VENTURA COUNTYWIDE BICYCLE MASTER PLAN

October 2007

Prepared for the Ventura County Transportation Commission (VCTC) by

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1. INTRODUCTION

The 2007 Ventura Countywide Bicycle Master Plan provides a blueprint for bicycle transportation and recreation in Ventura County. This plan is an effort of the Ventura County Transportation Commission (VCTC), a governing commission that develops and implements transportation policies, projects, funding and priorities for projects in Ventura County. In the decade since preparation of the 1996 Ventura County Regional Bikeway Plan, numerous bicycle facilities have been implemented throughout Ventura County, and seven of the county's 10 incorporated cities now have bicycle master plans. This 2007 Countywide plan is intended to provide an updated look at the countywide bikeway network, building upon the various bicycle planning efforts already conducted by the VCTC, Ventura County, and the ten incorporated cities. This plan makes recommendations to enhance and expand the existing bikeway network, close gaps, address constrained areas, provide for greater local and regional connectivity, and encourage more residents to bicycle. This plan also provides Caltrans-compliant bicycle transportation plan documents for unincorporated Ventura County and the remaining three incorporated cities that do not have adopted plans. Adoption of this 2007 Ventura Countywide Bicycle Master Plan will mean that every jurisdiction within Ventura County has a current bicycle transportation plan, and can qualify for specific bicycle transportation funding in order to implement projects.

This plan provides for an updated countywide system of bike paths, bike lanes, bike routes and Share the Road designations; identifies necessary support facilities such as bicycle parking; and recommends a variety of programs and policies to allow for safe, efficient and convenient bicycle travel within and between the communities of Ventura County and connections to destinations outside the county. 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 Ventura County residents bicycling to work, to shop, to school, or for recreation.

1.1 BENEFITS OF BICYCLING

The bicycle is a low-cost and effective means of transportation that is 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.[1]

Ventura County is already an extremely popular place for bicycling, particularly recreational riding. From scenic rides up the coast, challenging on or off-road rides in the mountains, or leisurely rides on bike paths such as the Ojai Valley Trail, the County appeals to a wide variety of bicycle users. The county is in an excellent position to capitalize on its bicycle-friendly attributes -- moderate climate, scenic ocean and mountain vistas and a reputation as a place with ample recreational amenities -- to increase the number of residents and visitors who travel by bicycle not just for recreation, but for transportation as well.

[1] National Bicycling and Walking Study: Ten Year Status Report, (www.bicyclinginfo.org/pp/nbsw2.htm)

1.2 PURPOSE OF THE BICYCLE MASTER PLAN

The 2007 Ventura Countywide Bicycle Master Plan provides a broad vision, strategies and actions for the improvement of bicycling in Ventura County. Having an adopted Bicycle Master Plan for all the jurisdictions in Ventura County is important for the following reasons:

Maximize Funding Sources for Implementation. A key reason for preparing this Countywide Bicycle Master Plan is to satisfy state and federal funding requirements such as the California Bicycle Transportation Account (BTA). In order to qualify for available BTA funding, the State of California requires that applicants have a bicycle master plan adopted or updated within the past five years. In addition to serving as a countywide planning document for VCTC, this document also includes BTA-compliant bicycle master plans in appendices for unincorporated Ventura County[2] and the cities of Moorpark, Port Hueneme, and Santa Paula. Complete lists of required BTA bicycle plan elements for each respective jurisdiction are provided in Appendices A through D.

Improve Safety and Encourage Cycling. This plan provides tools to enhance safety for bicyclists in Ventura County through design standards and guidelines, education, and enforcement. This plan provides recommendations for route improvements intended to make cycling safer for bicyclists of all ability levels. Examples of encouragement programs are also provided to motivate Ventura County residents to ride for work, school, exercise and recreation.

Expand the Network and Support Facilities. Ventura County already has a number of popular bikeways such as the Ojai Valley Trail and Surfer's Point bike path. While many of these existing facilities provide excellent routes for recreational bicyclists along scenic routes, developing a more comprehensive network is necessary to provide full bicycle connectivity for the communities of Ventura County. Implementing a complete bikeway network that links a variety of destinations – employment, shopping, school, and recreation – is key to attracting a greater numbers of bicyclists. In addition to expanding and connecting the key routes, providing support facilities such as clear directional signage and secure bicycle parking will enhance the functionality of the network and encourage more people to bicycle.

Enhance the Quality of Life in Ventura County. The development of bicycle facilities provides for people-friendly streets, paths, trails, and activity centers available to everyone, and supports sustainable community development. 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 Ventura County. Safe and efficient cycling opportunities will help attract tourists to Ventura County's scenic areas, and attract employees to the many sports and recreation-oriented businesses.

1.3 PLAN CONTENTS

The Ventura Countywide Bicycle Master Plan is organized as follows:

Chapter 1, Introduction, introduces and provides an overview of the Bicycle Plan.

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

[2] Because this is a regional bikeway plan, the focus is on creating connections between cities and major regional destinations. While the regional routes will frequently address internal circulation needs, detailed plans for internal circulation within cities or unincorporated communities were not a focus of this project. However, details about local city and unincorporated bike plans are included for information purposes in the Appendices.

Chapter 3, Existing Conditions, provides a description of the existing bicycling conditions in Ventura County. The conditions presented include the existing bicycle network, support facilities, and programs, as well as existing network needs, opportunities and constraints.

Chapter 4, Opportunities and Constraints, examines the attractors and generators of bicycle use and barriers to greater usage, such as lack of network connectivity and physical barriers.

Chapter 5, Policy and Program Review, provides an overview of the Bicycle Master Plan's consistency with existing local and regional plans and policies.

Chapter 6, Needs Analysis, documents the need for bicycle transportation in Ventura County, including an overview of existing user groups, bicycle commuting statistics, and bicycle accident data.

Chapter 7, Recommended Improvements, outlines the recommended countywide signage project, support facilities, and programs such as bicycle parking, Safe Routes to School, and educational efforts that will improve safety and convenience for bicyclists.

Chapter 8, Funding and Implementation, provides an overview of the funding sources and process within Ventura County as administered through the Ventura County Transportation Commission.

Appendices:

Appendix A: Unincorporated Ventura County Bicycle Transportation Plan

Appendix B: Moorpark Bicycle Transportation Plan

Appendix C: Port Hueneme Bicycle Transportation Plan

Appendix D: Santa Paula Bicycle Transportation Plan

Appendix E: Camarillo Existing and Proposed Bikeways Network

Appendix F: Fillmore Existing and Proposed Bikeways Network

Appendix G: Ojai Existing and Proposed Bikeways Network

Appendix H: Oxnard Existing and Proposed Bikeways Network

Appendix I: Simi Valley Existing and Proposed Bikeways Network

Appendix J: Thousand Oaks Existing and Proposed Bikeways Network

Appendix K: Ventura (San Buenaventura) Existing and Proposed Bikeways Network

Appendix L: Bikeway Design Guidelines

Appendix M: Survey Results

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2. GOALS AND OBJECTIVES

2.1 VENTURA COUNTYWIDE BICYCLE MASTER PLAN SPECIFIC GOALS AND OBJECTIVES

This section presents the specific goals and policies for the Ventura Countywide Bicycle Master Plan. Goals provide the context for the specific objectives and actions discussed in the Bike Plan. The goals provide the long-term vision and serve as the foundation of the plan, while the objectives provide more specific descriptions of actions to undertake to implement the plan and form the basis of specific policies. These goals and objectives are based in part on the policies identified in the 1996 VCTC Bicycle Plan, with modifications and additions to reflect current needs.

Goal 1: Expand and Optimize Ventura County's Bicycle Facilities

Objective 1.1. Provide bicyclists safe and accessible routes to major destinations within the County served by public roads, trails, transit, and rail.

Objective 1.2. Complete a comprehensive bikeway network by closing existing gaps and providing projects that improve inter-modal connections.

Objective 1.3. Encourage installation of bicycle parking at employment sites, schools, shopping centers, transit stations, parks, recreation facilities, and county facilities.

Goal 2: Plan and Design for the Needs of Bicyclists

Objective 2.1. Include bicycle facilities in all countywide transportation projects unless exceptional circumstances exist. The decision not to accommodate bicyclists will be the exception and not the rule.

Objective 2.2. Conform to the guidelines and standards of the County of Ventura, Ventura County Transportation Commission, and State and Federal Standards for the design and construction of bicycle facilities.

Goal 3: Promote Bicycle Safety and Increased Bicycling through Education, Encouragement, and Enforcement Activities.

Objective 3.1. Reduce bicycle collisions at locations where there is a history of such events

Objective 3.2. Continue existing and pursue new adult and youth bicycle education and safety programs in Ventura County.

Objective 3.3. Continue law enforcement of bicycle-related violations by both motorists and bicyclists, and emphasize positive enforcement for safe bicycling behavior by children. Utilize League of American Bicyclists or other education programs as a "bicycle traffic school" for bicycle infractions.

Objective 3.4. Support Safe Routes to School efforts that include educational and incentive programs to encourage more students to bicycle or walk to school.

Objective 3.5. Encourage major Ventura County employers to provide incentives and support facilities for existing and potential employees that commute by bicycle.

Goal 4: Provide for Regular Maintenance of the Bikeway Network

Objective 4.1. Encourage a program for routine maintenance of bikeway network facilities including regular sweeping of bikeways and shared use pathways.

Goal 5: Facilitate Coordination and Cooperation in Developing the Countywide Bicycle Network

Objective 5.1. Integrate the countywide bikeway network between the cities and unincorporated areas and the adjacent counties of Santa Barbara and Los Angeles to ensure coherent regional connectivity.

Objective 5.2. Develop countywide north-south and east-west bicycle corridors within the roadway network supporting recreational and commute patterns.

Goal 6: Implement the Bicycle Master Plan

Objective 6.1. Develop and update a bicycle projects list in coordination with the VCTC's annual bicycle funding allocations that addresses identified gaps in the countywide network.

Objective 6.2. Continue to identify and apply for public funding sources to finance bicycle facilities, education and safety programs.

Objective 6.3. Update the Countywide Bicycle Master Plan periodically as required by Caltrans to reflect new policies and/or requirements for bicycle funding.

3. EXISTING CONDITIONS

This chapter discusses existing bicycling conditions in Ventura County. The intent of this plan is to enhance and expand the regional bikeway network providing a comprehensive network of bicycle paths, lanes and routes that connect between all the cities and communities. Implementation of bikeways within the incorporated cities falls under the jurisdiction of those communities, and this plan defers to the appropriate adopted bicycle plans.
The information and maps included in this chapter reflect information gathered from the following adopted bicycle plans in Ventura County shown in Table 3-1. It should be noted that all plans need to be updated every 5 years to be eligible for State funding.

Table 3-1
Existing Bicycle Plans and Adoption Dates

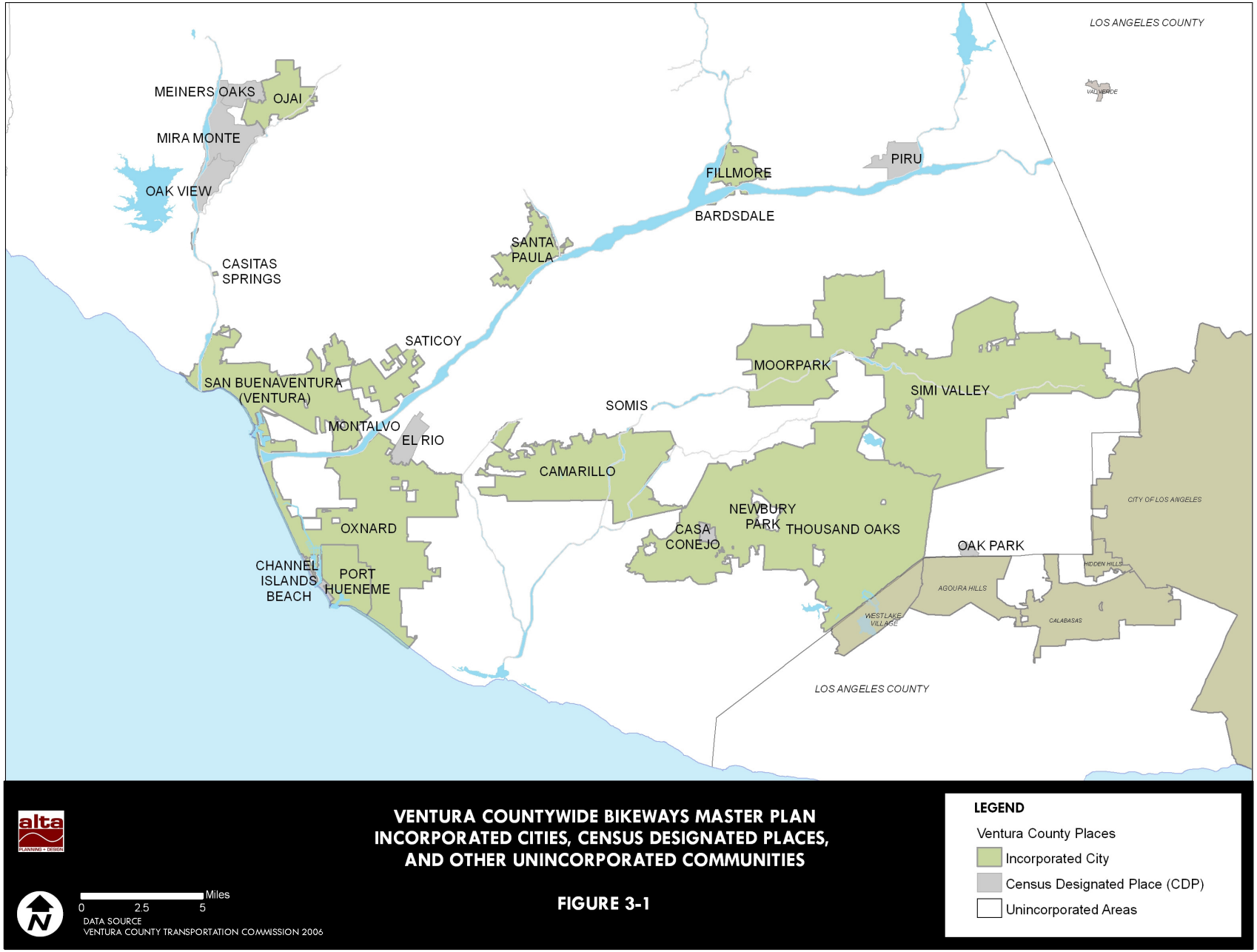
Jurisdiction	Document Name	Date Adopted
VCTC	Ventura County Regional Bikeways Plan	April 1996
Ojai	Bicycle and Pedestrian Master Plan	February 1999 (being updated)
San Buenaventura	General Bikeway Plan	January 2005
Fillmore	Bicycle Transportation Plan	February 2005
Oxnard	Bicycle and Pedestrian Facilities Master Plan	September 2002
Camarillo	Bikeway Master Plan	November 2003
Simi Valley	Bicycle Master Plan	May 2002 (being updated)
Thousand Oaks	Bikeway Facilities Master Plan	August 2005

3.1 Setting

Ventura County is situated along the California Coast between Santa Barbara County (to the west) and Los Angeles County (to the east). Ventura County is comprised of 10 incorporated cities and a large unincorporated area. A majority of the County's 800,000 residents live in the incorporated cities which are concentrated in the southern portion of the County, while the northern portion is largely mountainous and undeveloped. Although the County is, by definition, an urbanized county, it has a long-standing agricultural heritage from which it derives its character.

Geographically the County can be divided into five areas, the Simi Valley, the Conejo Valley, the Oxnard Plain, the Santa Clara River Valley, and the Ojai Valley. Each of these areas is separated by mountains, which limits connecting roadways and makes bicycle travel challenging.

The County's ten incorporated cities are: City of Ventura, City of Ojai, City of Santa Paula, City of Fillmore, City of Oxnard, City of Port Hueneme, City of Camarillo, City of Thousand Oaks, City of Moorpark and City of Simi Valley. There are also several unincorporated communities throughout the county, mostly at the edges of incorporated cities, including Piru, Saticoy, Casitas Springs, Oak View, Mira Monte, Meiners Oaks, Montalvo, El Rio, and Oak Park. A map of Ventura County's existing incorporated cities and major unincorporated communities is provided in Figure 3-1.


LOS ANGELES COUNTY
MEINERS OAKS
OJAI
MIRA MONTE
OAK VIEW
CASITAS SPRINGS
SANTA PAULA
FILLMORE
PIRU
BARDSDALE
SATICOY
SAN BUENAVENTURA (VENTURA)
MONTALVO
EL RIO
SOMIS
CAMARILLO
MOORPARK
SIMI VALLEY
OXNARD
CHANNEL ISLANDS BEACH
PORT HUENEME
NEWBURY PARK
THOUSAND OAKS
CASA CONEJO
OAK PARK
CITY OF LOS ANGELES
HIDDEN HILLS
AGOURA HILLS
CALABASAS
WESTLAKE VILLAGE
LOS ANGELES COUNTY
VENTURA COUNTYWIDE BIKEWAYS MASTER PLAN
INCORPORATED CITIES, CENSUS DESIGNATED PLACES,
AND OTHER UNINCORPORATED COMMUNITIES
FIGURE 3-1
Miles
0 2.5 5
DATA SOURCE
VENTURA COUNTY TRANSPORTATION COMMISSION 2006
LEGEND
Ventura County Places
Incorporated City
Census Designated Place (CDP)
Unincorporated Areas

3.2 EXISTING BICYCLE FACILITIES

DEFINITION OF BIKEWAYS

The California Department of Transportation (Caltrans) classifies three types of bikeways in their Highway Design Manual. Detailed design guidelines for all three types of bikeways are provided in Appendix L. Figure 3-2 provides an illustration of the three types of bicycle facilities.

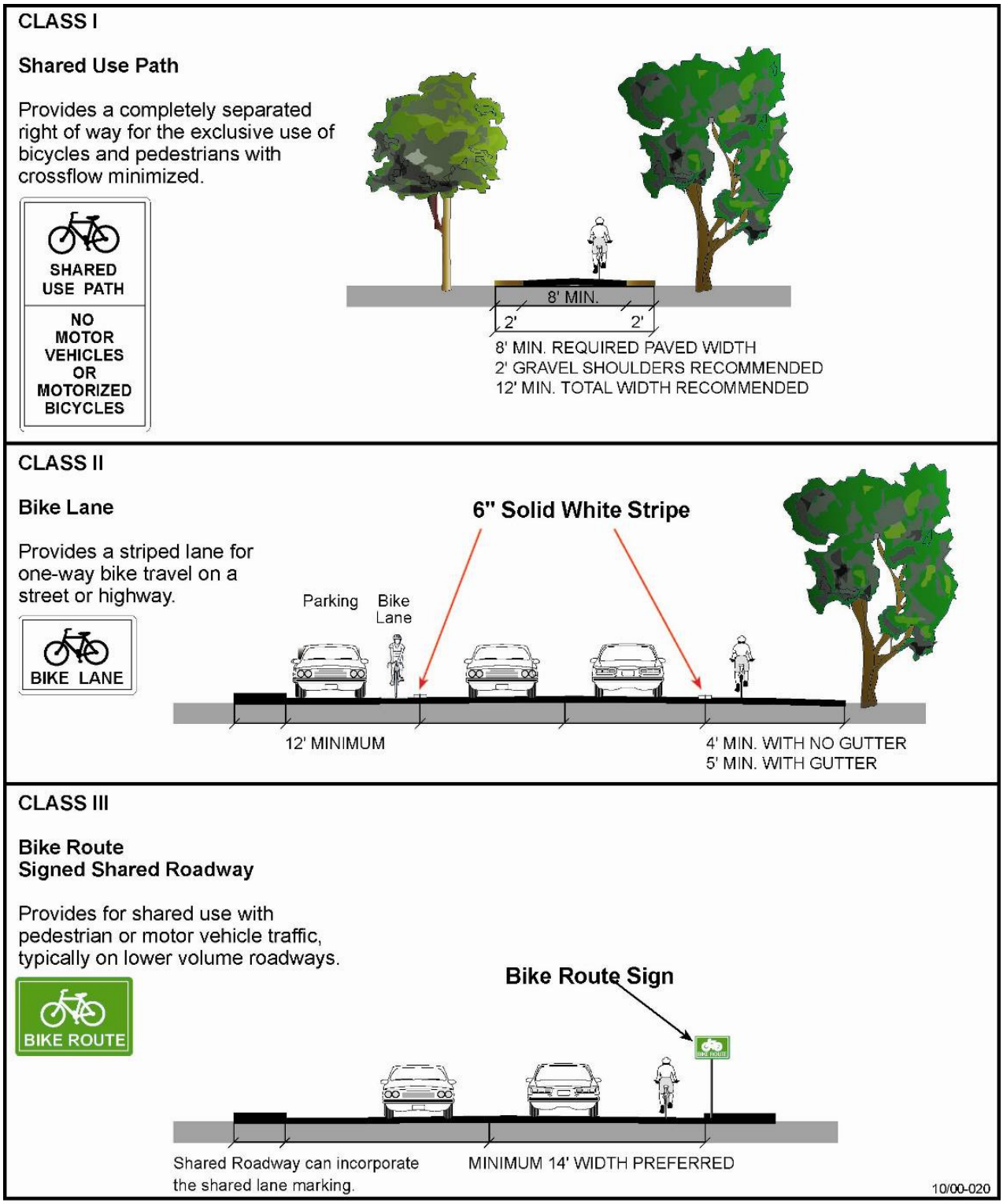
Class I Bikeway. A Class I Bikeway or "bike path" provides bicycle travel on a paved right-of-way completely separated from any street or highway.

Class II Bikeway. A Class II Bikeway or "bike lane" provides a striped and stenciled lane for one-way travel on a street or highway. The standards illustrated are used where the adjacent parking is not striped.
Class III Bikeway. A Class III Bikeway or "Bike Route" 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 Ventura County (with the exception of access-controlled freeways). As such, Ventura County's entire roadway network is effectively the County'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, or that bicyclists should not be riding on other streets. For example, the nine-mile long Sulphur Mountain Trail is part of the County Unincorporated Bike Trail System but it is not paved and therefore not addressed in this plan. Rather, the plan discusses a designated network of Class II and III bikeways that indicates that certain roadways have been identified as preferable routes for bicyclists, for reasons such as directness or access to significant destinations, and allows Ventura County to then focus resources on building out this primary bikeway network.

Because the main purpose of this 2007 Ventura Countywide Bicycle Master Plan is to enhance coordination and connections between cities and population centers, the following discussion and bikeway inventory focuses on bike paths, on-street bike lanes, and undesignated roadways utilized by bicyclists within the unincorporated County areas. Figures providing maps of existing incorporated city bikeways are included to provide context for the discussion of unincorporated connections. However, detailed inventories of bikeways located within incorporated cities, specifically on-street bike lanes and route segments, are not included in this plan, as they are discussed within the respective plans for each city. Certain regionally-significant Class I bike path systems located within cities are discussed, because at the time of this plan most of the currently constructed segments are located exclusively within cities.

Figure 3-2
Class I, II and III Bicycle Facilities Off-Street Bile Paths



A summary of total Class I bikeway mileage by jurisdiction is shown in Table 3-2 below. As shown, there are a total of 56.3 miles of existing Class I off-street bike paths in Ventura County.

Table 3-2
Total Ventura County Class I Bike Path Mileage

Jurisdiction	Class I
Camarillo	0.9
Fillmore	3.9
Moorpark	1.6
Ojai	2.3
Oxnard	3.7
Port Hueneme	0
San Buenaventura (Ventura)	20.7
Santa Paula	0.3
Simi Valley	8.4
Thousand Oaks	1.4
Ventura County (Unincorporated)	13.1
TOTAL	**56.3**

Note: Only off-street pathways that meet Caltrans Class I design criteria are included. Several jurisdictions (e.g. Port Hueneme) have off-street pathways that cannot be classified as Class I facilities due to design (width, clearances, etc). These non-compliant pathways are shown on Existing and Proposed Bikeway Maps as "Other Paved Multi-Use Trails".

The Ojai Valley Trail / Ventura River Trail, Omer Rains Trail, and Arroyo Simi Trail are the longest existing bike paths in the County. These regionally significant Class I bike paths in the County are described in detail below. For purposes of this discussion, "regionally significant" Class I facilities includes those facilities that cross jurisdictional boundaries or extend for a significant distance. Most other existing Class I Bikeway segments within the County are highly localized—covering only short distances and located entirely within a single jurisdiction. There are also some off-street bike facilities that do not meet Class I bikeway standards.

OJAI VALLEY TRAIL / VENTURA RIVER TRAIL

This Class I Bike Path begins at the California Coastal Bikeway near the mouth of the Ventura River and the Omer Rains Trail and follows the historic railroad alignment from Ventura to Fox Street in Ojai where pedestrian and bicycle traffic is diverted to Ojai Avenue. Equestrian traffic follows the trail to Soule Park Golf Course where it joins bicycle and pedestrian routes. A 20-foot wide easement presently connects the entry to the golf course and Soule Park and the equestrian center.

This bike path provides an important off-street recreational and commuter connection between Ventura and Ojai. The bike path is heavily-used, both on weekdays and weekends.

ARROYO SIMI TRAIL

The Arroyo Simi Trail is a 7-mile Class I facility that extends from the Simi Metrolink Station (for a short distance as a wide sidewalk path along Los Angeles Avenue), then shifts away from the road to follow the Arroyo Simi for most of it's length through Simi, to Madera Avenue on the west side of town. The Arroyo Simi trail is part of the "Simi to Mugu Bikeway" concept, a proposed regional bike trail that would continue westward primarily along Ventura County flood control channels. Remaining portions of this proposed bike trail require additional study because of topographic conditions, wetland sensitivity, and stream crossings.

OMER RAINS TRAIL / SURFER'S POINT

This 8-mile bicycle path extends north from San Buenaventura State Beach along the Surfer's Point promenade to Seaside Park/Ventura County Fairgrounds. From the fairgrounds the trail parallels the Ventura River east for a short distance to the junction of the Ventura River Trail at West Main Street/SR-33. The Omer Rains path continues north from the junction parallel to West Main Street and crosses beneath US-101, then parallels the west side of the freeway to connecting to the road at Emma Wood State Beach. This path provides bicyclist access along a portion of Coast Bike Route where US-101 is access controlled and off-limit to bicycles and no alternate frontage road exists.

SANTA PAULA BRANCH LINE BICYCLE TRAIL

This proposed 32-mile Class I bike path follows the former Santa Paula Branch Line Railroad right-of-way, which was acquired by the Ventura County Transportation Commission. Although currently only 1.25 miles of the trail have been constructed, within the City of Fillmore, when completed this bike path will extend from the junction of the railroad right-of-way and Johnson Road in Montalvo and run easterly all the way to the Santa Clara River Trail at the Los Angeles County line. Preliminary design and environmental work on the trail alignment is documented in the *Santa Paula Branch Line Recreational Trail Master Plan, 1996*. Through the design and environmental process, the exact location of future trail segments will be determined. The trail may be aligned on any or all of the following roads, Telegraph Road, Highway 126, Santa Barbara Street or the Santa Paula Branch Line right-of-way. The City of Santa Paula is currently completing construction and design drawings for an approximately 5-mile segment of the trail. The construction of the Santa Paula segment of trail is anticipated to be completed by the end of 2008.

ON-STREET BIKE LANES AND ROUTES

As shown in **Figures 3-3 through 3-6**, the majority of Ventura County's existing bicycle network is comprised of Class II Bike Lanes and Class III Bicycle Routes located within the incorporated cities. The most extensive on-street Class II Bikeways within the unincorporated County include bike lanes along US-101 between the Santa Barbara County line and the City of Ventura. The next longest bike lane segment is along Olivas Park Drive located between Ventura city limits and the Santa Clara River. The area between Ventura and Oxnard has the greatest number of unincorporated County bike lanes, including segments on Victoria Avenue and Gonzales Road, which provide extensions from the City of Oxnard's bikeway network. The only two other areas within the County with bike lanes are along Cawelti Road, an east-west route between Camarillo and California State University Channel Islands (CSUCI), and the area just east of Thousand Oaks in the Oak Park community along Lindero Canyon Road and Kanan Road. Currently a

replacement roadway for Lewis Road between Pleasant Valley Road and Hueneme Road is under construction which will include Class II Bicycle Lanes upon completion, and Class II Bicycle Lanes are also being constructed along Central Avenue.

Countywide Class II and Class III mileage totals are shown in **Table 3-3**.

Table 3-3
Total Ventura County Class II Bike Lane and Class III Bike Route Mileage

Jurisdiction	Class II	Class III
Camarillo	22.7	10.9
Fillmore	0.7	0
Moorpark	19.5	0.6
Ojai	0.0	0
Oxnard	49.2	1.0
Port Hueneme	3.0	0
San Buenaventura (Ventura)	46.9	16.6
Santa Paula	2.7	0
Simi Valley	32.9	8.8
Thousand Oaks	46.4	14.7
Ventura County (Unincorporated)	26.9	2.9
TOTAL	**250.8**	**55.6**

Source: Alta Planning + Design field inventory, Ventura County GIS data, June 2006.

Pacific Coast Bike Route

The Pacific Coast Bicentennial Bike Route was established by Caltrans in 1976 as part of the Bicentennial celebration. The official designation for the 1976 Pacific Coast Bicentennial Route expired in 1983. In 1990, the California Association of Bicycling Organizations (CABO) sponsored a resolution to designate the old PCBR as an "official state bicycle route. They asked Caltrans to sign it with standard bike route signs. Caltrans agreed to erect signs on those portions of the route under its jurisdiction where the highway meets current roadway design standards, and where the route changed directions. Currently most of the original 1976 Pacific Coast Bike Route signs have been stolen, and most of the route under Caltrans jurisdiction does not meet current standards and is therefore not signed.3 Within Ventura County the route is almost entirely unsigned, but generally follows the coast-side roadways within Ventura and Oxnard, following Channel Islands Boulevard and Ventura Road in Port Hueneme, and linking to State Route 1 to connect into Los Angeles County.

