may help fund bicycle programs. Non-profits are now allowed to directly administer projects, in partnership with a public entity.

#### **Intelligent Transportation System Integration Program**

TEA 21 calls for technology-based, non-motorized research projects to “enhance alternative transportation” be included in the Intelligent Transportation System Integration Program.

#### **Transportation Enhancements (TE) Program**

There are several possibilities to fund neighborhood projects under the new transportation bill. One of the more popular programs is called the Transportation Enhancements Program (which is 10% of the state’s Surface Transportation Program allocation). Nationwide this totals \$3.7 billion over the next six years.

The TEA 21 conference committee has settled upon a couple of items that may be of interest. Traffic calming measures are now an eligible activity for safety projects. Under the Hazard Elimination Program, bicycle and pedestrian safety projects are eligible and should be considered as projects.

Under the TE program, there are several categories of eligibility for funding projects such as sidewalk reconstruction, landscaping and streetscape improvements, benches, streetlights, pedestrian access studies, pedestrian malls, signage, pedestrian bridges and walkways and improved access at curbs.

A new category has been added under the TE program, “provision of safety and educational activities for pedestrians and bicyclists.” The Transportation Enhancements Program also includes the innovative financing provisions that would allow non-profit organizations to sponsor projects.

### ***b) State Funding***

#### **Environmental Enhancement and Mitigation Program**

The Environmental Enhancement and Mitigation Program (EEM) is administered by the Resources Agency of California, which then makes recommendations to the California Transportation Commission. Grants are generally limited to \$500,000; however the Resources Agency may encourage and recommend awards exceeding that \$500,000 guideline. These funds can be used to mitigate existing transportation projects as well as to provide urban forestry, recreational, and park projects. Local agencies and non-profits may apply for and receive grants. Local matching funds are not required, but are given weight in evaluation of the proposals. In-kind/volunteer services are not given formal credit, but are looked upon favorably.

#### **Petroleum Violation Escrow Account (PEVA)**

The Petroleum Violation Escrow Account was set up to fund projects that save energy. Bicycle transportation projects are eligible.

#### **Caltrans Bicycle Lane Account**

The bicycle lane account has been increased and will continue to increase for the next few years. Bicycle advocates are working to increase this budget to one percent of the total Caltrans budget.

#### **Department of Health Services**

Department of Health Services realizes that much of the mortality and morbidity of Californians is due to lack of physical activity. They are now investigating ways to make people more active. They recognize making cities more walkable and bikeable are the best way to increase activity. Although specific funding programs are not available currently, contact should be established to position the City for when such funding becomes available.

### ***c) Local Funds***

Huntington Memorial Hospital is the regional trauma center for the San Fernando and San Gabriel valleys. It is required to devote a portion of its trauma income to injury prevention

efforts. Opportunities ought to be sought with the hospital for funding programs such as public outreach efforts.

#### **E. PUBLIC RELATIONS AND OUTREACH**

The key to developing a successful public relations and outreach program is a consistent, widely distributed, and persistent message. The goal should be to change consciousness, for example, signs indicating that Pasadena is bicycle-friendly should be placed wherever appropriate, such as on bike racks and bike lane signs in the city. The city transportation department letterhead should ideally incorporate the slogan from the General Plan: "PASADENA, A CITY WHERE PEOPLE CAN GET AROUND WITHOUT A CAR." Pasadena's monthly newsletter *In Focus* could have features that work toward achieving that goal, with articles about bicycling, walking and riding the bus and train.

Advocacy programs should be developed, such as promoting a car-free day each week.

Rose Bowl and other special community events should promote walking, biking, and busing. Clear ridesharing goals for each event should be established and progress toward reducing the number of vehicles, and more importantly, reducing the number of vehicles per attendee, should be tracked and publicized.



Insert Figure 5: Bikeways Network Implementation Plan here

## **V. ANTICIPATED RESULTS**

Aggressive promotion of bicycling should provide many benefits to Pasadena residents.

