

# **Riverside Bicycle Master Plan**

***Draft***

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## 1. INTRODUCTION

The Riverside Bicycle Master Plan provides a blueprint for bicycle transportation and recreation in the city of Riverside. Starting with the adoption of its first Bicycle Master Plan in 1970, the City of Riverside has added to its cycling amenities. Thirty-six years after this initial plan, bike lanes are present on most major streets, and several bicycle paths serve the community, and the rate of cycling in Riverside is higher than that of surrounding communities. Highlights of the current network include:

- A 9.5-mile bike lane corridor through the center of the City along Magnolia Avenue and Market Street.
- Victoria Avenue, a multi-modal corridor in the south of the City, with bike lanes, a bike path and an equestrian path.
- The Santa Ana River Trail borders the City to the north and provides access to adjacent communities.

This Bicycle Master Plan Update seeks to build upon this foundation – to enhance and expand the existing bikeway network, connect gaps, address constrained areas and improve intersections, provide for greater local and regional connectivity, and encourage even more residents to bicycle. As addressed in the City of Riverside’s General Plan 2025, the City of Riverside would like the bicycle master plan to facilitate and encourage bicycle trips by

designating Class I and Class II routes throughout the City. (The plan strongly encourages routes similar to Victoria Avenue.)

The Bicycle Master Plan provides for an updated system of bike lanes, bike routes and bike paths, identifies necessary support facilities such as bicycle parking, and recommends a variety of programs to allow for safe, efficient and convenient bicycle travel within Riverside and connecting to regional destinations. The Plan covers the “4 E’s” of planning for bicyclists – Engineering, Education, Encouragement, and Enforcement – recognizing that an approach that draws from all 4 E’s will be the most successful in improving safety and increasing the number of Riverside’s residents bicycling for work, shopping, school, and recreation.

### WHY BICYCLING?

The bicycle is a low-cost and effective means of transportation that is quiet, non-polluting, extremely energy-efficient, versatile, healthy, and fun. Bicycles also offer low-cost mobility to the non-driving public. Bicycling as a means of transportation has been growing in popularity as many communities work to create more balanced transportation systems by giving bicyclists a greater share in use of the roadway networks. In addition, recent national surveys find that more people are willing to cycle more frequently if better bicycle facilities are provided.

The City of Riverside is in a unique position to capitalize on its bicycle-friendly features, such as temperate climate, grid-based street network, parks and trails, and scenic vistas to increase the number of residents and visitors who see Riverside by bicycle. The City has the potential to become a prime bicycle-friendly community, as it is developed with a bikeable grid-based street network, is home to the University of California Riverside campus, and is well-served by local and regional transit connections.

### 1.1. PURPOSE OF THE BICYCLE MASTER PLAN

This Bicycle Master Plan provides a broad vision, strategies and actions for the improvement of bicycling in Riverside. It is important to note that the City of Riverside is by no means starting from scratch in terms of accommodating and encouraging bicycling. This updated Bicycle Master Plan focuses on [summary to be inserted as recommendations are developed]. Updating the Bicycle Master Plan by the City is important for the following reasons:

**Maximize Funding Sources for Implementation.** A key reason for updating the Bicycle Master Plan is to satisfy requirements of Caltrans’ California Bicycle Transportation Account (BTA) and other bicycle-related state and federal funding programs. In order to qualify for available funding, the State of California requires that applicants have a master plan adopted or updated within the past five years that includes a number of specific elements related to bicycle commuting, land uses, multi-modal connections, funding, and public input. The

complete list of required BTA elements and their locations in this document is provided in the preface to this document.

### **Develop Feasible Short-Term Projects to Implement.**

**Provide Needed Facilities and Services.** Riverside has over seventy miles of existing bikeways, including long routes on Magnolia Ave/Market Street, Arlington Avenue, Alessandro Blvd and Watkins Drive. These facilities provide direct routes for experienced cyclists comfortable with riding on streets with relatively high volumes of traffic and moderately high vehicular traffic speeds. However, the existing network has several gaps, does not provide easy northwest-southeast access, and has limited facilities that cater to less experienced cyclists. Encouraging new cyclists will require developing an interconnected network that provides bicycle access to all neighborhoods and that meets the needs of cyclists of all experience levels. This network should be supplemented by support facilities such as clear directional signage and secure bicycle parking at schools, employment centers and transit stops.

**Improve Safety and Encourage Cycling.** This plan provides tools to reduce the accident rate for bicyclists in Riverside through design standards and guidelines, education, and enforcement. This plan provides recommendations for spot improvements intended to make cycling safer for cyclists of all ability levels. Examples of encouragement programs are also provided to motivate Riverside residents to ride to work, school, for exercise and recreation.

**Enhance the Quality of Life in Riverside.** The development of bicycle facilities provides for people-friendly streets, paths, trails, and activity centers available to everyone, and supports sustainable community development. Mode shifts to bicycling can reduce traffic congestion, vehicle exhaust emissions, noise, and energy consumption. It is a healthy and active form of travel. Good bicycling opportunities can mean good economic sense for businesses in Riverside. Safe and efficient cycling opportunities will help to attract tourists to Riverside's historic downtown, and employees to Riverside's growing job market.

## **1.2. MAJOR RECOMMENDATIONS OF THE PLAN**

This Bikeway Plan recommends the enhancement of the existing network with the implementation of approximately xx miles of new Class I Bike Paths, xx miles of new Class II Bike Lanes, and xx miles of new Class III Bike Routes. The total cost of the recommended projects is estimated to be about \$xx million dollars.

The Recommended Bikeway Network is shown in Figure 6-x in Chapter 6, and the proposed cost breakdown is provided in Table 7-x in Chapter 7.

In addition to the planned bikeways and bicycle facilities, this plan outlines new educational and promotional programs aimed at bicyclists and motorists. These programs include [to be filled in as recommendations are developed]

### 1.3. PLAN CONTENTS

The Riverside Bicycle Master Plan is organized as follows:

**Chapter 2, Goals, Objectives and Policies**, documents the goals and policies of this Bicycle Master Plan.

**Chapter 3, Existing Conditions**, provides a description of the existing bicycle conditions in Riverside. The conditions presented include the existing bicycle network, support facilities and programs as well as existing land use patterns, activity centers and destinations.

**Chapter 4, Planning and Policy Context**, provides an overview of the relevant local and regional plans and policies. The Bicycle Master Plan has been developed to ensure consistency with these plans and policies, in accordance with BTA requirements.

**Chapter 5, Needs Analysis**, documents the need for bicycle transportation in Riverside, including an overview of existing user groups, bicycle commute statistics, and an analysis of bicycle collisions in Riverside.

**Chapter 6, Recommended Bikeway Improvements**, outlines the recommended Class I, II, and III bicycle network map, as well as support facilities and programs such as bicycle parking, Safe Routes to School, and educational efforts that will improve safety and convenience for bicyclists and complement the recommended network. Chapter 6 also includes individual Project Sheets that provide additional detail and highlight design and feasibility issues for each of the major projects identified in this plan.

**Chapter 7, Implementation**, provides a complete list of recommended project components with cost estimates, outlines the highest priority projects and provides a guide to system implementation and funding sources and strategies for getting the recommended bikeway network and facilities built.

#### Appendices:

- Appendix A: Bikeway Planning and Design
- Appendix B: Sample Bicycle Parking Code Language
- Appendix C: Construction Zone Treatments
- Appendix D: Detailed Cost Estimates



## 2. GOALS, OBJECTIVES AND POLICIES

This section presents the recommended goals, objectives and policies for the Riverside Bicycle Master Plan. The goals and objectives provide the long-term vision and serve as the foundation of the plan, while the policies provide more specific descriptions of actions to undertake to implement the plan.

The objectives and policies of the Bicycle Master Plan have been developed from existing bicycle-related objectives and policies contained in the Riverside General Plan 2025<sup>1</sup> and reflect input gathered from the First Public Workshop to discuss the Riverside Bicycle Master Plan. The following set of goals, objectives and policies covers bicycle facility development, bicycle education and encouragement, system maintenance, and regional connections. Goals, objectives and policies shown in italics are derived from existing General Plan policies.

***[NOTE: These are suggested objectives and policies, to be revised & refined in further drafts]***

### **GOAL 1: EXPAND AND ENHANCE RIVERSIDE'S BIKEWAY NETWORK**

**Objective:** *Provide an extensive and regionally linked on-street and off-street public bicycle network.* (Objective CCM-10.)

**Policy 1.1:** *Improve and create more connections and increase the safety of on and off-street bicycle system within the City.* (Policy PR-2.3)

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<sup>1</sup> The General Plan is discussed more thoroughly in Chapter 4: Planning and Policy Context.

## 2. Goals, Objectives and Policies

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**Policy 1.2:** Develop the existing and proposed bikeway network as an appropriately designed, continuous network that serves all user groups and skill levels.

**Policy 1.3:** The design of streets and traffic control devices shall consider the impact on bicyclists as well as the relationship in overall system mobility; travel speed; environmental factors; cost; and neighborhood character.

**Policy 1.4:** *Maximize links between trails and major activity centers, residential neighborhoods, schools, shopping centers and employment centers. (Policies CCM-10.8 and ED-4.6)*

**Policy 1.5:** Wayfinding assistance for bikeways should serve at minimum major employment centers, schools, commercial districts, transit stations, recreational centers, and public institutions.

**Policy 1.6:** *Create a primary trail loop to connect signature parks, county and state open spaces and parks. (Policy PR-2.4)*

**Policy 1.7:** *Maintain an extensive trails network that supports bicycles, pedestrians and horses and is linked to the trails systems of adjacent jurisdictions. (Policy CCM-10.5)*

### GOAL 2: PLAN FOR THE NEEDS OF BICYCLISTS

**Objective:** *Ensure that bicyclist needs are incorporated into City planning, design and construction projects.*

**Policy 2.1:** *Design all street improvement projects in a comprehensive fashion to include consideration of street trees, pedestrian walkways, bicycle lanes, equestrian pathways, signing, lighting, noise and air quality wherever any of these factors are applicable. (Policy CCM-2.9)*

**Policy 2.2:** *Incorporate on-street and off-street bicycle facilities and bicycle parking in future development projects. (Policy CCM-2.9)*

**Policy 2.3:** *Evaluate the needs of bicycle traffic in the planning, design, construction and operation of all roadway projects funded by the City. (Policy CCM-10.10)*

**Policy 2.4:** *Provide sufficient paved surface width to enable bicycle traffic to share the road with motor vehicles where traffic volumes and conditions warrant. (Policy CCM-10.11)*

**Policy 2.5:** Coordinate non-motorized Capital Improvement Program projects with other planned roadway and re-surfacing projects to maximize construction and cost efficiencies.

**Policy 2.6:** *Seek opportunities to provide enhanced bicycle usage along parkways, as designated in the Riverside General Plan. (LU-11.3)*

**Policy 2.7:** Enhance bicycle facilities, including but not limited to on-street bicycle facilities, wayfinding signage, bike parking and bicycle-transit connections along the Magnolia Avenue/Market Street to University Ave corridor.

**Policy 2.8:** *Work with the school districts to incorporate bicycle access, racks and bike lanes into school design. (Policy ED-4.3)*

**Policy 2.9:** *Implement pedestrian and bicycle safety measures in any new grade separation project. (Policy PS-5.5)*

**GOAL 3: ELIMINATE BARRIERS TO BICYCLING**

**Objective:** *Identify and seek to eliminate hazards to safe, efficient bicycle movement citywide. (CCM-10.4)*

**Policy 3.1:** Minimize disruption to bicycle facilities during capital improvement and private development construction as well as maintenance activities to facilitate bicyclist safety at all times, and provide alternate routes if required.

**Policy 3.2:** All actuated signalized intersections should be evaluated for need of operable and marked bicycle loop detectors.

**Policy 3.3:** The City will coordinate and communicate with affected jurisdictions and agencies regarding bikeways planning and implementation.

**Policy 3.4:** *Ensure adequate connections among all alternative modes, including bicycle amenities at transit stations and on transit vehicles. (Policy CCM-9.7)*

**Policy 3.5:** Monitor and evaluate collisions involving bicyclists and use this information to assist in developing remedies for existing problem locations.

**Policy 3.6:** Improve safety for bicyclists and other non-motorized users by encouraging traffic calming, intersection improvements, or other similar actions.

**GOAL 4: INCREASE AWARENESS OF AND USE OF THE BICYCLE AS A VIABLE TRANSPORTATION ALTERNATIVE**

**Objective:** Educate Riversiders about the benefits of bicycling and encourage bicycling as an alternative transportation option.

**Policy 4.1:** *Promote the health benefits of using a bicycle as a means of transportation. (Policy CCM-10.5)*

**Policy 4.2:** *Encourage bicycling as a commute mode to school, work, etc. (Policy CCM-10.12)*

**Policy 4.3:** Support and expand existing adult and youth bicycle events and education and safety programs that promote bicycling.

**Policy 4.4:** Enforce bicycle-related violations by both motorists and bicyclists, and emphasize positive enforcement for safe bicycling behavior in children.

**Policy 4.5:** *Develop more recreational opportunities for the secondary trail system in Riverside. Opportunities could include triathlons and bike races. (Policy PR-2.5)*

**GOAL 5: PRESERVE AND SUSTAIN EXISTING BICYCLE INFRASTRUCTURE**

**Objective:** Ensure that the existing bicycle infrastructure is well maintained on a timely basis and will be considered an integral part of the City's transportation network.

**Policy 5.2:** Develop a program to routinely repair and maintain roads and other bikeway network facilities, including regular sweeping of bikeways and shared use pathways.

**Policy 5.3:** Include the costs of bicycle facilities' maintenance needs when developing the maintenance needs of streets and roadways generally.

**Policy 5.4:** Establish a non-removal policy for existing on-street and off-street bikeways.



### 3. EXISTING CONDITIONS

This chapter provides a description of existing conditions within the City of Riverside relevant to this Bicycle Master Plan. Information is based on field visits, existing planning documents, maps, and conversations with City and other agency staff.

#### 3.1. SETTING

##### LOCATION

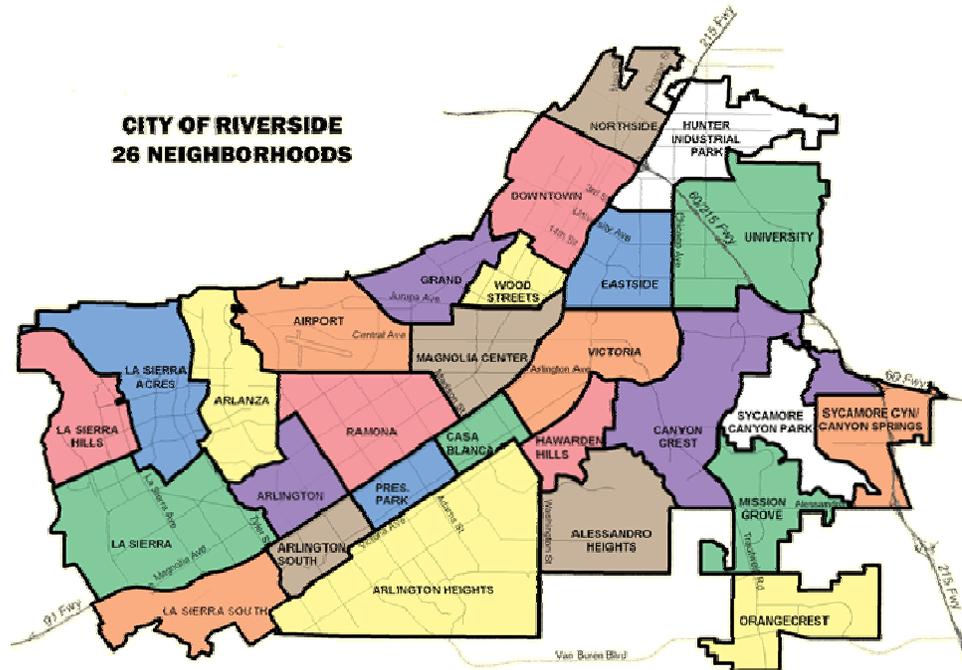
The City of Riverside is located in the westernmost tip of Riverside County. Encompassing 78 square miles, the City is bordered on the northwest by the Santa Ana River, the east by Box Springs Mountain Reserve and Moreno Valley, the south by unincorporated Riverside County, and the west by the Cities of Norco and Corona. Riverside is bisected along its northeast-southwest axis by State Route 91 (SR-91) while Interstate 215 (I-215) runs through the northeastern section of the City. The City's estimated population in 2004 was 292,056.<sup>1</sup> This number does not include the approximately 40,000 students that attend Riverside's four universities.

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<sup>1</sup> 2004 American Community Survey

**LAND USES**

The City of Riverside is defined by 26 different neighborhoods and two industrial parks. Each area offers different lifestyle choices, from rural to suburban to urban living. Most of the neighborhoods are complete—they offer residential, employment, education and cultural opportunities. The neighborhoods and a summary of existing and future land use is outlined in **Table 3-1**. A map of Riverside’s neighborhoods is provided in **Figure 3-1** and a map of Riverside’s Land Use is provided in **Figure 3-2**.



**Figure 3 - 1. City of Riverside’s Neighborhoods**  
 Source: City of Riverside website: <http://www.riversideca.gov/>. Last accessed August 14, 2006.

**Table 3-1: Riverside Neighborhoods Land Use**

Neighborhood	Existing Land Use	Future Land Use Policies
Airport	Riverside Airport. Limited residential.	Attract jobs to airport area and preserve residential uses.
Alessandro Heights	Hilly, arroyos, many natural features. Very-low-density residential: estate residential and hillside residential.	No land use changes. Circulation changes include connecting Overlook Parkway. Maintain low-density residential character and preserve natural features.
Arlanza	Diverse land use. Residential ranges from semi-rural to high-density apartments. Industrial development along Arlington, commercial along Van Buren. Twin Buttes hillsides.	Support continued industrial uses, but redevelop as mixed-use, office and business park in the future. Encourage semi-rural opportunities. Encourage infill development.

Neighborhood	Existing Land Use	Future Land Use Policies
Arlington	Oldest neighborhood. Contains commercial and residential. Arlington Village is “downtown” commercial and retail.	Focus commercial development at intersections, maintain grid system, preserve Magnolia Avenue’s historic character, consolidate driveways and parking along Magnolia, spur economic revitalization.
Arlington Heights	Agricultural development. Riverside's greenbelt. Victoria Avenue, Gage Canal. Very- - low-density residential.	Preserve agricultural land and open space. Ensure that Victoria Avenue and its cross streets remain accessible to pedestrian and bicycle as well as automobile use.
Arlington South	industrial and commercial in the north, medium density residential in south	concentrate commercial uses around Van Buren/Indiana intersection, maintain and extend grid residential street network, and maintain as single family residential area, spur economic revitalization of neighborhood
Canyon Crest	rolling hills, mature landscaping, Canyon Crest Town Center, all is developed or planned for development	maintain natural elements, support efforts to diversify offerings at Canyon Town Center, encourage maintenance of multi-family developments
Casa Blanca	Primarily single-family residential, with commercial along Indiana Ave. and Jefferson St. Casa Blanca Redevelopment Area. Longstanding and active neighborhood led community revitalization.	Affordable infill development, maintain partnership between community groups and city, economic revitalization, encourage non-polluting industrial, encourage public support facilities.
Downtown	Compact, grid street pattern, historic homes and public sites, City and County government buildings, walkable, pedestrian mall, commercial and residential.	Encourage high density residential, office, commercial and entertainment. Create a downtown that is active on weekends and evenings.
Eastside	Mainly residential, low- to medium-high density. Riverside Marketplace, University Avenue. Community active in revitalization efforts.	Transit oriented development at Riverside Marketplace, mixed use development along University Avenue. Work with community in developing revitalization plans. Encourage employment opportunities for residents.
Grand	Adjacent to downtown, but more suburban and rural feel. Flat areas have grid street network, hillier areas do not. Fully developed residential areas. Tequesquite Parcel is undeveloped.	No significant land use changes planned. Establish public access to Santa Ana River through Tequesquite Parcel.
Hawarden Hills	Gage Canal, tree lined Hawarden Drive, Hawarden Hills Ridgeline. Low density single family residential. No commercial or public uses.	No significant land use changes. Preserve single family low density. preserve street trees and character of Hawarden Drive.

### 3. Existing Conditions

Neighborhood	Existing Land Use	Future Land Use Policies
Hunter Industrial Park	1300 acre industrial park northeast of downtown. Hunter park and small residential neighborhood near University ave.	Encourage clean industries, high technology, biotechnology, and other industries that have a high jobs to acreage ratio, while protecting existing residential neighborhoods
La Sierra	La Sierra University, on-campus housing, commercial. Galleria at Tyler, Five Points, Kaiser Hospital. Industrial areas along 91 freeway. Residential areas range from rural on hillsides to medium-high-density near Magnolia. La Sierra Metrolink Station. "City-within-the-City" feel..	Provide enhanced bicycle and pedestrian connections across the 91 Freeway to the La Sierra Metrolink Station, encourage pedestrian oriented retail and commercial in five points area. Develop as a major employment center, increase residential densities.
La Sierra Acres	Low-density residential and semi-rural with animal husbandry. Santa Ana River open space to north.	Maintain semi-rural animal husbandry opportunities. Ensure development of Rancho La Sierra property includes trails linking from Santa Ana River to neighborhoods to the south, trail access along the river.
La Sierra Hills	Rural character with easy access to nearby commercial.	Encourage development of suburban and semi-rural/rural with animal husbandry. Area includes portions of future Rancho La Sierra residential development.
La Sierra South	Residential, commercial, industrial, La Sierra Metrolink.	Maintain industrial. Encourage infill development. Encourage development of mixed-use transit village at La Sierra Metrolink Station.
Magnolia Center	Considered "second downtown", convergence of several streets, Magnolia Ave, Arlington Ave, Central Ave, Jurupa Ave, Brockton Ave	New commercial, residential, retail development, mixed use development for Riverside Plaza, mixed use development along Magnolia as transition between commercial and single family residential.
Mission Grove	New neighborhood, low density residential north, commercial and office parks to south, near March Air Force Base	Follow specific plan, but don't allow changes that create more residential development near March AFB.
Northside	Semi-rural and suburban residences, office park, open space	Focus commercial uses along West La Cadena Drive at Columbia Ave and West Center Street locations. Pursue beautification strategies.
Orangecrest	Largely residential master planned community, adjacent to March AFB.	Encourage development of parks, retail and commercial to serve neighborhood.
Presidential Park	Riverside Auto Center. Residential areas. Borne from a redevelopment project.	Improve multi-family unit upkeep, encourage clean businesses, support auto center viability.