[3] Santa Barbara Bicycle Coalition, Quick Releases September 1997

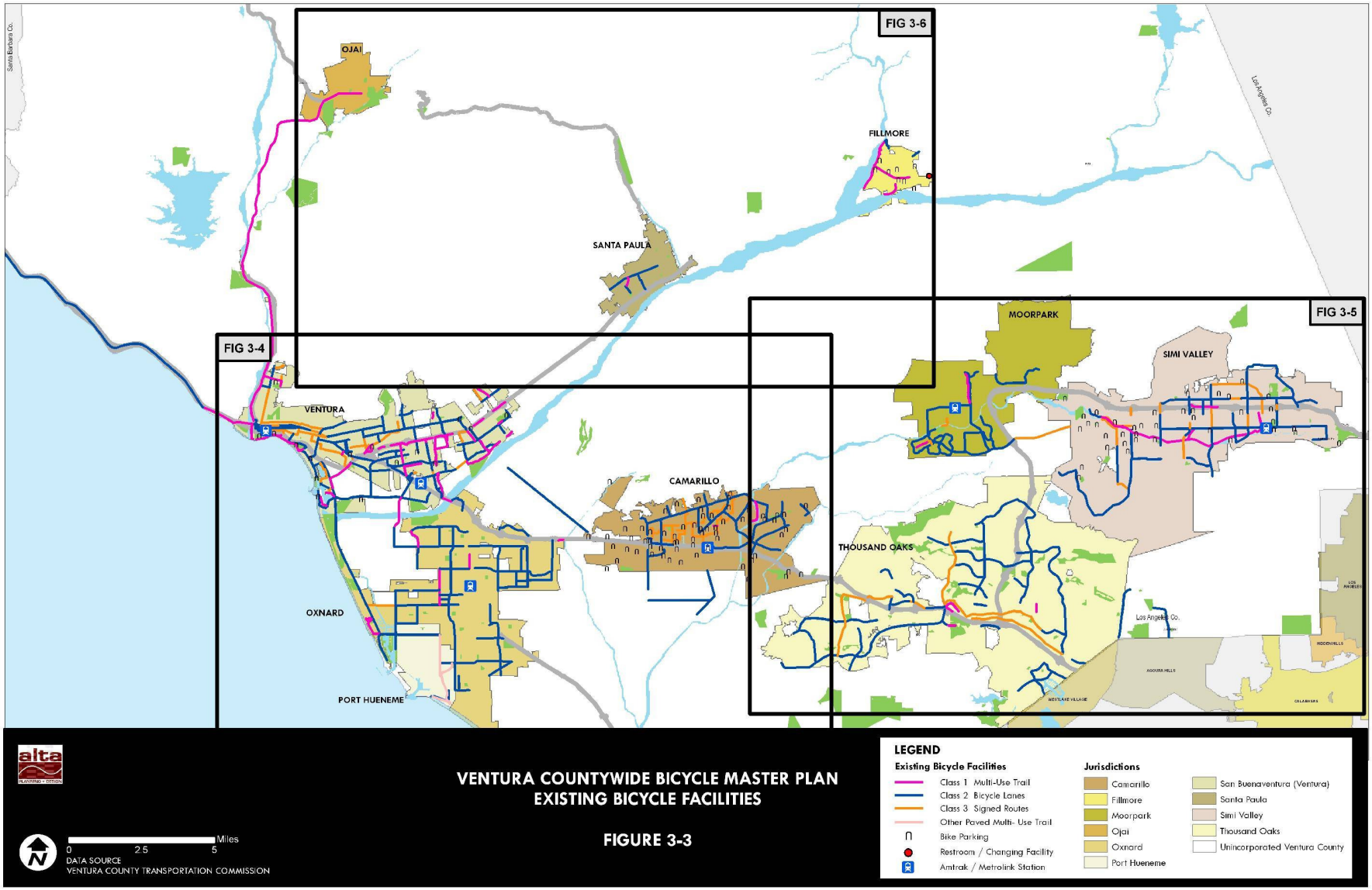
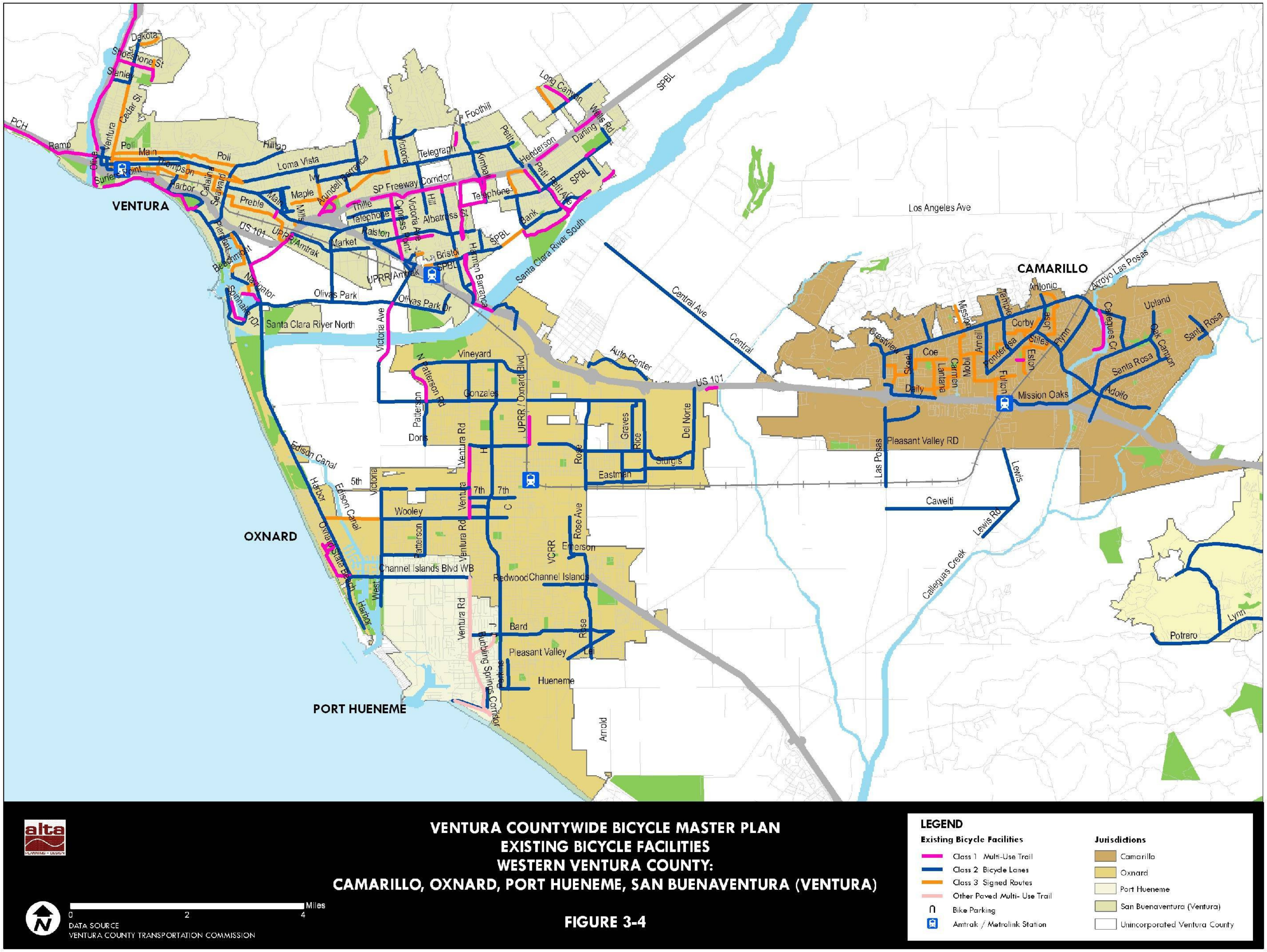
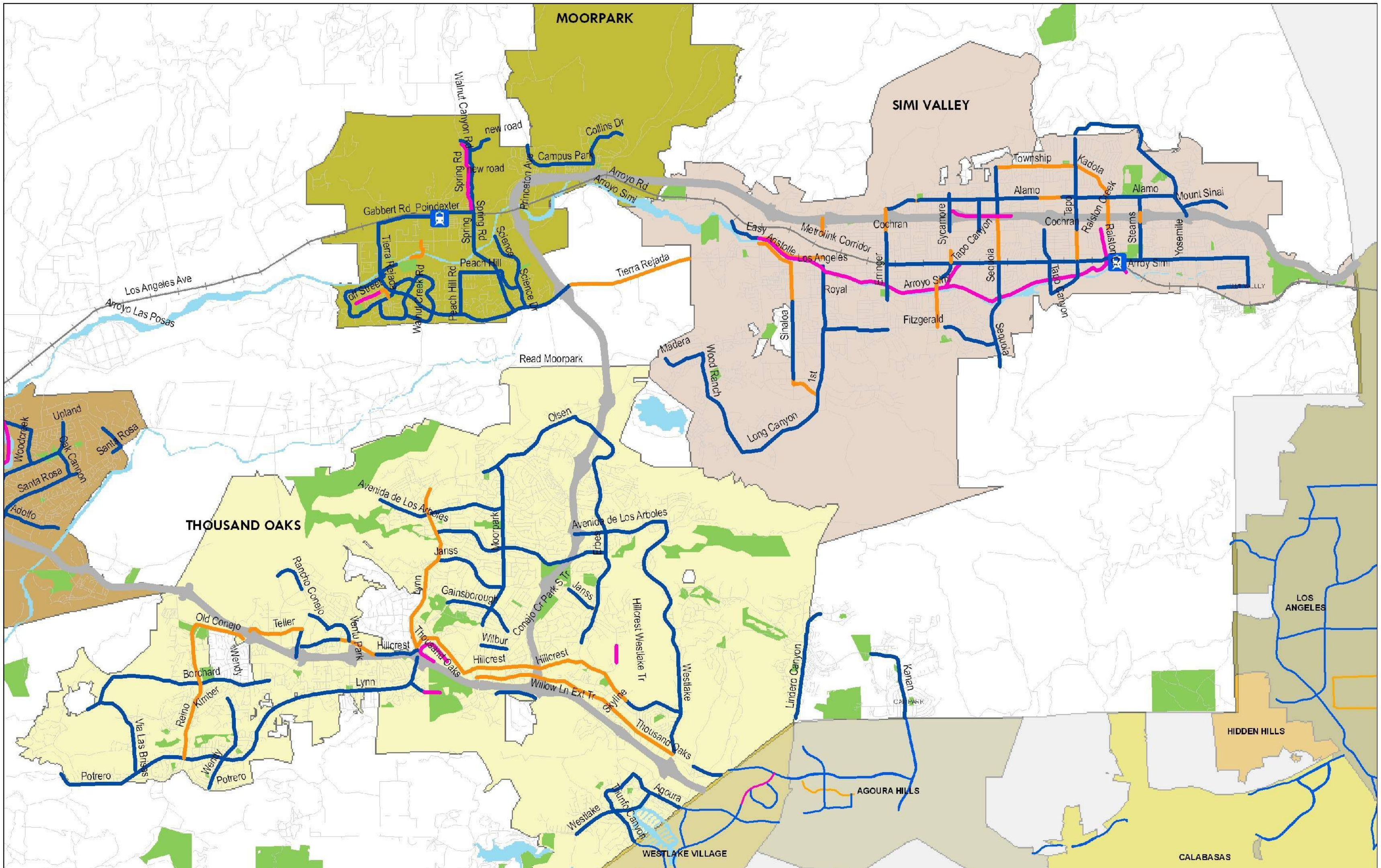


FIG 3-6
FIG 3-4
FIG 3-5
OJAI
FILLMORE
SANTA PAULA
MOORPARK
SIMI VALLEY
VENTURA
CAMARILLO
THOUSAND OAKS
OXNARD
PORT HUENEME
Santa Barbara Co.
Los Angeles Co.
VENTURA COUNTYWIDE BICYCLE MASTER PLAN
EXISTING BICYCLE FACILITIES
FIGURE 3-3
Miles
0 2.5 5
DATA SOURCE
VENTURA COUNTY TRANSPORTATION COMMISSION
LEGEND
Existing Bicycle Facilities
Class 1 Multi-Use Trail
Class 2 Bicycle Lanes
Class 3 Signed Routes
Other Paved Multi- Use Trail
Bike Parking
Restroom / Changing Facility
Amtrak / Metrolink Station
Jurisdictions
Camarillo
Fillmore
Moorpark
Ojai
Oxnard
Port Hueneme
San Buenaventura (Ventura)
Santa Paula
Simi Valley
Thousand Oaks
Unincorporated Ventura County


VENTURA
OXNARD
PORT HUENEME
CAMARILLO
VENTURA COUNTYWIDE BICYCLE MASTER PLAN
EXISTING BICYCLE FACILITIES
WESTERN VENTURA COUNTY:
CAMARILLO, OXNARD, PORT HUENEME, SAN BUENAVENTURA (VENTURA)
FIGURE 3-4
Miles
0
2
4
DATA SOURCE
VENTURA COUNTY TRANSPORTATION COMMISSION
LEGEND
Existing Bicycle Facilities
Class 1 Multi-Use Trail
Class 2 Bicycle Lanes
Class 3 Signed Routes
Other Paved Multi- Use Trail
Bike Parking
Amtrak / Metrolink Station
Jurisdictions
Camarillo
Oxnard
Port Hueneme
San Buenaventura (Ventura)
Unincorporated Ventura County



VENTURA COUNTYWIDE BICYCLE MASTER PLAN
EXISTING BICYCLE FACILITIES
EASTERN VENTURA COUNTY:
MOORPARK, SIMI VALLEY, THOUSAND OAKS

FIGURE 3-5

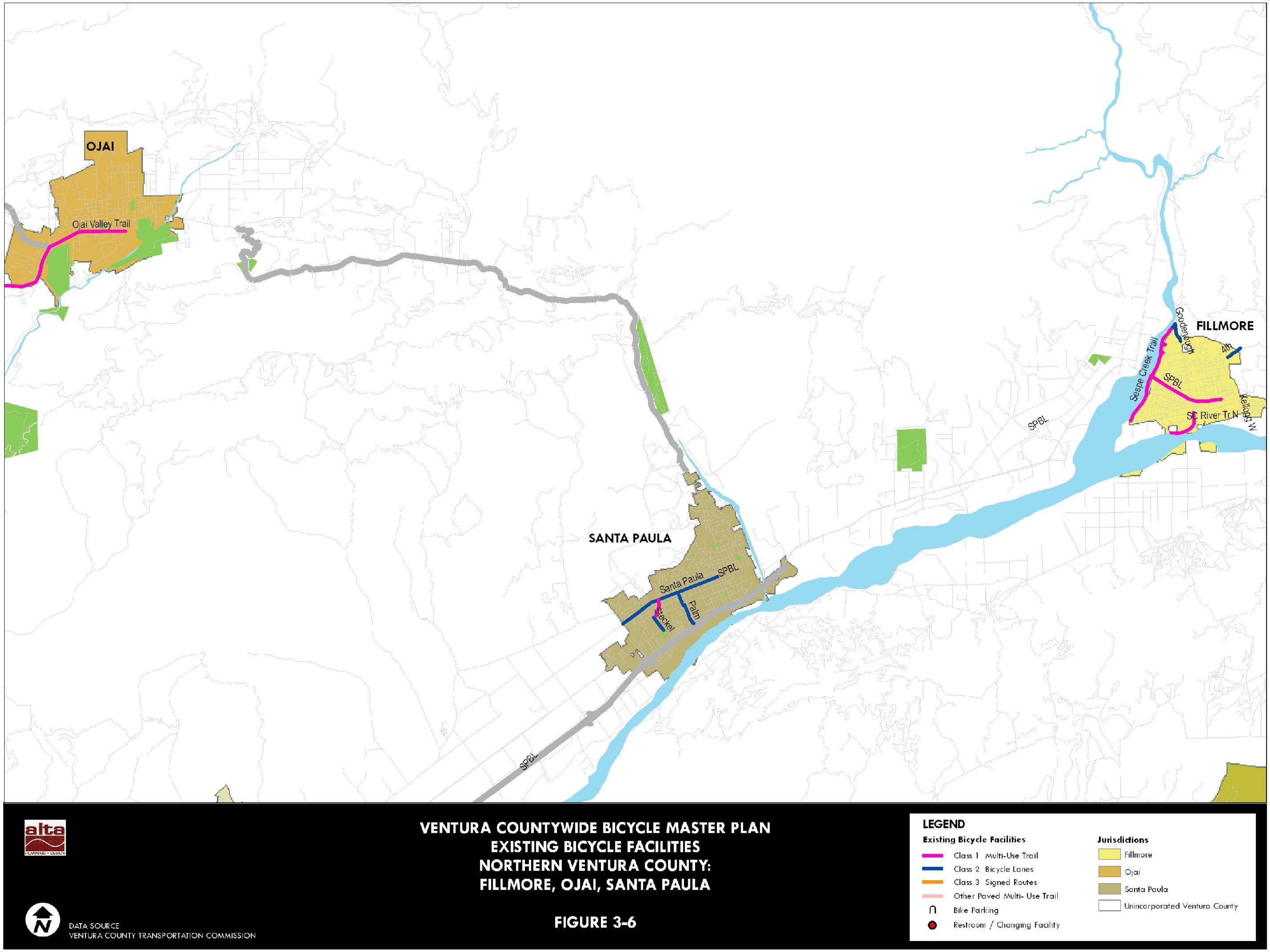
0 2 4 Miles

DATA SOURCE
VENTURA COUNTY TRANSPORTATION COMMISSION

LEGEND

Existing Bicycle Facilities
- Class 1 Multi-Use Trail
- Class 2 Bicycle Lanes
- Class 3 Signed Routes
- Other Paved Multi- Use Trail
- Bike Parking
- Amtrak / Metrolink Station

Jurisdictions
- Camarillo
- Oxnard
- Port Hueneme
- San Buenaventura (Ventura)
- Unincorporated Ventura County



VENTURA COUNTYWIDE BICYCLE MASTER PLAN
EXISTING BICYCLE FACILITIES
NORTHERN VENTURA COUNTY:
FILLMORE, OJAI, SANTA PAULA

FIGURE 3-6

PREVIOUS BIKEWAY FACILITY EXPENDITURES

Table 3-4 below shows bicycle / pedestrian expenditures for the past five years for all Ventura County jurisdictions from Transportation Development Act (TDA) funding. The TDA funding program is discussed in more detail in Chapter 8 of this plan. For each of the TDA funding awards, a local match was required. The totals below do not include the Class I Bike Path Maintenance fund which is also funded through TDA Article 3 funds. The maintenance fund is described in the next section below.

Jurisdiction	TDA Funding	Local Funding	Project Name
2003-2003			
Camarillo	$33,750	$33,750	Las Posas/Upland Rd. Bike Lanes
Fillmore	$10,230	$10,230	Citywide Handicapped Ramp Installation
Moorpark			
Ojai	$15,120	$15,120	Ojai Valley Trail Extension Engineering
Oxnard	$120,000	$120,000	Rose/Lemonwood Neighborhood Pedestrian improvements
Port Hueneme			
San Buenaventura	$28,400	$28,400	Installation of Audible Pedestrian Signals
Santa Paula			
Simi Valley	$36,400	$36,400	Alamo Street Bike Lanes
Thousand Oaks	$53,000	$53,000	Citywide Curb Ramps Installation
County	$67,500	$67,500	Installation of Handicapped Access Ramps
VCTC			
TOTAL	$364,400		
2003-2004			
Camarillo	$45,000	$45,000	Access Ramps
Fillmore	$45,000	$45,000	Bike/ped. path
Moorpark	$25,000	$25,000	Bike/ped. path
Ojai			
Oxnard	$53,500	$53,500	Sidewalks
Port Hueneme	$38,000	$38,000	Access Ramps
San Buenaventura	$40,000	$40,000	Bike racks/signs
Santa Paula			
Simi Valley	$31,250	$31,250	Bike lane striping
Thousand Oaks	$53,000	$53,000	Access Ramps
County	$72,500	$72,500	Sidewalks (El Rio & Oak View)
VCTC			
TOTAL	**$403,250**		

Jurisdiction	TDA Funding	Local Funding	Project Name
2004-2005			
Camarillo	$45,000	$55,000	Safe route to schools
Fillmore	$50,000	$50,000	City bike/ped path extension
Moorpark	$12,600	$15,400	Ramps/sidewalk/bike lockers
Ojai	$35,000	$130,000	Fox Barranca Pathway
Oxnard	$60,000	$870,000	Oxnard Blvd. Bike/ped path
Port Hueneme	$32,000	$32,000	Access ramps
San Buenaventura	$50,000	$774,000	Hwy. 126 bike path gap
Santa Paula			
Simi Valley	$35,000	$35,000	Access ramps
Thousand Oaks	$51,300	$67,700	Access ramps
County	$45,000	$45,000	Santa Ana Rd. bike study
VCTC	$25,000	N/A	Countywide Bike Map
TOTAL	**$440,900**		
2005-2006			
Camarillo	$45,000	$55,000	Access Ramps
Fillmore			
Moorpark	$13,000	$13,000	Crosswalk safety beacons
Ojai	$30,000	$165,000	Bicycle trail
Oxnard	$60,000	$810,000	Bicycle/pedestrian path
Port Hueneme	$50,000	$50,000	Bicycle/pedestrian path
San Buenaventura	$55,000	$55,000	Crosswalk safety beacons
Santa Paula	$72,600	$72,600	Access Ramps
Simi Valley	$32,400	$32,400	Bike lane stripping
Thousand Oaks	$52,000	$82,000	Sidewalks
County	$49,500	$145,500	Sidewalks
VCTC			
TOTAL	**$459,500**		
2006-2007			
Camarillo	$50,000	$50,000	Access Ramps
Fillmore	$75,000	$300,000	Sespe Creek bike path
Moorpark	$25,000	$25,000	Crosswalk Safety Beacons
Ojai	$20,000	$20,000	Access Ramps
Oxnard	$60,000	$72,660	Pedestrian times
Port Hueneme	$45,000	$45,000	Class 1 Bike Path upgrade
San Buenaventura	$55,000	$55,000	Crosswalk Safety Beacons
Santa Paula	$30,000	$30,000	Access Ramps
Simi Valley	$24,000	$24,000	Class 1 Bike Lane Study
Thousand Oaks	$54,000	$80,000	Sidewalks
County	$50,000	$120,000	Meiners Oaks Sidewalks
VCTC			
TOTAL	**$488,000**		

BICYCLE FACILITY MAINTENANCE

It is essential that all bicycle facilities be properly maintained although funding for this purpose is limited. VCTC uses a portion of TDA Article 3 funds to provide a fund for Class I bicycle maintenance. On average this funding has provided about $110,000 per year over the past five years for bike path maintenance. Table 3-5 shows the annual Bike Path Maintenance fund allocations by jurisdiction for the past five years.

Table 3-5
Bike Path Maintenance Fund Allocations

Jurisdiction	06/07	05/06	04/05	03/04	02/03
Camarillo	0	0	0	0	0
Fillmore	6,200	4,870	3,640	6,214	4,830
Moorpark	1,823	1,432	1,071	1,827	1,420
Ojai	468	367	273	468	400
Oxnard	4,375	3,438	2,570	4,387	3,410
Port Hueneme	10,508	8,255	6,170	10,532	8,200
San Buenaventura	50,848	39,944	29,855	50,962	39,620
Santa Paula	840	659	493	841	700
Simi Valley	25,696	20,187	15,088	25,755	19,930
Thousand Oaks	4,496	3,532	2,640	4,507	3,500
County	27,746	21,796	16,290	27,807	21,620
ANNUAL TOTAL	***133,000***	***104,480***	***78,090***	***133,300***	***103,630***

STATE HIGHWAY SYSTEM

Most of the cross-county roads and highways that extend through unincorporated Ventura County are not designated with formal bicycle facilities. However, in cases where these roadways provide the only non-freeway connections between cities or extend through scenic recreational routes, there may be heavy bicyclist use despite the lack of bike lanes, bike route signs, or formal designation. Acknowledging their frequent use by cyclists, the 2005 Bikeways Map for Ventura County denotes several of these cross-county highways as "Unsigned State Routes." Many of these roadways are State Highways, under the jurisdiction of Caltrans, and bicycles are allowed on all these state routes with the exception of the access-controlled freeway portions noted below.

State Route 1
This north-south route parallels the coastline from the Los Angeles County line until it merges with US- 101 in Oxnard. Bicycling is permitted along SR-1.

State Route 23
This north-south highway begins in the City of Fillmore winding its way through the mountains to the City of Moorpark. At Moorpark, the highway becomes an access-controlled freeway which connects to US-101 in Thousand Oaks. Along the access-controlled portion bicycles are not permitted, except for the segment

between Olsen Road and Tierra Rejada road on which the freeway shoulder is striped with a Class II Bike Lane.

State Route 33

This north-south route begins as an access-controlled freeway at US-101 in Ventura, and becomes a two-lane highway at Casitas Springs heading into the Ojai Valley. From Ojai the highway continues north into the mountains eventually reaching the Kern County line. Bicycle is permitted along the non access-controlled portions of this highway.

State Route 34

This east-west route begins at SR-1 in Oxnard, extends through Camarillo, and connects to SR-118 in Somis. Bicycling is permitted along all segments of this roadway.

U.S. Route 101

This north-south highway is the most traveled route in the county and serves as a primary travel route between points north and Los Angeles. From the Los Angeles County line in the south US-101 is an access controlled freeway, with bicycles not permitted. At the very north end of the County, between Sea Cliff and Carpinteria Road, no alternate non-freeway route to US-101 exists and bicycles are permitted along the freeway shoulder.

State Route 118

This east-west highway extends as an access-controlled freeway from the Los Angeles County line through Simi Valley to Moorpark. At Moorpark it becomes a two lane State highway and continues through agricultural lands and connects to SR-126 in Saticoy. From Moorpark westward SR-118 is open to bicycling.

State Route 126

This east-west route extends along the Santa Clara River Valley from Interstate 5 in Los Angeles County through the cities of Fillmore, Santa Paula and San Buenaventura where it connects with US-101. SR-126 is access controlled freeway (bicycles prohibited) to Santa Paula, but from there eastward is open to bicycling.

State Route 150

For almost all of its length from Santa Paula through the City of Ojai to the Santa Barbara County line, SR-150 is a rural mountainous two-lane highway. SR-150 is entirely open to bicycling.

BICYCLE PARKING AND END-OF-TRIP FACILITIES

BICYCLE PARKING

Bicycle parking is an important component in planning bicycle facilities, encouraging people to use their bicycles for everyday transportation. 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.

In California, bicycle parking facilities are classified as either Class I or Class II facilities. These two distinctions are outlined below.

Both bicycle lockers and racks are located at Metrolink Stations

Class I Parking – Long-Term Facilities include secure areas such as lockers or bicycle "cages" that can be locked by the bicyclist. Used where security may be an issue, and for bicyclists expecting to park for more than a few hours.

Class II Parking – Short-Term Facilities are bicycle racks. Bicyclists provide their own locks to secure their bicycles. Used mainly by those expecting to depart within a few hours, or may be appropriate for long-term parking where security is not an issue.

Existing bicycle parking facilities in Ventura County are primarily concentrated at schools and civic buildings. Racks are typically provided at all elementary and middle schools. Bike parking is provided at the County Government Center, as well as local City Halls and at all train station in the County. CSU Channel Islands and the Ventura County Community Colleges provide bike racks around their campuses, and there are bike racks at the Foster Park Ojai Valley trailhead. Most of the larger shopping centers, as well as some smaller retail areas provide bike racks. Most observed racks are the older style "wheelbender" design that can damage the bicycle. Opportunities such as bike stations, which are attended facilities, and other secured parking facilities would help to address the shortage of parking at major destinations.

Figures 3-4 through 3-6 provides a map of existing bicycle parking facilities in the County, consolidating information on parking facilities and public changing areas gathered from the most recently adopted city bicycle plans. The cities of Oxnard, Thousand Oaks and Ojai do not show exact locations of bicycle parking and thus these do not appear on the map; instead, these two bicycle plans qualitatively describe locations within the city where bicycle parking is provided; the same holds true for bicycle parking locations within the cities of Santa Paula, Port Hueneme and Moorpark.

SHOWERS, LOCKERS AND OTHER SUPPORT FACILITIES

For the purposes of this Bicycle Master Plan, bicycle support facilities refer to end-of-trip facilities or services designed to accommodate or promote the use of bicycles, such as showers, lockers, and changing rooms.

No official combined public shower and locker facility for bicycle commuters, such as a bike station, is known to exist in Ventura County. Some employers provide these facilities, but their use is limited to employees only. 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 bicyclists. 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 Ventura County are discussed in the following chapter in the section covering Generators and Attractors and shown on Figure 4-1.

Bicycle shops are important for bicyclists making trips within urban areas in the event their equipment fails and they need repair parts or service. Ventura County is home to twenty three bicycle shops, listed in Table 3-6. Several of the shops listed below have websites which provide links to local bicycling resources and clubs.