### **A. DECREASE CONGESTION**

It is recognized that congestion or “gridlock” is a serious urban problem. Traffic congestion has plagued the transportation system from the time the automobile first became commonplace. Cars are large, and consume a lot of space to operate and store. A bicycle rider uses one-tenth as much space as a car user, greatly increasing the carrying capacity of the road. Each car replaced with a bicycle ameliorates congestion.

The Mobility Element of the General Plan calls for reducing the number of vehicular trips. Part of achieving the multi-modal, traffic-calmed, environmentally friendly transportation system is making the paradigm shift from expanding automobility to expanding alternatives.

Historically, efforts to solve traffic congestion have focused on *supply*, by improving traffic flow or building more roads. Recent analysis shows that the demand for vehicular trips is “elastic” and as roads are built, new trips and longer trips expand to fill the new road space.<sup>59</sup> Caltrans acknowledges this phenomenon, officially saying, “we can’t build our way out of congestion.” The same elasticity, but in the opposite direction, has also been shown. As roads are restricted or closed, trips and trip lengths decrease.<sup>60,61</sup> In the past, traffic volume was viewed as “liquid,” which meant that decreasing traffic on one road would cause traffic to increase on another. Current understanding views traffic volume as a “gas,” that expands and contracts to fill available road space.

Furthermore, the degree of elasticity has been shown to vary with the availability of alternatives.<sup>62</sup> As options for travel improve, in number, service, frequency, reliability, and safety, people will use alternatives to serve their needs.

### **B. IMPROVE ENVIRONMENT**

In Southern California, the environmental consequences of motorized transportation are widely understood and visible. Over two-thirds of the air pollution in the air basin comes from transportation. Despite ever more stringent controls on tailpipe emissions, increasing use of motor vehicles has kept air quality at hazardous concentrations.

In addition to air pollution, motor vehicles are also significant contributors to water pollution (due to airborne nitrogen emissions being deposited in water bodies and due to direct leakage of oil products) and global climate change. Encouraging bicycling addresses all of these issues.

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<sup>59</sup> Hansen M. *Do New Highways Generate Traffic?* Access, University of California Transportation Center, 1995; 7:16-22.

<sup>60</sup> Hamer M. *Roadblocks Ahead*. New Scientist 24 January 1998.

<sup>61</sup> *Traffic Impacts of Highway Capacity Reduction*, ITE Journal, July 1998, 14.

<sup>62</sup> Nijkamp, P. and G. Pepping. 1998. *Meta-Analysis for Explaining the Variance in Public Transport Demand Elasticities in Europe*. Journal of Transportation and Statistics 1:1

### **C. IMPROVE ECONOMICS**

A recent World Bank report<sup>63</sup> showed that increasing car use increased the economic activity of a region, but only up to a point. Southern California was shown to be past the point of diminishing returns. In Southern California, in the average household, transportation is the second greatest expense. It used to be food. If a Pasadena household can avoid purchasing a second car by having the Blue Line available to travel to downtown Los Angeles and by having bikeable and walkable streets, that money is then available for spending in Pasadena.

In addition, since Southern California no longer has any automobile manufacturing facilities, and half of the fuel consumed in the United States is imported, much of the money spent on purchasing and operating automobiles leaves the regional economy. And this is not just a regional concern. Thirty percent of the<sup>64</sup> United State's trade deficit is due to imported oil, and a further fifteen- percent is due to imported vehicles.<sup>65</sup> Bicycling provides a means to reduce the cost of transportation and to keep the economic activity of the region circulating within the region.

### **D. IMPROVE HEALTH**

Physical activity is part of a healthy life, but such activity has decreased as transportation has become more mechanized and sedentary leisure activities have replaced active ones. Studies<sup>65</sup> have shown that physically active people live longer than sedentary people do.