Neighborhood	Existing Land Use	Future Land Use Policies
Ramona	Most populous neighborhood, all income ranges. Sherman Indian School. California Baptist University. Historic landmarks. Close to commercial on Magnolia and Arlington.	Maintain single-family residential homes and improve transit access to Arlington Village and Magnolia Center. Develop mixed-use development along magnolia..
Sycamore Canyon Business Park/Canyon Springs	Business park, mostly warehousing, some residential.	Establish as a center for economic growth. Attract job intensive businesses with higher pay.
University	University of California at Riverside, some residential neighborhoods.	Protect character of existing single-family neighborhoods. Encourage revitalization of commercial areas as mixed use. Encourage a diversity of housing. Encourage student housing & mixed use development along University Avenue corridor
Victoria	Residential, many planned developments with private recreation, custom homes, historic homes, some commercial.	No major land use plans. Encourage cluster development and designate Victoria Ave as a city park.
Wood Streets	Neighborhood conservation area with shady mature trees, small lots, built in 1913, almost entirely residential and completely built out.	No major land use plans. Tree preservation and home preservation.

**Future Land Use Development**

Riverside’s General Plan 2025 focuses new growth along in-town corridors and encourages mixed-use development that supports transit and other non-motorized modes. The plan identifies several streets as “parkways” which will be used to provide multi-modal connections between the City’s residential neighborhoods, employment centers, schools and recreational amenities. Parkways are discussed in more detail in Chapter 4: Planning and Policy Context.

The Magnolia Avenue/Market Street to University Ave corridor is designated as a focus area to concentrate mixed-use development and provide multi-modal transportation, including bicycle, pedestrian and transit facilities.

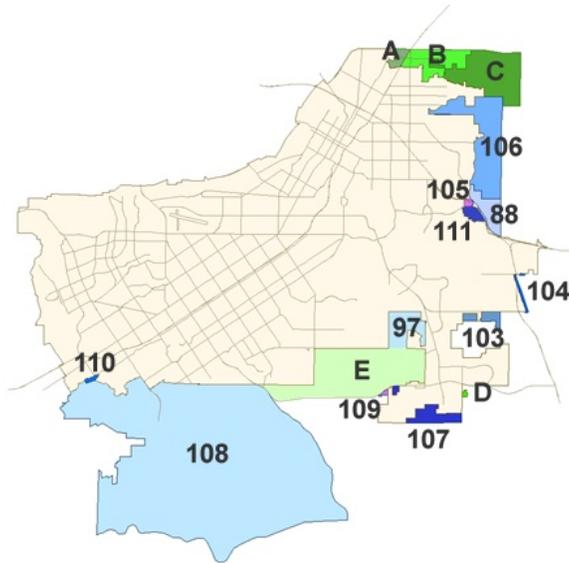
### 3. Existing Conditions

#### Activity Centers

- **Downtown Riverside**
- **Major Universities**
  - La Sierra University
  - California Baptist University
  - Riverside Community College
  - University of California Riverside
- **Regional Shopping/Mixed Use**
  - Galleria at Tyler
  - Riverside Plaza
  - Riverside Marketplace
  - University Village
- **Local Shopping/Mixed Use Centers**
  - Arlington Village
  - La Sierra Transit Station
  - Brockton Arcade
  - Eastside/Park Avenue
  - Five Points
  - Sears/Hardman Center
  - Canyon Crest Town Center
  - Van Buren Boulevard
  - Mission Grove
  - Orangecrest
- **Major Employment Centers**
  - Enhanced La Sierra/Gateway
  - Industrial area
  - Kaiser Medical Center area
  - Magnolia Center (Brockton Arcade/Riverside Plaza)
  - Fleetwood Enterprises
  - Hunter Business Park
  - Sycamore Canyon Business Park
  - Airport Industrial Park
  - March Air Reserve Base
  - Riverside Auto Center

The City of Riverside is also planning on annexing several locations adjacent to the City. These are shown in **Figure 3-2**.

Current Annexation Proposals	
88	Gateway
97	Berry Road
103	Alessandro Boulevard
104	I-215 Corridor
105	Sycamore/Central
106	East Blaine
107	Alta Cresta Remainder
108	Southern Sphere
109	Van Buren/Chicago
110	Alvord High School
111	University City
Potential Annexation Proposals	
A	Center Street
B	Highgrove
C	92 - Spring Mountain Ranch
D	March Police Station
E	Woodcrest (to be determined)



**Figure 3-2 City of Riverside Annexation Proposals**

*Source: City of Riverside website. Current as of July 2006*

#### SCHOOLS

##### University of California, Riverside

Riverside is home to the University of California's Riverside campus, located in the eastern side of the City. Campus enrollment was 16,622 in the 2005-2006 academic year, and is expected to climb to 22,000 students by 2015. The University plans on expanding graduate level housing and educational facilities west of Interstate 215 and developing land uses on the West Side of Campus to complement University Avenue development. The University plans on increasing linkages between East and West Campus.

Starting in 2004, the University has provided free registration services for student, staff, and faculty owned bicycles. Bicycles are given a serial number which is entered in the California DMV database. Cyclists who register are given a brochure outlining safety tips and campus bicycle rules. The University credits the program with reducing bicycle thefts on campus.

City bicycle lanes generally end at the campus limits. The University has no bicycle plan.

### California Baptist University

California Baptist University is located at at 8432 Magnolia Avenue on a 103 acre campus. As of 2006, approximately 3,100 students were enrolled.. Bicycle registration is required by the University and offered for free. The university police department has a bicycle patrol unit.

### La Sierra University

La Sierra University is a private Christian university located in the La Sierra neighborhood at 4500 Riverwalk Parkway. As if 2004 1,924 students were enrolled. Students may keep bicycles in their dorm rooms. School security maintains a bicycle patrol.

### Riverside Community College

Riverside Community College maintains a campus in downtown Riverside at 4800 Magnolia Avenue. Satellite campuses are located in Moreno Valley and Norco. Student enrollment is projected to increase to 53,000 by 2014.Riverside. The college police department maintains a bicycle patrol unit.

### Elementary, Junior and High Schools

Alvord Unified School District- serves western Riverside and a small portion of Corona. Alvord USD runs 12 elementary schools (year round), 4 middle schools, 2 high schools, 1 alternative/continuation school.

Riverside Unified School District serves most of Riverside, plus Highgrove, Woodcrest and Lake Matthews areas of the County. The forty-six schools under Riverside USD's jurisdiction include: 29 elementary schools, 1 special education pre-school, 6 middle schools (grades 7-8), five high schools (9-12), 2 alternative/continuation high schools, and one adult alternative education school. ur new elementary schools and one new middle school planned for opening in (2005-2006)

Riverside also is home to Sherman Indian High School, a boarding school for Native American students. It serves students grades 9-12 and is located at 9010 Magnolia Avenue.

**Table 3-1** provides an inventory of elementary and middle schools in Riverside.

**Table 3-1  
Public Elementary and Middle Schools in Riverside**

School Name	School District	Address
Adams Elementary School	Riverside	8362 Colorado Ave
Alcott Elementary School	Riverside	2433 Central Ave
Bryant Elementary School	Riverside	4324 3rd St
Castle View Elementary School	Riverside	6201 Shaker Dr
Emerson Elementary School	Riverside	4660 Ottawa Ave
Franklin Elementary School	Riverside	19661 Orange Terrace Pky
Fremont Elementary School	Riverside	1925 N. Orange St
Grant Elementary School	Riverside	4011 14th St
Harrison Elementary School	Riverside	2901 Harrison St
Hawthorne Elementary School	Riverside	9174 Indiana Ave
Highgrove Elementary School	Riverside	690 Center St, Riverside
Highland Elementary School	Riverside	700 Highlander Dr
Hyatt Elementary School	Riverside	4466 Mt Vernon Ave
Jackson Elementary School	Riverside	4585 Jackson St
Jefferson Elementary School	Riverside	4285 Jefferson St
Kennedy Elementary School	Riverside	19125 Schoolhouse Ln
Lake Matthews Elementary School	Riverside	12252 Black Burn Rd
Liberty Elementary School	Riverside	9631 Hayes St
Longfellow Elementary School	Riverside	3610 Eucalyptus Ave
Madison Elementary School	Riverside	3635 Madison St
Magnolia Elementary School	Riverside	3975 Maplewood Pl
Mark Twain Elementary School	Riverside	19411 Krameria Ave
Monroe Elementary School	Riverside	8535 Garfield St
Mountain View Elementary School	Riverside	6180 Streeter Ave
Pachappa Elementary School	Riverside	6200 Riverside Ave
Rivera Elementary School	Riverside	20440 Red Poppy Ln
Sunshine Elementary School	Riverside	9390 California Ave
Taft Elementary School	Riverside	959 Mission Grove Pkwy
Victoria Elementary School	Riverside	2910 Arlington Ave
Washington Elementary School	Riverside	2760 Jane St
Woodcrest Elementary School	Riverside	16940 Krameria Ave
Central Middle School	Riverside	4795 Magnolia Ave

School Name	School District	Address
Chemawa Middle School	Riverside	8830 Magnolia Ave
Earhart Middle School	Riverside	20202 Aptos St
Gage Middle School	Riverside	6400 Lincoln Ave
Sierra Middle School	Riverside	4950 Central Ave
University Heights Middle School	Riverside	1155 Massachusetts Ave
Arlanza Elementary School	Alvord	5891 Rutland Street
Collett Elementary School	Alvord	10850 Collett Avenue
Foothill Elementary School	Alvord	8230 Wells Avenue
La Grandad Elementary School	Alvord	10346 Keller Avenue
McAuliffe Elementary School	Alvord	4100 Golden Avenue
Myra Linn Elementary School	Alvord	10435 Branigan Way
Orrenmaa Elementary School	Alvord	3350 Fillmore Street
Rosemary Kennedy Elementary School	Alvord	6411 Mitchell Avenue
Terrace Elementary School	Alvord	6601 Rutland Avenue
Twinhill Elementary School	Alvord	11000 Campbell Avenue
Valley View Elementary School	Alvord	11750 Gramercy Place
Arizona Middle School	Alvord	11045 Arizona Avenue
Loma Vista Middle School	Alvord	11050 Arlington Avenue
Villegas Middle School	Alvord	3754 Harvill Lane
Wells Middle School	Alvord	10000 Wells Avenue

### PARKS, RECREATION FACILITIES AND COMMUNITY CENTERS

The City of Riverside has 52 City parks. These parks, in combination with additional open space, total more than 23,000 acres. A key policy of the Riverside Bicycle Master Plan is to provide bicycle connections to the City of Riverside’s many parks and recreational facilities.

The City of Riverside categorizes its local parks into four subcategories—pocket parks, neighborhood parks, community parks and special use parks. Pocket parks are less than 2 acres and contain miscellaneous amenities. Neighborhood parks are typically 10 acres in size and serve residents within a half mile. Community parks are generally 20 to 30 acres in size and are designed to serve between twenty and thirty thousand residents. Special use parks are dedicated to specific recreational uses such as baseball, swimming or other organized sports. The City also recognizes “signature parks,” which have historic and cultural significance to the community.

### 3. Existing Conditions

Parks and recreation facilities are an important source of bicycle support facilities for Riverside cyclists. Larger parks typically contain features such as sports facilities, restrooms, and picnic areas. **Table 3-3** lists Riverside parks that contain restroom facilities.

All of Riverside’s community centers are located within or adjacent to a park. These centers provide recreational, educational and human service programs for the community. Programs include adult and youth sports leagues, day care, youth and adult education, and facility rental. **Table 3-3** identifies which parks contain community centers.

**Table 3-3  
Parks with Restroom Facilities in Riverside**

Park	Location	Other Amenities
Arlington Park	3860 Van Buren Blvd	
Bobby Bonds Park	2060 University Ave	Cesar Chavez Community Center
Bordwell Park	208 Martin Luther King Blvd	Stratton Community Center
Bryant Park	(7950 Philbin St	Arlanza Community Center
Don Derr Park	3003 Monroe St.),	
Don Jones Park	3995 Jefferson St.),	
Don Lorenzi Park	4230 Jackson St	
Fairmount Park	2601 Fairmount Blvd	
Hunt Park	4015 Jackson St	Renck Community Center
Hunter Park	1400 Iowa Ave	
La Sierra Park	5215 La Sierra Ave	La Sierra Community Center
Lincoln Park	4261 Park Ave.	
Myra Linn Park	4540 Meredith St.	
Nichols Park	5505 Dewey Ave.	Joyce Jackson Community Center
Orange Terrace Community Park	20010 Orange Terrace Pkwy.	
Patterson Park	1841 Linden St.	
Reid Park	701 N. Orange St.	Ruth Lewis Community Center
Riverside Sports Complex	1014 Blaine St.	
Shamel Park	3650 Arlington Ave.	
Villegas Park	7260 Marguerita St.	Ysmael Villages Community Center
Washington Park	2769 Mary St.	

Source: City of Riverside Parks and Recreation Department, [http://www.riversideca.gov/parks\\_rec/pdf/facilities.pdf](http://www.riversideca.gov/parks_rec/pdf/facilities.pdf)  
Accessed August 14, 2006

The City is proximate to several regional or reserve parks and nearby State and County park facilities. Many of these parks provide mountain biking opportunities.

Nearby State and County facilities include:

- California Citrus State Historic Park
- Hidden Valley Wildlife Area
- Santa Ana River Trail
- Martha McLean-Anza Narrows Park
- Box Springs Mountain Reserve
- Lake Perris State Recreation Area

## LIBRARIES

The Riverside Library system includes five traditional libraries and two “cybraries.” Cybraries provide internet-based materials and educational resources. The libraries include: Main Library, Arlington Neighborhood Library, Casa Blanca Family Learning Center, Marcy Neighborhood Library, La Sierra Neighborhood Library, Eastside Cybrary (near Chicago and University Avenues) and Nichols Cybrary (located in Joyce Jackson Community Center in Nichols Park).

## 3.2. EXISTING BICYCLE FACILITIES

### DEFINITION OF BIKEWAYS

The three types of bikeways identified by Caltrans in Chapter 1000 of the Highway Design Manual are as follows. Detailed design guidelines for all three types of bikeways are provided in Appendix A.

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

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

**Class III Bikeway.** Generally referred to as a “bike route,” a Class III bikeway provides for shared use with motor vehicle traffic and is identified only by signing.

It is important to note that bicycles are permitted on *all* roads in the State of California and in Riverside (with the exception of access-controlled freeways). As such, Riverside’s entire street network is effectively the city’s bicycle network, regardless of whether or not a bikeway stripe, stencil, or sign is present on a given street. The designation of certain roads as Class II or III bicycle facilities is not intended to imply that these are the only roadways intended for bicycle use,

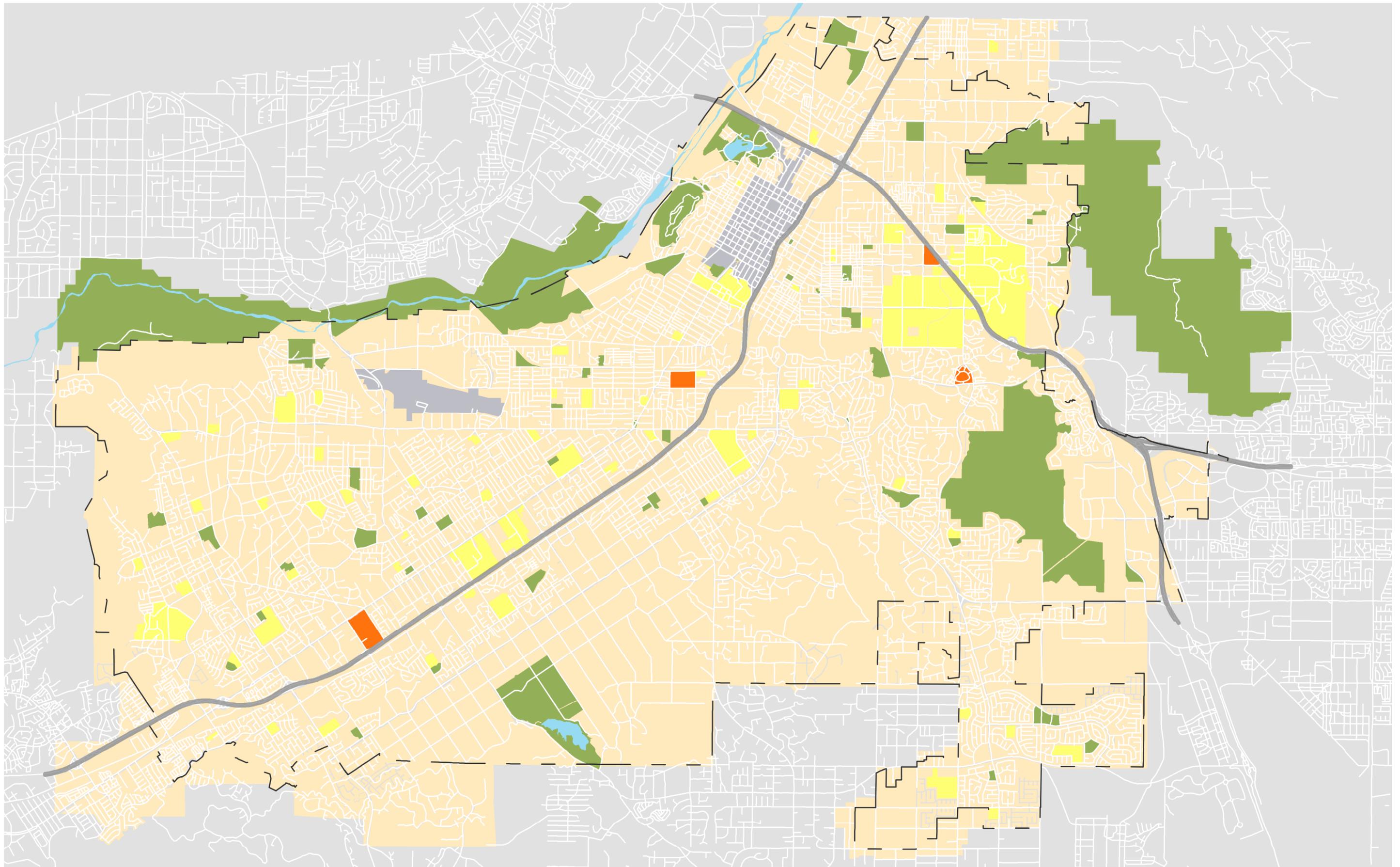
### 3. Existing Conditions

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or that bicyclists should not be riding on other streets. Rather, the designation of a network of Class II and III on-street bikeways recognizes that certain roadways are optimal bicycle routes, for reasons such as directness or access to significant destinations, and allows the City of Riverside to then focus resources on building out this primary network.

Further discussion of these bikeway types is provided in Chapter 6, Recommended Improvements.

Riverside's existing network of designated bikeways is shown in **Figure 3-3**. Specific facility segments are discussed in more detail below.



### EXISTING OFF-STREET BIKE PATHS

The City of Riverside has two official off-street bike paths. The Santa Ana River Trail parallels the Santa Ana River to the north of the City. The trail, when completed, will travel the length of the Santa Ana River between San Bernardino National Forest to the Pacific Ocean at Huntington Beach. The trail is completed through most of the City of Riverside. The City has plans to finish the southern section, completing the trail through the entire City.

Victoria Avenue is a tree-lined parkway with parallel bicycle and equestrian paths. Though the sidepath alignment is not recommended by Caltrans, traffic along Victoria Avenue is slow enough to reduce potential motorist-cyclist conflicts. Motorist cross traffic is controlled by stop signs. On-street bike lanes also parallel most of the route. As a result, the Victoria Avenue corridor is used by cyclists of varying abilities.

The access road alongside Gage Canal, while not an official bicycle or pedestrian trail, is currently used by cyclists and pedestrians. The road is unpaved, and therefore does not meet Caltrans Class I bike path standards. This plan seeks to formalize the use of the Gage Canal access road.

### EXISTING ON-STREET BIKE LANES AND ROUTES

As shown in Figure 3-1, Riverside’s existing bikeway network is comprised of Class II bike lanes along many major streets. The backbone of the bikeway network is the 9.5-mile bike lane that follows the Magnolia/Market corridor. Cross-town routes, from northwest to southeast, are less common than routes that extend the length of the city. **Tables 3-4** and **3-5** show the limits and lengths of existing Class I and II bikeway segments in the city, respectively. The City does not have any existing Class III bicycle routes at this time.