Table 3-6

Ventura County Bicycle Shops

Name	Location
Bill's Bike Shop	2360-a E Las Posas Rd, Camarillo
Camarillo Bike Company	2263 Pickwick Ave, Camarillo
Michael's Bicycles	2253 Michael Dr, Newbury Park
Newbury Park Bicycle Shop	1560-6 Newbury Rd, Newbury Park
Bicycles Of Ojai	108 Canada St, Ojai
Bicycle Clinic	836 N Ventura Rd, Oxnard
Bike Pals International	1166 Industrial Ave, Oxnard
Team Oxnard Bike Shop	310 S C St, Oxnard
Bicycle World U S A	135 E Harvard Blvd, Santa Paula
All Pro Bicycle Shop	2381 Tapo St, Simi Valley
Simi Bike Works	2687 Cochran St, Simi Valley
Simi Cycling Center	897 E Los Angeles Ave, Simi Valley
The Racers Edge	2139 Tapo St., Simi Valley
Mark's Conejo Cyclery	2728 E Thousand Oaks Blvd, Thousand Oaks
Westlake Cyclery	3195 Willow Ln, Thousand Oaks
Matt's Cycling Center	2427 E Harbor Blvd., Ventura
Open Air Bicycles	1783 E Main St., Ventura
Trek Bikes of Ventura	4060 E Main St, Ventura
Bicycle World	10255 Telephone Rd
Ventura Bike Depot	239 W Main St
Performance Bicycle	2839 Johnson Dr

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, Ventura County uses standard Caltrans bikeway signage for Class I Bike Paths, Class II Bike Lanes and Class III Bike Routes. Supplemental signage for the Ojai Class I Bike Path and the Santa Paula Branch Line trail are outlined in their respective feasibility plans reviewed in the following section. It would also be helpful for VCTC to work with the cities/County to develop a Countywide logo to aid identifying various segments of a regional bike trail system.

MULTI-MODAL CONNECTIONS

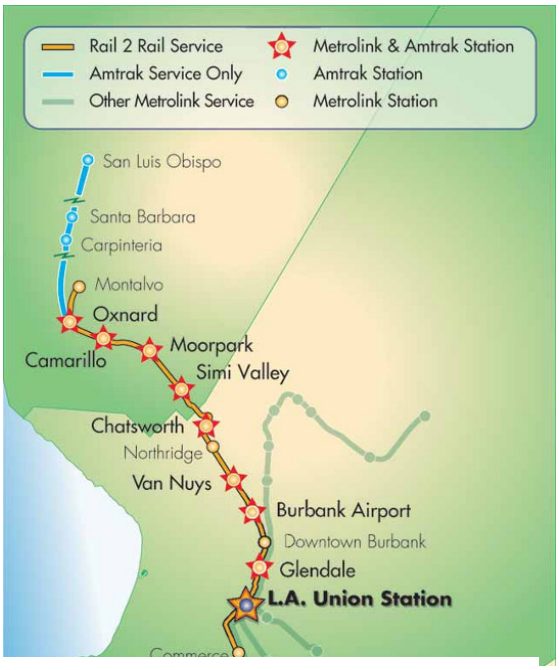
Providing connections between bicycles and public transit effectively extends the length of bicycle trips both for commute and recreational purposes. Ventura County residents have multiple public transit options of both trains and buses. All of the transit systems allow for some form of bicycle storage on vehicles and at transit stations themselves. Bus stops generally do not have bicycle parking although there is interest in providing bicycle parking racks where feasible. The ease of transferring between transit systems has been improved with the introduction of the GoVentura SmartCard. In addition, all the buses within Ventura County now have

Nextbus capabilities which allows for online viewing of real time bus arrival information. Transit Router, an online service provides trip planning information given any starting and end points, is also available for all Ventura bus routes. All of these features enhance transit usability and as a result also benefits those seeking to combine bicycling with public transit.

RAIL TRANSIT

Providing bicycle support facilities such as parking and on-board bicycle storage effectively lengthens bicycle trips on a regional scale between counties. Both Metrolink and Amtrak's Pacific Surfliner provide rail transit services for Ventura County residents and allow bicyclists to cycle out one way and take a return train trip or the reverse. The Metrolink, Ventura County Line connects with downtown Los Angeles with stops throughout Ventura County in addition to Burbank and Glendale including service to Burbank Airport and L.A. Union Station, with easy access to the Metro Red Line subway and many bus routes. CSU Channel Islands and CSU Northridge are both served by this line with a bus connection.

The Ventura Line includes five Metrolink stops: Montalvo, Oxnard, Camarillo, Moorpark and Simi Valley, with all stops having bicycle racks and a limited number of bicycle lockers for storage. The Pacific Surfliner shares stops with all the Ventura County Metrolink stations, with an additional AMTRAK only station in Ventura. The AMTRAK line serves additional points north along the coast to Carpinteria, Santa Barbara, San Luis Obispo and beyond. All trains allow bicyclists to bring bicycles on board, with a maximum of two per car for Metrolink and up to three bicycles on Amtrak trains where storage racks are available.



AMTRAK and Metrolink route map of stations in Ventura County

BUS TRANSIT

There are a variety of sub-regional buses serving Ventura County, in addition to buses serving specific cities. South Coast Area Transit (SCAT) provides service to Ojai, Oxnard, Port Hueneme, San Buenaventura and unincorporated areas of Ventura County between these cities. Ventura Intercity Service Transit Authority (VISTA) also provides service to county residents, primarily linking areas of the county and Los Angeles County for commuters. All buses in Ventura County are equipped with bicycle racks mounted on the front of the buses; these racks have a capacity to hold two or three bicycles. VISTA buses also allow the storage of several bicycles in the undercarriage bays. In addition to Countywide serving buses, the following transit systems provide transportation within each city: Camarillo Area Transit (CAT), Moorpark Bus, Simi Valley Area Transit, Thousand Oaks Transit (TOT), and the Ojai City Trolley.

4. OPPORTUNITIES AND CONSTRAINTS

4.1 MAJOR GENERATORS AND ATTRACTORS OF BICYCLE TRIPS

The purpose of this chapter is to identify primary areas of bicycle trip generation and common destinations for bicyclists in Ventura County. Major destination points throughout the county, including educational facilities, employment centers, regional shopping centers, government centers, and regional recreational areas, are described below and mapped in **Figure 4-1: Generators and Attractors**. Although the focus of this Countywide Bicycle Master Plan is on bicycle improvements in the unincorporated areas of the county, many of the key destinations are located within the incorporated cities. This chapter looks at ways to improve the cross-county links to those destinations, as many of the trips pass through areas of unincorporated county.

EDUCATIONAL FACILITIES

Educational facilities are a primary generator and attractor of bicycle traffic. Elementary, middle/junior high, and high schools, as well as colleges and universities, are identified in Figure 4-1.

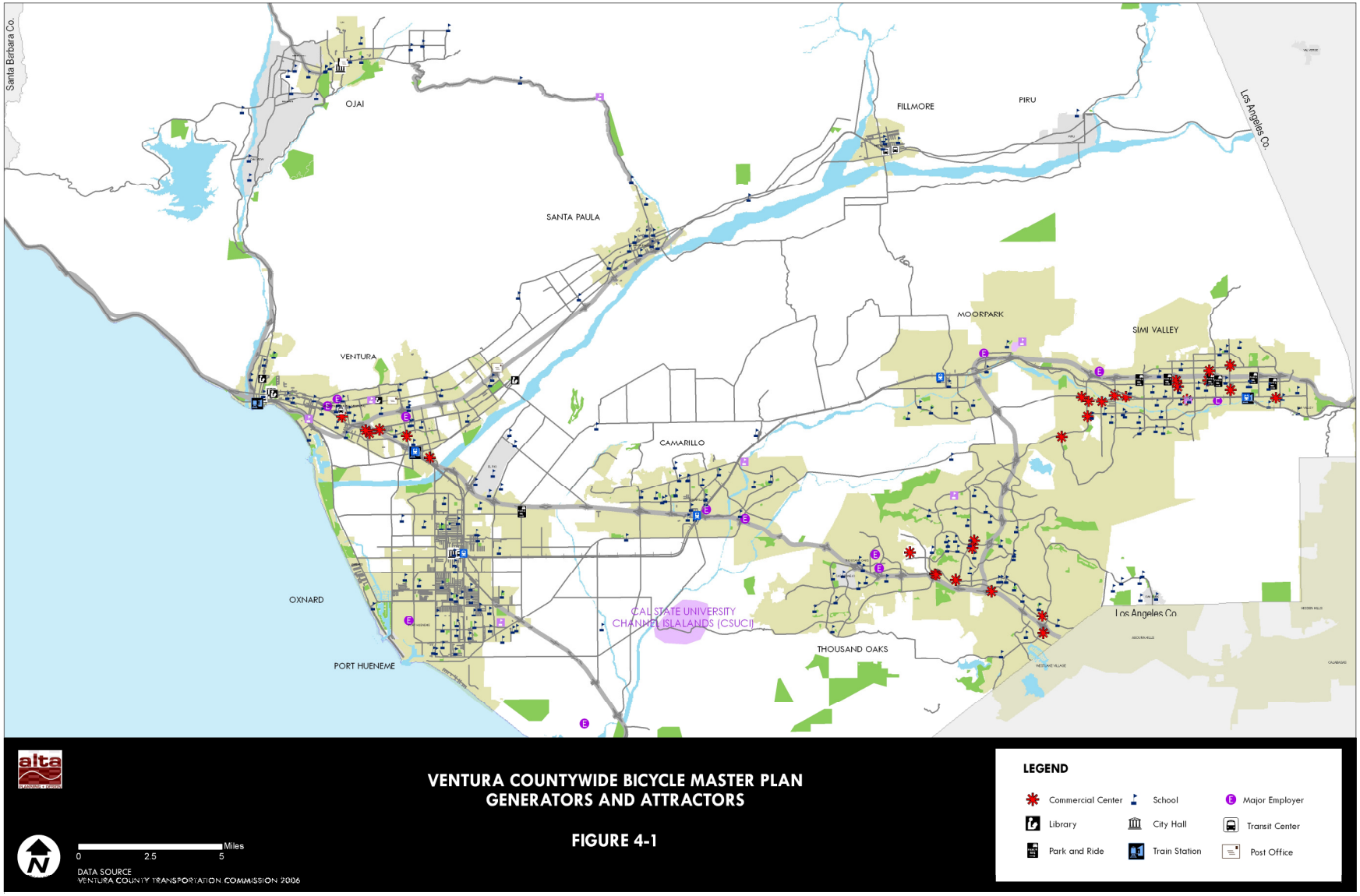
ELEMENTARY, JUNIOR HIGH AND HIGH SCHOOLS

Schoolchildren in general, but particularly those in grades 4 and above, have a high potential for bicycle trip generation. The entire county has 38 high schools, 29 junior high schools, and 169 elementary schools.

Currently, there is one countywide school program promoting clean air, alternative modes and safe transportation. The Ventura County Air Pollution Control District (VCAPCD), in partnership with VCTC, sponsor an annual calendar contest for all public school students, where students design a calendar page illustrating the yearly theme, with prizes awarded to the winners. The 2006 contest theme was “Transit Fix for 2006.” The contest has occurred for its eleventh consecutive year. Although this contest is not specifically promoting bicycle transportation, the model for the contest has operated successfully and could be adapted for, or incorporate a greater emphasis on bicycle transportation and safety.

COLLEGES AND UNIVERSITIES

Ventura County has one university, three community colleges, and three private colleges. The three community colleges comprise the Ventura County Community College District and are located in the cities of Ventura, Oxnard and Moorpark. The two private colleges are: Thomas Aquinas College, located halfway between Santa Paula and Ojai along SR-150; Saint John’s Seminary College, located in Camarillo; and California Lutheran University, located in Thousand Oaks. There is one adult school in Simi Valley. All of these schools are located in close proximity to existing bikeways on the local network.


Santa Barbara Co.
OJAI
FILLMORE
PIRU
Los Angeles Co.
SANTA PAULA
MOORPARK
SIMI VALLEY
VENTURA
CAMARILLO
OXNARD
CAL STATE UNIVERSITY
CHANNEL ISLALANDS (CSUCI)
Los Angeles Co.
THOUSAND OAKS
PORT HUENEME
alta
VENTURA COUNTYWIDE BICYCLE MASTER PLAN
GENERATORS AND ATTRACTORS
FIGURE 4-1
LEGEND
Commercial Center
School
Major Employer
Library
City Hall
Transit Center
Park and Ride
Train Station
Post Office
Miles
0
2.5
5
DATA SOURCE
VENTURA COUNTY TRANSPORTATION COMMISSION 2006

California State University – Channel Islands (CSUCI) is located south of Camarillo off of Lewis Road within unincorporated Ventura County. Currently, there are no bikeways providing direct access to the CSUCI campus. However, Lewis Road is currently being widened and reconstructed and will include bike lanes on both sides when the project is complete. There is a 2-mile bike lane segment along Cawelti Road, which connects between Los Posas Road and Lewis Road north of campus.

Shuttles equipped with bike racks operate between the CSUCI campus and the Camarillo Metrolink Station, and are well-used by students. There are bicycle parking racks at several locations on campus including: in front of the Police Department, behind Aliso Hall, the Science Building, the Bell Tower, between the Bell Tower and Library and in back of University Hall. Through the public input process for this Master Plan students identified a need for bicycle parking at the campus shuttle stop. Details of the CSUCI transportation planning policies are detailed in **Chapter 4 Policy and Program Review**.

MAJOR EMPLOYERS

Employment centers include the top 10 employers within Ventura County. Employment centers were identified by the VCAPCD. The total number of employees represented by the top 10 employers is approximately 31,000. The top 10 employers are shown in **Table 4-1** below:

Table 4-1
Ten Largest Employers in Ventura County

Employer	Location	Bike Racks?	Showers?	Number of Employees
Amgen, Inc	One Amgen Center Dr. Thousand Oaks	Yes	Yes	6,501
Naval Base Ventura County, Port Hueneme	Patterson Avenue and 23rd Avenue Port Hueneme	Yes	Yes	6,000
Naval Base Ventura County, Point Mugu	12th Street and Laguna Road, Point Mugu	Yes	Yes	4,000
County of Ventura – Government Center	800 S. Victoria Avenue, Ventura	Yes	Yes	2,122
Countrywide Homes Loans, Inc.	1800 Tapo Canyon, Simi Valley	DTS	DTS	1,740
WellPoint, Inc.	2000 Corporate Center Dr., Newbury Park	DTS	DTS	1,727
Countrywide Home Loans, Inc. HQ	Thousand Oaks	DTS	DTS	1,618
Technicolor Video Services	3233 E. Mission Oaks Boulevard, Camarillo	DTS	DTS	1,509
WellPoint, Inc.	5151 Camino Ruiz, Camarillo	DTS	DTS	1,498
Community Memorial Hospital	147 North Brent Street, Ventura	DTS	DTS	1,491
Kavlico Corporation	14501 Princeton Avenue, Moorpark	DTS	DTS	1,489
County of Ventura – Health Care	3291 Loma Vista Road, Ventura	DTS	DTS	1,348

Notes: DTS = Declined to State
Sources: Employer list from VCAPCD, August 2006; Bike rack and locker availability based on Alta Planning + Design telephone survey, 2006

The VCAPCD administers a voluntary vehicle trip reduction program called the Transportation Outreach Program (Rule 211). The program requires all employers with over 100 employees to register with VCAPCD, and conduct a commute survey every other year that inventories how employees at the site are getting to and from work. As part of the program the VCAPCD offers transportation demand management assistance to employers, but participation in trip reduction activities is voluntary.

All of the above employers currently work with the VCAPCD to provide education and encouragement to employees for reducing single occupancy vehicle trips. All but Naval Stations at Port Hueneme and Point Mugu and the County Government Center declined to state the availability of bicycle racks and lockers at their site. Both Port Hueneme and Point Mugu have some bicycle lockers, racks and showers although the total number of facilities was not available. The County of Ventura Government Center has bike lockers available at the main campus, as well as limited shower facilities for employees. There are a small number of wave racks available for public use at some buildings on the main government center and at satellite county facilities.

REGIONAL COMMERCIAL CENTERS

Regional shopping and commercial centers were mapped according to information provided in the most recent version of adopted city bicycle plans. Most shopping centers are located along main travel routes and within cities.

PARKS AND RECREATION FACILITIES

Parks and recreation facilities vary in type and are frequently destination points for bicyclists, walkers, joggers and hikers, and other non-motorized users. Federal and State parks, regional parks, golf courses, and local parks have been included in the inventory. There is a variety of State and County operated parks, beaches and recreational areas, most of which have connections to existing local Class II bicycle lanes or Class III bicycle routes within the cities.

Two national parks are located in Ventura County: Channel Islands National Park, an offshore island park with a Visitors Center in Ventura; and the Santa Monica Mountains National Recreation Area, which includes a large area of open space land south of Thousand Oaks.

State Parks located in Ventura County include: Emma Wood State Beach, Mandalay State Beach, McGrath State Beach, Point Mugu State Park, and San Buenaventura State Beach.

Coastal facilities including harbors, beaches, local parks and marinas which provide a wide variety of recreational and commercial activities were also mapped. A substantial segment of ocean-front in Ventura County is publicly accessible by non-motorized transportation, and is enjoyed by significant numbers of bicyclists.

Ventura County Parks include: Camp Comfort, Dennison Park, Foster Park, Kenny Grove, Oak Park, Soule Park, Steckel Park, Tapo Canyon Park, Faria Beach, Hobson Beach, and Rincon Parkway. Many of the Class I Multi-use pathways currently in place serve these areas, as well as the State Beaches, providing needed bicyclist access.

Each city within Ventura County has a number of local parks with a great variety of recreational opportunities to be found, with the larger cities of Ventura and Thousand Oaks having nearly a hundred

parks and golf course within their limits. These parks offer a number of programs and services. Providing access to these recreational facilities is a major goal of the expanding city bicycle networks.

GOVERNMENT CENTERS

It is important for city halls and other government facilities to be connected to the existing and proposed bikeway network. The County Government Center is located in the City of Ventura at the intersection of Telephone Road and Victoria Avenue. Government service centers including city halls, public libraries and post offices are shown on **Figure 4-1**.

4.2 OPPORTUNITIES AND CONSTRAINTS

This section discusses specific opportunities and constraints of the bikeway network, which include factors such as existing roadway geometries, traffic volumes, vehicle speeds, distance between destinations, and topography, and trip purpose.

OPPORTUNITIES

EXISTING CITY BIKEWAY NETWORKS

One of the greatest opportunities for this plan is to be able to connect the existing bikeway networks of local cities with a safe and functional bicycle network in the unincorporated areas. As noted in the Introduction chapter, seven of the 10 incorporated cities in Ventura County have current adopted Bicycle Master Plans. The status of adopted Bicycle Master Plans in the county is shown in **Table 4-2.**

Table 4-2
Existing Bicycle Plans and Adoption Dates

Jurisdiction	Document Name	Date Adopted
VCTC	Ventura County Regional Bikeways Plan	April 1996
Ojai	Bicycle and Pedestrian Master Plan	February 1999 (being updated)
San Buenaventura	General Bikeway Plan	January 2005
Fillmore	Bicycle Transportation Plan	2005
Oxnard	Bicycle and Pedestrian Facilities Master Plan	September 2002
Camarillo	Bikeway Master Plan	November 2003
Simi Valley	Bicycle Master Plan	May 2002 (being updated)
Thousand Oaks	Bikeway Facilities Master Plan	August 2005

The County unincorporated areas and cities of Port Hueneme, Moorpark, and Santa Paula are the only jurisdictions within the county that lack adopted Bicycle Master Plans. One main goal of this 2007 Ventura Countywide Bicycle Master Plan is to provide a Caltrans-compliant bicycle master plan document to serve those jurisdictions. Adoption of this Countywide Master Plan by Ventura County (unincorporated areas) and by the cities of Port Hueneme, Moorpark, and Santa Paula will mean that all jurisdictions in Ventura County have adopted bicycle plans.

SCENIC AND NATURAL RESOURCES

Ventura County is filled with dramatic mountains, scenic farmland, seasonal rivers and arroyos, and a beautiful coastline, all of which provide wonderful scenery and destinations for bicyclists. Coastal bike paths can provide a great place for families to bicycle together at a leisurely pace on flat terrain. The county's many straight rural roads provide opportunities for large groups of riders to practice "pacelining". Steep mountainous roads can be considered an opportunity for experienced bicyclists looking for a challenging recreational ride, although they may be a constraint to cycling for commuters looking for direct travel between cities. And while this plan focuses on paved and on-street bicycle facilities, the County has numerous popular mountain-biking destination located in its open spaces and parklands, and there are opportunities for residents to bicycle to trailheads rather than driving. As discussed above there are numerous parks throughout the county, from large State Parks to small neighborhood pocket parks. A key opportunity of this Bicycle Master Plan is connections to existing recreational and natural resource areas in the county.

LINEAR CORRIDORS

Linear corridors such as railroad, utility, or flood control rights-of-ways provide excellent opportunities for developing off-street Class I Bikeways that are completely separated from roadways. For example, the 30-mile long Santa Paula Branch Line railroad right-of-way is proposed for a Class I Bicycle Path; a one-mile segment has already been constructed in the City of Fillmore and additional segments are planned in Santa Paula. Other linear rights-of-way that could be used for Class I trails include utility rights of way such as the Southern California Edison power line corridors. The County's numerous arroyos and flood control channels also provide opportunities for developing Class I Bike Paths along maintenance roads, such as the existing Arroyo Simi bike path in Simi Valley. Other segments of the Arroyo Simi, the Arroyo Las Posas, and Calleguas Creek are also potential corridors for future bike paths.

PUBLIC TRANSIT SYSTEM

As discussed in Chapter 3, almost the entire county can be accessed by transit. Transit allows bicyclists to extend their trip range, do one-way recreational bike rides and take transit back, or utilize transit as an emergency transportation option in the case of a breakdown, inclement weather, or other factors. The GoVentura SmartCard allows county residents to seamlessly utilize one transit card for any of the various transit operators throughout the County by using its pre-paid function, eliminating the need to maintain the necessary change for every boarding. Providing connections to the key transit center in the county is one of the primary goals of this 2007 Bicycle Master Plan.

TOPOGRAPHY

Topography can be both an opportunity and a constraint. Commuter bicyclists are typically looking for the fastest and shortest route between their destinations, and would usually prefer a flatter route. For commuter bicyclists, the flatter areas of the Oxnard Plain and valley floors provide the preferred bikeway routes, and enhancing those existing rural highways is a high priority. These areas have an advantage in that bike lane installation or shoulder widening is less likely to incur significant grading or hillside re-engineering costs, although drainage improvements or utility relocation may be necessary. Areas with flat terrain are also more suitable for beginner and intermediate bicyclists.

Recreational bicyclists may view the steeper mountain topography as an opportunity to challenge their hill-climbing skills and ride on roads that are typically less heavily traveled than the flatland highways. On these often narrow and winding roadways, ensuring motorist awareness is a key priority, along with providing sufficient shoulder (particularly in the uphill direction) for motorists to pass with an appropriate clearance. Bike lane installation or major shoulder widening may be less feasible on these roads, due to limited width and the substantial roadway improvements and widening that may be required.

CONSTRAINTS

TOPOGRAPHY

Although mentioned above as an opportunity for challenging and scenic recreational riding, one of the greatest constraints in developing Ventura's Countywide bikeway network is the mountainous terrain between the urbanized areas which has created gaps in the network. Many of the only roadways to be considered for closing these gaps are within the mountainous areas. These roads are typically narrow, steep and winding and have limited connections to other roadways. The primary population centers are located in five geographic areas in the county: the Simi Valley, the Conejo Valley, the Oxnard Plain, the Santa Clara River Valley, and the Ojai Valley. For bicycle commuters traveling between certain cities, topography is unavoidable, and may be a strong deterrent to more bicycling.

Ojai and Santa Paula are separated by Sulphur Mountain. SR-150 traverses Sulphur Mountain starting in Ojai at 750 feet and rising to approximately 1,500 feet at the top of Dennison Grade. From the pass the elevation drops to 268 feet in Santa Paula. The second major east-west mountain range separates the Santa Clara River Valley from the Conejo Valley. This range is a combination of South Mountain, Oak Ridge and the Santa Susana Mountains. There are two routes crossing this range: Balcom Canyon Road, an extremely steep road connecting South Mountain Road with East Los Angeles Avenue outside Moorpark; and Grimes Canyon Road (SR-23), a heavily traveled route that connects Fillmore and Moorpark.

Other topographic constraints include: SR-150 between Ojai and Carpinteria, which involves a 1,100 foot elevation gain from sea level in Carpinteria to the top of Casitas Pass; Norwegian Grade (North Moorpark Road) between Moorpark and Thousand Oaks which tops out at over 1,000 feet and is the only alternate to bicycling along the SR-23 freeway between Thousand Oaks and Moorpark; Potrero Road between Thousand Oaks and Camarillo which has about an 800 foot elevation gain, and provides the only bicycle route between these two cities as bicycles are not permitted along US-101 up the Conejo Grade.

AGRICULTURE AREAS

The agricultural portions of the county are concentrated primarily along the Santa Clara River Valley, the SR-118 corridor north of Camarillo, and the Oxnard Plain between Oxnard and Thousand Oaks, as shown in Appendix A on **Figure 1: Unincorporated Areas Land Use**. Although these areas have relatively flat terrain, the roadways are narrow, vehicle speeds are relatively high and there is substantial truck traffic. Farm operations often create dusty conditions with mud and dirt being tracked onto roadway shoulders which can deter bicycling along these routes. Accommodating bicycles while at the same time maintaining strong support for agricultural land use is important, as it is a long-held goal to preserve the agricultural production of Ventura County

STATE HIGHWAYS

Many of the roadways within the unincorporated portions of Ventura County are State Highways, under the jurisdiction of Caltrans, and carry relatively high traffic volumes and speeds. State Routes 126, 118, 23, 150, and 33, as well as US-101 all have segments that are open to bicyclists, and in many cases provide the only roadway connections between communities. The heavy traffic volumes, including many trucks, and relatively high speeds, on some of these roadways can make bicycling along these routes difficult or uncomfortable.

4.3. BIKEWAY NETWORK GAPS

BIKEWAY SUITABILITY ANALYSIS

Currently, there are considerable gaps in the countywide bicycle network where no designated bicycle facility exists. As mentioned in Chapter 3, bicycles are allowed on all roadways, with the exception of access-controlled freeways, so the lack of a designated bikeway facility is not intended to imply that bicycles cannot or should not ride on any of these roadways. However, many of the county's roadways are not considered optimal facilities for cycling, due to factors such as narrow shoulders and high traffic volumes/speeds. This section of the plan discusses these factors in more detail for specific segments of the roadway network.

A list of potential roadway segments to evaluate for closing the major countywide network gaps was derived from the inventory of existing bikeway facilities (looking at gaps in the network between existing facilities), as well as feedback from local bicyclists provided during two public workshops held in summer of 2006 and through a web-based survey form. With the study locations identified, fieldwork was conducted to measure existing roadway cross-sections (lane widths, paved shoulder width, unpaved shoulder width) for each. These roadways cross-sections and the Average Daily Traffic along each segment are shown in **Table 4-3** below.