The British Medical Association<sup>66</sup> summarized the health benefits of bicycling:

The health benefits of bicycling are well documented. Regular physical exercise delays postmenopausal osteoporosis and lowers cardiac morbidity and mortality — perhaps by reducing body fat and blood pressure and increasing the ratio of high density to low density lipoproteins. It may also improve mental health and all cause mortality. As a form of aerobic exercise bicycling is ideal; it makes use of the large limb muscles without putting strain on the joints. The energy requirement of bicycling 6.5 km each way to work at a speed of about 20 km/h are equivalent to those of 10 minutes' of wrestling, over half an hour's squash, 50 minutes' tennis singles, an hour's skating, a brisk 4 km walk, or 24 holes of golf. Studies have shown that civil servants who bicycled regularly experienced half the expected number of coronary events, and lifelong bicyclists over the age of 75 had a 10-fold reduction in the incidence of ischaemic heart disease.

The British Medical Association<sup>66</sup> recommends “more bicycling lanes, an integrated system of bicycling paths, priority for bicyclists and pedestrians over motorists, traffic restraint, and better access for bicycles on trains.”

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<sup>63</sup> Kenworthy J, Laube F, Newman P, Barter P. Indicators of Transport Efficiency in 37 Global Cities. Washington, DC: The World Bank, 1997.

<sup>64</sup>

<sup>65</sup> Paffenbarger RS et al. Physical Activity, All-Cause Mortality and Longevity. N Engl J Med 1986;**314**:605-13.

<sup>66</sup> Godlee F. On Your Bikes: Doctors Should be Setting an Example. Brit Med J, 1992;**304**:588-9.

## **E. PROMOTE FITNESS**

The fitness of the American public has declined dramatically in recent years. Poor physical fitness is the second leading cause of premature death<sup>67</sup>—nearly 14 percent of all deaths. Only tobacco, which claims 19 percent of all deaths, exceeds it as a cause of death. Obesity has increased at record levels over the past decade, up from 26% of adults in 1980 to 34% today. Over 58 million American adults—one third of the population—are overweight or obese. Former Surgeon General, C. Everett Koop,<sup>68</sup> terms the increasing obesity as a “crisis.” At the same time, childhood obesity rates have been rising steadily over the last three decades, with 22% of children ages 6 to 17 now overweight. By the most stringent definition, more than half of U.S. women and men age 20 and older are considered overweight.<sup>69</sup>

In the United States, the Institute of Medicine says overweight people are costing citizens more than \$70 billion annually in both direct health care costs and indirect ones such as lost productivity.<sup>69</sup>

The prevalence of obesity has increased in the past decade, yet daily energy intake and fat consumption have actually been reduced during this time period.<sup>70</sup> The obesity is due to reduced daily physical activity, as leisure activities are more sedentary and transportation becomes more mechanized.

Reversing these disturbing trends is an important reason to make Pasadena more bikeable and walkable. The Centers for Disease Control recommend<sup>71</sup> that community programs be developed to promote physical activity among children and adolescents. Encouraging bicycling as transportation and recreation provides a positive life-long activity well suited to Pasadena residents of all ages.

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<sup>67</sup> McGinnis JM, Foego WH. *Actual Causes of Death in the United States*. JAMA 1993; **270**:2207-2212.

<sup>68</sup> Koop CE. *The Link Between Obesity and Disease*. Wall St. J. 11 March 1998.

<sup>69</sup> Wickelgren I. *Obesity: How Big a Problem?* Science, 29 May 1998; **280**:1364-1366.

<sup>70</sup> Anderson RE et al. *Relationship of Physical Activity and Television Watching with Body Weight and Level of Fatness Among Children*, JAMA 1998; **279**:938-942.

<sup>71</sup> Centers for Disease Control and Prevention. *Guidelines for School and Community Programs to Promote Lifelong Physical Activity Among Young People*. MMWR Morb Mortal Wkly Rep. 1997; 46 (No. RR-6): 1-36.

## **VI. COMPLIANCE WITH THE CALIFORNIA BIKEWAYS ACT**

### **A. ESTIMATE OF NUMBER OF BICYCLE COMMUTERS AND FUTURE PROJECTIONS**

The 1990 US Census counted 64,465 total workers in Pasadena. Of these, 839 bicycled to work, or 1.3%. This is the latest official count of the number of bicycle commuters. The Southern California Association of Governments estimates that there are now 90,000 jobs in Pasadena. If the same 1.3% of these bicycled to work, this would bring the number to 1,171. In addition to these commuters, Pasadena is home to the California Institute of Technology and several colleges. The number of students bicycle commuting to school and higher education not been calculated, but is likely significant.