**Table 3-5**

**Index of Existing City of Riverside Class I Bike Paths**

<b>Name</b>	<b>Length (Miles)</b>
Santa Ana River Trail	7.5
Springbrook Wash Arroyo Trail	1.0
Victoria Ave	7.6
<b>Total</b>	<b>16.1</b>

*Source: Alta Planning + Design field inventory, Riverside GIS data, June 2006.*

**Table 3-4**  
**Index of Existing City of Riverside Class II Bike Lanes**

Street	Miles
3rd St	1.3
Adams St	0.5
Alessandro Blvd	2.9
Arlington Ave	6.2
Blaine St	0.8
California Ave	3.6
Canyon Crest Dr	2.0
Central Ave	2.7
Chicago Ave	1.0
Colorado St	1.4
Gage Canal Trail	1.9
Iowa Ave	0.4
La Sierra Ave	3.7
Linden St	1.7
Lochmoor Dr	1.5
Magnolia Ave/Market St	9.5
Martin Luther King Blvd	1.0
Orange Terrace Pkwy	2.1
Pierce St	1.5
Riverwalk Pkwy	1.3
Spruce St	2.0
Trautwein Rd	2.2
University Ave	1.8
Van Buren Blvd	4.5
Watkins Dr	2.6
<b>Total</b>	<b>60.1</b>

*Source: Alta Planning + Design field inventory, Riverside GIS data, June 2006.*

## BIKEWAY SIGNAGE

Implementing a well-designed, attractive, and functional system of network signage greatly enhances bikeway facilities by promoting their presence to both potential and existing users. Currently, Riverside uses standard Caltrans bikeway signage for Class II bike lanes and Class III bike routes. Signage requirements for Class I bike paths are outlined in Riverside's "Multi-Purpose Recreational Trails Master Plan and Trails Standards," adopted in 1996 by the Riverside City Council. Class I Bike Paths use decals affixed to carsonite posts or trail fence posts. The 3 1/2-inch, square decals contain images of bicycles, pedestrians or equestrians as appropriate. Other trail signs designate hazards, clearance requirements, approaching intersections, the need to stop or yield, and staging areas.

#### BICYCLE SIGNAL DETECTION

Bicycle signal detection refers to mechanisms that activate traffic signals when a bicyclist positions him/herself in bicycle or auto travel lanes at signalized intersections. One method of bicycle detection involves the use of inductive loops installed in the pavement to sense a bicycle and trigger a signal change. Regular maintenance of these devices is important to ensure the intended benefits of bicycle detection.

#### BICYCLE PARKING

Bicycle parking is an important component in planning bicycle facilities and encouraging people to use their bicycles for everyday transportation. Bicycles are one of the top stolen items in most communities, with components often being stolen even when the bicycle frame is securely locked to a rack. Because today's bicycles are often high-cost and valuable items, many people will not use a bicycle unless they are sure that there is secure parking available at their destinations. Cyclists with higher-end bicycles are often reluctant to let a bicycle out of their sight at all, and may instead forgo outside racks and lockers and instead bring their bicycle into the building with them.

In California, bicycle parking facilities are classified as either Class I or Class II facilities

**Class I Parking – Long Term Facilities** include secure areas such as lockers or bicycle “cages” that can be locked by the cyclist. Used mainly by students, employees, residents and others expected to park for more than two hours.

**Class II Parking – Short Term Facilities** include bicycle racks. Cyclists provide their own locks to secure their bicycles. Used mainly by shoppers, visitors, messengers and others expected to depart within two hours.

#### Bicycle Parking Ordinance

The Riverside Municipal Code does not currently provide standards for bicycle parking implementation or bicycle parking requirements for new development. Bicycle parking ordinances can encourage bicycling by providing cyclists with secure and convenient storage for their bicycles at their destination.

The Municipal code does, however, state that businesses may install bicycle racks on sidewalks in front of their place of business after securing a permit. Bike rack permits will be granted after an application is filed with the City Clerk and a hearing before City Council establishes that placement of the rack will benefit public safety and convenience and will not harm occupants of the building in front of which it is placed. (Section 10.64.210 Issuance of rack permit.)



*La Sierra Metrolink Station provides both lockers and racks*

### Riverside Existing Bicycle Parking Facilities

Bicycle parking is available at all of Riverside’s public elementary and middle schools. RCTC provides locker space for six bicycles at the La Sierra Metrolink Station and is planning on installing bicycle racks at the Downtown Riverside Station. Several of Riverside’s largest employers provide bicycle parking for employees. Specific details are available in **Table 3-7**.

### SHOWERS, LOCKERS AND OTHER BICYCLE SUPPORT FACILITIES

For the purposes of this Bikeway Plan, bicycle support facilities refer to end-of-trip facilities or services designed to accommodate or promote the use of bicycles.

Showers, lockers, and changing rooms are a critical need for commuting bicyclists. For those bicyclists needing to dress more formally, commute long distances, or bicycle during wet or hot weather, the ability to shower and change clothing can be as important as bicycle storage. Such facilities are most often provided by building owners or tenants for use by those who work in the building. Cyclists are more likely to ride to work if employers offer bicycle support facilities which offer a safe place to store bicycles, changing facilities and showers.

**Table 3-7** shows Riverside’s ten largest employers and the bicycle support facilities offered by each.

**Table 3-7**  
**Bicycle Racks and Support Facilities**  
**at the Ten Largest Employers in Carlsbad**

Employer	Bike Racks	Bike Lockers	Showers	Notes
County of Riverside	Yes – space for 10 bicycles	Yes – 8 provided, 3 in use	Yes	Also provides clothing lockers.
University of California, Riverside	Yes	Yes	Yes	Registered bicycle commuters receive limited free car parking, a recreation center pass, locker, lock and towels.
Kaiser Permanente Riverside Medical Center	Yes- 3 in front of building 1 in employee parking garage	Yes – 4 provided in employee parking garage	No	Three racks are “strategically located” in front of the hospital to provide bike parking for employees, visitors and patients.
Riverside Community College				



### 3. Existing Conditions

Riverside Unified School District	Yes	No	No	Bicycle racks provided for students. Faculty and staff do not have bicycle parking facilities, but in some cases may store their bicycle in other locations.
City of Riverside				
Fleetwood Enterprises Inc.	No	No	Yes	Showers and lockers are available in the company gym.
Pacific Bell	Not Available			
Riverside County Office of Education	No	No	No	
Riverside Community Hospital	Yes	No	No	Lockers were provided formerly, but were damaged and not replaced. The hospital allows employees to lock bicycles near their departments or bring the bicycles inside.

Source: Alta Planning + Design Telephone Survey, August 2006

Health clubs are another potential location for showers and changing facilities, although they are only available to their members. And while less desirable than a full shower/locker facility, any publicly-accessible restroom can serve as a changing area for cyclists. Public parks, beaches, and civic buildings can also serve as rest stops offering water, a place to sit or rest, and restroom facilities. Public park and recreational facilities in Riverside are discussed in **Section 3-1** above and shown on **Figure 3-4**

Bicycle shops are important for bicyclists making trips within urban areas in the event their equipment fails and they need repair parts or service. Riverside is home to seven bicycle shops, listed in **Table 3-8**. Several of the shops listed below have websites which provide links to local bicycling resources and clubs.

**Table 3-8: City of Riverside Bicycle Shops**

Name	Location
Don's Bikes	384 S Riverside Ave
Redlands Cyclery Usa	Riverside, CA 92501
Anthony's Cyclery	1450 University Ave Ste L
Sportmart Inc	3380 Tyler St
Starklite Cycle	Riverside, CA 92504
Super Gel Products	7535 Jurupa Ave Ste A
Woodcrest Bicycle Center	16960 Van Buren Blvd Ste A

### 3.3. BICYCLE FACILITY MAINTENANCE

Currently, the maintenance of Riverside’s bikeway facilities consists of restriping, re-stenciling and sweeping, as needed. The City’s Public Works Department Street Services Division is responsible for sweeping and maintaining City streets, including on-street bikeway facilities. Other maintenance activities are conducted on an as-needed basis by the City.

### 3.4. PAST BICYCLE PROGRAM EXPENDITURES

Table 3-8 lists past bicycle program funds and expenditures in Riverside.

**Table 3-8  
Past Bicycle Program Expenditures**

Year	Cost
2003	\$
2004	\$
2005	\$
-	\$XXX,XXX

*Source: City of Riverside, 2006.*

### 3.5. ENFORCEMENT AND EDUCATION PROGRAMS

#### ENFORCEMENT

Section 10.64.230 of the Riverside Municipal Code states that “Every person riding a bicycle upon a roadway shall be granted all of the rights and shall be subject to all of the duties applicable to the driver of a vehicle by the laws of this State declaring rules of the road applicable to vehicles or by the traffic ordinances of this City applicable to the driver of a vehicle...”

Other provisions specific to bicycles in the Riverside Municipal Code include:

Section 10.64.240 Obedience to traffic control devices.

- A. Bicyclists shall obey the instructions of official traffic control signals, signs and other control devices applicable to vehicles.
  
- B. Whenever authorized signs are erected indicating that no right or left or "U" turn is permitted, no bicyclist shall disobey the direction of any such sign, unless the bicyclist dismounts from the bicycle to make any such turn obeys the regulations applicable to pedestrians.

### 3. Existing Conditions

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C. When signs or markings are placed on any street or sidewalk giving notice that a portion of that street or sidewalk has been designated as a bicycle lane, no person shall drive, park, or operate any vehicle or any bicycle in any manner contrary to the directions posted on such signs.

#### Section 10.64.260 Riding on roadways and bicycle paths.

A. Every person operating a bicycle upon a roadway shall ride as near to the right side of the roadway as practicable, exercising due care when passing a standing vehicle or one proceeding in the same direction.

B. Persons riding bicycles upon a roadway shall not ride more than two abreast except on paths or parts of roadways set aside for the exclusive use of bicycles.

C. Wherever a usable path for bicycles has been provided adjacent to a roadway, bicycle riders shall use such path and shall not use the roadway, except those roadways designated by resolution of the City Council. This provision shall not apply to sidewalks, parkways or other areas unless specifically designated for the use of bicycles by official signs

#### Section 10.64.280 Emerging from alley or driveway.

The operator of a bicycle emerging from an alley, driveway or building shall, upon approaching a sidewalk or the sidewalk area extending across any alleyway, yield the right-of-way to all pedestrians approaching on the sidewalk or sidewalk area, and upon entering the roadway shall yield the right-of-way to all vehicles approaching on the roadway.



#### Section 10.64.310 Riding on sidewalks.

Except for authorized police bicycle patrols, no person shall ride a bicycle upon a sidewalk or parkway unless signs are erected permitting use of such sidewalk or parkway by bicycles.

The City of Riverside Police Department enforces all bicycle and motorist traffic violations. Youth under 18 years who receive a ticket for a bicycle, skateboard, jaywalking or helmet violation must attend a violator course with their parents. Attendees pay \$10 and receive a helmet at the end of the course. The violator course is run by the Police Department's Traffic Education Coordinator.

In addition to the violator program, the Police Department provides proactive incentives to encourage youth to ride safely. One example of this is the Safety Cite program, in which police officers or park rangers stop and thank young riders for following traffic laws and wearing appropriate protective equipment

and write them a “Safety Citation”. Youth who receive a Safety Citation have a letter sent to their parents that acknowledges their good behavior, and are eligible for a bicycle raffle in the City’s annual Traffic Safety Fair.

The Riverside Police Department has a bicycle patrol unit.

### EDUCATIONAL PROGRAMS

In 1996, in response to several collisions involving youth, Riverside’s Police Department expanded their Traffic Education programs. Ten years later, the Riverside Police Department has a full time Traffic Education Coordinator who oversees all traffic education programming that covers all aspects of traffic safety, including seatbelt use and drunk driving as well as bicycle, pedestrian and skateboarding safety.

The Police Department offers bicycle safety classes that can be customized for any age. The curriculum includes the laws and safety practices for biking, skateboarding, in-line skating and motorized scooters. The programs focus on not only learning traffic laws but also understanding the reasoning behind the laws. Three typical options are offered, though any custom class can be created:

**Traffic Safety Classes** are geared toward ages 6 to 18 and offered in February, May, August and November. Classes run 1 ½ to 2 hours, and require that the parents accompany their children. Helmets are available for students at a reduced rate.

**Bicycle Safety Classes** can be scheduled for a neighborhood, community group, or club. These classes can be customized to meet the needs of the group.

School-based **safety presentations** are available for Riverside Schools. Safety presentations can be for a classroom or for a school-wide assembly. Schools that participate in safety presentations are eligible to offer reduced-cost helmets to their students.

### BICYCLE CLUBS

Though not officially sponsored by the City, it is important to mention Riverside’s bicycle clubs. The clubs sponsor on-road and off-road rides and riding clinics and generally promote recreational cycling within the City of Riverside. Clubs include: Riverside Bicycle Club (in existence for over 100 years), the University of Riverside Cyclery Club (open to university students only), Anthony’s Cyclery/UCR Club (open to anyone), and Citrus Valley Velo (competitive on-street riding club based in Redlands that has rides in Riverside). The Riverside Bicycle Club sponsors an annual “Riverside to Surfside” century ride that follows the Santa Ana River Trail from Riverside to Huntington Beach.

### 3.6. MULTI-MODAL CONNECTIONS

Multi-modal refers to the use of two or more modes of transportation in a single trip (i.e., bicycling and riding the bus or train). Improving the bicycle-transit link is an important part of making bicycling a part of daily life in Riverside. Accommodating bicycles on mass transit allows cyclists to increase the distance they can travel and provides an alternative to riding at night or in poor weather.

Making the multi-modal connection consists of three key elements: providing bicycle access to transit stops, providing bicycle parking facilities at transit stops and accommodating bicycles on trains and buses. Riverside currently provides parking facilities at its train stations and the two transit providers: Riverside Transit Agency and Metrolink allow bicycles on transit vehicles. The service areas and bicycle amenities provided by these transit agencies are described in more detail below.

#### RIVERSIDE TRANSIT AGENCY

Riverside Transit Agency (RTA) provides fixed route, commuter and dial-a-ride bus service within western Riverside County, including the Cities of Riverside, Corona, Norco, Jurupa, Grand Terrace, Loma Linda, Moreno Valley, Perris, San Jacinto, Hemet, Lake Elsinore and Temecula. ADA services within the City of Riverside are provided by the City's Riverside Special Services.

All buses on fixed-routes are equipped with bike racks that hold two bicycles. Cyclists are responsible for loading and unloading their bicycles. There is no additional cost for transporting a bicycle and cyclists do not need a permit to travel with their bicycle. Bicycles are not allowed inside buses, however folding bicycles are allowed inside buses if they are folded. Forgotten or abandoned bicycles are held for up to five business days.

The Riverside Transit Center, located in downtown Riverside, serves as a transfer point for 14 bus lines. The Transit Center is owned by the City of rside.

RTA provides easily accessible information about bikes on buses on its website. Information is provided in both English and Spanish.  
([http://www.riversidetransit.com/bus\\_info/bikes.htm](http://www.riversidetransit.com/bus_info/bikes.htm))

#### METROLINK

The Riverside County Transportation Commission (RCTC) is one of five transportation commissions located in Southern California that operate Metrolink trains. Metrolink provides commuter rail service from Riverside to downtown Los Angeles, Orange County, San Bernardino County and the Pacific Ocean. Riverside is served by three Metrolink rail lines:

- **91 Line (Riverside Fullerton Downtown LA)** provides weekday service between Riverside and Downtown Los Angeles through Orange County
- **Riverside Line** – provides weekday service between Riverside and downtown Los Angeles through San Bernardino County
- **Inland Empire-Orange County Line** – provides weekday and weekend connections between San Bernardino County to San Juan Capistrano in Orange County

Riverside has two existing Metrolink Stations, both of which are owned and operated by RCTC: La Sierra Metrolink Station at 10901 Indiana Ave, and the Downtown Riverside Metrolink Station at 4066 Vine Street. The Downtown Metrolink Station does not currently have bicycle parking, but RCTC plans to order bicycle racks for installation in Fall of 2006. The La Sierra Station has bicycle racks and six bicycle lockers. All bicycle lockers are currently in use. RCTC is developing a deposit policy for bicycle lockers, where cyclists pay a refundable \$25 key deposit to use the lockers.

Onboard trains, Metrolink has space for two bicycles per rail car. In the event that a car is full, cyclists may be asked to move their bicycles to a different car or take another train at the request of a conductor.

RCTC is developing additional rail service, including the Perris Line, which would extend Metrolink service from downtown Riverside to Perris with stops at UCR and Moreno Valley. The Perris line is planned for completion in 2008. When completed, there would be up to two additional stops in Riverside. Though siting is preliminary, it is expected that one station would be near Spruce Street and the San Jacinto Branch Line and the other would be near 3<sup>rd</sup> Street and the San Jacinto Branch Line, just on the northern edge of the UCR campus.

#### OTHER TRANSPORTATION SERVICES

Amtrak Thruway provides commuter bus service between Riverside and the cities of Hemet and San Bernardino

OmniTrans, San Bernardino's bus transit provider, runs daily bus service between downtown Riverside and Montclair. OmniTrans provides bicycle racks on all of its buses.





## 4. PLANNING AND POLICY CONTEXT

As required by Caltrans, this chapter provides an overview of local and regional planning documents and policies relevant to this Master Plan. This chapter demonstrates consistency between this Master Plan and existing plans and policies.

### 4.1. RELEVANT PLANS AND POLICIES

#### RIVERSIDE GENERAL PLAN

The City of Riverside’s General Plan 2025 provides a blueprint for the development of the City through the year 2025. The General Plan was developed with extensive community input. The vision behind the General Plan includes ideas that the Bikeways Master Plan will help realize, including the vision that Riversiders will have “easy access to an efficient, multi-option transportation system that enables them to meet their needs within the community.”

Policies that relate to improving bicycle access can be found throughout Riverside’s General Plan. The relevant elements of Riverside’s General Plan are summarized below and include the Land Use and Urban Design Element, the Parks and Recreation Element, the Air Quality Element, the Circulation and Community Mobility Element, the Public Safety Element, and the Education Element.

### Land Use and Urban Design Element

In part the establishment of Riverside’s General Plan is a reaction to past and projected future growth in the City of Riverside. The City was asked to make choices about how it would grow. The final vision focuses new growth along well-established in-town travel corridors, rather than on streets on the urban fringe, encourages preservation of the agricultural, hillside, historic and recreational assets, and encourages development of employment centers within the City of Riverside.

The Plan recommends connecting neighborhoods to the City’s parks and open spaces along low-volume traffic streets, trails or local drainage pathways and designates several major streets as parkways. Parkway are designed to connect Riverside’s neighborhoods, parks, open space and schools to each other. Parkway shall be “recongized as distinctive elements of the City’s Circulation Network” (Policy LU-11.1) and the City shall “Seek opportunities to provide enhanced bicycle and pedestrian usage along parkways.” (Policy LU-11.3)

The Land Use and Urban Design Element designates the following streets as parkways:

- Victoria Avenue – lined with trees, in national register of historic places
- Magnolia Avneue/Market Street - to be restored as a grand street
- University Avenue - connector between downtown and UCR
- Van Buren Boulevard - crosses Santa Ana River at north
- Riverwalk Parkway - near La Sierra University, new drive will provide a water-lined parkway connection between neighborhoods
- La Sierra Avenue - Santa Ana River to Lake Matthews
- Overlook Parkway - connection over Alessandro Arroyo
- Canyon Crest Drive – lushly landscaped, connects Eastside, University Mission Grove neighborhoods with southern amenities
- Arlington Avenue – linkage east to west across entire city

### Parks and Recreation Element

This element envisions a “necklace” of parks that surrounds the City and is accessible by bicycle and pedestrian trails. The plan incorporates the City’s existing parks, Greenspace, and natural features, such as Fairmount Park, White Park, Mt. Rubidoux, the Santa Ana River, Victoria Avenue and the Citrus Historic State Park. The Parks and Recreation Element seeks to increase the bicycle and pedestrian connections between park facilities.

The Parks and Recreation Element contains several objectives and policies that are relevant to the Bikeway Master Plan:

**Objective PR-1:** Provide a diverse range of park and recreational facilities that are responsive to the needs of Riverside residents.

**Policy PR-1.5:** Locate parks adjacent to compatible use areas, such as residential uses, greenbelts, bicycle corridors, schools and natural waterways to minimize the negative impacts of adjacent land uses.

**Objective PR-2:** Increase access to existing and future parks and expand pedestrian linkages between park and recreational facilities throughout Riverside.

**Policy PR-2.2:** Implement the revisions to the City's trails system as identified in the 2003 Park and Recreation Master Plan.

**Policy PR-2.3:** Improve and create more connections and increase the safety of the bicycling, equestrian and pedestrian trail system within the City.

**Policy PR-2.4:** Create a primary trail loop to connect signature parks, county and state open spaces and parks.

**Policy PR-2.5:** Develop more recreational opportunities for the secondary trail and pedestrian system in Riverside. Opportunities could include walk-a-thons, 10K-and-over runs, triathlons and bike races.

**Policy PR-2.6:** Provide greater amenities and access points and trail hubs. Including identification and directional signs, marked parking stalls, water facilities for equestrians, cyclists and pedestrians, hitching posts, shade and trash receptacles. Additional amenities at trail hubs could include picnic tables and rest rooms.

**Policy PR-2.7:** Pursue partnerships with the County, Federal Transportation Funds, the State Bicycle Account and State park bonds.

**Objective PR-3** Engage Riverside residents and the business community in planning for recreation and service needs.

**Policy PR-3.5:** Continue to promote community awareness and stewardship of parks, open spaces and trails through activities such as the Adopt-A-Park program, public outreach and education, beautification projects, neighborhood watch and other special events.