Table 4-3
Roadway Cross-sections and ADTs for Identified Ventura Bikeways Network Gaps

Map ID #	Juris-diction	Roadway Name	From	To	Shoulder Gravel	Shoulder Paved	Travel Lane	Travel Lane	Median	Travel Lane	Travel Lane	Shoulder Paved	Shoulder Gravel	ADT
Ojai Valley Gaps														
1a	VC	SR-33	Wheeler Springs	Ojai N City Limit	4'	0'	12.5'	0'	0'	0'	12.5'	0'	4'	1,650
1b	OJ	SR-33	Ojai N City Limit	Ojai Valley Trail (SR-150)	0'	0'	18'	12'	15'	12'	18'	0'	0'	1,650
2	VC	SR-150	Ojai Valley Trail (SR-33)	S.B. County Line	0'	0'	12'	0'	0'	0'	12'	0'	0'	3,000
3	VC	Santa Ana Road	Oak View - Foster Park	SR-150	4'	0'	11'	0'	0'	0'	11'	0'	4'	2,200
4a	OJ	Ventura Street	Ojai Valley Trail (SR-150)	Ojai S City Limit	0'	0'	11'	0'	0'	0'	11'	0'	0'	500
4b	VC	Creek Road	Ojai S City Limit	SR-33	0'	0'	12'	0'	0'	0'	11'	3'	3'	2,600
5a	OJ	Bryant Street	Ojai Valley Trail	Ojai Ave	0'	0'	19.5'	0'	0'	0'	24'	0'	0'	500
5b	OJ	Ojai Ave	Bryant Street	Ojai E City Limit	0'	0'	21'	0'	0'	0'	21'	0'	0'	1,200
5c	VC	SR-150	Ojai E City Limit	Santa Paula N City Limit	15'	3'	12'	0'	0'	0'	12'	4'	8'	3,500
5d	SP	SR-150	Santa Paula N City Limit	Santa Paula Street	0'	0'	21'	0'	0'	0'	21'	0'	0'	3,500
Santa Clara River Valley Gaps														
6	VC/OX	SR-232	US-101	SR-118	6'	8'	12'	12'	0'	12'	12'	8'	4'	22,600
7a	SB/VC	Foothill Road	Kimball Road	Wells Road	0'	0'	11'	0'	0'	0'	10'	0'	0'	2,100
7b	VC	Foothill Road	Wells Road	Peck Road	0'	0'	11'	0'	0'	0'	10'	0'	0'	2,100
7c	SP/VC	Peck Road	Foothill Road	Santa Paula Street	0'	0'	15'	0'	0'	0'	15'	0'	0'	1,200
8a	SB	Telegraph Road	Mills Road	Ashwood Ave	0'	0'	18'	12'	0'	12'	18'	0'	0'	5,000
8b	SB/VC	Telegraph Road	Cambria Ave	Saticoy Ave	0'	8.5'	12.5'	0'	0'	0'	12.5'	10'	0'	5,000
8c	SB/VC	Telegraph Road	Pajaro Ave	Ventura E City Limits	0'	8.5'	12.5'	0'	0'	0'	12.5'	10'	0'	5,000
8d	VC	Telegraph Road	Franklin Barranca	Santa Paula W City Limit	0'	8.5'	12.5'	0'	0'	0'	12.5'	10'	0'	5,000
8e	SP	Telegraph Road	Santa Paula W City Limit	Peck Road	0'	8.5'	12.5'	0'	0'	0'	12.5'	10'	0'	5,000

Map ID #	Juris-diction	Roadway Name	From	To	Shoulder Gravel	Shoulder Paved	Travel Lane	Travel Lane	Median	Travel Lane	Travel Lane	Shoulder Paved	Shoulder Gravel	ADT
8f	SP	Harvard Blvd	Peck Road	Steckel Drive	0'	0'	22'	11'	11'	11'	22'	0'	0'	5,000
9a	SP	Main Street	12th Street	Santa Paula E City Limit	0'	0'	28'	0'	0'	0'	28'	0'	0'	5,000
9b	VC	Telegraph Road	Santa Paula E City Limit	SR-126	6'	3'	12'	0'	0'	0'	12'	3'	6'	25,000
9c	VC	SR-126	Telegraph Road (Santa Paula)	Old Telegraph Rd/SR-126 split	0'	11'	12'	12'	12'	12'	12'	11'	0'	32,000
9d	VC	Old Telegraph Road	SR-126	Sespe Creek Trail	6'	0'	10.5'	0'	0'	0'	10.5'	0'	6'	5,000
10a	FIL	SR-126	A Street	Fillmore E City Limit	0'	9'	12'	12'	14'	12'	12'	9'	0'	25,000
10b	VC	SR-126	Fillmore E City Limit	Main Street / Torrey Road	0'	9'	12'	12'	14'	12'	12'	9'	0'	25,000
11a	SP	Santa Paula Street	10th St	12th St	0'	0'	17.5'	0'	0'	0'	17.5'	0'	0'	3,500
11b	SP	12th Street	Santa Paula Street	Harvard Blvd	0'	0'	18'	0'	0'	0'	18'	0'	0'	3,500
11c	SP	S Mountain Road	Harvard Blvd	Santa Paula S City Limit	0'	0'	18'	0'	0'	0'	18'	0'	0'	3,500
11d	VC	S Mountain Road	Santa Paula S City Limit	Balcom Canyon Road	0'	0'	12'	0'	0'	0'	12'	0'	0'	1,600
12a	VC	S Mountain Road	Balcom Canyon Road	Sespe Street	0'	0'	12'	0'	0'	0'	12'	0'	0'	1,600
12b	VC	S Sespe St.	S Mountain Road	Pasadena Ave.	6'	8.5'	11'	0'	0'	0'	9.5'	0'	6'	1,900
12c	VC	Pasadena Ave	Sespe Street	Chambersburg Road	1'	0'	10'	0v	0'	0'	10'	0'	1'	1,000
13a	VC	Guiberson Road	SR-23	Torrey Road	8'	0'	11.5'	0'	0'	0'	11.5'	0'	4'	900
13b	VC	Torrey Rd.	Guiberson Road	SR-126	8'	0'	11'	0'	0'	0'	11'	0'	10'	400
13c	VC	Main Street	Torrey Road	Center Street	8'	0'	17'	0'	0'	0'	17'	0'	8'	1,200
13d	VC	Center Street	Main Street	SR-126	0'	0'	11'	0'	0'	0'	11'	0'	0'	1,200
13e	VC	SR-126	Center Street	L.A. County Line	0'	12'	12'	0'	14'	0'	12'	12'	0'	24,000
North-South Mountain Route Gaps														
14	VC	Balcom Canyon Road	S Mountain Road	SR-118	2'	0'	11'	0'	0'	0'	11'	0'	2'	1,500

Map ID #	Juris-diction	Roadway Name	From	To	Shoulder Gravel	Shoulder Paved	Travel Lane	Travel Lane	Median	Travel Lane	Travel Lane	Shoulder Paved	Shoulder Gravel	ADT
15a	FIL/VC	A Street (SR-23)	SPBL Bike Path	Fillmore S City Limit	0'	0'	22'	0'	0'	0'	22'	0'	0'	3,500
15b	VC	SR-23	Fillmore S City Limit	Broadway	3'	3'	13'	0'	0'	0'	13'	3'	3'	8,000
15c	VC	Broadway	Grimes Canyon Road (SR-23)	Walnut Canyon Road (SR-23)	0'	8'	12'	0'	0'	0'	12'	0'	14'	2,400
15d	VC	Walnut Canyon Road (SR-23)	Broadway Road (SR-23)	Moorpark N City Limit	7'	3'	12'	0'	0'	0'	12'	0'	12'	500
15e	MP	Walnut Canyon Road (SR-23)	Moorpark N City Limit	Spring Road	7'	3'	12'	0'	0'	0'	12'	3'	7'	500
Oxnard Plain to Simi Valley Gaps														
16a	VC	SR 118	Telephone Road	Santa Clara Ave	8'	4'	12'	0'	0'	0'	12'	5'	10'	22,700
16b	VC	SR 118	Santa Clara Ave	SR-34	10' varies	4'	12'	0'	0'	0'	12'	4'	6' varies	12,400
16c	VC	SR-118	SR-34	Moorpark W City Limit	10' varies	4'	12'	0'	0'	0'	12'	4'	6' varies	18,600
16d	MP	SR-118	Moorpark W City Limit	Spring Road	0'	0'	20'	11'	13'	11'	20'	0'	0'	18,600
17	VC/OX	Santa Clara Ave	Los Angeles Ave	US-101	3'	3'	12'	0'	0'	0'	12'	2'	6'	13,500
18	VC/OX	Rose Ave	Los Angeles Ave	US-101	6'	2'	11'	0'	18'	0'	11'	2'	10'	11,700
19	VC	Bradley Road	Los Angeles Ave	Balcom Canyon Road	4'	0'	11'	0'	0'	0'	10'	0'	10'	1,600
20	VC	Stockton Road / Broadway	Balcom Canyon Road	Grimes Canyon Road	4'	0'	11'	0'	0v	0'	11'	0'	4'	1,500
Moorpark to Simi Valley Gaps														
21a	MP	Princeton Ave	Spring Road	Campus Park Drive	4'	0'	12'	0'	0'	0'	12'	0'	4'	5,000
21b	MP	Collins Drive	Campus Park Drive	Arroyo Drive	0'	0'	13'	11'	11'	11'	13'	0'	0'	5,000
21c	MP	Arroyo Drive	Collins Drive	Moorpark E City Limit	4'	2.5'	14'	0'	0'	0'	14'	2.5'	4'	5,000
21d	SV	W Los Angeles Ave	Simi Valley W City Limit	Easy Street	4'	2'	14'	0'	0'	0'	14'	2'	4'	5,000
22a	SV	Tierra Rejada Road	Simi Valley W City Limit	Madera Road	0'	7'	13'	12'	15'	12'	13'	7'	0'	10,000
22b	SV	E Los Angeles Ave	Madera Road	Erringer Road	0'	0'	12'	12'	12'	12'	12'	0'	0'	10,000
23a	SV	Kuehner Drive	Katherine Road	Santa Susana Pass Road	0'	4'	12'	0'	11'	0'	12'	4'	0'	3,500

Map ID #	Juris-diction	Roadway Name	From	To	Shoulder Gravel	Shoulder Paved	Travel Lane	Travel Lane	Median	Travel Lane	Travel Lane	Shoulder Paved	Shoulder Gravel	ADT
23b	VC	Santa Susana Pass Road	Kuehner Drive	L.A. County Line	0'	0'	13'	0'	0'	0'	13'	0'	0'	3,500
Oxnard Plain Gaps														
24	VC/OX	Victoria Ave	Gonzales Road	5th Street	12'	8'	12'	12'	18'	12'	12'	8'	12'	46,000
25a	OX	Pleasant Valley Road	Bard Road	SR-1	0'	7'	12'	0'	0'	0'	12'	10'	0'	14,000
25b	VC/ CAM	Pleasant Valley Road	SR-1	Pancho Road	0'	7'	12'	0'	0'	0'	12'	10'	0'	14,000
25c	CAM	Pleasant Valley Road	Pancho Road	US-101	0'	7'	12'	0'	0'	0'	12'	10'	0'	14,000
26a	OX	5th Street	Ventura Road	Rose Ave	0'	0'	20'	0'	11'	0'	20'	0'	0'	6,300
26b	VC/OX	5th Street	Rose Ave	Pleasant Valley Road	0'	6'	12'	0'	0'	0'	12'	4'	0'	6,300
27a	VC	Las Posas Road	Pleasant Valley Road	Laguna Road	0'	8'	12'	0'	0'	0'	12'	8'	0'	10,000
27b	VC	Las Posas Road	Laguna Road	SR-1	0'	8'	12'	0'	0'	0'	12'	8'	0'	5,400
28a	PH	Hueneme Road	Ventura Road	J Street	0'	0'	20'	13'	14'	13'	20'	0'	0'	8,100
28b	OX	Hueneme Road	J Street	Edison Drive	0'	0'	20'	13'	14'	13'	20'	0'	0'	9,200
28c	VC	Hueneme Road	Oxnard E City Limit	Las Posas Road	0'	0'	12'	0'	0'	0'	12'	0'	0'	9,200
28d	VC	Hueneme Road	Las Posas Road	Lewis/Potrero (CSUCI)	0'	8'	12'	0'	0'	0'	12'	8'	0'	8,100
28e	VC	Lewis Road	University Drive	Potrero Ave	12'	0'	12'	0'	0'	0'	12'	0'	4'	6,300
29	VC	Laguna Road	Las Posas Road	Pleasant Valley Road	10'	0'	12'	0'	0'	0'	12'	8'	8'	2,000
30	VC	SR-1	Las Posas Road	L.A. County Line	10'	0'	12'	0'	12'	0'	12'	6'	10'	11,300
Oxnard Plain to Thousand Oaks Gaps														
31a	VC	Potrero Road	Hueneme Road	Edison Road	2'	0'	12'	0'	0'	0'	12'	0'	3'	3,000
31b	VC	Potrero Road	Edison Road	Thousand Oaks W City Limit	3'	0'	12'	0'	0'	0'	12'	0'	3'	3,400
31c	TO/VC	Potrero Road	Reino Road	.5 mi W of Comstock Pl	3'	0'	12'	0'	0'	0'	12'	0'	3'	3,400
31d	VC	Potrero Road	.5 mi W of Comstock Pl	Sherwood Drive	8'	0'	11'	0'	0'	0'	11'	0'	0'	1,800
31e	TO	Potrero Road	Sherwood Drive	Westlake Blvd	8'	0'	11'	0'	0'	0'	11'	0'	0'	1,800
Camarillo to Thousand Oaks Gaps														
32	VC	Santa Rosa Road	Upland Road	Moorpark Road	0'	9'	13'	0'	0'	0'	12'	9'	0'	21,500

Map ID #	Juris-diction	Roadway Name	From	To	Shoulder Gravel	Shoulder Paved	Travel Lane	Travel Lane	Median	Travel Lane	Travel Lane	Shoulder Paved	Shoulder Gravel	ADT
Moorpark to Thousand Oaks Gaps														
33a	VC/TO	Moorpark Road	Tierra Rejada Road	Santa Rosa Road	0'	8'	12'	0'	0'	0'	12'	8'	0'	18,700
33b	TO	Moorpark Road	Santa Rosa Road	Olsen Road	0'	8'	12'	0'	0'	0'	12'	8'	0'	18,700
Simi Valley to Thousand Oaks Gaps														
34a	TO	Olsen Road	Moorpark Road	Thousand Oaks E City Limits	0’	8’	12’	12’	12’	12’	12’	8’	0’	12,500
34b	SV	Madera Road	Simi Valley W City Limits	Arroyo Simi Bike Path	0’	0’	12’	12’	12’	12’	12’	0’	0’	12,500

The primary objective of the evaluation was to determine the potential for implementing on-road bicycle facilities – Class II bike lanes or Class III bike routes – on these roadways, although the potential for parallel off-street Class I facilities was also studied where appropriate (e.g. parallel linear corridors such as a rail line or arroyo near the roadway). As discussed in Chapter 3, for Class II bike lanes Caltrans requires a minimum of 4 feet wide with no gutter and 5 feet wide with a curb and gutter, and for Class III bike routes a minimum shared roadway lane width of 14 feet is recommended (but not required). Although not discussed in the Caltrans Highway Design Manual, the AASHTO Guide for the Development of Bicycle Facilities notes that "adding or improving paved shoulders can be the best way to accommodate bicyclists in rural areas and benefit motor vehicle traffic." The AASHTO Guide notes that where 4 foot shoulders cannot be achieved, "any additional shoulder width is better than none at all."

In order to assist with the evaluation of specific roadways segments, a bicycle suitability analysis was conducted. This consisted of running the Federal Highway Administration (FHWA) Bicycle Compatibility Index (BCI) model. This model is most useful as an indicator of the suitability of an identified segment of roadway for inclusion in a bikeway network through the evaluation of factors such as pavement width, auto speed, and the volume of automobile and truck traffic. These factors are integrated into the calculation to determine both the physical capacity as well as perceived comfort level of the considered segment to support bicycle facilities. The model generates an absolute BCI number that is then ranked to provide an overall suitability rating. There are six possible rankings, ranging from Extremely High to Extremely Low. The BCI ranges and compatibility levels, along with a Level of Service (LOS) equivalent, are provided in **Table 4-4**. The BCI LOS equivalent is not a direct comparison to a vehicular level of service (which is based on volume/capacity or delay), but instead provides a relative graded scale for comparison, with those receiving grades of A or B being more suitable roadways for cycling, and those scoring D or F being less suitable.

The bicycle compatibility index rating and resulting suitability rating, further site review, and input from the various stakeholders form the basis for the recommended Countywide bikeway improvement projects. The segments analyzed and their ratings are detailed in **Table 4-5, Bicycle Compatibility of Countywide Bikeway Gaps**.

Table 4-4
Bicycle Compatibility Index (BCI) Ratings

BCI Range	Compatibility Level[1]	Level of Service Equivalent
≤ 1.50	Extremely High	A
1.51 - 2.30	Very High	B
2.31 - 3.40	Moderately High	C
3.41 - 4.40	Moderately Low	D
4.41 - 5.30	Very Low	E
> 5.30	Extremely Low	F

Notes:
1. Qualifiers for compatibility level pertain to the average adult bicyclist.

Table 4-5
Bicycle Compatibility of Countywide Bikeway Gaps

Map ID #	Roadway Name	From	To	BCI Rating	Suitability Rating
1a	SR-33	Wheeler Springs	Ojai N City Limit	3.63	Moderately Low
1b	SR-33	Ojai N City Limit	Ojai Valley Trail (SR-150)	2.41	Moderately High
2	SR-150	Ojai Valley Trail (SR-33)	S.B. County Line	3.77	Moderately Low
3	Santa Ana Road	Oak View - Foster Park	SR-150	4.06	Moderately Low
4a	Ventura Street	Ojai Valley Trail (SR-150)	Ojai S City Limit	3.28	Moderately High
4b	Creek Road	Ojai S City Limit	SR-33	4.08	Moderately Low
5a	Bryant Street	Ojai Valley Trail	Ojai Ave	3.37	Moderately High
5b	Ojai Ave	Bryant Street	Ojai E City Limit	3.19	Moderately High
5c	SR-150	Ojai E City Limit	Santa Paula N City Limit	3.41	Moderately Low
5d	SR-150	Santa Paula N City Limit	Santa Paula Street	3.24	Moderately High
6	SR-232	US-101	SR-118	3.52	Moderately Low
7a	Foothill Road	Kimball Road	Wells Road	4.06	Moderately Low
7b	Foothill Road	Wells Road	Peck Road	4.06	Moderately Low
7c	Peck Road	Foothill Road	Santa Paula Street	3.52	Moderately Low
8a	Telegraph Road	Mills Road	Ashwood Ave	3.50	Moderately Low
8b	Telegraph Road	Cambria Ave	Saticoy Ave	1.92	Very High
8c	Telegraph Road	Pajaro Ave	Ventura E City Limits	1.92	Very High
8d	Telegraph Road	Franklin Barranca	Santa Paula W City Limits	1.92	Very High
8e	Telegraph Road	Santa Paula W City Limit	Peck Road	1.92	Very High
8f	Harvard Blvd	Peck Road	Steckel Drive	2.89	Moderately High
9a	Main Street	12th Street	Santa Paula E City Limit	1.81	Very High
9b	Telegraph Road	Santa Paula E City Limit	SR-126	4.41	Moderately Low
9c	SR-126	Telegraph Road (Santa Paula)	Old Telegraph Rd/SR-126 split	2.38	Moderately High
9d	Old Telegraph Road	SR-126	Sespe Creek Trail	3.82	Moderately Low
10a	SR-126	A Street	Fillmore E City Limit	1.92	Very High
10b	SR-126	Fillmore E City Limit	Main Street/ Torrey Road	2.45	Moderately High
11a	Santa Paula Street	10th Street	12th Street	3.35	Moderately High
11b	12th Street	Santa Paula Street	Harvard Blvd	3.27	Moderately High
11c	S Mountain Road	Harvard Blvd	Santa Paula S City Limit	3.99	Moderately Low
11d	S Mountain Road	Santa Paula S City Limit	Balcom Canyon Road	3.99	Moderately Low
12a	S Mountain Road	Balcom Canyon Road	Sespe Street	2.12	Very High
12b	Sespe Street	S Mountain Rd	Pasadena Ave	2.12	Very High
12c	Pasadena Ave	Sespe Street	Chambersburg Road	4.26	Moderately Low
13a	Guiberson Road	SR-23	Torrey Road	4.03	Moderately Low
13b	Torrey Road	Guiberson Road	SR-126	3.99	Moderately Low
13c	Main Street	Torrey Road	Center Street	3.23	Moderately High

Map ID #	Roadway Name	From	To	BCI Rating	Suitability Rating
13d	Center Street	Main Street	SR-126	3.14	Moderately High
13e	SR-126	Center Street	L.A. County Line	2.35	Moderately High
14	Balcom Canyon Road	S Mountain Road	SR-118	4.03	Moderately Low
15a	A Street (SR-23)	SPBL Bike Path	Fillmore S City Limit	3.27	Moderately High
15b	SR-23	Fillmore S City Limit	Broadway	3.73	Moderately Low
15c	Broadway	Grimes Canyon Road (SR-23)	Walnut Canyon Road (SR-23)	2.05	Very High
15d	Walnut Canyon Road (SR-23)	Broadway (SR-23)	Moorpark N City Limit	3.46	Moderately Low
15e	Walnut Canyon Road (SR-23)	Moorpark N City Limit	Spring Road	3.29	Moderately High
16a	SR 118	Telephone Road	Santa Clara Ave	3.46	Moderately Low
16b	SR 118	Santa Clara Ave	SR-34	3.07	Moderately High
16c	SR-118	SR-34	Moorpark W City Limit	3.33	Moderately High
16d	SR-118	Moorpark W City Limit	Spring Road	2.74	Moderately High
17	Santa Clara Ave	Los Angeles Ave	US-101	4.21	Moderately Low
18	Rose Ave	Los Angeles Ave	US-101	4.31	Moderately Low
19	Bradley Road	Los Angeles Ave	Balcom Canyon Road	3.86	Moderately Low
20	Stockton Road/ Broadway	Balcom Canyon Road	Grimes Canyon Road	3.86	Moderately Low
21a	Princeton Ave	Spring Road	Campus Park Drive	3.50	Moderately Low
21b	Collins Drive	Campus Park Drive	Arroyo Drive	3.36	Moderately High
21c	Arroyo Drive	Collins Drive	Moorpark E City Limit	3.51	Moderately Low
21d	W Los Angeles Drive	Simi Valley W City Limit	Easy Street	3.57	Moderately Low
22a	Tierra Rejada Road	Simi Valley W City Limit	Madera Road	2.35	Moderately High
22b	E Los Angeles Ave	Madera Road	Erringer Road	3.64	Moderately Low
23a	Kuehner Drive	Katherine Road	Santa Susana Pass Road	1.97	Very High
23b	Santa Susana Pass Road	Kuehner Drive	L.A. County Line	3.28	Moderately High
24	Victoria Ave	Gonzales Road	Fifth Street	3.00	Moderately High
25a	Pleasant Valley Road	Bard Road	SR-1	2.66	Moderately High
25b	Pleasant Valley Road	SR-1	Pancho Road	2.66	Moderately High
25c	Pleasant Valley Road	Pancho Road	US-101	2.66	Moderately High
26a	5th Street	Ventura Road	Rose Ave	3.44	Moderately Low
26b	5th Street	Rose Ave	Pleasant Valley Road	2.47	Moderately High
27a	Las Posas Road	Pleasant Valley Road	Laguna Road	2.37	Moderately High
27b	Las Posas Road	Laguna Road	SR-1	3.18	Moderately High
28a	Hueneme Road	Ventura Road	J Street	2.28	Very High
28b	Hueneme Road	J Street	Edison Drive	2.30	Very High
28c	Hueneme Road	Oxnard E City Limit	Las Posas Road	4.81	Very Low
28d	Hueneme Road	Las Posas Road	Lewis/Potrero (CSUCI)	2.80	Moderately High
28e	Lewis Road	University Drive	Potrero Ave	4.08	Moderately Low
29	Laguna Road	Las Posas Road	Pleasant Valley Road	4.10	Moderately Low
30	SR-1	Las Posas Road	L.A. County Line	2.77	Moderately High

Map ID #	Roadway Name	From	To	BCI Rating	Suitability Rating
31a	Potrero Road	Hueneme Road	Edison Road	3.94	Moderately Low
31b	Potrero Road	Edison Road	Thousand Oaks W City Limit	3.78	Moderately Low
31c	Potrero Road	Reino Road	.5 mi W of Comstock Pl	3.87	Moderately Low
31d	Potrero Road	.5 mi W of Comstock Pl	Sherwood Drive	3.87	Moderately Low
31e	Potrero Road	Sherwood Drive	Westlake Blvd	3.87	Moderately Low
32	Santa Rosa Road	Upland Road	Moorpark Road	2.67	Moderately High
33a	Moorpark Road	Tierra Rejada	Santa Rosa Road	2.93	Moderately High
33b	Moorpark Road	Santa Rosa Road	Olsen Road	2.93	Moderately High
34a	Olsen Road	Moorpark Road	Thousand Oaks E City Limits	2.44	Moderately High
34b	Madera Road	Simi Valley W City Limits	Arroyo Simi Bike Path	4.11	Moderately Low

Source: FHWA Bicycle Compatibility Index Methodology, calculations by Alta Planning + Design.

SUMMARY OF ROUTES

Analysis of the roadway network in Ventura County revealed that many of the unincorporated bikeway gap segments have substandard paved shoulders not meeting the minimum 4-foot paved shoulder width recommended by Caltrans and AASHTO for rural highways. On roadways that lack paved shoulders, bicyclists must share the roadway travel lane with motor vehicles. These travel lanes typically average 12 feet in width and on segments with high traffic volumes and speeds (over 40 mph), many cyclists would find it uncomfortable to ride along the edge of the travel lane.

Given the lack of paved shoulder area, most segments do not have sufficient width to stripe Class II Bike Lanes within the existing paved surface. In some cases, unpaved gravel shoulders are present, and the paved roadway surface may be able to be widened with minimal engineering. Where possible, shoulder widening to provide a 4 foot paved shoulder would be recommended, and striping/stenciling as a Class II bike lane. In areas where heavy bicycle volumes exist but a minimum 4 foot paved shoulder is not achievable, widening to even a 2 or 3 foot paved shoulder would be preferable to none at all. An alternative to shoulder widening would be travel lane reduction; this may be appropriate on some lower speed and volume segments, but on the high volume rural highways that experience heavy truck volumes, reducing travel lanes below 12 feet in width may not be advisable.

One important item to note is that shoulder widening projects that do not bring the roadway up to a full Class II bike lane standard (minimum 4 feet wide) would not qualify for Caltrans Bicycle Transportation Account funding, and may have difficulty qualifying for other bicycle transportation funding as well. Caltrans BTA requires that any projects funded under the program meet full Chapter 1000 design standards.

Some of the evaluated roadway segments traverse steep terrain with little room for roadway widening without substantial engineering and costs. Along these extremely narrow and constrained roadways, installing Share the Road or other warning signage may be the only feasible improvement.

A map index of roadway cross sections measured to determine preliminary gap closure feasibilities is provided in **Figure 4-2, Bikeway Network Gaps Analysis** at the end of this chapter. The corresponding table, **Table 4-3**, summarizes roadway cross section measurements, while the bicycle compatibility index

rating and suitability ratings of the roadway segments are found in **Table 4-5**. Among the gap segments analyzed, only several reached Very High, while the majority was found to be Moderately Low. None of the gap segments were found to be at the highest and lowest ratings.

These preliminary assessments are not intended to preclude developing potential bikeways but to account for the immediate constraints posed by existing roadway conditions.

Ojai Valley Gaps

The roadways measured include SR-33 north of Ojai, SR-150 between Ojai and the Santa Barbara County Line, Santa Ana Road between the Ventura River Trail and SR-150, Creek Road between Ojai and the Ojai Valley Trail, and SR-150 between Ojai and Santa Paula. Smaller roads such as Ventura and Bryant streets were measured to connect existing bikeways to regional routes. None of the roadways evaluated have enough continuous roadway width or gravel shoulder available for future pavement widening without major engineering. Based on the preliminary assessment, enhancements to these roadway segments would be limited to the installation of Share the Road signs, without significant engineering to widen the roadway shoulders.

Santa Clara River Valley Gaps

The roadways measured to connect Ventura, Santa Paula, Fillmore and Piru along the Santa Clara River Valley floor include Foothill Road and Telegraph Road between Ventura and Santa Paula, SR-126 (Telegraph Road) and S. Mountain Road from Santa Paula to Fillmore, East/West Guiberson Road on the south side of the Santa Clara River between Fillmore and Piru, and SR-126 from Piru to the county line. Vineyard Road south of the Santa Clara River was also measured. Segments along SR-126 as well as local and collector segments in Santa Paula and Piru had high suitability ratings. All segments of SR-126 have wide enough existing paved shoulders to install Class II Bike Lanes, although a signed Class III treatment may be more appropriate within the wide shoulder area. None of the remaining roadways have enough available paved roadway widths for signed bike routes without widening. With roadway pavement widening on available gravel shoulders, S. Sespe Street, W./E. Guiberson Street, and Torrey Road could include a Class III wide shoulder treatment. Based on lack of roadway and shoulders, Foothill Road and S. Mountain Road appear to only be able to accommodate Share the Road signage without major engineering.

North-South Mountain Route Gaps

The roadways measured for completing connections from the Santa Clara River Valley to Simi Valley include Balcom Canyon Road between Santa Paula and Los Angeles Avenue across South Mountain and SR-23 (Grimes Canyon Road), Broadway Road, and Walnut Canyon Road connecting Fillmore and Moorpark across Oak Ridge. All of these gap segments had a suitability rating of Moderately Low. A Class III wide shoulder treatment from Fillmore to Moorpark along SR-23 (Grimes Canyon Road) could potentially be made if the roadway was expanded to widen the paved shoulder. With major pavement widening Broadway Road and Walnut Canyon Road could also feasibly include a Class III wide shoulder treatment. Balcom Canyon Road and Moorpark Avenue due to narrow roadway widths and constrained topography appear to only be able to accommodate Share the Road signage, without major engineering.

Oxnard Plain to Simi Valley Gaps

The roadways measured in the area between the Oxnard Plain and Simi Valley include SR-118/Los Angeles Avenue between Grimes Canyon Road and Saticoy, Santa Clara Avenue between SR-118/Los Angeles Avenue and US-101, and Rose Avenue between Los Angles Avenue and US-101. La Loma Avenue and Berylwood Rd to the east of the Plain and skirting South Mountain were also measured. The

SR-118/Los Angeles segment appears to be able to accommodate Class II Bike Lanes with a small widening of the paved shoulder in the southeast direction, although given the large volumes of automobile and truck traffic a Class I Bicycle Pathway is a more bicyclist friendly facility. Santa Clara Avenue has insufficient existing width to allow for a signed Class III Bike Route along the shoulder, and will need widening to accommodate any facility, most likely Class II Bike Lanes. Without major engineering Balcom Canyon Road appears to only be suitable for Share the Road signage, due to limited roadway widths and varying shoulder widths observed in this preliminary assessment.

Moorpark to Simi Valley Gaps

The roadways studied to improve connectivity between the northern portions of Moorpark and Simi Valley would also enhance bicycle access to Moorpark College and the Arroyo Simi bike path. Princeton Avenue and Arroyo Drive received a Moderately Low ranking, primarily due to narrow lanes and unpaved shoulders. The unpaved shoulder widths vary on these routes, but paving over the gravel shoulders could greatly enhance their suitability. Tierra Rejada Road, on the other hand, has wide shoulder that could be converted to official bike lanes with wider striping and signage.