The City Council has adopted a goal of increasing bicycle commuting to 5% of all commuters by the year 2001. The Comprehensive General Plan of the City highlights this goal. The Plan sets forth of the primary visions of the future of Pasadena as one "...where people can circulate without cars." The Plan also states a policy of making Pasadena a place "...where bicycle and walking are encouraged and where all streets are bikeways."

### **B. LAND USE MAP**

A map with descriptions of existing and proposed land use and settlement patterns is included on page A-34 of the Appendices.

### **C. BIKEWAYS NETWORK MAPS**

A map of the existing and proposed bikeways is included Figures 1 and 5. A description of the proposed bikeways is included in Chapter IV and on pages A-1 through A-33 of the Century of Bikes Plan.

### **D. END-OF-TRIP BICYCLE PARKING MAP**

A map of the existing and proposed bicycle parking is included Figures 2. The map shows where the City's standard bicycle racks have been placed. They are located along retail corridors, near libraries, parks, schools and colleges and other locations of known use. Bicycle lockers are also shown at the Rose Bowl, at public parking structures on Holly Street and at One Colorado, and at City Hall. The racks the City has been using are convenient for cyclists to lock to but are not strong and require significant maintenance. It is recommended that the City adopt the Schedule 40 2 1/4-inch pipe with rawls spikes and PVC coating as the standard rack for better durability.

### **E. BICYCLE PARKING FOR INTERMODAL CONNECTIONS MAP**

A map of the existing and proposed bicycle parking is included Figures 2. Only one park-and-ride lot exists in Pasadena. It is located at the intersection of Foothill Boulevard and the 210

Freeway. The park-and-ride lot has bicycle lockers and racks. City bicycle racks have been placed near bus stops along the following bus routes:

Allen Avenue	Hill Avenue
Altadena Drive	Lake Avenue
Arroyo Parkway	Lincoln Avenue
California Boulevard	Linda Vista Avenue
Colorado Boulevard	Los Robles Avenue
Del Mar Boulevard	Orange Grove Boulevard
Fair Oaks Avenue	Sierra Madre Boulevard
Foothill Boulevard	Walnut Street
Green Street	Washington Boulevard

#### **F. BICYCLE AMENITIES MAP**

A map of the existing and proposed bicycle parking is included Figures 2. Currently the City has restrooms, showers and lockers for bicycle commuters in the first floor of City Hall. They are available for City employees to use. The City is undergoing plans for renovation of Pasadena Plaza, a shopping mall in downtown along Colorado Boulevard. As part of this renovation, the City plans to put a bike station in the new mall with public bicycle lockers, racks, showers, restrooms, clothing lockers as well as bicycle rental.

The planned Blue Line light rail line stations will all have bicycle lockers, racks, showers and clothing lockers. Some will also have bicycle rental.

#### **G. BICYCLE SAFETY & EDUCATION PROGRAMS**

The City of Pasadena contracts with Safe Moves to provide bicycle and pedestrian safety education to school children, parents, teachers, senior citizens, and the general public. It is a two-year program beginning in 1998 and ending in 2000. The program exists of 1,060 interactive school workshops reaching 25,000 students (K-12) each year, 62 school rodeos, 93 parent workshops, 93 teacher workshops, 36 senior citizen presentations, 36 community presentations and 24 community rodeos.

The City of Pasadena contracts with Safe Moves to provide bicycle and pedestrian safety education to school children, parents, teachers, senior citizens, and the general public. It is a two-year program beginning in 1998 and ending in 2000. The program exists of 1,060 interactive school workshops reaching 25,000 students (K-12) each year, 62 school rodeos, 93 parent workshops, 93 teacher workshops, 36 senior citizen presentations, 36 community presentations and 24 community rodeos.