### **Circulation and Community Mobility Element**

The Circulation and Community Mobility Element governs the development of Riverside's transportation system, and includes streets, transit, airports, goods movement and bicycle facilities. The Circulation and Community Mobility Element also designates design guidelines for streets, which include guidelines for bicycle facilities such as bike lanes. Bicycle-related policies are contained throughout the element, and are outlined below.

**Objective CCM-2:** Build and maintain a transportation system that combines a mix of transportation modes and transportation system management techniques, and that is designed to meet the needs of Riverside’s residents and businesses, while minimizing the transportation system’s impacts on air quality, the environment and adjacent development.

**Policy CCM-2.9:** Design all street improvement projects in a comprehensive fashion to include consideration of street trees, pedestrian walkways, bicycle lanes, equestrian pathways, signing, lighting, noise and air quality wherever any of these factors are applicable.

**Objective CCM-9:** Promote and support an efficient public multi-modal transportation network that connects activity centers in Riverside to each other and to the region.

**Policy CCM-9.1:** Encourage increased use of public transportation and multi-modal transportation as means of reducing roadway congestion, air pollution and nonpoint source water pollution.

**Policy CCM-9.7:** Ensure adequate connections among all alternative modes.

**Objective CCM-10:** Provide an extensive and regionally linked public bicycle, pedestrian and equestrian trails system.

**Policy CCM-10.1:** Ensure the provision of bicycle facilities consistent with the Bicycle Master Plan.

**Policy CCM-10.2:** Incorporate bicycle and pedestrian trails and bicycle racks in future development projects.

**Policy CCM-10.4:** Identify and seek to eliminate hazards to safe, efficient bicycle or pedestrian movement citywide.

**Policy CCM-10.5:** Promote the health benefits of using a bicycle or walking as a means of transportation.

**Policy CCM-10.7:** Maintain an extensive trails network that supports bicycles, pedestrians and horses and is linked to the trails systems of adjacent jurisdictions.

**Policy CCM-10.8:** Maximize links between trails and major activity centers, residential neighborhoods, schools, shopping centers and employment centers.

**Policy CCM-10.10:** Evaluate the needs of bicycle traffic in the planning, design, construction and operation of all roadway projects funded by the City.

**Policy CCM-10.11:** Provide sufficient paved surface width to enable bicycle traffic to share the road with motor vehicles where traffic volumes and conditions warrant.

**Policy CCM-10.12:** Encourage bicycling as a commute mode to school, work, etc.

### Standard Roadway Cross Sections

The Circulation and Community Mobility Element designates three types of streets: Local streets, collector streets and arterial streets. Neither the descriptions nor the diagrams of streets include provisions for bicycle facilities. The widths of the arterial and collector streets may allow on-street bicycle facilities with the modification of on-street parking, median widths, lane widths, or number of lanes provided. Local streets do not usually warrant bicycle lanes. Descriptions of the three street types are provided below.

**Local streets** provide vehicular, pedestrian and bicycle access to property adjacent to the roadway, with limited through traffic. They are 36 feet wide curb-to-curb, with 60 foot right of way and one lane in each direction.

**Collector streets** also provide access to adjacent property, but serve as routes between local streets and arterial streets. They are not intended to provide routes for through traffic. They provide one lane in each direction

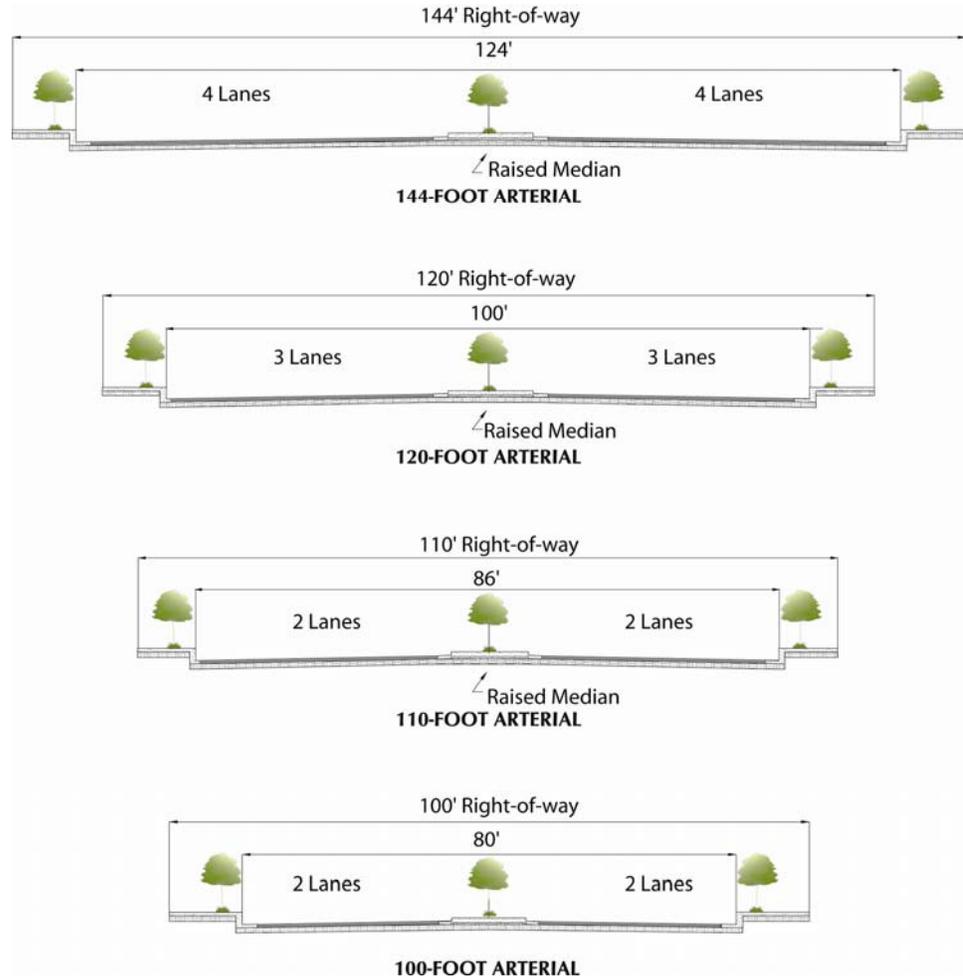
The City has two collector street widths. One is designated as forty feet wide curb to curb within a sixty-six-foot right-of-way, and the other also measuring forty feet wide curb to curb but with an eighty-foot right-of-way.

**Arterial streets** carry through traffic and connect to the state highway system with restricted access to abutting properties. They are designed to have the highest traffic carrying capacity in the roadway system with the highest speeds and limited interference with traffic flow by driveways. Riverside has five Arterial classifications:

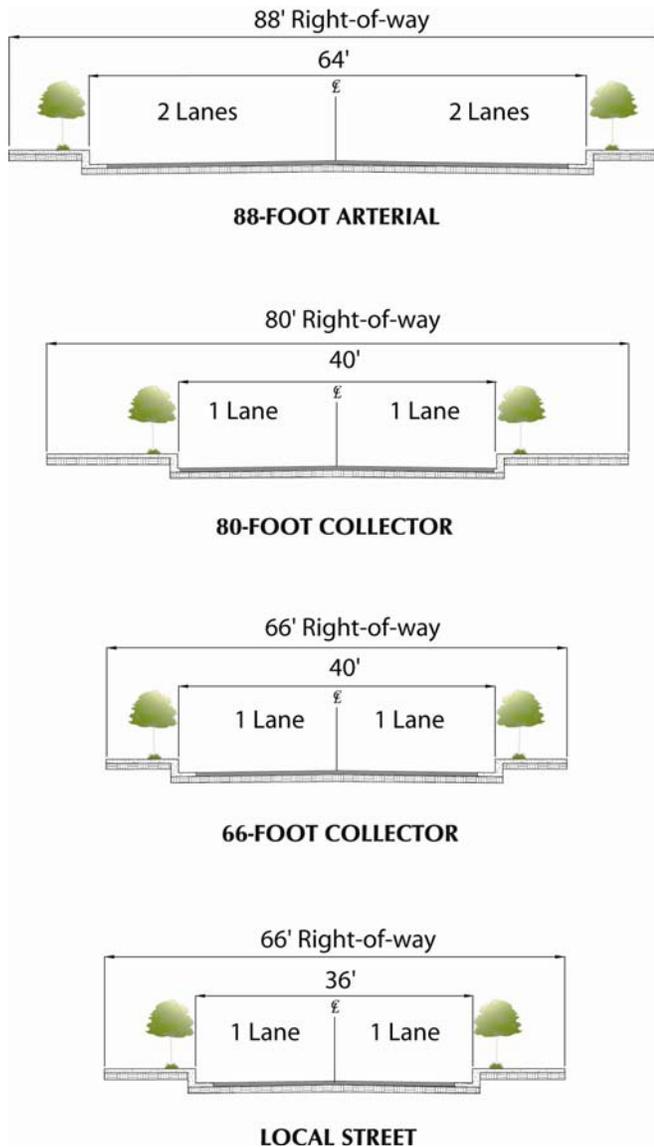
- Eighty-eight feet of right-of-way with sixty-four feet of paving and four lanes
  
- One hundred feet of right-of-way with eighty feet of paving, a raised median and four lanes

#### 4. Planning and Policy Context

- One hundred ten feet of right-of-way with eighty-six feet of paving, a raised median and four lanes
- One hundred twenty feet of right-of-way with one hundred feet of paving, a raised median and six lanes
- One hundred forty-four feet of right-of-way with one hundred twenty-four feet of paving, a raised median and eight lanes



**Figure 4 - 1 Riverside Circulation Element Street Cross-Sections**  
*Adapted from the Riverside General Plan.*



**Figure 4 - 2 Riverside Circulation Element Street Cross-Sections**  
*Adapted from the Riverside General Plan*

**Education Element**

Two policies within Riverside’s Education Element relate directly to the Bicycle Master Plan.

**Objective ED-4:** Maintain a safe environment at all campus facilities and on routes to school.

**Policy ED-4.3:** Work with the school districts to incorporate bicycle access, racks and bike lanes into school design.

**Policy ED-4.6:** Work towards providing a bicycle network within Riverside that connects schools, employment centers and residential areas.

### Public Safety Element

The safety of bicyclists and pedestrians is one aspect of the City of Riverside's Public Safety Element. While most of the policies listed below focus on providing pedestrian safety, in most cases, safer pedestrian environments, including slower traffic and easier crossings, benefit cyclists. Additionally, enhancements to the sidewalk environment will provide safe routes for young cyclists.

**Objective PS-5:** Provide safe pedestrian and bicyclist environments Citywide.

**Policy PS-5.1:** Enhance and maintain pedestrian safety through the inclusion of well-designed streets, sidewalks, crosswalks, traffic control devices and school routes throughout the City. Reasonable means of pedestrian accessibility shall be an important consideration in the approval of new development.

**Policy PS-5.2:** Develop objectives and detailed standards and guidelines for the treatment of public streetscapes to improve safety and walkability. Recommendations should address street trees, street lighting, street furniture, traffic calming and other pertinent issues. Establish funding sources and priorities and set forth a phased improvement program.

**Policy PS-5.3:** Prioritize locations for potential pedestrian safety enhancements, including modified signage, lighted crosswalks and other similar facilities.

**Policy PS-5.4:** Require that new development provide adequate safety lighting in pedestrian areas and parking lots.

**Policy PS-5.5:** Implement pedestrian and bicycle safety measures in any new grade separation project.

### Air Quality Element

The Air Quality Element outlines Riverside's goals for improving air quality in the region. Improving conditions for and encouraging the use of bicycles and other non-motorized transportation are key aspects of the Air Quality Element. Bicycle-related policies are outlined below

**Objective AQ-1:** Adopt land use policies that site polluting facilities away from sensitive receptors and vice versa; improve job-housing balance; reduce vehicle miles traveled and length of work trips; and improve the flow of traffic.

**Policy AQ-1.15:** Promote land use patterns that reduce the number and length of motor vehicle trips and promote alternative modes of travel.

**Policy AQ-1.9:** Adhere to the adopted Master Plan for open spaces, trails and bikeways.

**Policy AQ-1.18:** Encourage “walkable” neighborhoods with pedestrian walkways and bicycle paths in residential and other types of developments to encourage pedestrian rather than vehicular travel.

**Policy AQ-1.20:** Create the maximum possible opportunities for bicycles as an alternative work transportation mode.

**Policy AQ-1.26:** Encourage neighborhood parks and community centers near concentrations of residential areas and include pedestrian walkways and bicycle paths to encourage non-motorized travel.

**Objective AQ-2:** Reduce air pollution by reducing emissions from mobile sources.

**Policy AQ-2.10:** Identify and develop non-motorized transportation corridors.

**Policy AQ-2.20:** Emphasize the use of high-occupancy vehicle lanes, light rail and bus routes and pedestrian and bicycle facilities when using transportation facility development to improve mobility and air quality.

## OTHER RELEVANT PLANS

### Downtown Specific Plan

The Downtown Specific Plan specifies a pedestrian-oriented area within Downtown Riverside. The main pedestrian-oriented area is bounded by Market Street, 14<sup>th</sup> Street, Lime Street, and 3<sup>rd</sup> Street. The specific plan encompasses a slightly larger area. The plan identifies bikeways that connect to and run through downtown. They include: Market Street/Magnolia Avenue, Main Street, 14<sup>th</sup> Street, University Avenue, 3<sup>rd</sup> Street, and Lime Street.

### Magnolia Specific Plan

The Magnolia Specific Plan is intended to restore and reestablish the 17-mile Magnolia Boulevard into a vibrant, active, exciting “destination boulevard.” The

plan will take advantage of the boulevard's historic, arts and culture, retail and urban design potential.

#### Subdivision Ordinance

Riverside's Subdivision Ordinance governs all new development on vacant and underutilized land within Riverside and its sphere of influence. The ordinance reflects Riverside's goal of incorporating New Urbanism principles into subdivision design, including requiring narrower streets, recommending that subdivisions follow a grid street pattern and connect to existing and future street networks, and requiring sidewalks and pedestrian amenities. Though the ordinance primarily focuses on pedestrians, the design guidelines within the ordinance also benefit cyclists, and complement the goals of the Bikeways Master Plan.

Several design standards and requirements of the Subdivision Ordinance also specifically benefit cyclists. The Subdivision Ordinance allows the city to ask a developer to dedicate land for multi-purpose trails (18.210.020 Dedications). Developers may be required by the City to provide easements to develop public access to public waterways, streams, rivers, lakes, reservoirs, and other similar public resources. Public access may include pedestrian ways, bicycle routes, multi-purpose trails and/or equestrian paths. (18.210.050 Easements)

Block length is addressed in Section 18.210.070 Blocks: "To promote connectivity, walkability, and a sense of neighborhood cohesiveness, blocks should not normally exceed 2,000 feet in length, but may be up to 3,500 feet in length where topographic conditions dictate longer block lengths. Along arterial and standard streets, blocks should be designed where possible to minimize the number of interconnecting streets." Shorter blocks, as required by the Subdivision Ordinance, are beneficial to cyclists.

Street alignment and location within new subdivisions are required to "(1) conform to the alignment of existing adjoining streets; (2) to conform to the projections of existing streets where the adjoining land is not subdivided; (3) to reflect the City's overall grid pattern where physical conditions are conducive; (4) to allow, as much as possible, for the subdivision of all adjoining unsubdivided land" (18.210.030 Streets).

The Subdivision Ordinance requires cross sections as listed in **Figure 4-3**, except in the case of specific plans and private streets. Sidewalks are required on all streets unless specifically approved to be omitted. Sidewalks shall be located adjacent the property line rather than adjacent to the street. Cross sections do not include bike lanes, parking or turning lanes, however, street designations provide enough width to allow these amenities.

STREET RIGHT-OF-WAY AND IMPROVEMENTS

Street Type	Right-of-way <sup>10</sup> (ft.)	Median <sup>1</sup> (ft.)	Pavement Width <sup>2</sup> (ft.)	Curbs and Gutters	Parkway <sup>3</sup> (ft.)
Arterial street	144	12	56 (two) <sup>7</sup>	Yes	10
Arterial street	120	12	44 (two) <sup>8</sup>	Yes	10
Arterial street	110	18	34 (two) <sup>9</sup>	Yes	12
Arterial street	100	21	34 (two) <sup>9</sup>	Yes	10
Arterial street	88	--	64 <sup>7</sup>	Yes	12
Collector street	80	--	40	Yes	20
Collector street or local street, multi-family area	66	--	40	Yes	13
Local street, single-family area	66	--	36	Yes	15
Local cul-de-sac street <sup>4</sup>	60	--	36	Yes	12
Frontage Road	42	--	32 <sup>5</sup>	Yes	10
Alley	20	--	20	--	--
Half streets	43 <sup>6</sup>	--	28	Yes	15 <sup>6</sup>

1. Includes width of curbs on both sides of median strip.
2. Measured from curb face to curb face.
3. Sidewalks shall be required at all locations unless specifically approved to be omitted. Sidewalks generally shall be located adjacent to the property line, except where findings can be made that there are unusual circumstances warranting location of a sidewalk adjacent to the street. All sidewalks shall be in accordance with Standard Drawing No. 325. The remaining parkway area shall be landscaped and irrigated as approved.
4. When approved because of short length, topography or other reasons.
5. Includes two feet of pavement within adjoining arterial right-of-way.
6. Forty-one feet of right-of-way where ultimate curb separation is forty feet. Remaining parkway width is 13 feet.
7. Provides four travel lanes in each direction (excluding turning lanes, parking lanes and bike lanes).
8. Provides three travel lanes in each direction (excluding turning lanes, parking lanes and bike lanes).
9. Provides two travel lanes in each direction (excluding turning lanes, parking lanes and bike lanes).
10. Additional right-of-way may be required on arterial streets to accommodate reverse frontage configurations, scenic boulevard designations and additional traffic lanes at intersections.

**Figure 4 -3: Street Right of Way and Improvements**  
(City of Riverside Subdivision Ordinance)

## 4.2. REGIONAL BICYCLE NETWORK

### SANTA ANA RIVER TRAIL PLAN

The Santa Ana River Trail is a 110 mile mixed-use trail that is planned to follow the Santa Ana River from its headwaters in San Bernardino National Forest to the Pacific Ocean at Huntington Beach. The trail is completed through most of Orange County, with shorter completed segments in Riverside and San Bernardino Counties. The City of Riverside hosts the completed section of the trail in Riverside County, and has plans to extend the trail to the south to the border of the City of Norco. The project is being developed by the Santa Ana River Watershed Project Authority in conjunction with the Crest-to-Coast Partnership.

### NEIGHBORING COMMUNITIES

The City of Moreno Valley and the City of Corona have established master plans for their bicycle network. These plans focus on routes within the Cities, and do not specifically address regional connections to Riverside.





## 5. NEEDS ANALYSIS

This chapter reviews the relationship between bicycle use, commute patterns, demographics, and land use in the City of Riverside. It identifies major activity centers and public facilities where bicyclists may be destined, along with the needs of recreational and commuter bicyclists. A review of the needs of each bicycle user group will help guide the type and routing of the bikeway system. This chapter also summarizes the results of public meetings to develop this plan, providing insight into the needs of Riverside’s bicycling community.

One of the primary reasons for producing this Bicycle Master Plan is to maximize the number of bicycle commuters in order to help achieve transportation goals such as minimizing traffic congestion and air pollution. In order to set the framework for these benefits, local and national statistics are used as a basis for determining the benefits of enhancements to Riverside’s bikeway network and implementation of educational, encouragement and maintenance programs.

### 5.1. LAND USE AND DEMAND

Unlike automobile use, where historical trip generation studies and traffic counts for different types of land uses permits an estimate of future “demand” for travel, bicycle trip generation methods are less advanced and standardized. This is partly due to the limited data available on when, where and why people bicycle. Land use patterns can help predict demand and are important to bikeway planning because changes in land use (and particularly employment

areas) will affect average commute distance, which in turn affects the attractiveness of bicycling as a commute mode. A comprehensive bikeway network should connect the neighborhoods where people live to the places they work, shop, recreate, or go to school.

## 5.2. COMMUTE PATTERNS

A central focus of presenting commute information is to identify the current “mode split” of people that live and work in Riverside. Mode split refers to the choice of transportation a person selects to move to destinations, be it walking, bicycling, taking a bus, or driving. One major objective of any bicycle facility enhancement or encouragement program is to increase the “split” or percentage of people who choose to bike rather than drive or be driven. Every saved vehicle trip or vehicle mile represents quantifiable reductions in air pollution and can help in lessening traffic congestion. Due to the unstable nature of congestion, even small reductions in the number of vehicles on the road can dramatically improve congestion.

Journey to work data obtained from the 2000 US Census for the City of Riverside, Riverside County, California, and the United States are shown in **Table 5-1**.

**Table 5-1**  
**Journey to Work Data**

Mode	United States	California	Riverside County	City of Riverside	
				Percent	Number
Bicycle	0.40%	0.80%	0.55%	0.84%	852
Drove Alone	76%	72%	76%	74%	75,199
Carpool	12%	15%	18%	18%	18,729
Public Transit	5%	5%	1%	2%	2,256
Walked	3%	3%	2%	3%	3,134
Other	4%	5%	1%	1%	1,071
Total	100%	100%	100%	100%	101,241

*Source: U.S. Census 2000. Percentages reflect percent of workers who do not work from home.*

As shown, in 2000, 852 Riverside residents commuted primarily by bicycle. This equates to a bicycle mode share of 0.84% and is twice the national average of 0.40%, nearly equal to the state average of 0.80% and higher than the Riverside County average of 0.55%. This figure indicates that Riverside has a higher than average mode split for commuting purposes.

Travel time to work is shown in **Table 5-2**. Travel time is important because it can give an indication of the number of potential new bicycle commuters.