Oxnard Plain Gaps

The roadways measured in the Oxnard Plain in general had wider roadway and shoulder dimensions, making full Class II facilities more feasible to install. These roadways cover the area between Oxnard and Thousand Oaks and south of Camarillo. Mostly unincorporated and heavily agricultural in use these roadways, due to flat terrain, availability of roadway widths, combined with presence of the CSUCI campus provide a great opportunity for both filling a major gap while serving a growing need for bikeway access to the campus from adjacent cities. Roadway segments measured included Victoria Avenue from 5th Street to Gonzales Road, Pleasant Valley Road from Pancho Road to SR-1, 5th Street from Rose Avenue to Pleasant Valley Road., Las Posas Road from Pleasant Valley Road to SR-1, Lewis Road from Pleasant Valley Road to Hueneme Road, Hueneme Road from Oxnard to CSUCI, and Laguna Road from Lewis Road to Pleasant Valley Road. The final roadway measured was the Pacific Coast Highway/SR-1 to the south of Los Posas Road. All of these gap segments had a suitability rating of Moderately High, with several exceptions. The segment along Laguna Road has a suitability rating of Moderately Low, and the segment of Hueneme Road between Oxnard and Las Posas Road has a suitability rating of Very Low. Based on this preliminary feasibility measurement it appears the following roadways could be striped for Class II Bike Lanes without any major roadway widening: Victoria Avenue, Pleasant Valley Road, 5th Street, Las Posas Road and Hueneme Road. Laguna Road (Segment 32) with shoulder pavement widening could accommodate Class II Bike Lanes.

Oxnard Plain to Thousand Oaks Gaps

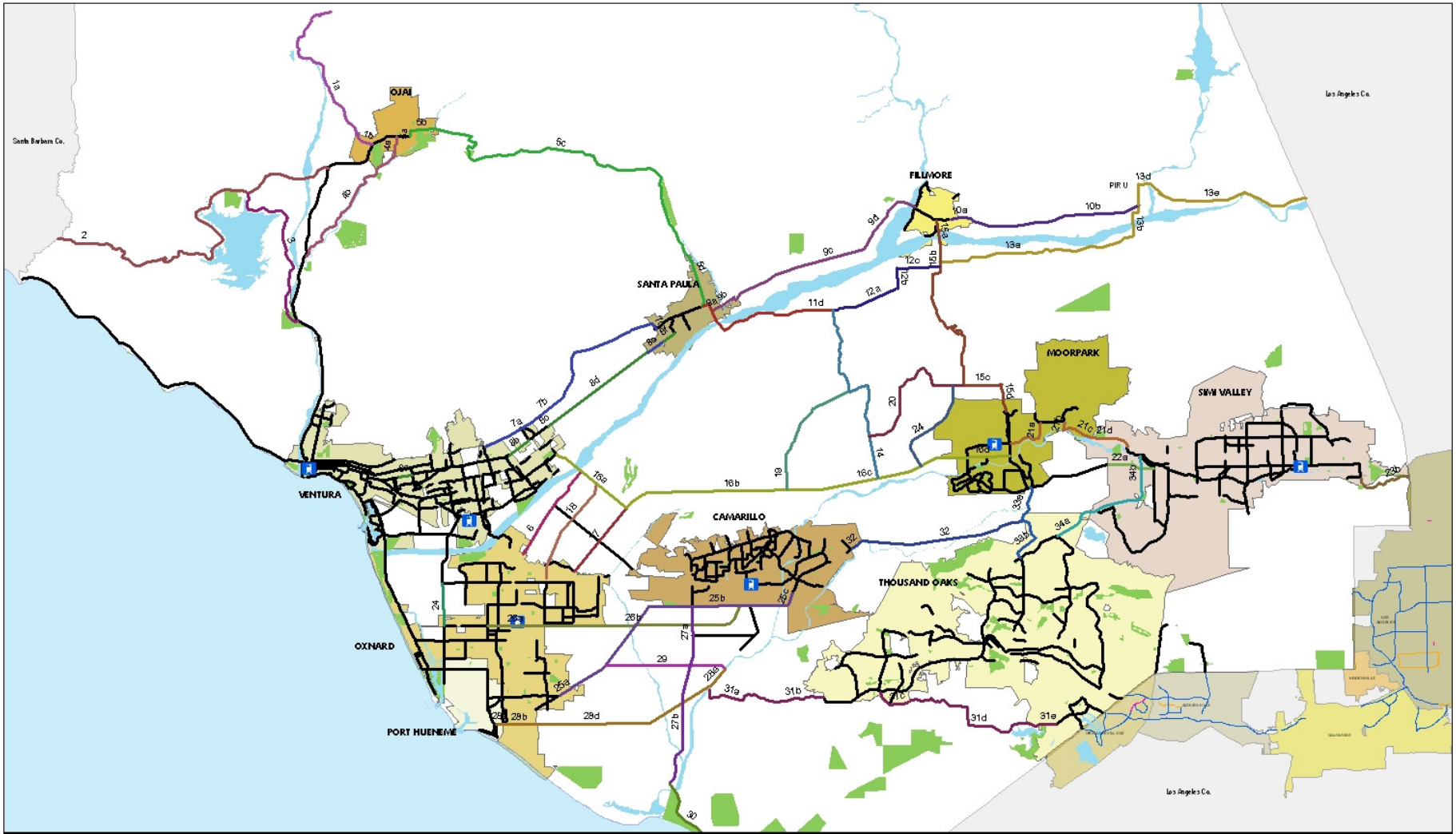
The roadway segments measured in this area that would provide connections between CSUCI and Thousand Oaks included: W. Potrero Road between Lewis Road and Lynn Rd, and W.- E. Potrero from Lynn Road to S. Westlake Boulevard near the Ventura/LA County Line. All of these gap segments had a suitability rating of Moderately Low. Since both of these roadway segments do not appear to have sufficient roadway and shoulder width to accommodate any widening without major engineering, adding Share the Road signs appear to be the appropriate enhancement. The only exception is a section of W. Potrero Road directly adjacent to CSUCI, where the roadway could potentially include a shoulder enhancement treatment to accommodate access around and to the campus.

Camarillo to Thousand Oaks Gaps

Santa Rosa Road provides access between Camarillo and Thousand Oaks and has a suitability rating of Moderately High. Santa Rosa could be designated as a Class II facility with minor striping changes to delineate bike lanes. This roadway presently has a 9 foot wide paved shoulder on either side, providing more than enough room for the 4 foot minimum bike lane width.

Moorpark to Thousand Oaks Gaps

Currently bicyclists may use the shoulders of the SR-23 freeway to connect between Olsen Road and Tierra Rejada Road, which provides an alternative to the narrow and steep Norwegian Grade (Moorpark Road) connection. A cross section of Moorpark Road between Tierra Rejada and Santa Rosa Road was measured to determine the feasibility of a second connection. Moorpark Road has a suitability rating of Moderately High. The preliminary data suggests that Class II Bike Lanes could be accommodated in the unincorporated area given the 8 foot wide paved shoulders, but the shoulders narrow significantly after entering Thousand Oaks.


Santa Barbara Co.
Los Angeles Co.
OJAI
FILLMORE
SANTA PAULA
MOORPARK
SIMI VALLEY
VENTURA
CAMARILLO
THOUSAND OAKS
OXNARD
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DATA SOURCE
VENTURA COUNTY TRANSPORTATION COMMISSION
VENTURA COUNTYWIDE BICYCLE MASTER PLAN
BIKEWAY NETWORK GAP ANALYSIS
FIGURE 4-2
LEGEND
Gaps
Existing Bicycle Facilities

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5. RELATIONSHIP TO OTHER PLANS, POLICIES AND PROGRAMS

As required by Caltrans, this chapter provides an overview of local and regional bicycle planning documents and policies relevant to this Master Plan. Not all local planning documents were surveyed for this chapter. The focus of this review was on existing locally adopted bikeway plans, as well as plans and policies that are of regional significance in Ventura County.

5.1. LOCALLY ADOPTED BICYCLE MASTER PLANS

As discussed in Chapter 3, Existing Conditions, several of the jurisdictions in Ventura County have already adopted their own local bicycle master plans. The list of adopted bicycle plans is presented again in Table 5-1 along with a summary description of their major recommendations below. The purpose of this VCTC Countywide Bicycle Master Plan is to provide a single, coordinated document that summarizes bikeway planning efforts for the entire county. As such, it consolidates the proposed bikeway networks of all the locally adopted plans into a single place. This VCTC plan also provides new bikeway plans for those jurisdictions that currently lack adopted plans: Ventura County (unincorporated), Santa Paula, Moorpark, and Port Hueneme. It should be noted that all plans that are more than 5 years old do not meet the Caltrans requirements for Bicycle Transportation Account (BTA) funding.

Table 5-1
Existing Countywide and Local Bicycle Plans and Adoption Dates

Jurisdiction	Document Name	Date Adopted
VCTC	Ventura County Regional Bikeways Plan	April 1996
Ojai	Bicycle and Pedestrian Master Plan	February 1999 (being updated)
San Buenaventura	General Bikeway Plan	January 2005
Fillmore	Bicycle Transportation Plan	February 2005
Oxnard	Bicycle and Pedestrian Facilities Master Plan	September 2002
Camarillo	Bikeway Master Plan	November 2003
Simi Valley	Bicycle Master Plan	May 2002 (being updated)
Thousand Oaks	Bikeway Facilities Master Plan	August 2005

VCTC VENTURA COUNTY REGIONAL BIKEWAY PLAN (APRIL 1996)

The predecessor to this Countywide Bicycle Master Plan is the Ventura County Regional Bikeways Plan (1996), prepared by the Ventura County Transportation Commission. This Plan builds upon the bikeway network identified in the 1996 Regional Plan and provides enhancements and adjustments to the proposed network based on public workshop and agency feedback.

The 1996 Plan contained a detailed inventory of bikeways, needs analysis, and recommendations for implementing bikeways with identified roadways, segments and preliminary costs, and proposed a Primary Bikeway System with eleven cross-county routes providing a variety of north-south and east-west connections between cities. Most of these proposed bikeways have not been completed to date. This Bicycle Master Plan will evaluate all the proposed routes in the 1996 Regional Bikeways Plan in addition to routes identified at the public workshops held in July 2006, through survey input from the project website, and from general feedback e-mails from the public. However to prevent confusion, the original bikeway trail names will not be used given that the ultimate alignments may not be carried through to this Plan. The 1996 Plan also identifies future study areas including: Ojai Valley Corridor, between Ojai and Santa Paula; Sulphur Mountain; Fillmore-Moorpark Linkage Study Area over Oak Ridge; Moorpark-Conejo Corridor over Norwegian Grade; and the Camarillo-Conejo Corridor along US 101 over Conejo Mountain. All of these routes were analyzed for potential to add bike routes, lanes or paths.

The VCTC also produced a map entitled "2005 Bikeways Map for Ventura County." This map provides information on existing bicycle paths, lanes and routes within the County (including both incorporated and unincorporated areas) available at the time of map production.

CAMARILLO BIKEWAY MASTER PLAN (NOVEMBER 2003)

The City of Camarillo is located just east of the Oxnard Plain, generally situated to the north of US-101. The proposed citywide bike network includes bikeways on most arterials and collector streets. As a result all potential routes providing connections from Camarillo west to Oxnard, east to Moorpark and Thousand Oaks and northwest towards Ventura will ultimately be constructed. This will allow the County plan to coordinate potential extensions of these bikeways within the unincorporated areas.

Bike lanes along Ponderosa Drive will provide a key east-west route across the city. The main north-south connections through Camarillo include Lewis Road (SR 34) and Las Posas Road. Lewis Road parallels the UP Railroad right-of-way and is classified by the city as a "shoulder bike route". Las Posas Road has bike lanes through most of Camarillo with a short quarter mile gap around US 101. Santa Rosa Road could serve as the connection to Moorpark and Thousand Oaks. There are existing bike lanes on much of this route and the city plans to build bike lanes on most of the remaining segments. The northeastern portion is currently designated as a "shoulder bike route". Pleasant Valley Road connects Camarillo with Oxnard to the west. Bike lanes are proposed for Pleasant Valley from Lewis Road to US 101. A short segment of the Calleguas Creek Bike Path has been built and the remaining segments within the City of Camarillo are proposed in the City's bike plan. Calleguas Creek was identified in the previous County plan as a continuous bike path with eventual connections eastward along the Arroyo Las Posas to the Arroyo Simi Bicycle Trail.

FILLMORE BICYCLE TRANSPORTATION PLAN (FEBRUARY 2005)

The City of Fillmore, located in the northern part of Ventura County along the Santa Clara River, is one of the smallest communities in the county (15,128 residents). As of 2005, there are 4.5 miles of existing bikeways in Fillmore, most of them off-street bike paths. There are also two short bike lane

segments on Goodenough Road and 4th Street. The City's portion of the Santa Paula Branch Line Trail (Santa Clara River Trail) is mostly built, except for a short segment from east of Central Park to the city limits. There is also an existing 2.3 mile bike path along Sespe Creek that provides connections from the north and south to the Santa Paula Branch Line Trail. The proposed bicycle network ultimately includes plans for a trail along the Santa Clara River to complement the existing 0.41 mile segment just west of SR-23, which would provide a scenic bypass to the Santa Paula Branch Line Trail.

OJAI BICYCLE AND PEDESTRIAN MASTER PLAN (FEBRUARY 1999)

Ojai is the northernmost city within Ventura County and is isolated from other communities by mountain ranges to the north and south. The proposed plan includes a network of bike routes and lanes creating a grid network around the City. The Ojai Valley Bicycle Trail, which provides a connection southward to Ventura, currently ends at Bryant Street less than a quarter mile west of Soule Park. The Master Plan includes completing this extension as a proposed project in addition to improving the 'Y' intersection where the Ojai Valley Trail must cross Ojai Avenue/North Ventura Avenue (SR-150). Also of regional significance are the two major roadway connections into Ojai, SR-33 and SR-150, both of which are frequently used by recreational bicyclists. SR-33 provides a route to Carpinteria in Santa Barbara County and SR-150 provides a route to Santa Paula. In recognition of these regional routes the Ojai Master Plan includes proposals for bike lanes along both the Maricopa Highway (SR-33) and Grand Avenue (SR-150).

The Ojai Bicycle and Pedestrian Master Plan is currently being updated, with an estimated adoption in mid-2007.

OXNARD BICYCLE AND PEDESTRIAN FACILITIES MASTER PLAN (SEPTEMBER 2002)

Oxnard is located south of Ventura on the coast. Oxnard's bikeway network consists primarily of on-street bike lanes, with some off-street bike paths. The plan proposes a variety of bikeways which would improve regional connectivity. Closing gaps in the bike lanes along Rose Avenue will eventually improve connectivity to regional routes on Santa Clara Avenue and Pleasant Valley Road. The Rice Avenue bike lane could ultimately continue along Santa Clara Avenue and points east. The proposed Oxnard Boulevard bike path that parallels the Union Pacific Railroad would provide a complete off-street bikeway connection across the Santa Clara River and southwards into the City of Port Hueneme.

The primary routes leading eastward to Camarillo and CSUCI are 5th Street and Pleasant Valley Road and Hueneme Road. The 5th Street facility east of Rose Avenue is a proposed Class I Bike Path. The proposed bike lanes for Pleasant Valley Road only include the segment between H Street and the Rice Avenue/SR-1 intersection, although there is potential for connections to Laguna Road which eventually connects to CSUCI. Finally, there is Hueneme Road which is designated as a segment of the Pacific Coast Bikeway. This is currently a Class III Bike Route also with potential to connect to CSUCI and ultimately to Thousand Oaks along Potrero Road.

SAN BUENAVENTURA GENERAL BIKEWAY PLAN (JANUARY 2005)

The City of San Buenaventura, also known as Ventura, is the county seat of Ventura County and located along the coast. The City's General Bikeway Plan, adopted in December 2004 sets forth a complete bikeway network, that will provide bikeways along all the major cross-town thoroughfares. Of regional significance are the routes to be completed along Foothill Road, Telegraph Road, Main Street and Telephone Road. With the exception of Foothill Road, these streets primarily have existing Class II Bike Lanes and require a few relatively short segments for completion.

There are also three major east-west bicycle paths planned. The Santa Paula Branch Line Bicycle Trail corridor is identified in the current plan, but no segments have been constructed to date. There is also a proposal to construct a trail along the north bank of the Santa Clara River. This path has a short segment built out towards the east end of the City, with the alignment providing a connection to the Harbor Avenue bike lanes and the Omer Rains Bike Trail at Surfer's Point, the Ventura River Trail and ultimately Ojai Valley Trail. The City of Ventura bikeways network also provides existing connections to Oxnard along Harbor Boulevard and Victoria Avenue, and ultimately to the recently completed bike path adjacent to the Victoria Avenue river crossing.

The City of San Buenaventura is currently in the process of developing a new Bicycle Master Plan to replace the existing General Bikeways Plan. The expected completion date of the new plan is December 2007.

SIMI VALLEY BICYCLE MASTER PLAN (MAY 2002)

The City of Simi Valley is located in the eastern edge of the county and with development concentrated along the river valley surrounding both sides of the Arroyo Simi. The proposed bikeway network would provide a mix of Class II and III facilities with plans to construct extensive bike lanes paralleled by bike paths in the north edge of the City with continuations of these parallel facilities within the unincorporated areas surrounding the northwest edge of the City. Due to the topography and location, there are only connections from Simi Valley westward consisting of proposed bike lanes along Los Angeles Avenue, Tierra Rejada Road, Madera Road, and a bike path extending along the Arroyo Simi west of Madera Road.

THOUSAND OAKS BIKEWAY FACILITIES MASTER PLAN (MAY 2005)

The City of Thousand Oaks is located in the southeastern corner of the County. The Thousand Oaks Bikeway Master Plan includes a citywide network which would ultimately include bike lanes on all collectors and arterials. As of 2005, the City of Thousand Oaks had approximately 49 miles of bikeways, consisting of a one-mile bike path, 28 miles of bike lanes and 20 miles of formal or informal bike routes. The City's Bicycle Facilities Master Plan, adopted in 2005, recommends approximately $12 million in bikeway facilities and programs to be developed over 20 years. The only points for regional connections are to the north towards Moorpark and Simi Valley and to the east towards CSU-CI using existing bike lanes along Lynn Road and Potrero Road. The northward connections include SR-23 which is an existing shoulder bike route, a proposed shoulder bike route along Moorpark Road across Norwegian Grade, and northeast towards Simi Valley along proposed bike lanes on Olsen Road.

5.2. REGIONALLY SIGNIFICANT POLICIES AND PLANS

CONGESTION MANAGEMENT PROGRAM

The Congestion Management Program (CMP) is prepared by the Ventura County Transportation Commission (VCTC), fulfilling Federal Highway Administration requirements of all urban areas for a Congestion Management System. The CMP is utilized to develop a coordinated policy and program approach to managing and decreasing traffic congestion by linking the various transportation, land use, and air quality programs of all agencies and governments throughout Ventura County. As an overseeing body VCTC has the ability to request fiscal penalties to ensure compliance with the CMP.

Policy C: The coordination of land use and transportation planning should be considered in every stage of local planning from development review to general plans.

Policy K: When feasible, Ventura County residents should have access to all modes of travel.

> **Objectives Land Use Impacts 5:** Encourage land use and transportation policies that promote transit use, bicycling, ridesharing and walking.
>
> **Objectives Land Use Impacts 6:** Include those agencies/departments responsible for transit, bicycle and pedestrian planning and services in the review cycle for new developments and specific plans.
>
> **Objectives Transportation Demand Management 24:** Encourage the provision of facilities for carpooling, vanpooling, bicycling and walking.
>
> **Objectives Transportation Demand Management 25:** Construct additional and, where appropriate, upgrade of existing bikeways and pedestrian facilities that serve commute corridors, and employment and transportation centers.
>
> **Objectives Transportation Demand Management 28:** Maintain a mechanism for providing on-going funding to support the maintenance of Class I Bicycle Paths.

VENTURA COUNTY AIR QUALITY ASSESSMENT GUIDELINES

The Ventura Air Pollution Control District (VCAPCD) mission is "to protect public health and agriculture from the adverse effects of air pollution by identifying air pollution problems and developing a comprehensive program to achieve and maintain state and federal air quality standards" as required by CEQA and the Federal Clean Air Act. Accordingly, the VCAPCD has established air quality assessment guidelines to identify specific criteria and thresholds on emissions to achieve that goal. A large percentage of emissions come from non-point sources, the automobile and the trips generated by new development. The Guidelines identify strategies to reduce development-related emissions through adoption of Transportation Demand Management (TDM) practices. TDM practices provide alternatives to single occupancy vehicle (SOV) drivers through the provision of transit, bicycle, and vanpool facilities and services. These alternatives, by reducing SOV trips, can lower overall emissions and correspondingly serve as mitigation for the motor-vehicle related air quality impacts of new development. Implementation of specific bicycle facility components in development projects can result in a net vehicle trip reduction of up to 4% for commercial projects and 2% for residential projects, as shown in **Table 5-2**.

Table 5-2
Vehicle Trip Reduction from Bicycle Facility Development

Type of Bicycle Facility Provided	Maximum Trip Reduction
Residential Development	
Bicycle Infrastructure: Provide bike lanes/paths connecting to bikeway system	2%
Commercial Development	
Bicycle Infrastructure: Provide bike lanes/paths connecting to bikeway system	2%
Provide secure bicycle parking	1%
Provide employee lockers and showers	1%

Source: Ventura County APCD, Air Quality Assessment Guidelines, October 2003

VENTURA COUNTY WATERSHED PROTECTION DISTRICT

VCWPD is responsible for watershed protection activities within Ventura County, which includes overseeing approximately 930 miles of waterways and over 200 miles of improved flood control channels with access roads. The VCWPD considers the joint use of District facilities for bikeways facilities as a part of its mission as described in the State Water Code Act, the original authorizing legislation responsible for creating the District. Moreover, the VCWPD's mission statement, as interpreted by the District, allows for the joint use of facilities under joint use agreements and the resulting encroachment permits.

VENTURA RIVER TRAIL ALTERNATIVES ASSESSMENT STUDY AND MASTER PLAN

This plan by the City of San Buenaventura reviews and analyzes trail alignment alternatives for the five-mile Ventura River Trail corridor. Although the trail has since been constructed, Chapter 7 of the plan, Maintenance and Management Program, is relevant to the countywide bicycle planning efforts as it describes Multiple-Use Management policies to encourage trail use by a variety of trail users at different speeds with different needs, suggestions for public trail safety programs, interpretive sign opportunities, maintenance regiments and costs, and monitoring.

The annual estimated cost of maintenance for the Ventura River Trail of $32,500 was based on City maintenance personnel costs of $45,000 a year and an estimate materials cost of $10,000 a year. The cost assumes maintenance will require the work of one person working half time (1,000 hours per year) to provide regular maintenance.

SANTA PAULA BRANCH LINE RECREATIONAL TRAIL MASTER PLAN

The 32-mile Santa Paula Branch Line Trail is a planned multi-use pathway that follows along a historic railroad right-of-way between the city of Ventura and Piru purchased in 1995 by VCTC. The Santa Paula Branch Line Recreational Trail Master Plan provides a phased implementation strategy for constructing the trail. When complete the trail will link Ventura, Saticoy, Santa Paula, Fillmore and Piru, and there are plans to continue the trail into Los Angeles County, eventually connecting to the Newhall Ranch development near Santa Clarita. In addition to the trail, the

Master Plan vision is to eventually provide commuter rail service along the entire corridor. At present there are themed rail excursions in historic trains actively traveling between Fillmore and Santa Paula.

The 32-mile corridor is divided into 17 study segments. Each segment has information on the proposed alignment, detailed maps, cross sections, photos, summary of crossing information, assigned design treatment, staging areas, rest stops and trail access points. A 2.5 mile portion of the Santa Paula Branch Line Recreational Trail is currently under construction between Peck Road and Santa Paula Creek in the City of Santa Paula. This segment is expected to be complete by the summer of 2008.

CALIFORNIA STATE UNIVERSITY CHANNEL ISLANDS MASTER PLAN

The newest campus in the California State University system, California State University Channel Islands (CSUCI), opened in 2002. The CSUCI Master Plan was designed to guide the university through the early stages of growth, with many elements of the campus still to be planned and built. Goals of the master plan related to bicycling include:

a. Encourage the use of bicycles around campus, to remote campus locations and to surrounding areas and develop a bicycle Master Plan component.

b. Provide sufficient and secure bicycle parking.

Currently the campus is not accessible by any designated bikeway facilities. However, Lewis Road is currently being widened and reconstructed and will include bike lanes on both sides when the project is complete. There is also a 2-mile bike lane segment along Cawelti Road, which connects between Los Posas Road and Lewis Road north of campus. Shuttles equipped with bike racks operate between the CSUCI campus and the Camarillo Metrolink Station, and are well-used by students.

5.3. FEDERAL AND STATE LEGISLATION AND POLICIES

US DOT'S ACCOMMODATING BICYCLE AND PEDESTRIAN TRAVEL

"Accommodating Bicycle and Pedestrian Travel: A Recommended Approach" is a policy statement that was adopted by the U.S. Department of Transportation (USDOT) in response to the Transportation Equity Act for the 21st Century (TEA-21). USDOT encourages public agencies, professional organizations, advocacy groups, and any other groups involved in transportation issues to adopt this policy to further promote bicycling and walking as viable components of the transportation system. The four directives issued in this policy statement address measures to improve bicycle and pedestrian access, convenience, and safety in transportation projects.

The policy statement notes that, "the challenge for transportation planners, highway engineers and bicycle and pedestrian user groups, therefore, is to balance their competing interest in a limited amount of right-of-way, and to develop a transportation infrastructure that provides access for all, a real choice of modes, and safety in equal measure for each mode of travel."

CALTRANS DEPARTMENTAL DIRECTIVE 64

In 2001 Caltrans adopted a policy directive—Deputy Directive 64 (DD-64)—related to non-motorized travel that reads:

> *"The Department fully considers the needs of non-motorized travelers (including pedestrians, bicyclists and persons with disabilities) in all programming, planning, maintenance, construction, operations and project development activities and products. This includes incorporation of the best available standards in all the Department's practices. The Department adopts the best practice concepts in the US DOT Policy Statement on Integrating Bicycling and Walking into Transportation Infrastructure."*

ASSEMBLY CONCURRENT RESOLUTION 211 (ACR 211)

ACR 211 passed the California State Assembly on Bike-to-Work Day in August 2002. The Resolution calls for "integrating walking and biking into transportation infrastructure," and further encourages all cities and counties in California to implement the policies of DD-64 and the USDOT design guidance document when building local transportation infrastructure.

5.4. BICYCLING EDUCATION PROGRAMS

There are several efforts underway within Ventura County to promote bicycling education.

The Ventura County Sheriff's Department in conjunction with the City of Fillmore has in the past led an annual bicycle rodeo to promote safe bicycling, although recently funding limitations have limited this event from occurring every year. The rodeo serves 100 to 110 children on average, with ages ranging from 5 to 13 years old. Participants are residents of the Santa Clara River Valley, as well as Piru and other outlying areas. The program consists of a sign in, a safety check, and the rodeo/obstacle course. Bicycle World, a Santa Paula Bicycle Shop, performs the safety check. Afterwards, a drawing is held to award 2 bicycles per each 2-year age group. Bicycles are purchased at a discount with donated funds. Total time for the bicycle rodeo is approximately 3 hours. Additionally, a bicycle safety class is offered once a year out of the Fillmore station for a maximum of 20 children. Sheriffs go to a local classroom, conduct a quick class, and then run an obstacle course Attendees are given helmets to keep to increase safety and as an incentive to attend the class. Total time for the bicycle safety class is approximately 1.5 -2 hours.

The City of San Buenaventura (Ventura) conducts a program geared to elementary and middle school students through its Community Services Department. The program, including educational curriculum, essay contests, and an All-City Bike Rodeo that focuses on safe riding skills, serves an estimated 11,000 children annually.

The Garrett Lemire Foundation, operating out of Ojai, holds bicycling educational events for students at the 30-40 schools annually. Among the varied elements of the program are rules of the road instruction, bicycle races, appropriate helmet usage, and good fitness and nutrition when bicycling for sport. There are over 1500 helmets given away annually, as well as bike-themed

books and a number of bicycles. Currently serving the Ojai Valley area and parts of Santa Barbara County, the Garrett Lemire Foundation is anticipating expansion to additional areas in Ventura County, and providing instruction in schools for bicycling as a sport.

5.5. ROADWAY DESIGN STANDARDS

The County of Ventura is responsible for the administration of road design standards on roadways in the unincorporated areas of the county, and local cities are responsible for roadway design within their jurisdictions. This responsibility is superseded by California Department of Transportation (Caltrans) on designated state highways and freeways. While the majority of the total road mileage in Ventura County is regulated by a local agency, many of the key roads that serve to connect and provide access between cities in the county are regulated by Caltrans; these are also the roads most likely to serve bicyclists traveling longer distances in Ventura County. Adherence to Caltrans standards in the construction of new roads, particularly the inclusion of minimum shoulder widths or consideration of bike lanes per Chapter 1000 of the Highway Design Manual, will ensure that bicyclists are accommodated on future constructed segments of Ventura County's roadway network. Many older roadways in the county do not meet current road standards, particularly in terms of shoulder widths. Major roadway reconstruction, such as the project to replace Lewis Road near CSU Channel Islands, does provide an opportunity to upgrade facilities to current roadway design standards, and add bikeway facilities such as Class II Bike Lanes. However, retrofitting many of the more rural and mountainous roads in the county to bring them up to current standards to allow for implementation of the proposed bikeway system is generally not feasible, given cost as well as topographic and right-of-way constraints along much of these alignments.

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6. NEEDS ANALYSIS

This chapter reviews the relationship between bicycle use, commute patterns, demographics, and land use in Ventura County. 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.

One of the primary reasons for producing this Countywide Bicycle Master Plan is to identify the programs and infrastructure required to increase 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 the Ventura Countywide bikeway network and implementation of educational, encouragement and maintenance programs.

6.1. 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. An emphasis is placed on regional bikeway and transit connections centered on the major activity centers, including:

- Major employment centers
- Major retail and commercial centers
- Civic buildings such as libraries
- Schools
- Transit Stations
- Neighborhood parks, beaches, and regional recreational areas

6.2. COMMUTE PATTERNS

A central focus of presenting commute information is to consider the current transportation choices or "mode share" of people that live and work in Ventura County. Mode share 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 improvement is to increase the "share" 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 reducing traffic congestion.