The contract also includes data collection and evaluation to monitor the improvements on safety. It is too early to present the results of the program. However, it sets a goal of reducing the number of children aged 1 through 17 injured or killed on bicycles by 20%. It also sets a goal of raising the rate of bicycle helmet use by children aged 1 through 17 from 31% to 71%.

Pre-program statistics for the year 1996 are shown in the table below.

### **Bicycle Accident Data by Age Group in 1996**

<u>Age in Years</u>	<u>Killed</u>	<u>Injured</u>
1-14	0	21
15-17	0	6
18-24	0	13
25-43	0	35
44-54	0	7
55+	1	5

#### ***H. CITIZEN AND COMMUNITY INPUT***

Citizens were invited to provide input to the Draft Plan at a hearing of the Transportation Advisory Commission on January 9, 1999. The hearing was well publicized. Approximately 55 people attended and 35 spoke about the Draft Plan. Another public hearing was held on January 25, 1999 of the City Council.

#### ***I. COORDINATION OF BICYCLE AND OTHER TRANSPORTATION PLANS***

This Century of Bikes Plan has been coordinated with, and is consistent with both local and regional transportation and air quality plans. The Century of Bikes Plan is consistent with the City's Mobility Element in that it encourages bicycling for utilitarian purposes.

The Century of Bikes Plan is consistent with the San Gabriel Valley Bicycle Plan in including regional routes, such as Sierra Madre Boulevard and San Pasqual Street on the Plan. It also links up with routes planned by neighboring cities such as Avenue 64 connecting with bike routes in Los Angeles.

The Century of Bikes Plan is consistent with the Southern California Association of Governments Regional Mobility Plan (RMP) by encouraging bicycle commuting. The RMP is the delegated transportation plan for air mobility and air quality goals for the region and incorporates the Los Angeles County's bike plans.

The Century of Bikes Plan is also consistent with the South Coast Air Quality Management District's Rule 2202 that encourages ridesharing programs at work sites of 250 or more employees. The Plan services employers citywide and will assist them in complying.

#### ***J. PROJECT PRIORITIES***

A description of the projects proposed in the Plan can be found in Section IV. A listing of their priorities is on pages IV-1 and IV-2. The bicycle routes are also mapped showing their priority on the Figure 5: Bikeways Network Implementation Plan.

**K. PAST EXPENDITURES FOR BICYCLE FACILITIES**

In the past Pasadena has spent bicycle funds on bikeways, bicycle parking and signage. Specifically, the City has used Transportation Development Act Article 3 funds in the past for bike lanes on Maple St., Corson St., Sierra Madre Blvd., Raymond Ave. and Marengo Ave. It also spent funds on Class III signage on streets such as Altadena Dr., Orange Grove Blvd., Wilson Ave., Sierra Bonita Ave. and Del Mar Blvd. Present records do not show how much was spent on these.

Records from 1996 show that \$111,470 was spent on bikeways in the Rose Bowl area with another \$40,000 appropriated.

In 1993, Pasadena received \$180,000 of Intermodal Surface Transportation Efficiency Act and Proposition C funds from the Los Angeles County Metropolitan Transportation Authority for bicycle racks and lockers. This is how much of the bicycle parking in Pasadena has been funded.

The Century of Bikes Plan estimates the cost of projects in the Plan on page IV-3.



# APPENDIX A

## Street Cross-Sections

The cross-sections on the following pages describe many of the streets in Pasadena. These cross-sections depict the existing lane configurations. The “existing” cross-sections were chosen to be representative of the identified reach of roadway. In many circumstances however, it is impossible to select a representative section due to many changes in lane configuration, pavement width, parking restrictions, or other factors.

The cross-sections with bike lanes or other adjustments are intended to illustrate possible options for accommodating bicycles and do not represent specific recommendations. A detailed engineering study will be required to determine actual roadway cross-section configuration. Most of the cross-sections are measured mid-block and the configuration will be different at intersections. At intersections, turning lanes are typically added and parking is restricted.