**Table 5-2**  
**Travel Time to Work Data**

Time	United States	California	Riverside County	City of Riverside	
				%	#
9 minutes or less	14%	12%	12%	12%	12,383
10 to 14 minutes	15%	14%	14%	15%	15,451
15 to 29 minutes	36%	35%	31%	35%	35,883
30 to 59 minutes	27%	29%	27%	24%	24,216
60 minutes or more	8%	10%	16%	13%	13,308

*Source: Census 2000. Percentages reflect percent of workers who do not work from home.*

It is important to note that Census data on commuting patterns is limited and tends to underestimate the true number of cyclists in any community. First, commute trips only make up 20% of all trips: People who bicycle to school, for recreation or for errands are not included in Census data. Second, Census data only allows a person to choose one mode when answering. If a commuter uses more than one mode, biking to Metrolink for instance, only the longest mode is recorded.

The next section uses average mode share rates for students and transit riders to develop a more realistic estimate of the bicycle mode share in the City of Riverside. The section also estimates the potential number of future bicycle commuters in Riverside and calculates the reductions in vehicle-based air pollution that would result from increasing the number of cyclists in Riverside.

### 5.3. TRIP REDUCTION AND POTENTIAL AIR QUALITY BENEFITS

#### AIR QUALITY IN RIVERSIDE

Riverside lies within the South Coast Air Basin, which is regulated by the South Coast Air Quality Management District. The 6,745 square mile South Coast Air Basin includes portions of Riverside, Los Angeles, San Bernardino Counties and all of Orange County. The South Coast Air Quality Management District monitors several air pollutants, including ozone, carbon monoxide, nitrogen dioxide and fine particles (PM10 and PM2.5).

Though air pollution in Riverside has improved dramatically in the last thirty years, pollution still exceeds the maximum allowable state and national limits for some portion of the year. In 2005, with the exception of national PM10 limits, air pollution in the City exceeded all state and national air pollution standards. The City exceeded state 1-hour ozone standards 46 days of the year, exceeded

the national 1-hour ozone standards 3 days of the year, exceeded the national 8-hour ozone standard 32 days of the year. It is estimated that the City exceeded the national 24-hour PM 2.5 standard 4 days of the year, and exceeded the state 24-hour PM 2.5 standard 198 days of the year.<sup>1</sup>

According to the South Coast Air Quality Management District's 2003 Report, motor vehicles are responsible for approximately 45% of volatile organic compounds, 63% of nitrous oxide compounds and 76% of carbon monoxide emissions. Reducing vehicle miles traveled (VMTs)<sup>2</sup> by providing residents safe and functional ways to get to work, school, or shopping without using a motor vehicle will aid in reducing the amount of these pollutants produced by motor vehicles.

### FUTURE RIDERSHIP AND POTENTIAL AIR QUALITY BENEFITS

It is possible to use the Census data in Section 5.2, in combination with national commuting statistics from the 2001 National Household Travel Survey (NHTS) and EPA estimates of standard emissions rates for cars to give a rough projection of future bicycle ridership in Riverside along with the trip reduction and air quality benefits. While these projections are ambitious goals, they are important to building a case for investing in bicycle facilities and programs over time.

To estimate the number of potential commuter cyclists, we need to determine how many Riverside residents live within biking distance of their workplace. However, Census data do not include the *distance* from a worker's home to workplace. Instead, the Census records the *time* it takes a worker to travel from home to work. The following paragraphs will explain the calculations that one must make to determine how many people live within bicycling distance of their workplace.

First, we determine the "average" commute time. According to the NHTS, the average commute time to work has remained close to 20 minutes since 1983. In 2001, averaging all modes, the commute time was 23 minutes<sup>3</sup>. Second, we determine how far a bicyclist can ride within 23 minutes. Assuming an average speed of 12 miles per hour, a cyclist traveling for 23 minutes covers 4.6 miles. Third, we determine how long it takes an average commuter to drive 4.6 miles. According to the NHTS, in 2001 the average commute speed for workers who drive was 32 miles per hour. At an average commute speed of 32 miles per hour, a 4.6-mile journey would take almost nine minutes.

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1 California Air Resources Board.

2 Vehicle Miles Traveled is a measurement of the extent of motor vehicle operation, a sum of all miles traveled by motor vehicles over a given period.

3 Hu, Patricia and T. Reuscher. "Summary of Travel Trends: 2001 National Household Travel Survey." Published by U.S. Department of Transportation, Federal Highway Administration. December 2004. Available at <nhts.ornl.gov/2001/pub/STT.pdf> Table 26. General Commute Patterns by Mode of Transportation.

Finally, we find that 2000 Census data shows that 12,383 commuters within Riverside had commute times of 9 minutes or less. (**Table 5-2**) Subtracting those residents that already walk or bike to work, (3,986, US Census) we find that 8,397 Riverside residents could potentially convert their commute trip from a car trip into a bicycle trip.

As shown in **Table 5-2**, approximately twelve thousand Riverside residents live within a nine-minute drive (a twenty-minute bicycle ride) of their work. With enhancement of the City's existing bikeways, construction of new bikeways, implementation of education and encouragement programs and employer incentives, and establishment of a bikeway maintenance program, it is possible that the city could capture 25% of those potential bicycle commuters. If the City of Riverside successfully encourages 25% (approximately 2,100) of these potential bicycle commuters to bicycle to work, the City's bicycle commute mode share would more than triple to 2.9%.<sup>4</sup> Bicycle commute mode shares between 2% to 3% are generally considered high, while higher bicycle mode shares are achievable. The City of Davis, California estimates its 2000 bicycle mode share at between 15% and 17.5% and its 1990 bicycle mode share to have been between 20% and 25%.

**Table 5-3** quantifies the estimated reduction in vehicle miles traveled (VMT) and estimated reduction in air pollutant emissions in Riverside following implementation of the recommended bicycle network and capture of 25% of potential bicycle commuters. Under these estimates, the bicycle mode share of trips in Riverside would increase from 0.8% in 2000 (U.S. Census) to 2.9% percent. This increase would more than double the current number of bicycle commuters in Riverside.

As seen in **Table 5-3**, an increase of this magnitude would result in an estimated decrease of 117 kilograms per day of hydrocarbons, 876 kilograms per day of carbon monoxide, 58 kilograms per day of nitrous oxides and 11,111,212 kilograms per day of carbon dioxide. Total annual reductions in these pollutants would be 30 metric tons of hydrocarbons, 224 metric tons of carbon monoxide, 15 metric tons of nitrous oxides and over 1,181,877 metric tons of carbon dioxide.

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<sup>4</sup> It is possible that some commuters would be willing to bicycle more than 23 minutes to their workplace. Almost 15,500 Riverside residents have a commute time between 10 and 15 minutes. (Table 5-2) A fifteen-minute drive translates to a 40-minute bicycle ride. If 10% of the 15,451 commuters that have a ten to fifteen minute commute convert to bicycling, the Riverside bicycle commute mode share would increase to 4.4%.

**Table 5-3  
Bicycle Commute and Air Quality Projections**

<b>Current Commuting Statistics</b>		<b>Source</b>
Riverside Population	255,166	2000 US Census
Number of Commuters	101,241	2000 US Census (Employed persons minus those that work at home)
Number of Bicycle-to-Work Commuters	852	2000 US Census
Bicycle-to-Work Mode Share	0.84%	Mode share percentage of Bicycle to Work Commuters
School Children Grades K-8	38,876	2000 US Census, population ages 6-14
Estimated School Bicycle Commuters	1944	Lamorinda School Commute Study (Febr & Peers Associates, 1995) and San Diego County School Commute Study (1990). (5%)
Number of College Students	24,206	2000 US Census
Estimated College Bicycle Commuters	1210	National Bicycling & Walking Study, FHWA, Case Study No. 1, 1995. Review of bicycle commute share in seven university communities (5%)
Average Weekday RTA Ridership	9,844	Calculated from RTA's ridership numbers in 1st, 2nd, 3rd quarters of 2005 and 1st quarter of 2006. (www.apta.com)
Number of Daily Bike-RTA Users	138	RTD (Denver) Bike-n-Ride Survey, December 1999 (1.4% of total boardings)
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	4,144	Total of bike-to-work, transit, school, college and utilitarian bicycle commuters Does not include recreation.
Estimated Adjusted Mode Share	1.6%	Estimated Bicycle Commuters divided by population
<b>Estimated Current Bicycle Trips</b>		
Total Daily Bicycle Trips	8,288	Total bicycle commuters $\times$ 2 (for round trips) plus total number of utilitarian bicycle trips
Reduced Vehicle Trips per Weekday	4,242	Assumes 73% of bicycle trips replace vehicle trips for adults/college students and 53% for school children
Reduced Vehicle Miles per Weekday	15,291	Assumes average one-way trip travel length of 4.6 miles for adults/college students and 0.5 mile for schoolchildren

### Potential Future Bicycle Commuters

Number of workers with commutes nine minutes or less	12,383	<i>US Census 2000</i>
Number of workers who already bicycle or walk to work	3,986	<i>US Census 2000</i>
Number of potential bike-to-work commuters	8,397	<i>Calculated by subtracting number of workers who already bicycle or walk from the number of workers who have commutes 9 minutes or less</i>
Future number of new bike-to-work commuters	2,099	<i>Based on capture rate goal of 25% of potential bicycle riders</i>
Total Future Daily Bicycle Commuters and Utilitarian Riders	6,243	<i>Current daily bicycle commuters, bike to school and utilitarian riders, plus future bicycle commuters</i>

### Future Trip Reductions

Future Total Daily Bicycle Trips	12,486	<i>Total bicycle commuters <math>\times</math> 2 (for round trips)</i>
Future Reduced Vehicle Trips per Weekday	9,115	<i>Assumes 73% of bicycle trips replace vehicle trips</i>
Future Reduced Vehicle Miles per Weekday	41,929	<i>Assumes average one-way trip travel length of 4.6 miles for adults.</i>
Future Reduced Vehicle Miles per Year	11,111,212	<i>256 weekdays per year</i>

### Future Air Quality Benefits

Reduced HC (kg/weekday)	117	<i>(0.0028 kg/mile)</i>
Reduced CO (kg/weekday)	876	<i>(0.0209 kg/mile)</i>
Reduced NOX (kg/weekday)	58	<i>(0.00139 kg/mile)</i>
Reduced CO2 (kg/weekday)	4,616,709	<i>(.4155 kg/mile)</i>
Reduced HC (metric tons/year)	30	<i>1000 kg per metric ton; 256 weekdays/year</i>
Reduced CO (metric tons/year)	224	<i>1000 kg per metric ton; 256 weekdays/year</i>
Reduced NOX (metric tons/year)	15	<i>1000 kg per metric ton; 256 weekdays/year</i>
Reduced CO2 (metric tons/year)	1,181,877	<i>1000 kg per metric ton; 256 weekdays/year</i>

## 5. Needs Analysis

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

*Other sources as noted in the table.*

*HC = hydrocarbons, CO = carbon monoxide; NOX = nitrogen oxides, CO2 = carbon dioxide.*

### 5.4. BICYCLE SAFETY AND ACCIDENT ANALYSIS

Safety is a major concern of both existing and potential bicyclists. For those who ride, safety is typically an on-going concern or even a distraction. For those who do not ride, it is one of the most compelling reasons not to ride. Nationwide, the total number of reported cyclist fatalities has dropped dramatically since 1994, with 802 fatalities reported in 1994 and 725 fatalities reported in 2004. In comparison, total traffic fatalities have increased by 5% over this ten-year period.<sup>5</sup>

The same study shows that in 2004, of all California traffic fatalities 2.7% were cyclist fatalities (110). This is higher than the nationwide average of 2%, but does not take into account the higher rates of cycling found in California. Cyclist fatalities in California represent a fatality rate of just over 3 per million residents.

In 2004, adult cyclists (25 and older) accounted for more than half of the total number of cyclist fatalities in the US, and cyclists under the age of 16 accounted for 21% of the fatalities and 32% of the injuries. However, cyclists under the age of 16 have higher fatality and injury *rates* than other age groups (2.5 fatalities per million population, about 24% higher than the overall cyclist fatality rate, and 286 injuries per million population, more than twice the injury rate for cyclists of all ages.)<sup>5</sup>

According to a 1990 study of 3,000 bicycle crashes, the most common type of bicycle-vehicle crash was one where the motorist failed to yield right-of-way at a junction (21.7% of all crashes)<sup>6</sup>. More than a third of these involved a motorist violating the sign or signal, driving into the crosswalk or intersection, and striking the bicyclist. The next most common types of vehicle-bicycle crash were where the bicyclist failed to yield right-of-way at an intersection (16.8%), a motorist turning or merging into the path of a cyclist (12.1%) and a bicyclist failing to yield right-of-way at a midblock location.

These data suggest that a bicycle safety plan should address intersection improvements and education about the rights and responsibilities of cyclists and motorists, especially regarding right-of-way laws.

Data for reported bicycle collisions were collected for the calendar years 2002 to 2006 in Riverside, and are presented in **Table 5-4**.

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<sup>5</sup> Traffic Safety Facts, 2004 Data. "Pedalcyclists" NHTSA, DOT # HS 809 912

<sup>6</sup> Pedestrian and Bicycle Crash Types of the Early 1990's, Publication No. FHWA-RD-95-163, W.H. Hunter, J.C. Stutts, W.E. Pein, and C.L. Cox, Federal Highway Administration, Washington, DC, June, 1996.

As shown, there were 371 bicycle-related collisions reported in Riverside from 2002 to 2006. Three of these collisions were fatal, 25 resulted in severe injury, 157 resulted in other visible injuries, 113 resulted in complaint of pain and 47 resulted in property damage only. Comparing Riverside's injury rate to the national cyclist injury rates (139 injuries per 1 million population in 2004), Riverside would expect to have only thirty-nine injury collisions per year, but according to the collision data, the City has a higher than expected injury rate.<sup>7</sup> Between January 2002 through April 2006, Riverside averaged 76 injury collisions per year. It should be noted that the national injury rate does not take into account the potential for higher per capita bicycle injury rates in communities with higher than average cycling rates. Riverside's bicycle commuting mode share is twice that of the National Average. This may explain why the bicycle injury collision rate is almost twice the national rate. Additionally, Riverside's fatality rate during the study period (0.71 fatalities per year) is slightly lower than what would be expected using statewide fatality rates (3 per 1 million residents, which works out to an average 0.84 fatalities per year for a City the size of Riverside).<sup>7</sup>

Even though Riverside's injury and fatality rates for cyclists fall within statistical expectations, it is important for the City to strive to reduce bicycle fatalities and injuries to the greatest extent possible.

**Table 5-4**  
**Riverside Bicycle Collision Data 2002-2006**

Year	Total Traffic Collisions	Total Bicycle Related		Fatal	Severe Injury	Other Visible Injury	Complaint of Pain	Property Damage Only
		Number	Percent					
2002	2982	95	3.2%	0	6	43	33	12
2003	2893	73	2.5%	1	7	36	22	7
2004	2948	89	3.0%	1	10	33	28	8
2005	3120	91	2.9%	1	2	35	20	18
2006*	680	23	3.4%	0	0	10	10	2
TOT								
AL	12623	371	-	3	25	157	113	47

Source: Statewide Traffic Records System 2006.

\* Note: Data for 2006 only includes the months of January through April.

## 5.5. BICYCLIST NEEDS

The purpose of reviewing the needs of bicyclists is twofold: (a) it is instrumental when planning a system that must serve different skill levels and different trip types; and (b) it is useful when attempting to quantify future usage and benefits to justify expenditures of resources. According to a nationwide 1991 Lou Harris

<sup>7</sup> Injury rates from Traffic Safety Facts, 2004 Data. "Pedalcyclists" NHTSA, DOT # HS 809 912

Poll, it was reported that “...nearly 3 million adults (about one in 60) already commute by bike, and projected the number could rise to 35 million if more bicycle friendly transportation systems existed.” In short, there is a large reservoir of potential bicyclists who do not ride (or ride more often) simply because they do not feel comfortable using the existing street system and/or do not have appropriate bicycle facilities at their destination.

While the majority of Americans own bicycles, most of these people are recreational riders who ride relatively infrequently. Schoolchildren between the ages of about 6 and 14 typically make up a large percentage of the bicycle riders, often riding to school, parks, or other local destinations. The serious adult road bicyclist makes up a small, but important, segment of bikeway users, along with serious off-road mountain bicyclists, who enjoy riding on trails and dirt roads. The single biggest adult group of bicyclists is the intermittent recreational rider who generally prefers to ride on pathways or quiet side streets.

**NEEDS OF CASUAL AND EXPERIENCED CYCLISTS**

Cyclist needs vary depending on the skill level of the cyclist and the type of trip the cyclist is taking. For the purposes of this Plan, cyclists are separated into two skill levels: casual and experienced. Casual cyclists include youth and adults who are intermittent riders. Some casual cyclists, such as youth under age 16, may be unfamiliar with operating a vehicle on roads. Experienced cyclists include long-distance road cyclists, racers, and those who use their bicycle as a primary means of transportation. These cyclists generally feel comfortable riding on roads and with traffic. A summary of the needs of the different types of cyclists is provided below.

**Table 5-5  
Characteristics of Casual and Experienced Cyclists**

<b>Casual Riders</b>	<b>Experienced Riders</b>
Prefer off-street bike paths or bike lanes along low-volume, low speed arterials	Can comfortably ride alongside higher-volume, higher-speed arterials without bike lanes. Prefers on-street facilities to off-street paths.
May have difficulty gauging traffic and may be unfamiliar with rules of the road. May walk bike across intersections.	Negotiates streets like a motor vehicle, including “taking the lane” and using left-turn pockets.
May use less direct route to avoid arterials with heavy traffic volumes.	Prefers a more direct route.
May ride on sidewalks and ride the wrong way on streets.	Avoids riding on sidewalks or on multi-use paths. Rides with the flow of traffic on streets.
Rides shorter distances: ten miles or less.	Cycles longer distances, often more than 25 miles, on a recreational ride.

The casual bicyclist will benefit from route markers, bike paths, bike lanes on low-speed streets, neighborhood routes, traffic calming, wider curb lanes, and

educational programs. Casual bicyclists may also benefit from marked routes that lead to parks, schools, shopping areas, and other destinations. To encourage youth to ride, routes must be safe enough for their parents to allow them to ride.

The experienced bicyclist will benefit from wider curb lanes, bicycle lanes on more direct arterials, and loop detectors at signals. The experienced bicyclist who is primarily interested in exercise will benefit from long loop routes that lead back to the point of origin and routes with significant elevation changes.

### NEEDS OF CYCLISTS MAKING RECREATIONAL AND UTILITARIAN TRIPS

As available state and federal bicycle funding is primarily focused on commuting cyclists – those riding to work or school, or for shopping, errands, and other utilitarian trips – it is important to understand the specific needs of bicycle commuters.

**Table 5-6**  
**Characteristics of Recreational and Utilitarian Trips**

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

For the purpose of this Plan, bicycle trips are separated into two trip types: recreational and utilitarian. Recreational users cover all age groups from children to adults to senior citizens. Recreational trips can range from a 50-mile weekend

group rides, to a family outing along a quiet bike path, and all levels in between. Utilitarian trips include commuter cyclists, which are a primary focus of state and federal bicycle funding, as well as cyclists going to school, shopping or running other errands.

Recreational cyclists' needs vary depending on their skill level. Road cyclists out for a 100-mile weekend ride may prefer well-maintained roads with wide shoulders and few intersections, stop signs or stop lights. Casual cyclists out for a family trip may prefer a quiet bike path with adjacent parks, benches and water fountains.

Utilitarian bicyclists have needs that are more straightforward. They require bike lanes or wider curb lanes along all arterials and collectors, loop detectors at signalized intersections and adequate maintenance of the pavement. At destination points, commuters require and adequate long-term bicycle storage and showers or changing facilities while shoppers require short-term bicycle storage, specifically bike racks.

It should be noted that with higher densities of development planned for Downtown Riverside and along Riverside's Magnolia/Market and University corridor, residents will be placed in close proximity to shopping and transit. This commitment to a more pedestrian and bicycle-friendly land use pattern means that Riverside has the potential to increase the number of people who ride to work, school or shopping. Other factors that contribute to a potential for increased bicycle ridership in Riverside include (a) a temperate climate, and (b) a significant number of work commute trips (27,834) that are less than 15 minutes in length.

### 5.6. CITIZEN AND COMMUNITY INVOLVEMENT

Public involvement is an important component of the Riverside Bicycle Master Plan process and provides the primary means of determining the specific needs of Riverside's cycling community. The public outreach process for this project included two public workshops.