As shown in **Table 6-1**, journey to work and travel time to work data were obtained from the 2000 U.S. Census for Ventura County as a whole, and compared to California and the United States.

Table 6-1
Journey to Work Data

Mode	Ventura County	California	United States
Bicycle	0.7%	0.8%	0.4%
Drove Alone	79.2%	71.8%	75.7%
Carpool	15.8%	14.6%	12.2%
Public Transit	1.1%	5.1%	4.7%
Walked	2.2%	2.9%	2.9%
Other	0.8%	4.8%	4.1%

Source: U.S. Census 2000

As shown, approximately 0.7% of employed residents in Ventura County commute by bicycle. This rate is slightly higher than the national average bicycle commute mode share of 0.4%, but slightly lower than the California average bicycle mode share of 0.8%. The low bicycling commute rate in Ventura County is contrasted by the high level of drive-alone commuters (79.2%) that is higher than both the national and California averages.

Travel time is important because it can give an indication of the number of potential new bicycle commuters. Travel time to work is shown in **Table 6-2**.

Table 6-2
Travel Time to Work Data

Travel Time to Work	Ventura County	California	United States
Less than 15 minutes	30.2%	25.3%	29.4%
15 to 29 minutes	36.2%	35.4%	36.1%
30 to 44 minutes	18.4%	20.9%	19.1%
45 to 59 minutes	6.8%	8.2%	7.4%
60 minutes or more	8.4%	10.1%	8.0%

Source: Census 2000

As previously noted, 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, and people who bicycle to school, for recreation or for errands are not included in Census Journey to Work data. Second, Census survey forms only allow a person to choose one mode when

answering. If a commuter uses more than one mode during their trip (e.g. bicycling to Metrolink), only the longest (transit) mode is recorded.

In order to establish a more representative estimate of Ventura County's total existing bicycle mode share, a model was developed to augment the Journey to Work figure of 0.7% with data on school children, transit commuters, and utilitarian cyclists. As shown in **Table 6-3** below, this model estimates that bicyclists in Ventura County include approximately 7,982 school children aged 5 through 14, 2,422 college students, and 52 transit riders. Adding these estimates raises the total number of existing daily commuter and utilitarian bicyclists in Ventura County to 12,926, making a total of 25,853 daily trips, and bringing the estimated commute mode share to 2.4%.

Table 6-3
Current Bicycle Commuters

Current Commuting Statistics		**Source**
Ventura County Population	753,197	*2000 US Census*
Number of Commuters	332,126	*2000 US Census (Employed persons less those working at home)*
Number of Bicycle-to-Work Commuters	2,470	*2000 US Census*
Bicycle-to-Work Mode Share	0.7%	*Mode share percentage of Bicycle to Work Commuters*
School Children Grades K-8	159,632	*2000 US Census, population ages 5-14*
Estimated School Bicycle Commuters	7,982	*San Diego County School Commute Study (1990). (5%)*
Number of College Students	48,445	*2000 US Census*
Estimated College Bicycle Commuters	2,422	*National Bicycling & Walking Study, FHWA, Case Study No. 1, 1995. Review of bicycle commute share in seven university communities (5%)*
Average Weekday *Transit*	3,746	*2000 US Census*
Number of Daily Bike- *Transit* Users	52	*RTD (Denver) Bike-n-Ride Survey, December 1999 (1.4% of total boardings)*
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	12,926	*Total of bike-to-work, transit, school, college and utilitarian bicycle commuters. Does not include recreation.*
Estimated Adjusted Mode Share	2.4%	*Estimated Bicycle Commuters divided by population*
Estimated Current Bicycle Trips		
Total Daily Bicycle Trips	25,853	*Total bicycle commuters x 2 (for round trips) plus total number of utilitarian bicycle trips*
Reduced Vehicle Trips per Weekday	11,450	*Assumes 73% of bicycle trips replace vehicle trips for adults/college students and 53% for school children*
Reduced Vehicle Miles per Weekday	35,324	*Assumes average one-way trip travel length of 4.6 miles for adults/college students and 0.5 mile for schoolchildren*

6.3. AIR QUALITY IN VENTURA COUNTY

Ventura County lies within the South Central Coast Area Basin and is regulated by the Ventura County Air Pollution Control District (VCAPCD). The 7,886 square mile South Central Coast Air Basin includes all of Ventura, Santa Barbara, and San Luis Obispo Counties. The VCAPCD monitors several air pollutants, including ozone, carbon monoxide, nitrogen dioxide and fine particles (PM10 and PM2.5).

Although air pollution in Ventura County has improved dramatically in the last thirty years, emissions still exceed the maximum allowable state and national limits for some portion of the year. Effective June 15, 2004, the EPA classified Ventura County to be a moderate non-attainment area for the federal 8-hour ozone standards. In 2005 Ventura County exceeded state 1-hour ozone standards 21 days of the year, the state 8-hour ozone standard 63 days of the year, and exceeded the national 8-hour ozone standard 17 days of the year.

Further improvements can be made through reductions in the motor vehicle mode share, as according to the VCAPCD motor vehicles are responsible for most of the emissions in Ventura County. Accordingly, reducing VMT is a key goal of the VCAPCD, and fully implementing Ventura County's bicycle network will help achieve this goal by providing residents safe and functional ways to get to work, school, or shopping without using a motor vehicle.

6.4. TRIP REDUCTION POTENTIAL/AIR QUALITY BENEFITS

Based on the existing mode split and travel time to work data, there appears to be significant opportunity for increasing the mode share of bicycling in Ventura County. Increasing the number of residents who bicycle to work or for utilitarian trips is important in terms traffic congestion reduction, health benefits for riders, and reduction of emissions. Using the Census data above, in combination with national commuting statistics from the 2001 National Household Travel Survey (NHTS) and EPA estimates of standard emissions rates for cars, it is possible to give a projection of future bicycle ridership in Ventura County along with the trip reduction and air quality benefits of this mode shift. While these projections are only ambitious estimates, they are important to building a case for investing in bicycle facilities and programs over time. For example, a traffic model is used to project future roadway improvements over time based on a straight-line assumption about auto use, fuel price, and other factors. The projection on bicycle use and benefits differs only in that it forecasts a minor change in modal choice – not travel behavior – based on a combination of empirical and theoretical data.

To estimate the number of potential commuter cyclists, we need to determine how many people live within biking distance of their workplace. (The Census does not provide the distance from a workers home to workplace, but does provide the time it takes a worker to travel from home to work.) According to the National Household Travel Survey (NHTS), the average work commute time has remained close to 20 minutes since 1983. In 2001, averaging all modes, the commute time was 23 minutes. Assuming an average speed of 10 miles per hour, a cyclist traveling for 23 minutes covers about 4 miles, which would be roughly equivalent to an 8-minute motor vehicle trip (traveling at about 30 mph). In applying this formula to Journey to work data, we include all those with current commutes of less than 15 minutes to achieve an average motor vehicle commute of approximately 8 minutes.

In the case of Ventura County, we conservatively assume that all 9,639 commuters who bicycle and walk are traveling 15 minutes or less and subtract them from all 99,996 residents with commutes of this length, resulting in 90,357 residents that could potentially convert their short commute trip from a vehicle trip into a bicycle trip. Given these data, capturing even 15% of these short vehicle trips would produce an additional 13,554 bicycle commuters, as shown in **Table 6-4.**

Table 6-4
Future Bicycle Commute and Air Quality Projections

Potential Future Bicycle Commuters		
Number of workers with commutes of less than fifteen minutes	99,996	*US Census 2000*
Number of workers who already bicycle or walk to work	9,639	*US Census 2000*
Number of potential bicycle commuters	90,357	*Calculated by subtracting number of workers who already bicycle or walk from the number of workers who have commutes of 15 minutes or less*
New Daily Bike-Transit Users	509	*Based on capture rate goal of 15% of total transit boardings*
Future number of new bicycle commuters	13,554	*Based on capture rate goal of 15% of potential bicycle riders*
Total Future Daily Bicycle Commuters	26,989	*Current daily bicycle commuters plus new bike-transit users and new bicycle commuters*
Total Future Bicycle-to-Work Mode Share	8.1%	
Future Total Daily Bicycle Trips	53,979	*Total future bicycle commuters x 2 (for round trips)*
Future Reduced Vehicle Trips per Weekday	39,404	*Assumes 73% of bicycle trips replace vehicle trips*
Future Reduced Vehicle Miles per Weekday	181,260	*Assumes average one-way trip travel length of 4.6 miles for adults. Assumes 12 mph average bicycle speed, 23-minute average travel time. Travel time data from NHTS 2001 Trends, Table 26.*
Future Reduced Vehicle Miles per Year	48,033,937	*256 weekdays per year*
Future Air Quality Benefits		
Reduced HC (kg/weekday)	508	*(0.0028 kg/mile)*
Reduced CO (kg/weekday)	3,788	*(0.0209 kg/mile)*
Reduced NOX (kg/weekday)	252	*(0.00139 kg/mile)*
Reduced CO2 (kg/weekday)	19,958,101	*(.4155 kg/mile)*
Reduced HC (metric tons/year)	130	*1000 kg per metric ton; 256 weekdays/year*
Reduced CO (metric tons/year)	970	*1000 kg per metric ton; 256 weekdays/year*
Reduced NOX (metric tons/year)	64	*1000 kg per metric ton; 256 weekdays/year*
Reduced CO2 (metric tons/year)	5,109,274	*1000 kg per metric ton; 256 weekdays/year*

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

Overall, it is estimated implementing the Countywide Bicycle Master Plan projects and programs will result in an increase of daily bicycle commuters to 26,989 total riders making 53,979 daily trips, increasing the future bicycle mode share from 2.4% to 8.1%, and reducing weekday VMT by approximately 181, 260 by the year 2020. Predicted increases in cycling are based on increases in cycling on newly built bikeways in San Francisco, CA, Portland, OR and Seattle, WA.[4] **Table 6-4**

[4] San Francisco saw 61% corridor increase at 20% network completion, translating to 305% adjusted increase. Portland saw 137% corridor increases at 50% system completion, translating to 274% adjusted increase. Seattle saw 90% corridor increase at 35% system completion, translating to 257% adjusted increase. This translates into an average 279% increase upon system completion. Adjusted increase reflects the projected amount of bicycling that will occur when the system is

quantifies this reduction in VMT in Ventura County, and the estimated decrease in air pollutants: 508 kgs/day of HC, 3,788 kgs/day of CO, and 64 kgs/day of NOX.

6.5. SAFETY

PERCEPTIONS OF SAFETY

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 don't ride, it is one of the most compelling reasons not to ride. In discussing bicycle safety, it is important to distinguish between perceived dangers and actual safety hazards.

Bicycle riding on-street is commonly perceived as unsafe because of the exposure of a lightweight, two-wheeled vehicle to heavier and faster moving automobiles, trucks and buses. Actual collision statistics, however, show that bicyclists face only a marginally higher degree of sustaining an injury than a motorist based on numbers of users and miles traveled. Death rates are essentially the same with bicyclists as with motorists. Bicycle-vehicle collisions are much less likely to happen than bicycle-bicycle, bicycle-pedestrian, or collisions caused by physical conditions. The majority of reported bicycle collisions show the bicyclist to be at fault; (due to not obeying basic traffic laws; these often involve younger bicyclists riding on the wrong side of the road or being hit broadside by a vehicle at an intersection or driveway.)

SAFETY ENFORCEMENT IN VENTURA COUNTY

The Cities of Oxnard, Port Hueneme, San Buenaventura (Ventura), Santa Paula, and Simi Valley each have independent police departments, while the remaining cities and unincorporated areas of Ventura County are served by the Ventura County Sheriff's Department. Together with the California Highway Patrol (CHP), which has jurisdiction over county highways, these agencies are charged with enforcing all traffic laws in Ventura County for bicycles and motor vehicles as part of their regular duties. Violators cited may include bicyclists who break traffic laws, as well as motorists who disobey traffic laws and make the cycling environment more dangerous.

In addition, an important function of these agencies is filing reports for accidents involving bicyclists. A record should be kept, accessible to others on where, when and how collisions between bicyclists and cars and bicyclists and pedestrians occur. For the County's bicycle planning effort, these agencies should continue to review and monitor bicycle and pedestrian accident data to improve safety through the bicycle network.

SAFETY CONDITIONS/COLLISIONS

An analysis of the Statewide Inventory of Traffic Related Statistics (SWITRS) data compiled by the CHP revealed a total of 1,329 collisions throughout Ventura County involving bicycles over a four-year period from 2002-2005. Summary findings during this time frame include: an overall total of 15 fatalities with at least three fatalities annually, and an overall total of 1,187 injuries, as shown in **Table 6-5**.

completed, based on studies of communities with completed or nearly completed bikeway systems. Corridor increases refers to the average increase in bicycling in the corridors in each city, before and after bikeways were installed. System completion refers to the percent completion of the citywide bikeway network in each city.

Table 6-5
Summary of Reported Bicycle Collisions

Location	Collision Year	Fatalities	Injured	Property Damage	Intersection	Mid-Block	Annual Total
Camarillo							
	2002	0	22	5	5	22	**27**
	2003	0	20	4	9	15	**24**
	2004	0	21	4	8	17	**25**
	2005	0	14	1	2	13	**15**
Total		**0**	**77**	**14**	**24**	**67**	**91**
Fillmore							
	2002	0	8	0	3	4	**7**
	2003	0	2	2	1	2	**3**
	2004	0	2	0	1	1	**2**
	2005	0	1	0	1	0	**1**
Total		**0**	**13**	**2**	**6**	**7**	**13**
Moorpark							
	2002	0	5	2	3	4	**7**
	2003	0	9	1	5	4	**9**
	2004	0	8	1	4	5	**9**
	2005	1	3	0	0	4	**4**
Total		**1**	**25**	**4**	**12**	**17**	**29**
Ojai							
	2002	0	7	1	2	6	**8**
	2003	0	11	2	7	5	**12**
	2004	0	5	2	3	4	**7**
	2005	0	7	2	5	4	**9**
Total		**0**	**30**	**7**	**17**	**19**	**36**
Oxnard							
	2002	0	91	20	58	51	**109**
	2003	1	74	16	48	43	**91**
	2004	1	97	9	58	46	**104**
	2005	1	61	7	37	31	**68**
Total		**3**	**323**	**52**	**201**	**171**	**372**
Port Hueneme							
	2002	0	5	0	2	3	**5**
	2003	1	5	2	2	5	**7**
	2004	0	7	0	1	6	**7**
	2005	0	2	0	1	1	**2**
Total		**1**	**19**	**2**	**6**	**15**	**21**
San Buenaventura							
	2002	1	62	12	31	38	**69**
	2003	0	60	10	30	36	**66**
	2004	0	55	12	35	28	**63**
	2005	0	37	7	25	19	**44**
Total		**1**	**214**	**41**	**121**	**121**	**242**
Santa Paula							

Location	Collision Year	Fatalities	Injured	Property Damage	Intersection	Mid-Block	Annual Total
	2002	0	10	1	6	4	**10**
	2003	0	9	1	5	4	**9**
	2004	0	12	1	9	4	**13**
	2005	0	6	0	4	2	**6**
Total		**0**	**37**	**3**	**24**	**14**	**38**
Simi Valley							
	2002	1	38	2	15	26	**41**
	2003	0	32	1	11	18	**29**
	2004	0	40	0	19	21	**40**
	2005	1	35	0	10	26	**36**
Total		**2**	**145**	**3**	**55**	**91**	**146**
Thousand Oaks							
	2002	0	50	10	19	40	**59**
	2003	0	41	9	13	37	**50**
	2004	0	57	9	21	45	**66**
	2005	1	42	4	11	34	**45**
Total		**1**	**190**	**32**	**64**	**156**	**220**
Unincorporated Ventura County							
	2002	2	21	2	1	23	**24**
	2003	1	36	5	6	32	**38**
	2004	2	35	6	8	29	**37**
	2005	1	22	0	1	21	**22**
Unincorporated Ventura County Total		**6**	**114**	**13**	**16**	**105**	**121**
Ventura County Total		**15**	**1187**	**173**	**546**	**783**	**1329**

All of the bicycle fatalities took place away from intersections along busy arterials: Ventura Avenue north of Shell Street, Telegraph Road west of Cummings Road; Rice Road south of Wooley Road, Lewis Road south of Pleasant Valley Road, and Central Avenue east of Beardsley Road, with the sole exception being the fatality at the intersection of Vista Grande at Sunny Lane. All of the fatalities took place during a weekday (three of the fatalities took place on a Monday), and most were in the early morning hours, with two taking place later in the afternoon. This would seem to indicate a greater level of speed and inattention during commute periods contributed to the fatalities.

The non-fatal collisions exhibited stronger geographic patterns, being focused on key Ventura County roads and highways. A total of nine collisions took place on locations along the narrow profile of Potrero Road; with three collisions approximately 3,500 feet west of Via Acosta, and six collisions in the vicinity of White Stallion Road. Thirteen collisions occurred on State Route 1, with seven at points between Calleguas Creek and the Los Angeles County line; and the remaining six on an approximately three mile segment between the Ventura Seawall and Hobson Road, centering on Solimar Beach. A total of thirteen collisions took place along State Route 150, with six collisions centering on a three mile segment between Burnham Road and Casitas Pass Road in the Meiners Oaks area. State Route 33 had a total of six collisions, with four taking place within a

one mile segment from Old Creek Road to Nye Road. The remainder of the collisions were evenly distributed on various roadways throughout the county, as shown in **Table 6-5.**

In general, greater than 40% of all collisions occurred on the weekend, with Saturday accounting for greater than 60% of those collisions or 24% of all collisions. Specific time periods, regardless of the day of the week, that experienced the greatest percentage of all collisions were: mornings from 7:00 a.m. to 10:00 a.m. with 24%, and afternoons from 3:00 p.m. to 6:00 p.m. with 31%

6.6. 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 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 don't 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 streets.

NEEDS OF CASUAL AND EXPERIENCED BICYCLISTS

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 in **Table 6-7**.

Table 6-7

Characteristics of Casual and Experienced Cyclists

Casual Riders	Experienced Riders
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 over 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 bicycle-sensitive signal actuators or "loop detectors" at signals. The experienced bicyclist who is primarily interested in exercise will benefit from closed-loop routes that lead back to the point of origin.

BICYCLISTS NEEDS FOR RECREATIONAL AND UTILITARIAN TRIPS

As this plan for enhancing and developing bicycle facilities, and available state and federal bicycle funding are 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.

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.

Table 6-8
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 or weekday afternoons	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

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 refer 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 the destination points, commuters require adequate long term bicycle storage and showers or changing facilities while shoppers require short term bicycle storage.

6.7. PUBLIC PARTICIPATION

Public outreach and participation for the Ventura Countywide Bicycle Master Plan included a project advisory committee, a project website, a user survey, and a series of public workshops.

The project advisory committee consisted of staff representatives from the cities and Ventura County agencies, as well as citizen representatives from local bicycle clubs. The advisory committee met over the course of the study to provide input and comment on the draft document chapters prior to the full public release.

A project website was set up at the outset to provide information on meetings and other project news, and also to host a link to the online user survey. The project website is located at:

http://www.altaplanning.com/venturacountybikeplan/

A web-based bicycle user survey was conducted from July to November 2006 to gather feedback on the current conditions and attitudes toward bicycling in Ventura County. The survey was conducted and administered via website and garnered 439 responses. The questionnaire and a summary of survey responses are provided in Appendix M.

In July 2006 two public outreach meetings were held: one for the west county in Ventura, and one for the east county in Moorpark. The purpose of this first set of workshops was to introduce the Countywide Bicycle Master Plan process, and gather input on existing conditions, problem areas, and potential solutions. An additional series of public workshops is planned for late May 2007 in order to present the Countywide Bicycle Master Plan document and recommendations.

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7. RECOMMENDED IMPROVEMENTS

The recommended improvements for the Ventura Countywide Bicycle Master Plan consist of a programs and improvements designed to improve the bicycling environment in Ventura County. The ultimate objective is a safe, functional, and well-connected system that facilitates bicycling for riders of all skill levels. These include implementing increasing numbers of well-placed bike parking and end of trip facilities, wayfinding and signage placement, and an on-going program to regularly sweep the on-street network and maintain multi-use trails. Finally, a series of educational programs designed to acquaint bicyclists, particularly young people and new riders, with the responsibilities and safety concerns that arise when bicycling; as well as improve the understanding of automobile drivers in regards to the relationship between bicycles and automobiles.

Ventura County's numerous open spaces, parks and beaches, as well as temperate weather and active lifestyles help to make bicycling a reasonable transportation and recreation option at most times of the year. The recommendations included in this chapter will help to elevate Ventura County as a great place to bicycle for recreational and commuting purposes.

The Recommended Countywide Bicycle Network is shown in **Figure 7-1** at the end of this chapter, and includes the existing and proposed facilities from all the jurisdictions in the County, is shown at the end of this chapter. Individual bicycle plan chapters for each jurisdiction, showing details on the existing and proposed facilities, are provided in the Appendix to this plan

7.1. SUPPORT FACILITIES AND PROGRAMS

Support facilities and programs are an important component of a bicycle transportation system. Facilities include such elements as bicycle racks on buses, bicycle parking racks, and showers and lockers for employees; while support programs include components such as bikeway management and maintenance, signage placement, and promotional/educational programs. A bicycle network that does not comprehensively incorporate all of these elements will fall short in achieving optimal functionality, particularly through failure to raise the necessary level of safety, security, and convenience for bicyclists.

BICYCLE PARKING AND END-OF-TRIP FACILITIES

Bicycle parking includes standard bike racks, covered lockers, and corrals. It is important that all of Ventura County's schools, transit stations, parks and recreation facilities are well outfitted with bicycle parking. Commercial areas have limited bicycle parking available for both commuters and those who are making trips of short duration. 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 bicyclists and their bicycles. A lack of safe and secure bicycle parking is often noted as a concern of bicyclists who may wish to ride to work or to shop. Theft and vandalism of bicycles, especially given that bicycles may be worth anywhere from $250 to $2,000, is a major impediment to bicycle riding.

RECOMMENDATIONS

As a general rule, inverted-U type racks bolted into the sidewalk are preferred in shopping centers, and should be located intermittently and/or at specific bicycle destinations (e.g. cafes, grocery stores).

Standard inverted-U racks are preferred for public commercial sidewalk areas. The inverted-U should be placed parallel to the street, and should be located within the sidewalk furnishing zone (in line with trees, benches, newspaper racks, etc.) so as not to block pedestrian traffic in the sidewalk through-zone. As an alternate to the standard inverted-U in areas with unique identities, decorative bike racks that tie into a theme of the streetscape can be installed to add a creative element to the shopping center.

Whatever the specific conditions may be at bike parking installation sites, it is critical that the locations are visible and easily accessible from the areas served. And regardless of special treatments, the basic rack function should not be overlooked: all racks should adhere to the basic functional requirement of supporting the bicycle by the frame (not just the wheel) and being compatible with all common lock types (U-locks, chains, and cables). Installation of "wave" style racks is not recommended due to common misunderstanding of how to properly lock a bike to these racks (users commonly lock their bike parallel to the rack, blocking other spaces) and because they rarely accommodate their stated capacities due to conflicts with the handlebars of bikes in adjacent slots.

Adopt a Comprehensive Bicycle Parking Ordinance

Cities and County should consider adoption of a comprehensive bicycle parking and facilities ordinance that provides incentives for bicycle parking facilities to be included in all new multifamily residential, commercial and office development projects. Bicycle parking ordinances should also include requirements for showers and changing facilities.

MAINTENANCE AND CONSTRUCTION

VCTC, the County of Ventura, and the local jurisdictions should seek to improve routine bikeway maintenance activities, especially on routes of countywide significance. Ongoing agricultural production, land development, and roadway construction in Ventura County increase the need for regular maintenance, as dirt, sand, and other agricultural and construction debris can be tracked or deflected into bike lanes. Local jurisdictions should work with contractors, farmers, and others to develop programs to routinely clean any tracked dirt or other debris that may be deposited in the bike lanes. Although the majority of bikeway maintenance can be accomplished through these routine activities, special consideration should be given to bikeway safety and usability, and provisions put in place for non-routine maintenance input, such as a telephone number bicyclists can call to report safety hazards.

RECOMMENDATIONS

Develop Supplemental Funding Source for the Bicycle Facility Maintenance Program
VCTC already provides Class I maintenance funds to all jurisdictions in the county. Given the importance of maintenance in a safe and functional bikeway network, and the difficultly of many local jurisdictions in acquiring maintenance funds, the VCTC and the jurisdictions should evaluate supplemental maintenance funding sources. A number of alternative (non general fund) maintenance sources are discussed below, which include adopt-a-path type programs or other ways of seeking private assistance that would not involve additional expenditure by VCTC. Cost estimates for the standard maintenance program as outlined are provided in Chapter 8.

EXAMPLES OF ALTERNATIVE MAINTENANCE FUNDING SOURCES

There are two general categories of recommended alternative, or non-general fund-based, methods for generating funds to cover regular trail maintenance costs. A brief description and examples of different methods are provided below. It is recommended that each method be carefully considered in terms of viability, including the necessary staff resources that may be required, as well as the potential base of public and private support. In addition, it is likely that more than one strategy will be necessary to adequately fund the trail maintenance program.

Tax and Fee Strategies
The first category of programs is fee or tax-based strategies that can raise the most revenue but also potentially be more politically difficult to implement. These revenue generating methods may include assessing a citywide tax or designating a local community facilities district tax or benefit assessment district fee.

Community Facilities Districts
Community Facilities Districts (CFDs) are mechanisms by which a specified district of property owners may vote to assess themselves a fee for the purpose of financing maintenance of open space, street medians, right-of-way, non-motorized facilities, street lighting, security, flood control and drainage. CFDs are usually implemented as part of new subdivision development but may also be organized by neighborhood groups or property owner associations.

Developer Impact Fees
Developer Impact Fees may be assessed on developers as part of development permits and/or impact mitigation requirements. The onetime impact fees are onetime fees that may be imposed on development activities for public goods and services associated with the development project, but provided for by the developer. The construction or improvement of water and sewer lines, streets and bridges, and parks and recreational facilities are some examples of typical projects funded through impact fees. In Ventura County, the cities may designate impact fees for new developments to cover costs of adjacent trail facilities.[5]

[5] http://www.tpl.org/tier3_cdl.cfm?content_item_id=1061&folder_id=825

Sales Tax

Sales taxes must be approved by a 2/3 vote and can be earmarked for specific projects. Besides covering all general retail sales, sales taxes can also be imposed on purchases of specific items such as gasoline, motor vehicles, alcohol and tobacco. Sales taxes are attractive to local communities for at least two reasons: they are relatively easy to collect, and, although they fluctuate with the economy, they provide a constant revenue stream ideal for covering regular maintenance costs.

Volunteer and Donation Programs

The second category of sources for trail maintenance funding covers the broad range of volunteer and donation strategies. These range from Adopt-a-Path programs to special events geared towards fundraising.

Adopt-a-Path

Adopt-A-Path programs vary in structure and goals but are primarily geared towards maintenance funding and are volunteer and donor-based. In Ventura County, the Omer Rains trail segment from the city of Ventura north to Emma Wood State Beach was the first Adopt-a-Bike path in California, and is adopted by the Channel Islands Bicycle Club. Other prominent examples of successful adopt a trail program include Salida, Colorado, whose program is both for maintenance and beautification, and has been extremely successful, to the extent that the nine original maintenance sections have been subdivided in order to accommodate all those who want to participate. Volunteers included the Boy Scouts, an agency for the developmentally handicapped, two businesses, a church, a bank, and the Cystic Fibrosis Association.

Special Events

Another volunteer and donation-based method includes hosting special events to draw charitable support from location businesses. Special events may include Bike to Work days, auctions and raffles, or other such events that may be held once or twice a year. In Ventura County, these types of events include the Amgen Tour of California or other local bike tours, which are organized by local bicycling or recreational groups in partnership with city governments and rely on charitable sponsorship by businesses providing refreshments and equipment. Not only do these events raise money through auctions and raffles, but they also serve as an opportunity to encourage more citizens to enjoy bicycling or other alternative modes of transportation and to provide educational information on safety.

Volunteer Services

Volunteer organizations can work in partnership with the local government to maintain portions of trail systems. In California, the California Conservation Corps (CCC) can be utilized as a low-cost source of labor for maintaining trails. The CCC provides meaningful work and educational opportunities to assist young men and women by working together to protect and enhance

California's environment, human resources and communities. The program is organized to provide corps members and services depending upon the project requirements. A crew usually consists of 10 to 15 young men and women; a staff supervisor who directs the crew; a vehicle, and basic tools.

In some cases, local recreational groups can help to maintain the trail, using a portion of membership dues to pay for volunteer trail maintenance activities. Other examples of volunteer and donor-based funding initiatives may include the creation of an annual award that recognizes outstanding local businesses or corporations that donate time and/or money in the maintenance of trails. The award may be an incentive for businesses to contribute. Placing corporate logos on signage and other amenities donated by businesses may also be an incentive for them to contribute.

Bicycle and other recreational equipment shops can also get involved in recruiting volunteers for path and trail maintenance. One bike shop in Colorado encourages trail volunteers by putting the name of a volunteer in a jar each day that person volunteers. At the end of the year, they draw a name from the jar and give them a bicycle.

Small Business and Corporate Giving

Trail maintenance funding programs are considered under the heading of small business and corporate gifts. These programs are based on corporate sponsorship that may require promotion of the donating company by, for example, placing the corporate logos on trail signs. Other examples of small business donations and corporate giving include the provision of maintenance supplies, volunteered labor provided by a firm, and donations to be included in raffle and auction events. One example of creative corporate giving occurred in Leadville, Colorado, where a local microbrewery created the Mineral Belt Pale Ale beer named after the local Mineral Belt recreational trail. A portion of the sales of the Pale Ale goes towards maintenance costs for the trail.

Recreational Fees and Sales

User fees may be considered the most direct form of revenue generation for trail maintenance, because the users of the facility are required to pay an annual fee to in order to use trail. However, there are challenges to implementing a user fee system on bike paths. Fees may dissuade potential trail users from using the facility, conflicting with the City's goal of encouraging more riders. Also, the enforcement measures necessary to ensure user-permit compliance would impose an additional cost on the jurisdictions. Finally, bike paths used mostly by commuters and occasional recreational users may not add up to a number significant for fundraising.

Other Fundraising Examples

The following additional trail maintenance fundraising examples were provided by the American Trails national organization.[6]

- In Durango, Colorado, the Animas River Trail was supported by part of a 1/2 cent sales tax increase. City voters approved the tax to fund a new recreation center as well as the trail and greenway rehabilitation along the river.

[6] http://www.americantrails.org/resources/funding/TipsFund.html

- The Carolina Heartlands Rail-Trail received help from the North Carolina Corrections Department. Between 20 and 90 inmates a day worked on clearing trees, brush, and trash from the right-of-way. The young crews, mostly first-time offenders in a bootcamp-style program, tackled the 12.5 miles between Wadesboro and McFarlan.
- Bike suspension maker RockShox provides many $250 grants for volunteer trail projects. One example is the Discovery Program of Orange, VA, which will use the funds to construct a beginner mountain bike trail, renovate a section of existing trail, and conduct a trail study that will provide recommendations to local land managers. Participants include Prospect Heights Middle School and the Walnut Creek Park Trail Volunteers.
- Trails4All in Orange County, CA, has started a program to raise funds to support volunteer trail projects. Stores sell the "EnviroDollar Coupons" and some stores also match donations. Participating stores are listed in the Trails4All newsletter and their employees can win raffle items for supporting the program. Trails4All also helps stores set up a "Trails Advocacy Department" with trail maps, sign samples, rules-of-the-trail, etc.
- Cyclists can sponsor a mile of the Great Divide Mountain Bike Route from Canada to Mexico. The Trailblazer Fund of Adventure Cycling is raising funds for trail development at $100 a mile.
- "Gift catalogues" are one way to publicize the many ways that trail projects need money. Gift catalogues have been used by at least three trail organizations: the Eagle County Trail System and the Cache La Poudre River Trail in Colorado, and the Wood River Trails in Idaho. Contributors can purchase drinking fountains, interpretive signs, trees, wildflowers, or give to the endowment fund. You can also buy a foot of paved trail for $100 or a mile of parallel equestrian trail for $5,000. Those who would like to make a bigger impact can also restore an old railroad trestle for $30,000 or build a serious missing link of trail for $75,000.
- Rail trails may end up with some saleable materials to finance construction and maintenance. The Old Creamery Trail between Vinton and Dysart, Iowa, offered railroad ties for landscaping for a "reasonable donation" to the trail fund.
- In Colorado's San Luis Valley, the Juvenile Restitution Program has become a key source of labor for trail projects. Mountain Trails Youth Ranch supervises the young people, who have committed crimes and are required to earn money owed for damages. Several community agencies and the State Off-Highway Vehicle Program combine to support the program.
- Some bicycle shops in the Ketchum/Sun Valley, Idaho area organized a system which they liken to "self-taxation." The dealers agreed that each would donate five dollars for every bicycle sold, and 25¢ for every rental of a bicycle or in-line skate. The money went to either the USFS trails, or to a paved bike path system which runs throughout the resort area -- with the customer making the choice. The dealer program has now operated for three years (only during the three months of summer when cash flow is high) and has raised about $3,000 each year.

BICYCLE DETECTION AT TRAFFIC SIGNALS

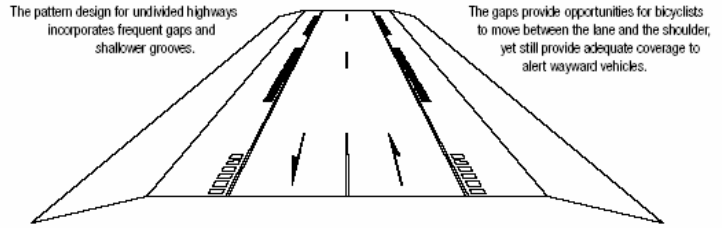
One means of facilitating bicycle travel is through the implementation of bicycle-sensitive signal actuators at key intersections along the bikeways network. Bicycles are detected by either video or in pavement detectors in well-marked positions, the signals are then triggered to allow waiting bicyclists to proceed through the intersection or turn left.

RECOMMENDATON

Bicycle-sensitive signal actuators should be considered by the appropriate jurisdiction for signalized intersections along key Countywide bicycle routes to ensure that bicyclists are presented greater opportunities for safe and expedited travel. Clearly marked zones for bicycle placement to activate bicycle detection should be part of the installation of bicycle loops. Consider video detection where feasible, as it offers improved detection for bicycles and tends to require less long-term maintenance.

SIGNAGE, STRIPING, AND RUMBLE STRIPS

All bikeway signage on public roadways in Ventura County should conform to the signage identified in the California Manual on Uniform Traffic Control Devices (MUTCD). These documents give specific information on the type and location of signing for bicycle facilities in the State of California. Suggested signage and striping are outlined in Appendix L, Bicycle Design Guidelines.



State of Washington DOT rumble strip design, showing placement near fog line to allow sufficient shoulder width for cyclists, as well as gaps that allow cyclists opportunities to move between the lane and shoulder.

Rumble Strips can hamper bicycling by presenting obstacles through trapped debris on the far right of the road shoulder and the rumble strip to the left. Consequently, special care needs to be exercised for bicyclists when this treatment for motorist safety is planned and built, with a robust maintenance schedule put into place. The rumble strip design and placement are also important; placing the rumble strip as close to the fog line as possible leave the maximum shoulder area available for cyclists. Certain rumble strip designs—such as the one used by the State of Washington (see above graphic)—are safer for bicyclists to cross, and still provide the desired warning effect for motorists.

RECOMMENDATIONS

Designated Bikeway Signs

The installation of standard CA MUTCD bikeway signs on all designated on-street bicycle facilities (Class II and III) is important to heighten motorist awareness and help bicyclists find their way. Installing signage is generally easier than major striping revisions or bike path construction and can

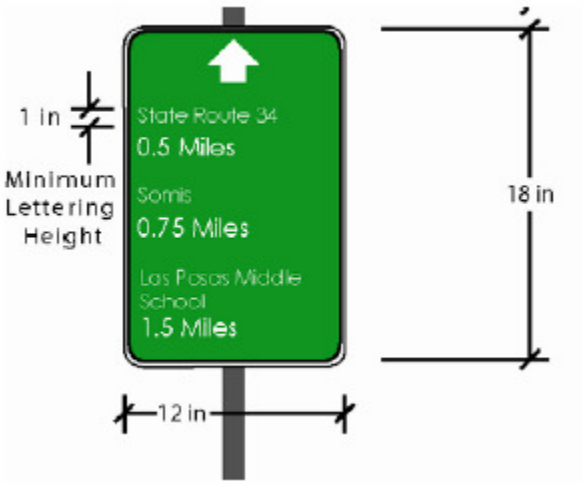
therefore be implemented more quickly. An example of where this applies is on Existing Class III Bike Routes where installation of several signs will complete the designated route. "Bike Lane" or "Bike Route" signs should be placed along all designated on-street facilities. The frequency of signage depends on the location; a more urban setting should have the signs installed more frequently than on rural segments.

"SHARE THE ROAD" Signage

Share the road signage should be used along roadways without bike lanes where bicyclists are likely to be present. This signage is particularly necessary along rural roads with inadequate shoulder widths for bicyclists and limited opportunities for expansion given physical and financial constraints. An excellent example of a roadway that would benefit from this signage treatment is SR 150 between Santa Paula and Ojai. Additional application is appropriate for all Class III Bicycle Routes, where the County should install "SHARE THE ROAD" signs (MUTCD W16-1) along with the standard "BIKE ROUTE" signage (MUTCD D11-1).

Comprehensive Countywide Signage Program

A comprehensive project to institute wayfinding signage for the Ventura County Bikeways network should be implemented to increase the utility and attractiveness of the system for users. Destination signage acts as a "map on the street" for cyclists. Destination signage can direct cyclists to locations, provide mileage, and draw attention to local destinations. The signage shown indicates destinations along the route, and mileage.



Destination signage should be easy to read and installed with enough frequency to effectively guide cyclists throughout the Ventura County Bikeway Network. Installation of signage every ¼ to ½ mile, depending on the route, is recommended. Placement of signage at key decision points is recommended.

Signage should be designed with a unique graphic or logo to convey the distinct qualities of Ventura County. A program to develop a countywide design for the bikeway sign should be undertaken, with input from all jurisdictions.

MULTI-MODAL CONNECTIONS

A key element in expanding the opportunities and reach for bicyclists is considering the manner in which bicycling connects to and is supported by other alternative transportation options, such as transit. Bicycles and Transit are mutually supportive in providing the alternative to the automobile, as buses can extend the range of more casual bicyclists, allowing for one leg of a trip when dark or

in inclement weather. Transit can also provide a substitute on days when bicycling is altogether not possible for whatever reason.

All buses in Ventura County are equipped with bicycle racks mounted on the front of the buses; these racks have a capacity to hold two or three bicycles. VISTA buses also allow the storage of several bicycles in the undercarriage bays. Metrolink, the commuter rail service, allows two bicycles per car when room allows. If the car fills up, bicycles must be moved to other cars, and must disembark altogether if train reaches capacity and space is necessary for additional passengers. If there are no spots available for bicycles on the train, bicyclists must wait. Bicycle parking is provided in the form of a limited number lockers and some racks at most stations, although these facilities are managed by each city in which they are located. The greatest number of bicycle lockers was in Simi Valley with 24 lockers and no racks.

RECOMMENDATION

In general, the provision of bicycle parking for multi-modal connectivity should be as highly secure as possible, given that most times those using these facilities will be commuting and thus gone for much of the day. Lockers are the best at providing an individually secure parking space for bicycles. As demand rises and opportunity allows, consideration should be given to implementing bike stations for supervised bicycle parking at key multi-modal stops. Bike stations can also provide other bicycling services, such as repairs and classes and be a valuable community resource.

Local Bus Service Providers

All local bus service providers should maximize bicycle-transit ridership by equipping all buses with racks that accommodate three bicycles. Additional measures to add capacity could include allowing bicycles on buses when there is room or during off-peak hours. In particular this should be considered on routes that parallel bikeways, such as between Ventura and Ojai. VCTC should develop secure bicycle parking facilities at key transit stops, especially those served by the bikeways network, to further facilitate multi-modal connections.

Metrolink and Amtrak

A coordinated policy to establish specific numbers of lockers at each station should be undertaken to ensure that at least a minimum level of secure bicycle parking is provided. Onboard changes could include establishing a bicycle car with a larger allocation for bicyclists as is done on Caltrain, the commuter rail service in the San Francisco Bay Area, and/or allowing more bicycles on board if space allows or during off-peak hours.

7.2. ENFORCEMENT

In order to encourage safe cycling in Ventura County, facility improvements must be accompanied by enforcement of California Vehicle Code (CVC) regulations pertaining to bicycles and bicycling. Enforcement within unincorporated Ventura County is the responsibility of the Ventura County Sheriff's Department, except on state highways and freeways where the California High Patrol is responsible. While both of these entities have taken steps to enforce CVC regulations and to

ensure safe use of bicycle facilities, feedback received from the survey respondents and others indicated a desire for stronger enforcement efforts.

RECOMMENDATION

The Ventura County Sheriff's Department and the California Highway Patrol (CHP) should continue to perform enforcement of vehicle statutes relating to bicycle operation in the county. 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 bicyclist 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, particularly pertaining to the requirement that bicyclists and motorists alike share road facilities. A countywide bilingual brochure could be developed for law enforcement to hand out to cyclists observed riding illegally or unsafely to help to educate them on proper bicycling safety.

7.3. 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 local school districts, Ventura County Sheriff's Department, the Garret Lemire Foundation Education Program, and other local bicycle groups such as Velo Ventura, and will generally be offered in city areas.

The Ventura County Sheriff's Department currently works in a variety of ways to educate children and adults on bicycle safety as described in Chapter 6. Unfortunately, statewide trends show that the lack of education for bicyclists, especially younger students, continues to be a leading cause of accidents. For example, the most common type of bicycle accident reported in California involves a younger person (between 8 and 16 years of age) riding on the wrong side of the road in the evening hours. Studies of accident locations around California consistently show the greatest concentration of accidents is directly adjacent to elementary, middle, and high schools. Parental responsibility in teaching bicycle safety to their children cannot be overlooked, but the fact is that many parents themselves are not educated in safe on-road cycling skills. The recommendations below are intended to ensure that both child and adult safety education remain an integral part of bicycling improvement efforts in Ventura County.

RECOMMENDATIONS

Continue to Expand and Initiate Bicycling Education Programs

Existing school education programs, including those offered by the Ventura County Sheriff's Department and Garret Lemire Foundation Education Program should be continued and supported by a secure, regular funding source. Schools should be encouraged to develop their own bicycle education programs.

Adult education courses should be encouraged to be taught throughout Ventura County, the county could make small grants available to certified bicycle education instructors to offset time and materials costs and to offer free courses to participants. Meeting spaces, such as community centers and libraries, are available for rental throughout Ventura County, and may be useful as

locations for such programs. Local employers should also be encouraged to invite bicycle education instructors to teach at their workplace.

For bicycle infractions (such as running stop signs) by minors, the Sheriff's Department should consider implementing a "bicycle traffic school" in lieu of fines.

Provide Safety Handbook

A standard safety handbook, such as the *From A to Z By Bike* handbook, should be purchased by VCTC and made available to each school. Schools should develop a circulation map of the campus and immediate neighborhood showing the preferred circulation and parking patterns and explaining in text the reason behind the recommendations. This circulation map should also be a permanent feature in all school newsletters, and it is preferable that all educational materials be provided in both English and Spanish. Bicycle helmet subsidy programs are available in California and should be used to provide low-cost approved helmets for all school-aged bicyclists.

Educate Motorists and Bicyclists

Motorist education on the rights of bicyclists and pedestrians, and vice versa, is virtually non-existent. Many motorists mistakenly believe, for example, that bicyclists do not have a right to ride in travel lanes and that they should be riding on sidewalks. Many motorists do not understand that they must only pass bicyclists when it is safe to do so and with adequate passing distance. Many motorists do not understand that a bicyclist may need to ride in a travel lane if there is no shoulder or if the shoulder is full of gravel, glass, or potholes. The term "Share the Road" is a common message that 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. Motorists and bicyclists should be educated about the rights and characteristics of bicyclists through a variety of means including:

- Enforcement of existing traffic laws for both motorists and bicyclists (Sheriff's Department responsibility).
- Work with towing companies and emergency clean up crews so they better understand the needs of bicyclists.
- Work with contractors, subcontractors and county maintenance and utility crews to ensure they understand the needs of bicyclists and follow standard procedures when working on or adjacent to roadways.
- Create public service announcements on radio and TV to promote the health and livability benefits of bicycling, and provide accurate information about motorist and bicyclists rights and responsibilities on the road.
- Make bicycle safety a part of traffic school curriculum (California Department of Motor Vehicles responsibility)
- VCTC may distribute a separate brochure on bicycle safety and laws to the public (such brochures are available from organizations such as AAA and the California Highway Patrol).

7.4. ENCOURAGEMENT PROGRAMS

Encouragement programs are vital to the success of the Ventura Countywide Bicycle Master Plan. Encouragement programs work to get more people out of their cars and on bicycles which will help

in reducing traffic congestion and air pollution, as well as improve the quality of life in Ventura County. However, without community support, the County lacks the resources that are needed to ensure the success of encouragement programs over time. While Ventura County's Public Works Department may be responsible for designing and constructing physical improvements, 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 County. Employee groups that would benefit from a targeted program assisting in identifying routes and overcoming obstacles include agricultural workers. Specific programs are described below.

RECOMMENDATIONS

Continue Ridesharing and Other Employer Incentive Programs

VCTC should continue its Ridesharing program, and consider expanding it to include a focus on bicycling as an alternative to driving single-occupant vehicles. Expanding the program for bicycling could include facilitating the development of employer incentive programs to encourage employees to try bicycling to work. Such programs could include providing bicycle lockers and shower facilities, and offering 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. VCTC may offer incentives to employers to institute these improvements through air quality credits, reduced parking requirements, lower 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 facilities.
- Creating an annual commuter challenge for area businesses.
- Targeting agricultural workers and other Ventura County rural area commuters for an awareness program of the developing bikeways network that will serve and connect these areas and the cities of Ventura County.

Expanded 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 means that person or group is responsible for maintenance of the bikeway either through direct action or as the source of funding for the County'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. Or, a local bike shop may adopt a bikeway by providing funding for the maintenance costs. An example of the program already in place is along the Ojai Valley Trail, where Ventura Velo has signed an agreement with County of Ventura Parks to maintain two segment of that bikeway facility.

Regional Bikeways Map

The regional bikeways user map serves as an important tool for showing bicyclists designated bikeways in Ventura County. Beyond the bikeways network, the map currently shows schools and airport facilities, as well as providing basic rules of the road for bicyclists. Future editions of the map could show significant destinations such as government offices, major employers, recreational

facilities, the location of bicycle parking facilities, and connections to transit facilities or multi-modal hubs.

Bike-to-Work Week
Ventura County should continue to participate in the annual Bike-to-Work Week in May, in conjunction with the California bike-to-work week activities. VCTC should continue the practice of allowing cyclists on buses for free during the event, so they can be assured of a free ride home if they only choose to cycle one leg of their journey and to promote multi-modal trips. County staff can be present at "energizer" stations along key local commuter routes. The County should support other bicycle events unique to the community that will encourage more and safer riding.

7.5. SAFE ROUTES TO SCHOOL

The recommended bicycle network includes a number of bikeways that will benefit school children who bicycle to school. Identifying and improving routes for children to walk or bicycle to school is one of the most effective means of reducing AM traffic congestion and addressing existing safety problems. Most effective school commute programs are joint efforts of the school district, city, and parent organizations, with the greatest benefits achieved when each school's Safe Routes program is developed as part of a larger scale program that supports all of the schools in the district.

Safe Routes to School (SR2S) refers to a variety of multi-disciplinary programs aimed at promoting walking and bicycling to school, and improving traffic safety around school areas through education, incentives, increased law enforcement, and engineering measures. Safe Routes to School programs typically involve partnerships among municipalities, school districts, community and parent volunteers, and law enforcement agencies. SR2S efforts can serve as an important component of the Ventura Countywide Bicycle Master Plan, as they help facilitate the implementation and funding for specific improvements that will help meet the Plan goals of making biking an integral mode of transportation in Ventura County.

RECOMMENDATION:

All jurisdictions should seek Safe Routes to School capital funding for bicycle infrastructure improvements in the vicinity of school zones. Federal Safe Routes to Schools funds are administered by Caltrans and are available annually through a competitive grant process. The Bicycle Transportation Account—administered through the Caltrans Local Assistance Program—is another potential source of funding. Several other funding opportunities for bicycle and pedestrian improvements exist through SAFETEA-LU and state resources and are identified in Chapter 8, *Funding and Implementation*.

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8. FUNDING AND IMPLEMENTATION

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

8.1. 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; and (c) funding cycles and opportunities, and strength of the project as measured by specific funding criteria. VCTC will utilize the Bicycle Suitability Analysis discussed earlier in this Plan as one of the project evaluation criterion when jurisdictions in the county apply for competitive funding sources.

8.2. CONSTRUCTION COST BREAKDOWN

Because all bikeways will be implemented by the appropriate local agency (e.g. cities or County), detailed construction costs for the individual proposed bikeway segments are provided in the individual plans in the Appendices. For those cities with adopted Bicycle Plans, this plan defers to their adopted plans for the construction cost estimates.

8.3. 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 is administered through the state (Caltrans and the State Resources Agency) and regional planning agencies such as VCTC. 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.

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 variety of bicycle and pedestrian projects, particularly those that are developed primarily for transportation purposes. The 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 Ventura County Transportation Commission.

Transportation Development Act

Transportation Development Act Article 3 funds are state block grants awarded annually to local jurisdictions for bicycle and pedestrian projects. 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. Ventura County's TDA funds are administered by the Ventura County Transportation Commission.

APPLICATION DEADLINE	Varies. Administered by the Ventura County Transportation Commission
TYPE OF PROJECTS FUNDED	▪ Planning ▪ Construction ▪ Maintenance ▪ Safety and Education
TYPE OF BIKEWAYS ELIGIBLE	▪ Bike Routes ▪ Bike Lanes Bike Paths
LINK TO PROGRAM	http://www.dot.ca.gov/hq/MassTrans/Docs-Pdfs/STATE-Tda-Handbook-050305.pdf

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 Station 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.

APPLICATION DEADLINE	Regional agency coordinates with local agencies
TYPE OF PROJECTS FUNDED	▪ Planning (up to 5% of funds in urbanized areas, 2% in non-urbanized areas) ▪ Construction
TYPE OF TRAILS ELIGIBLE	▪ Bike Routes ▪ Bike Lanes ▪ Bike Paths
LINK TO PROGRAM	No web link available

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.

APPLICATION DEADLINE	Varies
TYPE OF PROJECTS FUNDED	▪ Planning ▪ Construction
TYPE OF BIKEWAYS ELIGIBLE	▪ Bike Routes ▪ Bike Lanes ▪ Bike Paths
LINK TO PROGRAM	http://www.fhwa.dot.gov/flh/flhfs051028.htm

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 provides communities with resources to integrate their transportation system with preservation and environmental activities. Funds require a 20 % match.

APPLICATION DEADLINE	Varies
TYPE OF PROJECTS FUNDED	▪ Planning ▪ Construction
TYPE OF BIKEWAYS ELIGIBLE	▪ Bike Routes ▪ Bike Lanes ▪ Bike Paths
LINK TO PROGRAM	http://www.fhwa.dot.gov/tcsp/pi_tcsp.htm

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 the following:

- 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).

APPLICATION DEADLINE	October
TYPE OF PROJECTS FUNDED	▪ Planning ▪ Property Acquisition ▪ Construction ▪ Safety and Educational Programs ▪ Maintenance and Restoration of Existing Trails
TYPE OF BIKEWAYS ELIGIBLE	▪ Bike Paths ▪ Unpaved Trails
LINK TO PROGRAM	http://www.fhwa.dot.gov/environment/rectrails/index.htm http://www.parks.ca.gov/?page_id=21362

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.

APPLICATION DEADLINE	May 1
TYPE OF PROJECTS FUNDED	▪ Planning
TYPE OF BIKEWAYS ELIGIBLE	▪ Bike Paths ▪ Unpaved Trails
LINK TO PROGRAM	http://www.parks.ca.gov/?page_id=21360

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 have a transportation focus. Funds are available for both design 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. Ventura County's Bicycle Master Plan must be approved by the Ventura County Transportation Commission prior to Caltrans approval. The maximum amount available for projects through the Bicycle Transportation Account is $1.2 million dollars.

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

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.

Ventura County schools received a total of $681,000 in Safe Routes to Schools capital improvement monies for the 2005-2006 funding cycle. The most significant project funded is a 2.7-mile segment of the Santa Paula Branch Line Multi-Use Trail through the center of Santa Paula between the intersection of Telegraph Rd./Harvard Blvd./Peck Rd. to Santa Paula Creek. Other notable projects include a bicycle improvement project along Telegraph Road. Other funded projects included sidewalks and curb ramps at Mira Monte and Sunset Elementary Schools in the Oak View unincorporated community; curb ramps and sidewalks in the City of Ojai; in-pavement lighted crosswalks and warning signs in Thousand Oaks. The 2004-05 funding cycle yielded $353,000 for the cities of Oxnard, Santa Paula, Simi Valley and San Buenaventura.

APPLICATION DEADLINE	Currently unknown due to program reorganization
TYPE OF PROJECTS FUNDED	▪ Planning ▪ Construction
TYPE OF BIKEWAYS ELIGIBLE	▪ Bike Routes ▪ Bike Lanes ▪ Bike Paths
LINK TO PROGRAM	http://www.dot.ca.gov/hq/LocalPrograms/saferoute2.htm

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 VCTC, prioritizes and approves projects, which will receive these funds. The Ventura 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.

APPLICATION DEADLINE	Varies.
TYPE OF PROJECTS FUNDED	▪ Construction ▪ Safety and Education Programs ▪ Planning
TYPE OF TRAILS ELIGIBLE	▪ Bike Routes ▪ Bike Lanes ▪ Bike Paths
LINK TO PROGRAM	http://www.dot.ca.gov/hq/transprog/reports/Official_RSTP_Web_Page.htm

APPENDIX A: UNINCORPORATED VENTURA COUNTY BICYCLE TRANSPORTATION PLAN

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This Appendix provides a complete Caltrans compliant Bicycle Transportation Plan for the unincorporated area of Ventura County. The Caltrans Bicycle Transportation Account (BTA) is a significant source of funding for bicycle facility construction and sets forth specific requirements for the contents of bicycle master plans. The following table is provided for the convenience of Caltrans staff, to outline the elements within the Unincorporated Ventura County Bicycle Master Plan that comply with the BTA requirements. The table contains brief answers to the required elements for the BTA and provides references to relevant tables, figures and sections within the Ventura Countywide Bicycle Master Plan document. It is noted where a BTA requirement is not applicable.

Table 1
BTA Compliance Table for the Unincorporated Ventura County Bicycle Transportation Plan

Unincorporated Ventura County		Population based on 2000 US Census: 93,336	
Streets & Highways Code 891.2 BTP Requirements			
Section	**Description**	**Existing**	**Proposed**
a.	Estimated number of bicycle commuters	1,235 Based on 2000 US Census data	2,763 Based on 2000 US Census data
b.	Land use and population density	Approximately 1,651 Square Miles	Approximately 56.4 persons per square mile
c.	Existing and proposed bikeways	Please see Section 4.1, Tables 7, 8 & 9 and Figure 2.	Please see proposed project descriptions: Section 8 and Figure 2
d.	Existing and proposed bicycle parking	Please see Section 4.2 Also see VCBMP, Ch. 3.	Please see Section 8.182). Also see VCBMP, Ch. 7
e.	Existing and proposed multi-modal connections	Please see Section 4.3. Also see VCBMP, Chapter 3	Please see Section 8.18 Also see VCBMP, Ch 7
f.	Existing and proposed facilities for changing and storing clothes and equipment	Please see Section 4.2	Please see Section 8.18
g.	Bicycle safety and education programs	Please see Section 5	Please see VCBMP, Ch 7
h.	Citizen and community participation	Public outreach efforts included surveys, workshops, and Technical Advisory Committee meetings. See VCBMP Ch. 1 for more info.	
i.	Consistency with transportation, air quality, and energy plans	This Bicycle Transportation Plan is consistent with the Ventura County General Plan and all regional air quality and energy plans.	
j.	Project descriptions and priority listings	Please see Section 8: Project Descriptions	
k.	Past expenditures and future financial needs	$78,000 for Capital Projects (Last 5 years)	Please see Section 8

1. INTRODUCTION

This Bicycle Transportation Plan for unincorporated Ventura County focuses on major connections between the cities in Ventura County. The emphasis in developing potential bikeway projects for this plan was on major county roadways that provide connectivity between the incorporated cities in the County. As part of this planning effort, bikeway planning within the County's various smaller unincorporated communities and small urban enclaves was not specifically addressed. While

adoption of this document is important for allowing Ventura County to apply for BTA funding for projects in the unincorporated areas, it is important to note that additional planning work is required within these unincorporated community areas in order to fully assess the bicycle transportation needs of their residents. It is recommended that as part of future updates to this Bicycle Transportation Plan (required every 5 years), or as part of the County Area Plan update process, that the bicycle transportation needs of the unincorporated community areas be fully evaluated and projects specifically serving those areas be incorporated into the list of priority bikeway projects for the unincorporated County.

2. MAJOR GENERATORS AND ATTRACTORS OF BICYCLE TRIPS

LAND USE AND EMPLOYMENT

Many areas of unincorporated Ventura County are dominated by agricultural and open space land uses. A map of Ventura County Land Use Designations is provided in **Figure 1**. With the exception of the Ojai Valley area, the northern portion of the County is almost entirely open space land, much of which is steep mountainous terrain that is part of the Los Padres National Forest. Other major open space areas include the mountains separating the Santa Clara River Valley from Moorpark and Simi Valley, and the coastal Santa Monica Mountains in the southern part of the county. Agricultural land uses are concentrated along the Santa Clara River Valley and the Oxnard Plain.

A primary goal of this section of the bicycle plan is to provide a safe and functional bikeway network in the unincorporated areas that connects Ventura County's urban cities and communities. Both the open space and agricultural lands that dominate Ventura's unincorporated areas have their own unique challenges. As described above, the open space areas tend to be mountainous, with limited roadway connections, and roads that are narrow, steep and winding. Bicycling through these areas is challenging and may be difficult for commuting; however, the challenging and scenic mountain terrain makes many of these routes very popular for recreation. The agricultural portions of the county are concentrated along the river valleys and coastal plains. While the topography is flat and there are more connecting roadway routes, the roadways are typically older narrow rural highways that experience relatively high vehicle speeds and volumes. Adjacent agricultural operations result in substantial truck traffic, and farm operations can result in dusty conditions with mud and dirt being tracked onto roadway shoulders. More discussion of specific generators and attractors of bicycle traffic is provided in Chapter 4 which focuses on key gaps in the current system and a preliminary evaluation of potential bicycle facilities.