**[Note: this section will be completed with a summary from the second public meeting. Alternatively, we could present a brief summary here and include the detailed notes in an appendix.]**

#### PUBLIC MEETING SUMMARIES

Approximately 55 Riverside residents attended the July 18th Bicycle Master Plan Workshop. Many of the attendees were members of the Riverside Cycling Club, which held its monthly meeting in conjunction with the workshop. After a brief overview presentation, residents broke into five working groups to mark up maps with good examples, problem areas and desired improvements. After the

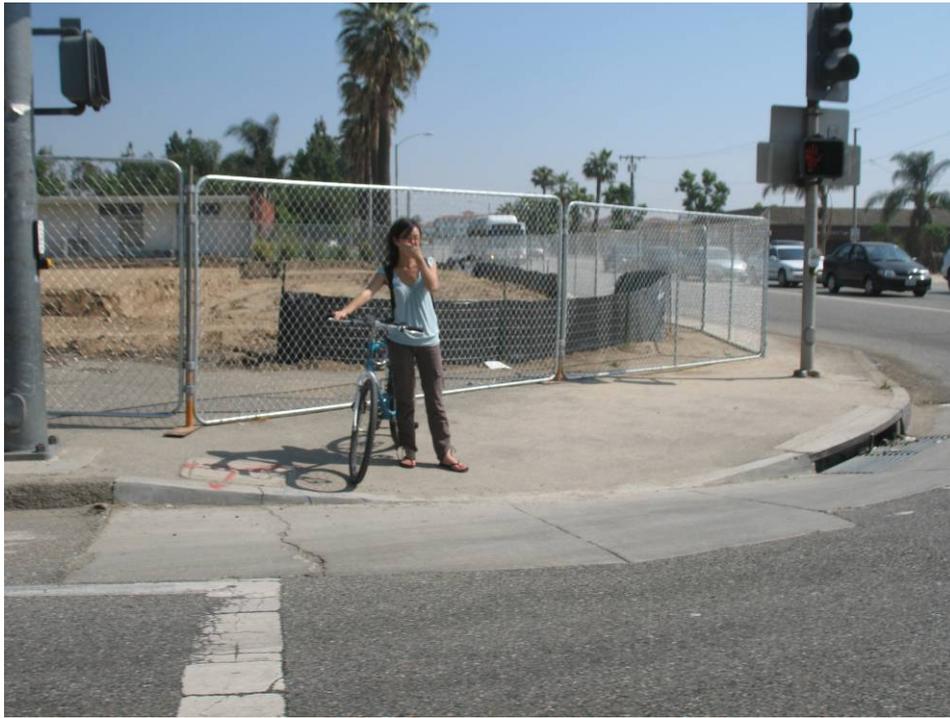
working group session, the group reconvened and representatives from each group presented the recommendations.

Attendees discussed a variety of issues, but several themes were present from each group:

1. **Maintenance:** Attendees expressed a desire to see more frequent street sweeping with an emphasis on sweeping all the way to the curb and sweeping intersections. A recommendation was made to “set schedule for cleaning bike lanes dependent on time of year” and to “educate street sweeper regarding bike lane use.” Attendees also wish to see bike lane striping refreshed and pothole maintenance to be more frequent and of higher quality, (e.g. the roadway should be smooth after repair).
2. **Add Bicycle Facilities.** Attendees wish to see gaps in the existing bikeway network filled in, especially on streets with existing bike lanes. Attendees would like to see connections to UCR, to downtown, to Fairmount Park, and over to Mount Vernon and up Pigeon Pass. Attendees would also like to see more north-west/south-east connections and more connections to the existing Class 1 trails, including the Santa Ana River Trail. Some would like to see a circular route around the City established, and accommodation of cyclists around Lake Matthews.
3. **Develop Educational and Encouragement Programs.** Groups expressed a desire to see more educational programs, including safe routes to school programs, motorist education of cyclist rights, cyclist education of the rules of the road. Encouragement programs included a “Welcome to Riverside, a Bicycle-friendly Town” sign, publishing a bikeway map, collaboration with other cities with bike plans, and family-friendly bicycle events. Innovative ways to publicize cycling included developing a campaign aimed at drivers for them to “Give Cyclists a Brake”, inserting information in utility bills, educating through the City cable channel, and educating through schools.
4. **Develop Policies to Improve Cycling.** Attendees listed several policies that they would like to see implemented. These included requiring developers to incorporate bike paths and lanes into developments, city-provided incentives to businesses to promote alternative modes of transportation, and a city hot line/contact number to report bicycle-related issues. (The existing maintenance phone number was shared by City staff at the end of the meeting.) Additional requests included the desire to have University of California at Riverside to contribute to the bicycle infrastructure, to develop “village bicycles”, to educate the city management to include bicyclist needs with road development.

5. **Increase Signage.** Attendees wish to see warning and directional signage on all major bike routes and trails. Signage requests include “Share the Road” signs, brighter signs, warning signs on roads that intersect bikeways, “Motorist Yield to Bicyclist” signs, and trail system signage that provides directions.
6. **Design and Construction.** Attendees requested a variety of improvements to the design and construction of bicycle facilities. These include: increasing the width of bicycle lanes if they include the gutter or if they are adjacent to parking; planting shade trees along bike paths; ensuring that bike lanes do not “disappear” at intersections; installing bicycle loop detectors or bicycle push buttons (that are easy for cyclists to reach) at signalized intersections; marking potholes/grates/other obstructions on the pavement; providing wide shoulders for cyclists; ensuring that sidewalks don’t have poles or other obstructions in them; and ensuring that repaving of potholes, utility covers and gutters does not leave a bump or a lip. During construction, attendees would like to see bike detours and would like to have construction signs removed from the bike lane.
7. **Provide Support Facilities.** Attendees would like to see more water fountains (one idea was to incorporate these into bus stops), more restroom facilities and benches. Attendees also would like to see staging areas for the Santa Ana River Trail.

[Summary from public meeting # 2 to be added]



## 6. RECOMMENDED IMPROVEMENTS

The recommended improvements for the Riverside Bicycle Master Plan consist of additional bikeway network facilities, intersection and other spot improvements, and bicycle-related support facilities and programs. The recommended bicycle support facilities and programs include bike parking guidelines, maintenance programs, and educational and encouragement programs. The recommended bikeways focus primarily on on-street routes, with 110 miles of proposed bike lanes and bike routes. The plan also recommends 23 miles of paved bike paths.

Riverside's numerous open spaces, parks, temperate weather and compact downtown help to make bicycling in Riverside an effective transportation and recreation option at any time of the year. The recommendations included in this chapter will help to enhance Riverside's status as a great place to bicycle.

### 6.1. RECOMMENDED BIKEWAY NETWORK

A bikeway network is a system of bikeways that for a variety of reasons – safety, convenience, destinations served, attractiveness – provides a superior level of service for bicyclists. The bikeway network serves as a tool that allows the City to focus and prioritize bicycle facilities where they will provide the greatest benefit to bicyclists and the community at large. It is important to note that bicyclists are legally allowed on all City streets whether the streets are a part of the designated bikeway network or not.

## 6. Recommended Bicycle Improvements

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The Recommended Bikeway Network for Riverside is shown in Figure 6-1. The bikeways are classified into the standard Caltrans Class I, II, and III bikeway categories discussed in Chapter 2.

The top five high-priority bikeway facilities are illustrated and described in detail at the end of this chapter, starting on page 6-20. [NOTE: PROJECT SHEETS FOR HIGH PRIORITY PROJECTS WILL BE DEVELOPED AFTER PUBLIC MEETING ON OCT 16] A list of all proposed facilities, including segment length and construction cost estimates, is provided in Chapter 7.

[insert figure 6-1 proposed bikeway network]

**Back of figure 6-1**

## 6.2. RECOMMENDED SUPPORT FACILITIES AND PROGRAMS

Support facilities and programs are an important component of a bicycle transportation system. Support programs (such as bikeway management and maintenance, signing, and promotional/educational programs) and facilities (such as bicycle racks on buses, bicycle parking racks, and showers and lockers for employees) further improve safety and convenience for bicyclists.

### BICYCLE PARKING AND END-OF-TRIP FACILITIES

Bicycle parking includes standard bike racks, covered lockers, and corrals. While Riverside’s Metrolink Stations and some larger employers provide racks and lockers, Riverside’s parks and commercial areas have limited bicycle parking.

End-of-trip facilities such as restrooms, changing rooms, showers and storage for bicycling clothes (helmet and other gear) are especially important for cyclists who commute to work. On hot summer days, Riverside’s temperature can reach the nineties, and even cyclists who have a short commute may appreciate the opportunity to change or shower before starting work. Several of the major employers surveyed provide shower or changing facilities for their employees.

A systematic program to improve the quality and increase the quantity of bicycle parking and end-of-trip facilities should be implemented in Riverside.

### RECOMMENDATIONS

#### **Increase Public Bicycle Parking Facilities**

High-quality bike parking should be provided at public destinations, including shopping centers, community centers, parks, and schools. Bicycle racks should be placed in well-lit, accessible and convenient locations where they are visible to the public and convey a sense of safety for cyclists and their bicycles. Bicycle parking on sidewalks in commercial areas and along walkways of shopping centers should be provided according to specific design criteria, reviewed by merchants and the public, and installed as demand warrants.

As a general rule, inverted-U type racks bolted into the sidewalk are preferred to other designs. Numerous bike rack vendors offer the inverted-U style rack; these racks are relatively inexpensive, simple to install, minimal and unobtrusive on sidewalks, and well-understood by users. When placed in downtown areas and on sidewalks, the U-rack should be installed parallel to the street, and should be located within the sidewalk furnishing zone (in line with trees, benches, newspaper racks, etc.). Installation of multiple capacity “wave” style racks is not recommended due to common misunderstanding of how to properly lock a bike to these racks (users often lock their bike parallel to the rack, effectively limiting their capacity to 1 or 2 bikes).



*Possible alternatives to the inverted-U bike rack include the simple post-and-ring style (top), or a custom artistic rack such as the heart shaped rack in the bottom photo. Both styles allow the bicycle to be secured by the frame with a U-lock.*



A simple sticker on the top of the rack can illustrate the correct way to park the bicycle. This is especially important in downtown areas where orienting the bicycle incorrectly against the rack (e.g. perpendicular to the rack) may result in the bicycle blocking the sidewalk.

The City may want to consider custom racks that can serve not only as bike racks, but also public artwork or as advertising for a specific business. The “post and ring” style rack is an attractive alternative to the standard inverted-U, which requires only a single mounting point and can be customized to have the city name or emblem stamped into the rings. These racks can also be easily retrofitted onto existing street posts, such as parking meter posts. While custom racks can add a decorative element and relate to a neighborhood theme, the rack function should not be overlooked: All racks should adhere to the basic functional requirement of supporting the bicycle by the frame (not only the wheel) and accepting a U-lock.

The Association of Bicycle and Pedestrian Professionals (APBP) *Bicycle Parking Guidelines* document is a good source of information on appropriate bike rack styles and placement. (<http://www.bicyclinginfo.org/pdf/bikepark.pdf>)

### **Adopt a Bicycle Parking Ordinance with Design Requirements**

The City of Riverside should adopt a bicycle parking ordinance to ensure that new bicycle parking facilities are installed with new development. The city should consider including specific design requirements for bicycle parking in the ordinance that require an inverted U-style rack, or other rack type that supports the bicycle frame in at least two points and can accept a U-lock.

In addition, the City may want to update Section 10.64.210 of the Municipal Code, which requires businesses to seek a hearing before City Council and file an application with City Clerk before installing bicycle racks in front of their place of business. This ordinance was established in 1942. A more streamlined approval process, one that does not require a hearing before City Council, may be more appropriate.

Sample language for a bicycle parking ordinance is provided in **Appendix B**.

### **SAFE ROUTES TO SCHOOL**

The City of Riverside’s two school districts, Riverside Unified School District and Alford Unified School District do not currently have Safe Routes to Schools programs. Safe Routes to Schools programs encourage walking and biking to school through parent and student education and incentives. Programs generally address the safety concerns of parents by encouraging greater enforcement of traffic laws, educating the public, and redesigning streets to be safer. State and federal funding is available for Safe Routes to Schools Programs. Identifying and improving routes for children to walk or bicycle to school is one of the most effective means of reducing morning traffic congestion and addressing existing safety problems. School commute programs that are joint efforts of the school district and city, with parent organizations adding an important element, are usually most effective.

**RECOMMENDATION**

**Develop a Safe Routes to School Program**

The City should encourage each public and private school in Riverside to conduct its own evaluation of school commute patterns, work with the city to identify corridor and crossing improvements within walking and biking distance of the school and to identify improvements to the drop-off/pick-up system. School commute routes are local in nature and require extensive and detailed examination of patterns and conditions and local input. The Safe Routes to School program should actively involve students' parents and should focus on making it safer for students to bicycle and walk to school.



School commute projects should be developed in a planning process that includes (a) school administrators and teachers, (b) local Parent Teacher Associations and other groups, (c) neighborhood groups and the public, (d) local law enforcement, and (e) City transportation engineers. The City may want to consider establishing a staff person who is responsible for the organization of the Safe Routes to School Program, and may want to consider hiring outside consultants for development of the plan.

**CONSTRUCTION AND MAINTENANCE**

Public workshop participants identified improved maintenance of Riverside's bikeways as a high priority. Both on-street and off-street bikeways need regular maintenance. Typical tasks include repairing damaged and potholed roadway surfaces, clearing plant overgrowth and debris and sweeping bike lanes and paths. Although these tasks are generally associated with routine roadway maintenance, on-street bikeways require specialized maintenance and, in general, greater attention to detail. Bicycles are more susceptible than motor vehicles to roadway irregularities such as potholes and loose gravel. For example, after repaving, a roadway lip between a gutter pan and asphalt does not impact a motor vehicle, but can easily catch a bicycle tire and possibly result in a cyclist losing control of the bicycle.

Ongoing construction activities in Riverside present additional maintenance requirements. Construction affects cyclists through increased roadway wear due to heavy vehicle traffic and increased debris such as sand and gravel from construction equipment. In addition to maintenance issues, construction activities may also hinder bicyclists as Class II lanes are closed off or obstructed, due to road or other construction activities. Special accommodations may be made to better provide for cyclists during construction periods.



*Construction materials and vehicles can impede cyclists' safe use of bicycle lanes*

**RECOMMENDATIONS**

**Develop a Funding Source for the Bicycle Facility Maintenance Program**

Bicycling is an integral part of Riverside's transportation network, and maintenance of the bikeway network should be part of the ongoing maintenance

program for all city transportation facilities. As such, bikeway network maintenance should receive an appropriate allocation of the City's transportation maintenance funds. Cost estimates for a standard maintenance program are provided in Chapter 7.

### ***Develop a Maintenance Policy that Addresses the Special Needs of Bicyclists***

The City of Riverside should evaluate its current street maintenance and repair policies to ensure that they reflect the needs of bicyclists. Specific measures to review include:

**Street sweeping.** As motor vehicles travel along the roadway, debris is pushed to the outside lanes and shoulder. Debris also collects at the center of intersections. Roads striped with bike lanes or designated as bicycle routes should be swept more frequently than roads without designated bikeways. Street sweeping on these roadways should include removing debris on the shoulder and at intersections.

**Minor repairs and improvements.** Potholes and cracks along the shoulder of roadways primarily affect bicyclists and should be completed within a timely manner. All repairs should be flush to the existing pavement surface.

**Street resurfacing.** When streets with bikeways are resurfaced, utility covers, grates and other in-street items should be brought up to the new level of pavement. Similarly, the new asphalt should be tapered to meet the gutter edge and provide a smooth transition between the roadway and the gutter pan.

**Proactive identification of and response to maintenance needs.** The City currently uses a phone hotline to identify needed repairs to roadways and bikeways. In addition to this hotline, the City should proactively identify locations in need of maintenance. Maintenance needs should include street sweeping, minor repairs and improvements, identification of hazards such as sunken utility covers or drainage grates with openings parallel to the roadway, and identification of bikeway facilities in need of restriping or resigning.

**Calibrate bicycle loop detectors.** As part of general maintenance, the City should test and calibrate bicycle-sensitive loop detectors to ensure that they are working properly. Loop detectors are described in more detail below.

**Actively coordinate with maintenance workers.** The City should ensure that maintenance workers are aware of new bicycle related maintenance policies. Maintenance workers should be involved in the development of bicycle related maintenance policies in order to ensure that City staff and maintenance workers understand each other's needs and limitations. After establishing policies, the City should follow up with the maintenance staff to verify compliance and to modify policies or provide additional support, if necessary, to ensure future compliance.

**Consider impacts on bicycles while performing construction, maintenance and repair work on roadways and trails.**

Construction activities present challenges for cyclists; even the most experienced cyclists may feel anxiety when the bike lane is unexpediently blocked by construction activities and they are forced out into travel lanes with vehicles that may be traveling in excess of 45 mph. While cyclists are permitted by the California Vehicle Code to leave the bike lane if it is obstructed, motorists may not be expecting them to merge left into the travel lane. For construction activities:

- Provide suitable construction warning signs for any activities that involve work in a designated bikeway. Signage should warn cyclists well in advance of any location where the bicycle lane is closed for construction or maintenance activities.
- If possible, maintain a coned-off area between the construction zone and vehicle lane for bicycle travel. A 5' area is optimal, but even a 3' area would provide cyclists room to maneuver past the construction activities without forcing them into the travel lane.
- Where necessary, provide detour routes around areas undergoing construction.
- The city should sign and enforce reduced speed limits around construction zones to ensure that motorists passing these areas are traveling at a safe speed.

Detailed guidelines are provided in Appendix C for accommodating bicycles in construction zones.

## **BICYCLE SIGNAL DETECTION**

In-pavement Loop Detectors are used at signalized intersections to allow motorists to trigger a traffic light. Certain loop detectors can be calibrated to respond to the presence of a bicycle. The following recommendations are intended to improve bicycle detection at signalized intersections.

### **RECOMMENDATIONS**

#### ***Install Bicycle Loop Detectors at Signalized Intersections***

The City should install and mark bicycle loop detectors at intersections during roadway construction. It is recommended that the City use Type D for lead loops in all lanes except bike lanes, where a narrow Type C may be appropriate. Details of saw cuts and winding patterns for inductive detector loop types appear on Caltrans Standard Detail ES5B. Loop types B (5' square diamond), C (quadruple), D (diagonal-slashed), Q and modified Type E (circle with a slash) can reliably detect bicycles across their full width. Type D loop is preferred as it

has a good, fairly uniform response to bicycles across its area. Types A (6' square) and E (unmodified circle) are not bike-sensitive in their center.

**Apply Pavement Stenciling Above Bicycle Loop Detectors Where Service Must be Actuated by Detection**

At some signalized intersections, vehicles (motor vehicles and bicycles) need to trigger loop detectors in order to activate a green light. Since most bicyclists, as well as other motorists, do not know how loop detectors work, it may be necessary at some locations to mark a pavement stencil that shows cyclists where to stop to activate the loop. Stencils should be repainted when needed. As opportunities arise, loop detector stencils should be installed in coordination with striping maintenance or resurfacing projects.

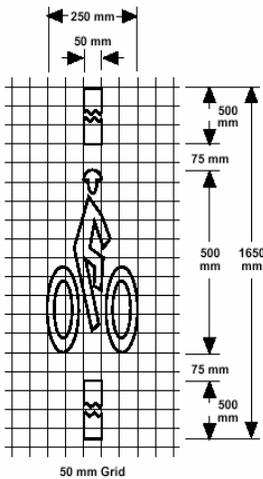


Figure 6-1: Caltrans Standard Plan A24C bicycle detection marking

Standard bicycle detection markings should be applied in the center of the appropriate lane for all bicycle loop locations to show cyclists the best place to wait. (For inductive detection this implies that the loop must sense bicycles in its center). As part of the loop detector testing program, the City should ensure that the markings are placed in the proper location above the detector. The State standard bicycle detection marking appears on Caltrans Standard Plan A24C.

To increase understanding about how to use bicycle loop detectors, the City may want to include information about how to activate a bicycle loop detector in its bicycle educational materials.

**Regularly Calibrate Bicycle Loop Detectors**

While bicycle detector loops facilitate faster and more convenient bicycle trips, if they aren't calibrated properly, or stop functioning, they can frustrate cyclists waiting for signals to change, unaware that the loop is not working. The City should ensure that all bicycle loops are tested and are calibrated and operable as part of routine signal maintenance.

**BICYCLE ENFORCEMENT**

In order to encourage safe cycling in Riverside, facility improvements must be accompanied by enforcement of California Vehicle Code regulations pertaining to bicycles and bicycling. The City of Riverside currently enforces bicycle-related violations of the California Vehicle Code.

**RECOMMENDATION**

**Support Police Department in Enforcement Efforts**

The City of Riverside Police Department should continue to perform enforcement of vehicle statutes relating to bicycle operation. A particular focus should be on obstructions of bicycle facilities, individuals riding the wrong direction, or riding on the sidewalk, as these behaviors increase the chance that a cyclist will be involved in a collision. Enforcement of vehicle laws related to bicycling can serve as an educational tool, as some individuals may simply not understand that they are breaking the law and putting themselves at risk. The

Police Department should reinstate its safety cite program, in which young cyclists “caught” following bicycle laws are positively reinforced with a Safety Citation and entry in an annual drawing. (The Safety Cite program is described in more detail in Chapter 3, Section 3.5 Enforcement and Education Programs.)

## **SIGNAGE AND STRIPING**

All bikeway signage on public roadways in Riverside should conform to the signage identified in the 2003 Manual on Uniform Traffic Control Devices (MUTCD) and California Supplement. These documents give specific information on the type and location of signing for bicycle facilities in California. Samples of suggested signage and striping are outlined in Appendix A.

## **RECOMMENDATIONS**

### **“SHARE THE ROAD” Signage**

For all Class III Bike Route implementation, the City should install “SHARE THE ROAD” signs (MUTCD W16-1) along with the standard “BIKE ROUTE” signage (MUTCD D11-1).

### **Designated Bikeway Signs**

The installation of bikeway signs on all designated bicycle facilities is important to heighten motorist awareness of cyclists and help cyclists find their way. The City should ensure that all bikeways are signed per the 2003 Manual on Uniform Traffic Control Devices and California Supplement.

### **Destination Signage**

Destination signage provides cyclists with information necessary to use the bicycle network as an effective transportation network through the display of distance, direction and in some cases, estimated travel time information. The City should design and install custom destination signage on major bikeways. A signage plan should be developed to ensure that destination signage is complete, coherent and does not result in sign clutter. Destination signage in Riverside could direct bikeway network users to destinations such as the Santa Ana River Trail, Downtown Riverside, the Metrolink stations, schools, and local and regional parks.

## **MULTI-MODAL CONNECTIONS**

Connecting bicycles to transit consists of three key elements: providing bicycle access to transit stops, providing bicycle parking facilities at transit stops and accommodating bicycles on trains and buses. The City of Riverside can affect the first two of these three elements by ensuring that the proposed bikeway network connects to existing transit stops and providing bicycle parking at major train and bus transit stops.

## **RECOMMENDATIONS**

### ***Improve Bicycle Access to Major Transit Centers***

Recommendations for improving bicycle access to transit stops include:

- All actuated traffic signals near Riverside’s existing and future train stations and major bus transfer centers should be able to be activated by cyclists. Actuation should be provided in left-turn lanes as well as through lanes. If the actuation is provided by a bicycle loop detector, a stencil should be placed over the loop detector instructing cyclists where to wait. If the actuation is provided by a push button, it should be oriented toward the street, and allow cyclists to push the button without dismounting.
- Streets leading to the transit stop should have bike lanes or at the minimum, wide shoulders. Bike paths leading to transit stops are another option, and should be designed to ensure access to the transit stop is safe, direct, and does not conflict with motor vehicles.
- Bicycle access to transit stops should minimize conflicts with pedestrians and motorists.
- Destination signs indicating direction and distance to the transit stop should be located on sidewalks, bikeways, and major arterials.
- Local area maps showing bicycle and pedestrian facilities and local destinations should be posted at the transit stations.
- Warning signs notifying drivers of bicycle and pedestrian crossing should be installed at transit stop driveway crossings, bikeway crossings, pathway crossings, and other places with potential user conflicts. Similarly, appropriate regulatory signage should be installed for cyclists and pedestrians.
- Safe, direct well marked routes should be provided for cyclists and pedestrians through the station area to the platform, sidewalks, bikeways, ticketing area and bike parking.

### ***Improve Bicycle Parking at Transit Stops***

Providing ample secure bicycle parking at transit stops is essential to increasing bicycle mode share to transit. Bicycle parking is currently provided at both of Riverside’s Metrolink Stations.

In general, bicycle parking should be provided as close to the transit stop as possible, without restricting pedestrian flow or ADA access. Signs should be

placed directing cyclists to parking locations, and if “No Bicycle Parking” signs are used, they should be accompanied with signs directing cyclists to bicycle parking locations. Bicycle parking is not recommended outside the immediate station parking lot due to convenience and security issues.

When evaluating bicycle parking demand, agencies should take into account the quality and placement of parking supplies. If underused bike parking is moved to a more secure, visible and convenient location, use of the parking may increase. The following improvements have been shown to increase bicycle parking usage:

- Moving bike racks and lockers to locations that are more visible to potential users;
- Moving bike racks to locations that are more convenient to other services, such as customer service windows;
- Improving signage to let transit passengers know the process for renting bicycle lockers; and
- Advertising bicycle parking services in local bicycle publications.

### **Consider Electronic Bicycle Locker Program**

The City of Riverside may want to consider implementing a pilot electronic locker program. Electronic locks allow cyclists to access a locker on a first-come-first-serve basis, without leaving the locker unsecured while not in use. This system allows more efficient use of lockers and allows the agency to identify locker usage at stations, identify people who abandon bicycles in lockers and prioritize placement of new lockers.

## **EDUCATION PROGRAMS**

This section covers future efforts to educate bicyclists and motorists, and efforts to increase the use of bicycles as a transportation alternative. Most education and encouragement programs and activities will likely be cooperative efforts between the City of Riverside, Police Department, Riverside and Alford Unified School Districts, and local bicycle groups such as the Riverside Bicycle Club.

The Riverside Police Department currently works in a variety of ways to educate children and adults on bicycle safety as described in Chapter 3.

## **RECOMMENDATIONS**

### **Continue and Expand Existing Education Programs**

Existing education programs offered by the Police Department’s Traffic Education Coordinator should be continued and supported by a secure, regular funding source. Schools should be encouraged to include Police Department programming in their own bicycle education programs.

### **Provide Safety Handbook**

The City should work with the Police Department's Traffic Education Coordinator to provide a safety handbook for distribution to local schools. One example of a good safety handbook is *From A to Z by Bike: The comprehensive guide to safe bicycling for kids and adults*.

### **Educate Motorists and Bicyclists through a Share the Road Campaign**

A Share the Road campaign is intended to educate both motorists and bicyclists about their legal rights and responsibilities on the road, and the need to increase courtesy and cooperation to improve safety. The campaign targets not just youth, but all residents and visitors to a community. The City of Riverside should work with the Police Department's Traffic Education Coordinator, the Riverside Bicycle Club and other partners to develop a Share the Road Campaign.<sup>1</sup> To establish a Share the Road campaign, the City of Riverside should:

- Develop Share the Road flyers, one targeted to cyclists and one to motorists, which outline safe and courteous behavior, collision reporting procedures and local cycling resources and hotlines.
- In conjunction with the Police Department, hold periodic traffic checkpoints during months with high bicycling rates. At checkpoints, motorists and cyclists are stopped, given a Share the Road flyer and have the opportunity to provide feedback to officers regarding the campaign ideas. Checkpoints could be held along local bikeways such as Victoria Avenue or the Santa Ana River Trail, and roadways commonly used by cyclists.
- Create public service announcements on radio and TV to promote the Share the Road campaign, including publicity about the Share the Road checkpoints. Promote the campaign through inserts in utility bills.
- Develop public PowerPoint presentations with the Share the Road message for presentation to the public.
- Develop adult bicycle safety classes and hold them at regular intervals.

## **ENCOURAGEMENT PROGRAMS**

Encouragement programs are vital to the success of the Riverside Bikeway Master Plan. Encouragement programs key goal is to convince people to shift from driving to bicycling, which will help to reduce traffic congestion and air pollution, as well as improve the quality of life in Riverside. However, without community support, the City lacks the resources that are needed to ensure the

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<sup>1</sup> Other partners may include local hospitals, schools, or regional and state agencies. For example, the Marin County Bicycle Coalition has partnered with Marin General Hospital, Marin County Law Enforcement and National Highway Traffic Safety Administration to develop its Share the Road Campaign. Marin County Bicycle Coalition's Share the Road Campaign can be found at [www.marinbike.org/Campaigns/ShareTheRoad/Index.shtml](http://www.marinbike.org/Campaigns/ShareTheRoad/Index.shtml)

success of encouragement programs over time. Strategies for community involvement will be important to ensure broad-based support – which translates into political support – to help secure financial resources. Involvement by the private sector in raising awareness of the benefits of bicycling can range from small incremental activities by non-profit groups, to efforts by the largest employers in the City. Specific programs are described below.

### **RECOMMENDATIONS**

#### ***Facilitate the Development of Employer Incentive Programs***

Facilitate the development of employer incentive programs to encourage employees to try bicycling to work, to provide bicycle lockers and shower facilities, and to offer incentives to employees who commute by bicycle by allowing for more flexible arrival and departure times, and possibly paying for transit or taxis during inclement weather. The City may offer incentives to employers to institute these improvements through air quality credits, lowered parking requirements, reduced traffic mitigation fees, or other means. Other efforts should include:

- Developing, promoting and publicizing bicycle commuter services, such as bike shops selling commute gear and bike-on-transit policies.
- Creating an annual commuter challenge for area businesses.

#### ***Utilitarian and Recreational Trip Incentive Programs***

The City should develop and implement encouragement programs for utilitarian and recreational purposes. The City of Riverside already co-sponsors the annual Riverside to Surfside bicycle ride. In addition to this event, the City could work with local businesses such as cafes to encourage customers to use a bicycle for their trips. Such efforts may include:

- Implement a “Bicycle Friendly Businesses” program. The City could recognize local businesses that encourage employees or clients to bicycle, through end-of-trip facilities like bike parking, or incentives such as discounts or stipends, or other programs.
- Hold community events for families that promote bicycling.
- Support planning and implementation of an annual mass bicycling ride in Riverside to attract new riders, showcase the city, and demonstrate the benefits of bicycling.
- Develop and implement a public education campaign to encourage bicycling, such as advertising on city benches, bicycle lockers, billboards, cable access television and utility bill inserts.

#### ***Bicycle Clunker and Parts Program, Bicycle Repair Program***

The city should consider supporting the development of a bicycle clunker and parts program. This program involves obtaining donated, abandoned or unclaimed stolen bicycles and restoring them to working condition. Commonly set up as a non-profit, the program trains youth (ages 12 to 18) how to repair bicycles as part of a summer jobs training effort. The program is often staffed by volunteers from local cycling organizations and bicycle shops.

### ***Community Bikeway Adoption***

Community Bikeway Adoption programs are similar to the widely-instituted Adopt-a-Highway programs throughout the country. These programs identify local individuals, organizations, or businesses that would be interested in “adopting” a bikeway. Adopting a bikeway would mean that a person or group would be responsible for maintenance of the bikeway either through direct action or as the source of funding for the City’s maintenance of that bikeway. For example, members of a local recreation group may volunteer every other weekend to sweep a bikeway and identify and address larger maintenance needs. A local bike shop may adopt a bikeway by providing funding for the maintenance costs. For mixed-use paths, benches, fountains and other trailside amenities may be provided as part of a memorial program. The managers of an adopted bikeway may be allowed to post their name on bikeway signs throughout the bikeway in order to display their commitment to bicycling in Riverside.

### ***Bike Fairs and Races***

As mentioned above, the City of Riverside co-sponsors the annual Riverside to Surfside bicycle ride. Continuing to host this and other bicycle races and fairs in Riverside can raise the profile of bicycling in the area and provide entertainment for all ages. Bike fairs and races provide an opportunity to educate and encourage current and potential bicyclists. These events can also bring visitors to Riverside who may also contribute to the local economy.

### ***Local Bikeways Map***

Producing a local bikeways user map can serve as an important tool for showing bicyclists the designated bikeways in Riverside. The map should show significant destinations, the location of bicycle parking facilities, connections to bicycle facilities in the neighboring communities. Local businesses may wish to advertise or sponsor the map, helping to offset printing costs, and the map could be produced in cooperation with the Riverside Chamber of Commerce. The map should be distributed as widely as possible at locations such as city offices, libraries, schools, and bike shops. The Bicycle Map should clearly show the type of facility (path, lane, or route) as well as include basic safety information.

### ***Bike-to-Work and Bike-to-School Days***

The City of Riverside should continue to participate in the annual Bike-to-Work day in May, in conjunction with the California bike-to-work week activities. City

staff can be present at “energizer” stations along key local commuter routes. Local Bike-to-School days should be held annually in conjunction with Police Department bicycle education programs. These should include International Walk and Bike to School Day, held in early October each year. The City should consider hosting, sponsoring, or supporting other bicycle events unique to the Riverside community that will encourage more and safer riding.

### **Marketing the Bicycle Master Plan**

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

- Distribute copies of the Bikeway Plan to members of the City Council, and Planning Commission.
- Distribute copies of the Plan to City of Riverside’s Community Development, Community Services and Public Works Departments, the Redevelopment Agency, and the Police Department.
- Provide copies of the Riverside bicycle network map to local schools, bicycle and recreational groups, Western Riverside Council of Governments, local bicycle shops, and major employers.

### **6.3. RECOMMENDED NETWORK PROJECTS**

The recommended Riverside bikeway network shown in Figure 6-1 focuses on implementing Class I, II, and III bikeways to expand and enhance the City’s bikeway network.

The next section in this chapter presents descriptions and cost estimates for the top five high-priority bicycle projects. A summary list of all recommended bikeway facilities, with segment lengths and cost estimates, is provided in Chapter 7, Implementation.

#### **A Note on Bikeway Types**

One of the greatest divergences of opinion among bicyclists lies between those who feel paved Class I bike paths, separated from roadways, should be constructed wherever physically possible, versus those who feel more comfortable riding on streets on lanes or routes. This preference is usually based on personal feeling regarding comfort and safety.

In general, Class I bike paths are desirable for slower-speed recreational cycling, particularly by families and children. Although referred to as “bike paths,” Class I facilities are multi-use facilities that will likely see use by a wide mix of non-motorized traffic, including pedestrians, joggers, roller bladers and dog walkers. Given this mix of uses, there is potential for conflicts on heavily-used Class I facilities, necessitating lower bicycle speeds on these paths. Class I bike paths are preferred for corridors where there are few intersections or crossings, to reduce the potential for conflicts with motor vehicles. Class I facilities located immediately adjacent to roadways, often referred to as “sidepaths,” are less desirable due to the numerous potential conflicts with motor vehicles turning on or off of side streets and driveways.

Due to their linear off-street nature, opportunities for developing Class I facilities in an urban setting are typically much more limited, often occurring along waterways, rail corridors, or utility corridors. As such, Class I bike paths will normally comprise a much smaller fraction of the total designated bikeway network than on-street bike lanes and routes, and Class I bikeways will connect to far fewer destinations.

Most commuter bicyclists would argue that on-street bikeway facilities are the safest and most functional facilities for bicycle transportation, as they typically provide the most direct routes and offer the greatest connectivity and access to employment, schools, and shopping destinations. Some cyclists feel that providing wide outside lanes is preferable to providing marked bike lanes. Again, this is generally based on personal comfort. Many bicyclists – particularly less experienced riders – are far more comfortable riding on a busy street if it has a striped and signed bike lane. Part of the goal of this Plan is to encourage new riders, and providing marked facilities such as bike lanes is one way of helping to persuade residents to try bicycling as a transportation mode.

This Bicycle Plan takes the approach that if properly designed, Class II bike lanes can increase safety and promote proper riding, and are therefore highly desirable for bicycle transportation routes along major roadways. Bike lanes help to define the road space for bicyclists and motorists, reduce the chance that motorists will stray into the cyclists’ path, discourage bicyclists from riding on the sidewalk, and remind motorists that cyclists have a right to the road and remind cyclists that by being in the road they have the same responsibilities as a motor vehicle. One key consideration in designing bike lanes in an urban setting is to ensure that bike lane and adjacent parking lane are wide enough so that cyclists have enough room to avoid a suddenly opened vehicle door.

On streets with low traffic volumes and speeds (under 5,000 vehicles per day, 30 mph), striped bike lanes may not be needed at all. On these types of low-traffic neighborhood streets, designated and signed Class III bike routes can serve as important connectors to schools and recreational areas such as parks. Class III bike routes may also be desirable on certain commute routes where installing bike lanes is not possible, provided that appropriate signage is installed to alert motorists to the presence of bicycles on the roadway. Class III bike route

signing may also include “Share the Road” signs at regular intervals along the route.

# 1. MAGNOLIA AVENUE/RAILROAD CROSSING IMPROVEMENTS

## Project Description and Location

The Metrolink Commuter Rail line crosses Magnolia Avenue between Buchanan Street and Lincoln Street, just at the southwest corner of the City. The crossing is at-grade and the tracks and roadway meet at approximately a 25 degree angle. This acute angle presents a hazard to cyclists, who can catch their bicycle tire in the railroad tracks and fall. An ideal crossing situation would allow cyclists to cross the tracks at a 45 to 90 degree angle.

## Design Issues

### Constraints:

- Acute angle of existing crossing means that solutions to allow cyclists to cross at a 45 to 90 degree angle would direct cyclists into motor vehicle traffic.
- ROW owned by Union Pacific

### Improvement Options:

- Construct path off roadway to allow cyclists to cross the tracks at their preferred angle
- Install signs warning cyclists of hazard

### Project Length:

Not applicable

## Graphic:



*Magnolia Avenue and Metrolink Line crossing*

**SAMPLE  
PROJECT  
SHEET**

## Cost Estimate

**Total estimated cost: \$---**



## 7. IMPLEMENTATION

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

### 7.1. IMPLEMENTATION PROCESS

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

1. Conceptual design (with consideration of possible alternatives and environmental issues) and cost estimate for individual projects as needed.
2. Secure outside funding and any applicable environmental approvals.
3. Approval of the project by the Planning Commission and the City Council, including the commitment by the latter to provide for any unfunded portions of project costs.
4. Completion of final plans, specifications and estimates, advertising for bids, receipt of bids and award of contract(s).
5. Construction of Project.

Prior to any action however, the Riverside City Council will need to officially adopt the Riverside Bikeway Master Plan.

### 7.2. PROJECT PRIORITIZATION

Once a bikeway system has been identified, the greatest challenge is to identify the top priority projects that will offer the greatest benefit to bicyclists if implemented. Prioritization involves a number of factors, including: (a) cost and construction feasibility given existing traffic, safety, and environmental constraints; (b) need, benefit, and public support; (c) funding cycles and opportunities, and strength of the project as measured by specific funding criteria.

For the Riverside Bicycle Master Plan, projects were ranked based on the following factors:

- Community support
- Political support
- Project readiness
- Elementary and middle school connections
- Multi-modal connections
- Gap closure
- Current use by bicyclists
- Connections to regional bikeways
- Connections to activity centers such as Downtown, UCR, commercial centers, major parks

A complete description of project ranking criteria and project scores is provided in Appendix D. [TO BE COMPLETED AFTER PRIORITIZATION]

[NOTE: PRIORITIZATION TO BE COMPLETED WITH CITY AND COMMUNITY INPUT]

It is important to remember that the lists of bikeway projects and programs are flexible concepts that serve as guidelines to those responsible for implementation. The bikeway network project list may change over time as a result of changing bicycling patterns and implementation constraints and opportunities. Riverside city staff should review the project list on a periodic basis to ensure that 1) it reflects the most current priorities, needs, and opportunities; 2) it can be implemented in a logical and efficient manner; and 3) it takes advantage of all available funding opportunities and grant cycles. As projects are built and taken off the list, new projects should be moved up on the list.

**Table 7-1  
High Priority Bikeway Projects**

Project Number	Location and Description	Type	Miles
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TABLE TO BE COMPLETED WITH CITY AND PUBLIC INPUT

### 7.3. COST BREAKDOWN

A summary of cost estimates for the recommended bicycle network provided by this plan is presented in Table 7-2 below. The cost of the long-term recommended projects is estimated to be about \$36 million for Class I bike path projects, \$3.6 million for Class II bike lane projects, and \$697,000 for Class III bike route projects, for a combined total system build out cost of about \$40.6 million. Cost estimates include costs for survey and design, construction, administration and contingencies. The majority of the estimated cost (89%) is due to the high cost of constructing Class I bike paths. The majority of the proposed network (110 miles of on-street bikeways) can be constructed for \$4.4 million.

Most of the proposed bikeways were carried over from Riverside’s prior bikeway plans. Several segments identified as proposed Class II bike lanes have been revised to Class II/III. Field work showed that existing conditions on these roadways would make it difficult to stripe Class II bike lanes. Some of the Class II/III segments may require road widening, reduction in travel lanes, or reduction in parking to accommodate Class II bike lanes. For cost estimate purposes, this plan assumes Class II/III bikeways are built out as Class III bike routes. These bikeways should be considered for Class II bike lanes if future road work allows.

Proposed unpaved trails are not considered in this Bikeway Master Plan, and are not included in the bikeway plan cost estimates, as they do not meet Caltrans design standards for bike paths. However, many unpaved trails are used by cyclists, and this plan supports the City’s efforts to construct additional unpaved trails. Note that the paved portion of the proposed Gage Canal Bikeway is included in this plan, while the longer, unpaved section, is not.

**Table 7-2**  
**Construction Cost of Recommended Bikeway Projects**

Project Number	Location	Type	Miles	Estimated Cost
5	Gage Canal Bikeway	Class 1	4.2	\$6,719,600
7	Santa Ana River Trail - North	Class 1	1.5	\$2,439,700
15	Tequesquite Connector Trail	Class 1	1.0	\$1,561,800
21	Le Conte Bike Path	Class 1	0.6	\$876,000
34	Overlook Pkwy	Class 1	2.9	\$4,645,400
35	St. Lawrence St Bike Path	Class 1	3.8	\$6,083,500
36	Woodcrest Reservoir Bike Path	Class 1	4.2	\$6,581,900
41	Santa Ana River Trail - South	Class 1	4.0	\$6,297,400
53	Santa Ana River Trail - Fairmount Park	Class 1	0.7	\$1,089,300
<b>TOTAL CLASS I</b>			<b>23.0</b>	<b>\$36,294,600</b>
2	Columbia Ave/Serpentine Rd	Class 2	3.8	\$180,700
3	Iowa Ave	Class 2	3.1	\$145,500
4	Palmyrita Ave	Class 2	1.5	\$71,600
6	Chicago Ave	Class 2	3.1	\$145,900
9	3rd St	Class 2	1.1	\$51,800
11	Pine St	Class 2	1.0	\$49,700
14	Martin Luther King Blvd	Class 2	2.4	\$114,400
16	University Av	Class 2	0.7	\$34,900
17	Park Ave	Class 2	0.5	\$21,600
18	Cridge St/Kansas Ave	Class 2	2.4	\$113,100
19	Victoria Ave	Class 2	1.0	\$49,700
20	Panorama/Ivy/Myrtle	Class 2	1.0	\$48,800
22	Box Springs Blvd	Class 2	4.5	\$213,300
23	University Av	Class 2	0.6	\$29,800
24	Canyon Crest Dr	Class 2	2.2	\$107,000
26	Jurupa Av	Class 2	4.8	\$228,400
27	Streeter Av/Arlington Av	Class 2	4.2	\$135,200
28	Mary St	Class 2	1.2	\$55,600
31	Lincoln Av	Class 2	5.1	\$242,600
33	Washington St	Class 2	3.9	\$183,800
37	Van Buren Blvd	Class 2	4.6	\$219,300
40	Magnolia Av	Class 2	0.9	\$42,000
43	Jackson St	Class 2	2.8	\$135,500
46	California Av	Class 2	0.5	\$24,600
47	Collett Av	Class 2	1.7	\$79,500
48	Tyler St	Class 2	5.2	\$222,000
49	Indiana Av	Class 2	6.4	\$305,800
50	La Sierra Av	Class 2	3.4	\$163,000
51	Wells Av	Class 2	2.5	\$116,800
52	La Sierra Av	Class 2	1.3	\$59,900
<b>TOTAL CLASS II</b>			<b>77.3</b>	<b>\$3,591,800</b>
1	Main St	Class 2/3	2.2	\$32,500

Project Number	Location	Type	Miles	Estimated Cost
8	Market St/Spruce St	Class 2/3	1.4	\$30,300
10	Palm Ave	Class 2/3	3.5	\$85,800
12	Brockton Ave	Class 2/3	2.8	\$58,300
13	Olivewood Ave/Lime St Jurupa	Class 2/3	2.4	\$36,000
25	Central Av	Class 2/3	5.3	\$161,400
29	Arlington Av	Class 2/3	0.3	\$4,400
30	Jefferson St	Class 2/3	2.0	\$30,500
32	Adams St	Class 2/3	1.6	\$40,400
38	Van Buren Blvd	Class 2/3	2.9	\$43,400
39	Van Buren Blvd	Class 2/3	1.1	\$16,000
42	Monroe St	Class 2/3	2.7	\$87,200
44	Cypress Ave	Class 3	2.0	\$30,000
45	Gramercy Place	Class 3	2.8	\$41,300
<b>TOTAL CLASS III</b>			<b>32.9</b>	<b>\$697,500</b>

<b>TOTAL BIKEWAY NETWORK</b>			<b>133.1</b>	<b>\$40,583,900</b>
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Notes: For cost estimate purposes, this plan assumes Class II/III bikeways are built out as Class III bike routes.

Costs are based on 2006 dollars.

Project numbers were assigned geographically, from northeast to southwest.

The total annual maintenance cost of the primary bike path system is estimated to be about \$383,000 per year when it is fully implemented. Bicycle facility maintenance costs are based on per mile estimate, which covers labor, supplies, and amortized equipment costs for weekly trash removal, monthly sweeping, and bi-annual resurfacing and repair patrols. Other maintenance costs include restriping bike lane lines, sweeping debris, and tuning signals for bicycle sensitivity.

**Table 7-3**  
**Annual Maintenance Cost Estimates for Recommended Bikeway Network**

Facility/Program	Unit Cost (\$)	Description	Miles	Cost	Notes
Class I Maintenance	8,500	Annual Cost per Mile	23	\$195,500	Lighting and debris and vegetation overgrowth removal.
Class II Maintenance	2,000	Annual Cost per Mile	77.3	\$154,600	Repainting lane stripes and stencils, sign replacement as needed
Class III Maintenance	1,000	Annual Cost per Mile	32.9	\$32,900	Sign and shared use stencil replacement as needed
<b>Avg. Cost/Year</b>				<b>\$383,000</b>	
<b>Est. 10-Year Cost</b>				<b>\$5,140,060</b>	Ten-year cost includes one time cost of pavement seal coat at \$10,000 per mile for class I bikeways and estimates inflation rates calculated using conversion factor of 1.282.

Maintenance costs for the bikeway network may be higher than estimates if the City implements the expanded maintenance program proposed in Chapter 6. . The existing and recommended bikeway network is predominately made up of on-street bike lanes and routes that will be treated as part of the normal roadway maintenance program. As part of the normal roadway maintenance program, extra emphasis should be put on keeping the bike lanes and roadway shoulders clear of debris and keeping vegetation overgrowth from blocking visibility or creeping into the roadway. The other typical maintenance costs for the bikeway network, as shown above in Table 7-3, include the maintenance of signage, striping and stencils.

All the projects are recommended to be implemented over the next two to twenty years, or as funding is available. The more expensive projects may take longer to implement. In addition, many funding sources are highly competitive, and therefore it is impossible to determine exactly which projects will be funded by which funding sources. Timing of projects is also difficult to predict, due to the dependence on competitive funding sources, timing of roadway and development, and the overall economy.

The projects listed may be funded through various sources. The funding section in this chapter outlines some of the local, regional, state and federal funding methods and resources for non-motorized transportation projects.

### 7.4. FUNDING

Funding that can be used for bicycle projects, programs and plans comes from all levels of government. This section covers federal, state, regional and local sources of bicycle funding, as well as some non-traditional funding sources that may be used for bicycle projects.

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. Regional funding for bicycle projects typically comes from Transportation Development Act (TDA) funding, which is prorated to each County based on the return of gasoline taxes. Many of the projects and programs would need to be funded either with TDA, general fund (for staff time), and regional, State and Federal sources. The primary funding sources are described below.

#### FEDERAL FUNDING SOURCES

The primary federal source of surface transportation funding—including bicycle and pedestrian facilities—is the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users. This Federal bill is the third iteration of the transportation vision established by Congress in 1991 with the Intermodal Surface Transportation Efficiency Act and renewed in 1998 and extended in 2003 through the Transportation Equity Act for the 21st Century and the Safe, Accountable, Flexible, and Efficient Transportation Equity Act of

2003. Also known as the Federal Transportation Bill, the \$286.5 billion bill was passed in 2005 and authorizes Federal surface transportation programs for the five-year period between 2005 and 2009.

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

Specific funding programs under the federal transportation bill for bicycle and pedestrian facilities include:

- Congestion Mitigation and Air Quality Improvement Program – funds projects that are likely to improve ambient air quality.
- Federal Lands Highway Funds—Approximately \$1 billion dollars are available nationally through 2009 for planning and construction of bicycle and pedestrian projects built in conjunction with roadways
- Transportation, Community and System Preservation Program—\$270 million nationally through 2009 for projects that improve the efficiency of the transportation system, reduce the impact on the environment, and provide efficient access to jobs, services and trade centers
- Recreational Trails Program—\$370 million nationally through 2009 for non-motorized trail projects
- Safe Routes to School Program—\$612 million nationally through 2009 for bicycle, pedestrian and education programs that implement safer routes to schools (Described under State Funding Sources, below.)

APPLICATION DEADLINE	Varies	
TYPE OF PROJECTS FUNDED	<ul style="list-style-type: none"> <li>▪ Construction</li> <li>▪ Planning</li> <li>▪ Safety and Education Programs</li> </ul>	
	TYPE OF BIKEWAYS ELIGIBLE	<ul style="list-style-type: none"> <li>▪ Bike Routes</li> <li>▪ Bike Lanes</li> <li>▪ Bike Paths</li> </ul>
		LINK TO PROGRAM

**Congestion Mitigation and Air Quality Improvement Program**

Congestion Mitigation and Air Quality Improvement funds are programmed by the Federal transportation bill for projects that are likely to contribute to the attainment of a national ambient air quality standard, and congestion mitigation. These funds can be used for a broad variety of bicycle and pedestrian projects, particularly those that are developed primarily for transportation purposes. The

## 7. Implementation

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funds can be used either for construction of bicycle transportation facilities and pedestrian walkways or for non-construction projects related to safe bicycle and pedestrian use (maps, brochures, etc.). The projects must be tied to a plan adopted by the State and Riverside County Transportation Agency.

### Federal Lands Highway Funds

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

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APPLICATION DEADLINE	Varies
TYPE OF PROJECTS FUNDED	<ul style="list-style-type: none"><li>▪ Planning</li><li>▪ Construction</li></ul>
TYPE OF BIKEWAYS ELIGIBLE	<ul style="list-style-type: none"><li>▪ Bike Routes</li><li>▪ Bike Lanes</li><li>▪ Bike Paths</li></ul>
LINK TO PROGRAM	<a href="http://www.fhwa.dot.gov/flh/flhfs051028.htm">http://www.fhwa.dot.gov/flh/flhfs051028.htm</a>

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### Transportation, Community and System Preservation Program

The Transportation, Community and System Preservation Program provides federal funding for transit oriented development, traffic calming and other projects that improve the efficiency of the transportation system, reduce the impact on the environment, and provide efficient access to jobs, services and trade centers. The program is intended to provide communities with the resources to explore the integration of their transportation system with community preservation and environmental activities. The Program funds require a 20 % match.

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APPLICATION DEADLINE	Varies
TYPE OF PROJECTS FUNDED	<ul style="list-style-type: none"><li>▪ Planning</li><li>▪ Construction</li></ul>
TYPE OF BIKEWAYS ELIGIBLE	<ul style="list-style-type: none"><li>▪ Bike Routes</li><li>▪ Bike Lanes</li><li>▪ Bike Paths</li></ul>
LINK TO PROGRAM	<a href="http://www.fhwa.dot.gov/tcsp/pi_tcsp.htm">http://www.fhwa.dot.gov/tcsp/pi_tcsp.htm</a>

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### Recreational Trails Program

The Recreational Trails Program of the federal transportation bill provides funds to states to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses. Examples of trail uses include hiking, bicycling, in-line skating, equestrian use, and other non-

motorized as well as motorized uses. In California, the funds are administered by the California Department of Parks and Recreation. Recreational Trails Program funds may be used for:

- Maintenance and restoration of existing trails;
- Purchase and lease of trail construction and maintenance equipment;
- Construction of new trails; including unpaved trails
- Acquisition of easements or property for trails;
- State administrative costs related to this program (limited to seven percent of a State's funds); and
- Operation of educational programs to promote safety and environmental protection related to trails (limited to five percent of a State's funds).

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APPLICATION DEADLINE	October
TYPE OF PROJECTS FUNDED	<ul style="list-style-type: none"> <li>▪ Planning</li> <li>▪ Property Acquisition</li> <li>▪ Construction</li> <li>▪ Safety and Educational Programs</li> <li>▪ Maintenance and Restoration of Existing Trails</li> </ul>
TYPE OF BIKEWAYS ELIGIBLE	<ul style="list-style-type: none"> <li>▪ Bike Paths</li> <li>▪ Unpaved Trails</li> </ul>
LINK TO PROGRAM	<a href="http://www.fhwa.dot.gov/environment/rectrails/index.htm">http://www.fhwa.dot.gov/environment/rectrails/index.htm</a> <a href="http://www.parks.ca.gov/?page_id=21362">http://www.parks.ca.gov/?page_id=21362</a>

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### Land and Water Conservation Fund

Land and Water Conservation Fund is a federally funded program that provides grants for planning and acquiring outdoor recreation areas and facilities, including trails. The Fund is administered by the National Parks Service and the California Department of Parks and Recreation and has been reauthorized until 2015.

Cities, counties and districts authorized to acquire, develop, operate and maintain park and recreation facilities are eligible to apply. Applicants must fund the entire project, and will be reimbursed for 50% of costs. Property acquired or developed under the program must be retained in perpetuity for public recreational use. The grant process for local agencies is competitive, and 60% of grants are reserved for Southern California.

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APPLICATION DEADLINE	May 1
TYPE OF PROJECTS FUNDED	<ul style="list-style-type: none"> <li>▪ Planning</li> </ul>
TYPE OF BIKEWAYS ELIGIBLE	<ul style="list-style-type: none"> <li>▪ Bike Paths</li> </ul>

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## 7. Implementation

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- Unpaved Trails

LINK TO PROGRAM

[http://www.parks.ca.gov/?page\\_id=21360](http://www.parks.ca.gov/?page_id=21360)

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### STATE FUNDING SOURCES

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



#### Bicycle Transportation Account

The Bicycle Transportation Account provides state funding for local projects that improve the safety and convenience of bicycling for transportation. Because of its focus on transportation, Bicycle Transportation Account projects must provide a transportation link. Funds are available for both planning and construction. Bicycle Transportation Account funding is administered by Caltrans and cities and counties must have an adopted Bicycle Transportation Plan in order to be eligible. Riverside's Bicycle Master Plan must be approved by the Riverside County Transportation Commission prior to Caltrans approval. The maximum amount available for projects through the Bicycle Transportation Account is \$1.2 million dollars

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APPLICATION  
DEADLINE

December 1

TYPE OF  
PROJECTS  
FUNDED

- Planning
- Construction
- Maintenance

TYPE OF  
BIKEWAYS  
ELIGIBLE

- Bike Routes
- Bike Lanes
- Bike Paths

LINK TO  
PROGRAM

<http://www.dot.ca.gov/hq/LocalPrograms/bta/btaweb%20page.htm>

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#### National Recreational Trails Fund

The Recreational Trails Program provides funds for developing and maintaining recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses. Examples of trail uses include hiking, bicycling, in-line skating, equestrian use, and other non-motorized as well as motorized uses.

Recreational Trails Program funds may be used for:

- Maintenance and restoration of existing trails (including bike paths);
- Development and rehabilitation of trailside and trailhead facilities and trail linkages;
- Purchase and lease of trail construction and maintenance equipment;

- Construction of new trails (with restrictions for new trails on federal lands);
- Acquisition of easements or property for trails;
- State administrative costs related to this program (limited to seven percent of a State's funds); and
- Operation of educational programs to promote safety and environmental protection related to trails (limited to five percent of a State's funds).

**California Conservation Corps**

The California Conservation Corps is a public service program, which occasionally provides assistance on construction projects. The Corp may be written into grant applications as a project partner. In order to utilize Corp labor, project sites must be public land or be publicly accessible. Corp labor cannot be used to perform regular maintenance; however, they will perform annual maintenance, such as the opening of trails in the spring.

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APPLICATION DEADLINE	Not Applicable
TYPE OF PROJECTS FUNDED	<ul style="list-style-type: none"> <li>▪ Construction</li> <li>▪ Bike Paths</li> </ul>
TYPE OF TRAILS ELIGIBLE	<ul style="list-style-type: none"> <li>▪ River Access and Trailheads</li> <li>▪ Unpaved</li> </ul>
LINK TO PROGRAM	<a href="http://www.ccc.ca.gov">http://www.ccc.ca.gov</a>

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**Safe Routes to School (SR2S)**

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



## 7. Implementation

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APPLICATION DEADLINE	Currently unknown due to program reorganization
TYPE OF PROJECTS FUNDED	<ul style="list-style-type: none"><li>▪ Planning</li><li>▪ Construction</li></ul>
TYPE OF BIKEWAYS ELIGIBLE	<ul style="list-style-type: none"><li>▪ Bike Routes</li><li>▪ Bike Lanes</li><li>▪ Bike Paths</li></ul>
LINK TO PROGRAM	<a href="http://www.dot.ca.gov/hq/LocalPrograms/saferoute2.htm">http://www.dot.ca.gov/hq/LocalPrograms/saferoute2.htm</a>

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### Environmental Justice: Context Sensitive Planning Grants

The Caltrans-administered Environmental Justice: Context Sensitive Planning Grants promotes context sensitive planning in diverse communities and funds planning activities that assist low-income, minority and Native American communities to become active participants in transportation planning and project development. Grants are available to transit districts, cities, counties and tribal governments. This grant is funded by the State Highway Account at \$1.5 million annually statewide. Grants are capped at \$250,000.

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APPLICATION DEADLINE	October 14
TYPE OF PROJECTS FUNDED	<ul style="list-style-type: none"><li>▪ Planning</li></ul>
TYPE OF BIKEWAYS ELIGIBLE	Not Applicable
LINK TO PROGRAM	<a href="http://www.dot.ca.gov/hq/tpp/offices/opar/titleVland%20EJ.htm">http://www.dot.ca.gov/hq/tpp/offices/opar/titleVland%20EJ.htm</a>

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### Office of Traffic Safety Grants

The California Office of Traffic Safety distributes federal funding apportioned to California under the National Highway Safety Act and Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users. Grants are used to establish new traffic safety programs, expand ongoing programs or address deficiencies in current programs. Bicycle and pedestrian safety are included on the list of traffic safety priority areas. Eligible grantees are governmental agencies, state colleges, and state universities, local city and county government agencies, school districts, fire departments and public emergency services providers. Grant funding cannot replace existing program expenditures, nor can traffic safety funds be used for program maintenance, research, rehabilitation or construction. Grants are awarded on a competitive basis, and priority is given to agencies with the greatest need. Evaluation criteria to assess need include: potential traffic safety impact, collision statistics and rankings, seriousness of problems, and performance on previous Office of Traffic Safety grants. Office of Traffic Safety expects to have \$56 million in funding available statewide for Federal Year 2006/07.

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APPLICATION DEADLINE	January 31
TYPE OF PROJECTS FUNDED	Safety Programs
TYPE OF BIKEWAYS ELIGIBLE	Not Applicable
LINK TO PROGRAM	<a href="http://www.ots.ca.gov/grants/default.asp">http://www.ots.ca.gov/grants/default.asp</a>

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### Community Based Transportation Planning Demonstration Grant Program

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

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APPLICATION DEADLINE	October
TYPE OF PROJECTS FUNDED	Planning
TYPE OF BIKEWAYS ELIGIBLE	Not Applicable
LINK TO PROGRAM	<a href="http://www.dot.ca.gov/hq/tpp/offices/ocp/cbtpg.htm">http://www.dot.ca.gov/hq/tpp/offices/ocp/cbtpg.htm</a>

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## REGIONAL FUNDING SOURCES

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

### Regional Surface Transportation Program

The Regional Surface Transportation Program is a block grant program, which provides funding for bicycle and pedestrian projects, among many other transportation projects. Under this program, the Riverside County Transportation Commission, prioritizes and approves projects, which will receive these funds. The Riverside County Transportation Commission distributes these funds to local jurisdictions. Metropolitan planning organizations can transfer funding from other federal transportation sources to the RSTP program in order to gain more flexibility in the way the monies are allocated. In California, 62.5 % of RSTP funds are allocated according to population. The remaining 37.5 % is available statewide.

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APPLICATION DEADLINE	Varies.
TYPE OF PROJECTS FUNDED	<ul style="list-style-type: none"> <li>▪ Construction</li> <li>▪ Safety and Education Programs</li> <li>▪ Planning</li> </ul>
TYPE OF TRAILS ELIGIBLE	<ul style="list-style-type: none"> <li>▪ Bike Routes</li> </ul>

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## 7. Implementation

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	<ul style="list-style-type: none"><li>▪ Bike Lanes</li><li>▪ Bike Paths</li></ul>
LINK TO PROGRAM	<a href="http://www.dot.ca.gov/hq/transprog/reports/Official_R_STP_Web_Page.htm">http://www.dot.ca.gov/hq/transprog/reports/Official_R_STP_Web_Page.htm</a>

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### Regional Transportation Improvement Program

The Regional Transportation Improvement Program is the region's part derivative of the State Transportation Improvement Program and identifies projects, which are needed to improve regional transportation. Such projects may include bicycle and pedestrian facilities, safety projects and grade separation, among many others. Project planning, programming and monitoring may be funded up to .5 % of total regional improvement funds in urbanized regions and 2% of total regional improvement funds in non-urbanized regions. Each regional transportation-planning agency prepares a Regional Transportation Improvement Plan, consisting of projects to be funded through the State Transportation Improvement Plan. The Regional Transportation Improvement Plan helps prioritize projects for the program. Regional Transportation Improvement Plans must be approved by the California Transportation Commission.

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APPLICATION DEADLINE	Regional agency coordinates with local agencies
TYPE OF PROJECTS FUNDED	<ul style="list-style-type: none"><li>▪ Planning (up to 5% of funds in urbanized areas, 2% in nonurbanized areas)</li><li>▪ Construction</li><li>▪ Bike Routes</li></ul>
TYPE OF TRAILS ELIGIBLE	<ul style="list-style-type: none"><li>▪ Bike Lanes</li><li>▪ Bike Paths</li></ul>
LINK TO PROGRAM	No web link available

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### LOCAL FUNDING SOURCES

#### Transportation Development Act

Transportation Development Act Article 3 funds are state block grants awarded annually to local jurisdictions for transit, bicycle and pedestrian projects in California. Funds for pedestrian projects originate from the Local Transportation Fund, which is derived from a ¼ cent of the general state sales tax. Local Transportation Funds are returned to each county based on sales tax revenues. Article 3 of the Transportation Development Act sets aside 2% of the Local Transportation Funds for bicycle and pedestrian projects. Eligible pedestrian and bicycle projects include: construction and engineering for capital projects; maintenance of bikeways; bicycle safety education programs (up to 5% of funds); and development of comprehensive bicycle or pedestrian facilities plans. A city or county may use these funds to update their bicycle and pedestrian plan not more than once every five years. These funds may be used to meet local match requirements for federal funding sources. Riverside County's

Transportation Development Act funds are administered by the Riverside County Transportation Commission.

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APPLICATION DEADLINE	Varies. Administered by the Riverside County Transportation Commission
TYPE OF PROJECTS FUNDED	<ul style="list-style-type: none"> <li>▪ Planning</li> <li>▪ Construction</li> <li>▪ Maintenance</li> <li>▪ Safety and Education</li> </ul>
TYPE OF BIKEWAYS ELIGIBLE	<ul style="list-style-type: none"> <li>▪ Bike Routes</li> <li>▪ Bike Lanes</li> </ul> <p>Bike Paths</p>
LINK TO PROGRAM	<p><a href="http://www.rctc.org">http://www.rctc.org</a></p>

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**Impact Fees**

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

**Mello-Roos Community Facilities Act**

The Mello-Roos Community Facilities Act was passed by the Legislature in 1982 in response to reduced funding opportunities brought about by the passage of Proposition 13. The Mello-Roos Act allows any county, city, special district, school district or joint powers of authority to establish a Community Facility Districts for the purpose of selling tax-exempt bonds to fund public improvements within that district. Community Facility Districts must be approved by a two-thirds margin of qualified voters in the district. Property owners within the district are responsible for paying back the bonds. Pedestrian facilities are eligible for funding under Community Facility District bonds.