EDUCATIONAL FACILITIES

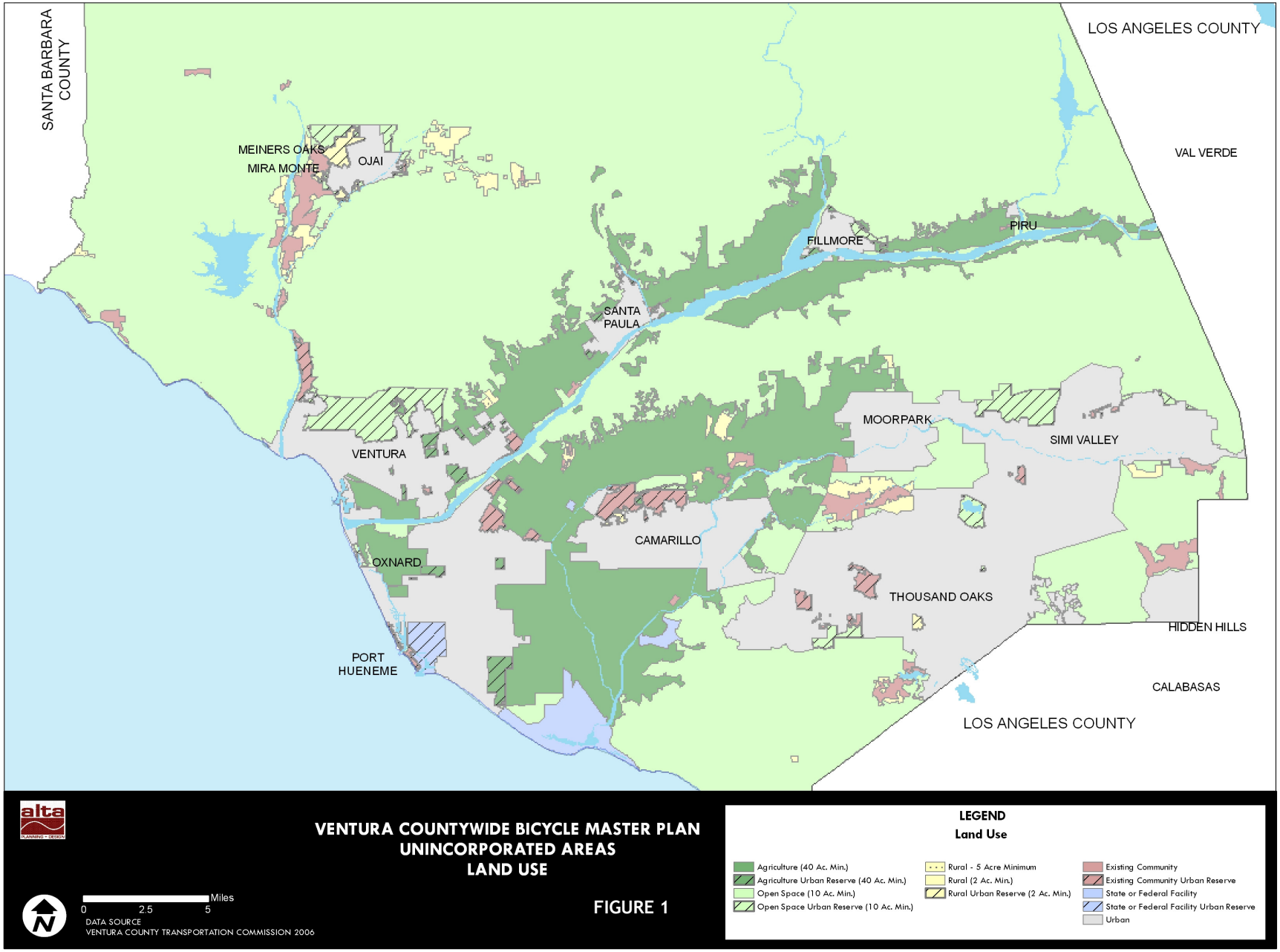
Educational facilities are a primary generator and attractor of bicycle traffic. Elementary, middle/junior high, and high schools, as well as colleges and universities, are identified in Figure 4-1 in Chapter 4.

2.2.1. PRIMARY, SECONDARY, AND HIGH SCHOOLS

Schoolchildren in general, but particularly those in grades 4 and above, have a high potential for bicycle trip generation. An inventory of elementary, junior high, high schools, colleges, and universities located in unincorporated areas of Ventura County is provided in **Tables 2** and **3**. The

entire County has 38 high schools, 9 of which are located in the unincorporated areas. There are 29 junior high schools, 4 of which are located in unincorporated areas, with three of these schools located just north and west of Camarillo. Finally, there are a total of 169 elementary schools, 30 of which are located in unincorporated areas.

Currently, there is one countywide school program promoting clean air, alternative modes and safe transportation. The Ventura County Air Pollution Control District (VCAPCD), in partnership with VCTC, sponsors an annual calendar contest for all public school students, where students design a calendar page illustrating the yearly theme, with prizes awarded to the winners. The contest has occurred for its twelfth consecutive year. Although this contest is not specifically promoting bicycle transportation, the model for the contest and communication channels has operated successfully and could be adapted for a bicycle-specific contest.



VENTURA COUNTYWIDE BICYCLE MASTER PLAN
UNINCORPORATED AREAS
LAND USE

FIGURE 1

2.2.2. COLLEGES AND UNIVERSITIES

Unincorporated Ventura County has one university and one private college. Thomas Aquinas College is located halfway between Santa Paula and Ojai along SR-150, and California State University – Channel Islands (CSUCI) is located south of Camarillo off of Lewis Road.

Currently, there are no designated bikeways providing direct access to either educational institution; however Lewis Road is currently being widened and reconstructed and will include bike lanes on both sides when the project is complete, providing access to the CSUCI campus. There is a 2-mile bike lane segment along Cawelti Road, which connects between Los Posas Road and Lewis Road north of the CSUCI campus.

Shuttles equipped with bike racks operate between the CSUCI campus and the Camarillo Metrolink Station, and are well-used by students. There are bicycle parking racks at several locations on campus including: in front of the Police Department, behind Aliso Hall, the Science Building, the Bell Tower, between the Bell Tower and Library and in back of University Hall. Through the public input process for this Master Plan students identified a need for bicycle parking at the campus shuttle stop. Details of the CSUCI transportation planning policies are detailed in **Chapter 5 Policy and Program Review**.

Table 2
Elementary, Junior High and High Schools in Unincorporated Ventura County

School Name	Address	City
ELEMENTARY SCHOOLS		
Linda Vista Junior Academy	5050 Perry Wy	Ventura County
Monica Ros Elementary School	783 McNell Rd	Ventura County
Oak Grove-Krishnamurti Elementary School	220 W Lomita Av	Ventura County
Ojai Valley Children's House	806 W Baldwin Rd	Ventura County
Arnaz Elementary School	400 Sunset Av	Ventura County
Briggs Elementary School	14438 W Telegraph Rd	Ventura County
Camarillo Heights Elementary School	35 W Catalina Dr	Ventura County
El Rio Elementary School	2714 Vineyard Av	Ventura County
Hollywood Beach Elementary School	4000 Sunset Ln	Ventura County
Laguna Vista Elementary School	5084 Etting Rd	Ventura County
Madrona Elementary School	612 Camino Manzanas	Ventura County
Meiners Oaks Elementary School	400 S Lomita Av	Ventura County
Mesa Elementary School	3901 Mesa School Rd	Ventura County
Mira Monte Elementary School	1216 Loma Dr	Ventura County
Mupu Elementary School	4410 Santa Paula-Ojai Rd	Ventura County
Oak View Elementary School	555 Mahoney Av	Ventura County
Olivelands Elementary School	12465 Foothill Rd	Ventura County
Piru Elementary School	3811 Center St	Ventura County
Rio Plaza Elementary School	600 Simon Wy	Ventura County
Rio Real Elementary School	1140 Kenney St	Ventura County
San Antonio Elementary School	650 Carne Rd	Ventura County
Santa Rosa Elementary School	13282 Santa Rosa Rd	Ventura County
Somis Elementary School	5268 North St	Ventura County
Summit Elementary School	12525 Santa Paula-Ojai Rd	Ventura County
The Little Red School House	20030 Telegraph Rd	Ventura County
Walnut Elementary School	581 Dena Dr	Ventura County

School Name	Address	City
JUNIOR HIGH SCHOOLS		
Mesa Junior High School	3901 Mesa School Rd	Ventura County
Rio Del Valle Junior High School	3100 Rose Av	Ventura County
Somis Middle School	5268 North St	Ventura County
HIGH SCHOOLS		
Oak Grove-Krishnamurti High School	220 W Lomita Av	Ventura County
Thatcher High School	5025 Thacher School Rd	Ventura County
Villanova Preparatory High School	12096 Ventura Av	Ventura County
Oxnard High School	3400 Gonzales Rd	Ventura County
Rio Mesa High School	545 Central Av	Ventura County

Table 3
Colleges and Universities in Unincorporated Ventura County

School Name	Address	City
Thomas Aquinas College	10000 N Santa Paula-Ojai Rd	Ventura County
California State University - Channel Islands	One University Drive	Ventura County

3. COMMUTER CHARACTERISTICS

A central focus of presenting commute information is to consider the current "mode split" of people that live and work in unincorporated Ventura County. 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 improvement 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.

Journey to work and travel time to work data were obtained from the 2000 U.S. Census for unincorporated Ventura County, California, and the United States. Journey to work data are shown in **Table 4**.

Table 4
Unincorporated Ventura County Journey to Work Data

Mode	United States	California	Unincorporated Ventura County
Bicycle	0.4%	0.8%	0.5%
Drove Alone	75.7%	71.8%	81.3%
Carpool	12.2%	14.6%	13.4%
Public Transit	4.7%	5.1%	1.1%
Walked	2.9%	2.9%	2.6%
Other	4.1%	4.8%	0.8%

Source: U.S. Census 2000

As shown in Table 3, approximately 0.5% of employed residents in unincorporated Ventura County commute by bicycle. This rate, while slightly greater than the national average bicycle commute mode share of 0.4%, is lower than the California average bicycle mode share of 0.8%. The bicycling rate in unincorporated Ventura County is in contrast with a high level of drive alone commuters at a rate of 81.3%, higher than both the United States and California averages.

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

Table 5
Travel Time to Work Data

Travel Time to Work	United States	California	Unincorporated Ventura County
Less than 15 minutes	29.4%	25.3%	27.8%
15 to 29 minutes	36.1%	35.4%	35.0%
30 to 44 minutes	19.1%	20.9%	18.1%
45 to 59 minutes	7.4%	8.2%	8.2%
60 minutes or more	8.0%	10.1%	10.9%

Source: Census 2000

As previously noted, 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, and people who bicycle to school, for recreation or for errands are not included in Census Journey to Work data. Second, Census survey forms only allow a person to choose one mode when answering. If a commuter uses more than one mode during their trip (e.g. bicycling to Metrolink), only the longest (transit) mode is recorded.

In order to establish a more representative estimate of unincorporated Ventura County's total existing bicycle mode share, a model was developed to augment the Journey to Work figure of 0.5% with data on schoolchildren, transit commuters, and utilitarian cyclists. As shown in **Table 6** below, this model estimates that bicyclists in Ventura County include approximately 738 school children aged 5 through 14, 288 college students, and 6 transit riders. Adding these estimates raises the total number of existing commuter and utilitarian bicyclists in unincorporated Ventura County to 1,235 riders, making a total of 2,470 daily trips, and brings the estimated commute mode share to 1.3%.

Table 6
Current Bicycle Commuters

Current Commuting Statistics		Source
Unincorporated Ventura County Population	93,336	*2000 US Census*
Number of Commuters	39,468	*2000 US Census (Employed persons less those working at home)*
Number of Bicycle-to-Work Commuters	204	*2000 US Census*
Bicycle-to-Work Mode Share	0.52%	*Mode share percentage of Bicycle to Work Commuters*
School Children Grades K-8	14,750	*2000 US Census, population ages 5-14*
Estimated School Bicycle Commuters	738	*Lamorinda School Commute Study (Fehr & Peers Associates, 1995) and San Diego County School Commute Study (1990). (5%)*
Number of College Students	5,756	*2000 US Census*
Estimated College Bicycle Commuters	288	*National Bicycling & Walking Study, FHWA, Case Study No. 1, 1995. Review of bicycle commute share in seven university communities (5%)*
Average Weekday *Transit*	424	*2000 US Census*
Number of Daily Bike- *Transit* Users	6	*Estimate from RTD (Denver) Bike-n-Ride Survey, December 1999 (Bike users 1.4% of total boardings)*
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	1,235	*Total of bike-to-work, transit, school, college and utilitarian bicycle commuters. Does not include recreation.*
Estimated Adjusted Mode Share	1.3%	*Estimated Bicycle Commuters divided by population*
Estimated Current Bicycle Trips		
Total Daily Bicycle Trips	2,470	*Total bicycle commuters x 2 (for round trips) plus total number of utilitarian bicycle trips*
Reduced Vehicle Trips per Weekday	1,118	*Assumes 73% of bicycle trips replace vehicle trips for adults/college students and 53% for school children*
Reduced Vehicle Miles per Weekday	3,538	*Assumes average one-way trip travel length of 4.6 miles for adults/college students and 0.5 mile for schoolchildren*

4. EXISTING BICYCLE FACILITIES

BIKEWAYS

The Ojai Valley/Ventura River Trail is the most significant regional Class I bike path in unincorporated Ventura County. A Class I segment of the Pacific Coast Bike Route is also located

within the unincorporated County. **Table 7** shows the lengths of the existing regional Class I Bike Paths in Ventura County. **Table 8** and **Table 9** list the Class II and Class III bike facilities in unincorporated Ventura County.

Table 7
Existing Ventura County (Unincorporated) Class I Bicycle Paths

Trail/Path Name	Roadway	Begin	End	Class	Mileage
Ojai Valley/Ventura River Trail	Off Road	Ojai SW City Limit	Ventura N City Limit	I	15.4
Pacific Coast Highway	Off Road	HWY 33	San Pedro St.	I	2
Total Class I Mileage					***12.1***

Source: Alta Planning + Design field inventory, Ventura County GIS data, June 2006.

Table 8
Existing Ventura County (Unincorporated) Class II Bike Lanes

Roadway	Begin	End	Class	Mileage
US 101	SB County Line	SR-1 / US 101 Jct.	II	12.7
Lewis Rd	Pleasant Valley	Hueneme Rd.	II	8.5
Victoria Ave.	US-101	Gonzales Rd.	II	1.5
Olivas Park Dr.	Olivas Park	Victoria Ave.	II	2.3
Gonzales Rd.	Victoria Ave.	Patterson Rd.	II	0.8
Las Posas Rd.	Pleasant Valley Rd.	5th Street	II	0.67
Cawelti Rd.	Las Posas Rd.	Lewis Rd.	II	2.15
Lindero Canyon Rd.	Bromely Dr.	Blackbird Ave.	II	1.78
Central Ave.	Camarillo C.L.	Vineyard Ave.	II	7.1
Total Class II Mileage				***38.87***

Source: Alta Planning + Design field inventory, Ventura County GIS data, June 2006.

Table 9
Existing Ventura County (Unincorporated) Class III Bike Routes

Roadway	Begin	End	Class	Mileage
Tierra Rejada	SR-23	Levarancho Rd	III	2.0
Total Class III Mileage				***2.0***

Source: Alta Planning + Design field inventory, Ventura County GIS data, June 2006.

END OF TRIP BICYCLE FACILITIES

End of trip facilities consist of bicycle parking, changing areas, and showering facilities. Bicycle parking facilities can be found at the local schools and most government facilities. Showers and changing facilities are available at the Naval Base Ventura County.

TRANSIT BICYCLE FACILITIES

All buses in Ventura County are equipped with bicycle racks mounted on the front of the buses; these racks have a capacity to hold two or three bicycles. VISTA buses also allow the storage of several bicycles in the undercarriage bays. There are no major multi-modal transit facilities located in unincorporated Ventura County.

5. TRIP REDUCTION POTENTIAL/AIR QUALITY BENEFITS

Based on the existing mode split and travel time to work data, there appears to be significant opportunity for increasing the mode share of bicycling in Ventura County. Increasing the number of residents who bicycle to work or for utilitarian trips is important in terms traffic congestion reduction, health benefits for riders, and reduction of emissions. Using the Census data above, in combination with national commuting statistics from the 2001 National Household Travel Survey (NHTS) and EPA estimates of standard emissions rates for cars, it is possible to give a projection of future bicycle ridership in Ventura County along with the trip reduction and air quality benefits of this mode shift. While these projections are only ambitious estimates, they are important to building a case for investing in bicycle facilities and programs over time. For example, a traffic model is used to project future roadway improvements over time based on a straight-line assumption about auto use, fuel price, and other factors. The projection on bicycle use and benefits differs only in that it forecasts a minor change in modal choice – not travel behavior – based on a combination of empirical and theoretical data.

To estimate the number of potential commuter cyclists, we need to determine how many people live within biking distance of their workplace. (The Census does not provide the distance from a workers home to workplace, but does provides the time it takes a worker to travel from home to work.) According to the National Household Travel Survey (NHTS), the average work commute time has remained close to 20 minutes since 1983. In 2001, averaging all modes, the commute time was 23 minutes. Assuming an average speed of 10 miles per hour, a cyclist traveling for 23 minutes covers about 4 miles, which would be roughly equivalent to an 8-minute motor vehicle trip (traveling at about 30 mph). In applying this formula to Journey to work data, we include all those with current commutes of less than 15 minutes to achieve an average motor vehicle commute of approximately 8 minutes.

In the case of unincorporated Ventura County, we conservatively assume that all 1,244 commuters who bicycle and walk are traveling 15 minutes or less and subtract them from all 10,990 residents with commutes of this length, resulting in 9,810 residents that could potentially convert their short commute trip from a vehicle trip into a bicycle trip. Given these data, capturing even 15% of these short vehicle trips would produce an additional 1,471 bicycle commuters, as shown in **Table 10.**

Table 10
Future Bicycle Commute and Air Quality Projections

Potential Future Bicycle Commuters		
Number of workers with commutes of less than fifteen minutes	10,990	*US Census 2000*
Number of workers who already bicycle or walk to work	1,244	*US Census 2000*
Number of potential bicycle commuters	9,810	*Calculated by subtracting number of workers who already bicycle or walk from the number of workers who have commutes of 15 minutes or less*
New Daily Bike-Transit Users	58	*Based on capture rate goal of 15% of total transit boardings*
Future number of new bicycle commuters	1,471	*Based on capture rate goal of 15% of potential bicycle riders*
Total Future Daily Bicycle Commuters	2,763	*Current daily bicycle commuters plus new bike-transit users and new bicycle commuters*
Total Future Bicycle-to-Work Mode Share	7.00%	
Future Total Daily Bicycle Trips	5,527	*Total future bicycle commuters x 2 (for round trips)*
Future Reduced Vehicle Trips per Weekday	4,035	*Assumes 73% of bicycle trips replace vehicle trips*
Future Reduced Vehicle Miles per Weekday	18,559	*Assumes average one-way trip travel length of 4.6 miles for adults. Assumes 12 mph average bicycle speed, 23-minute average travel time. Travel time data from NHTS 2001 Trends, Table 26.*
Future Reduced Vehicle Miles per Year	4,918,222	*256 weekdays per year*
Future Air Quality Benefits		
Reduced HC (kg/weekday)	52	*(0.0028 kg/mile)*
Reduced CO (kg/weekday)	388	*(0.0209 kg/mile)*
Reduced NOX (kg/weekday)	26	*(0.00139 kg/mile)*
Reduced CO2 (kg/weekday)	2,043,521	*(.4155 kg/mile)*
Reduced HC (metric tons/year)	13	*1000 kg per metric ton; 256 weekdays/year*
Reduced CO (metric tons/year)	99	*1000 kg per metric ton; 256 weekdays/year*
Reduced NOX (metric tons/year)	7	*1000 kg per metric ton; 256 weekdays/year*
Reduced CO2 (metric tons/year)	523,141	*1000 kg per metric ton; 256 weekdays/year*

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

Overall, it is estimated implementing the unincorporated Bicycle Master Plan network and programs will result in an increase of daily bicycle commuters to 2,763 total riders making 5,527 daily trips, increasing the future bicycle mode share from 1.3% to 7.0%, and reducing weekday VMTs by approximately 18,559 by the year 2020. Predicted increases in cycling are based on increases in cycling on newly built bikeways in San Francisco, CA, Portland, OR and Seattle, WA.[7]

[7] San Francisco saw 61% corridor increase at 20% network completion, translating to 305% adjusted increase. Portland saw 137% corridor increases at 50% system completion, translating to 274% adjusted increase. Seattle saw 90% corridor

Table 10 quantifies this reduction in VMTs in unincorporated Ventura County, and the estimated decrease in air pollutants: 52 kgs/day of HC, 388 kgs/day of CO, and 26 kgs/day of NOX.

5. SAFETY AND EDUCATION

SAFETY ENFORCEMENT IN VENTURA COUNTY

The Ventura County Sheriff and the California Highway Patrol (CHP) enforce all traffic laws in unincorporated Ventura County for bicycles and motor vehicles as part of their regular duties. Violators cited may include bicyclists who break traffic laws, as well as motorists who disobey traffic laws and make the cycling environment more dangerous.

In addition, an important function of these agencies is filing reports for accidents involving bicyclists. A record should be kept, accessible to others on where, when and how collisions between bicyclists and cars and bicyclists and pedestrians occur. For the County's bicycle planning effort, these agencies should continue to review and monitor bicycle and pedestrian accident data to improve safety through the bicycle network.

SAFETY CONDITIONS/COLLISIONS

An analysis of the Statewide Inventory of Traffic Related Statistics (SWITRS) data compiled by the CHP revealed a total of 122 collisions involving bicycles over a four-year period, from 2002-2005. Summary findings during this time frame include: an overall total of 6 fatalities with at least one fatality annually, an overall total of 105 injuries with at least 20 annually, and 12 cases involving only property damage, as shown in **Table 11**.

Table 11
Summary of Reported Bicycle Collisions

Year	Fatalities	Injuries	Property Damage	Intersections	Mid-block	Annual Total
2002	2	20	2	1	23	**24**
2003	2	32	4	6	32	**38**
2004	1	32	5	9	28	**37**
2005	1	21	1	1	22	**23**
Total	**6**	**105**	**12**	**17**	**105**	**122**

All of the fatalities took place away from intersections along busy arterials; Ventura Avenue north of Shell Street, Telegraph Road west of Cummings Road; Rice Road south of Wooley Road, Lewis Road south of Pleasant Valley Road, and Central Avenue east of Beardsley Road, with the sole exception being the fatality at the intersection of Vista Grande at Sunny Lane. All of the fatalities

increase at 35% system completion, translating to 257% adjusted increase. This translates into an average 279% increase upon system completion. Adjusted increase reflects the projected amount of bicycling that will occur when the system is completed, based on studies of communities with completed or nearly completed bikeway systems. Corridor increases refers to the average increase in bicycling in the corridors in each city, before and after bikeways were installed. System completion refers to the percent completion of the citywide bikeway network in each city.

took place during a weekday- three of the fatalities took place on a Monday- and most were in the early morning hours, with two taking place later in the afternoon. This would seem to indicate a greater level of speed and inattention during commute periods contributed to the fatalities.

The non-fatal collisions exhibited stronger geographic patterns, being focused on key Ventura County roads and highways. A total of nine collisions took place on locations along the narrow profile of Potrero Road; with three collisions approximately 3500 feet west of Via Acosta, and six collisions in the vicinity of White Stallion Road. Thirteen collisions occurred on State Route 1, with seven at points between Calleguas Creek and the Los Angeles County line; and the remaining six on an approximately three mile segment between the Ventura Seawall and Hobson Road, centering on Solimar Beach. A total of thirteen collisions took place along State Route 150, with six collisions centering on a three mile segment between Burnham Road and Casitas Pass Road in the Meiners Oaks area. State Route 33 had a six total collision, with four taking place within a one mile segment from Old Creek Road to Nye Road. The remainder of the collisions were evenly distributed on various roadways throughout the county, as shown in **Table 12**.

In general, greater than 40% of all collisions occurred on the weekend, with Saturday accounting for greater than 60% of those collisions or 24% of all collisions. Specific time periods, regardless of the day of the week, that experienced the greatest percentage of all collisions were: mornings from 7:00 a.m. to 10:00 a.m. with 24%, and afternoons from 3:00 p.m. to 6:00 p.m. with 30.6%.

Table 12
Reported Bicycle Collisions

Street 1	Street 2	Distance from Intersection (feet)	Type	Collision Year
RT 101	Mobil Pier Bridge	4224	Injury	2002
Potrero Rd	White Stallion Rd	55	Injury	2002
RT 1	Mt Suribachi Rd	2376	Injury	2002
Gonzales Rd	Harbor Bl	3696	Injury	2002
RT 150	Rincon Chlorination Sta	3168	Injury	2002
Alvarado Av	Fernando Dr	528	Injury	2002
Lewis Rd	Pleasant Valley Rd	3696	Killed	2002
Harbor Bl	5Th St	2640	Injury	2002
Oak View Av	Old Grade Rd	60	Property Damage Only	2002
Box Canyon Rd	Studio Rd	1056	Injury	2002
Potrero Rd	White Stallion Rd	100	Injury	2002
South Mountain Rd	Sespe St	25	Injury	2002
RT 1	Mt Suribachi Rd	3960	Injury	2002
Fairview Rd	Fairview Ct	528	Injury	2002
Lewis Rd	Cawelti Rd	528	Injury	2002
Ocean Av	Simi Av	0	Injury	2002
RT 118	Buttercreek Rd	2112	Injury	2002
Olds Rd	Sanford St	260	Injury	2002
Potrero Rd	Via Acosta Dr	2640	Injury	2002
RT 1	Hobson Rd	1600	Injury	2002
N Encinal Av	El Conejo Dr	150	Property Damage Only	2002
Tico Rd	RT 150	11	Injury	2002
Central Av	Beardsley Rd	647	Killed	2002
Santa Clara Av	Wright Rd	810	Injury	2002
2002 Summary:	**24 Total Accidents**	**1 Intersection 23 Mid-block**	**2 Killed 20 Injured 2 Property**	
RT 150	Burnham Rd	0	Property Damage Only	2003
Alelia Av	Violeta St	167	Killed	2003
Potrero Rd	White Stallion Rd	224	Injury	2003
El Roblar Dr	N Pueblo St	9	Injury	2003
Orchard Dr	Corto Dr	137	Injury	2003
RT 232	Central Av	1584	Injury	2003
RT 1	Hobson Pk	3696	Injury	2003
Potrero Rd	Wendy Dr	5280	Injury	2003
RT 1	Solimar Beach	1584	Injury	2003
Rice Av	Wooley Rd	876	Killed	2003
Wendy Dr	Theresa Dr	68	Property Damage Only	2003
Kanan Rd	Cresthill Dr	0	Injury	2003
Potrero Rd	Via Acosta	3696	Injury	2003
Wendy Dr	Gerald Dr	0	Injury	2003
Hueneme Rd	Laguna Rd	508	Injury	2003

Street 1	Street 2	Distance from Intersection (feet)	Type	Collision Year
Nye Rd	RT 33	117	Injury	2003
RT 150	Mupu Rd	4752	Injury	2003
Santa Rosa Rd	Duval Rd	502	Injury	2003
Casitas Vista Rd	Camp Chaffee Rd	528	Injury	2003
RT 150	La Luna Av	0	Injury	2003
Santa Rosa Rd	Hill Canyon Rd	1056	Property Damage Only	2003
Santa Susana Pass Rd	Box Canyon Rd	300	Injury	2003
RT 1	La Co/Ven Co Line	2640	Injury	2003
RT 150	Osborn Rd	2640	Injury	2003
RT 23	Happy Camp Rd	165	Injury	2003
Potrero Rd	Lake Sherwood Rd	1056	Injury	2003
Moorpark Rd	Lexington Hills Ln	0	Injury	2003
RT 118	Mejico Crk	2112	Injury	2003
RT 150	Sulphur Mountain Rd	2640	Injury	2003
RT 1	Tonga St	1056	Injury	2003
RT 150	Chlorination Plant	2112	Injury	2003
Jenny Dr	Melvin Ct	40	Injury	2003
Potrero Rd	White Stallion Rd	30	Injury	2003
Potrero Rd	Lewis Rd	7920	Injury	2003
RT 150	Reeves Rd	1056	Injury	2003
RT 1	Big Sycamore Cyn	1584	Property Damage Only	2003
RT 1	Ventura Seawall	2112	Injury	2003
RT 150	Rice Rd	0	Property Damage Only	2003
2003 Summary:	**38 Total Accidents**	**6 Intersection 22 Mid-block**	**2 Killed 32 Injured 2 Property**	
Olivas Park Dr	Telephone Rd	0	Injury	2004
Catalina Dr	Barbara St	140	Property Damage Only	2004
Santa Ana Bl	Monte Via	20	Injury	2004
Rice Av	Wooley Rd	1584	Injury	2004
RT 33	Nye Rd	528	Injury	2004
RT 150	Rice Rd	0	Property Damage Only	2004
Wendy Dr	Gerald Dr	0	Injury	2004
Lake Sherwood Dr	Cameron Ct	1056	Injury	2004
San Miguel Dr	Mission Dr	27	Injury	2004
Simon Wy	Citrus St	1056	Injury	2004
RT 150	Reeves Rd	500	Injury	2004
RT 33	Old Creek Rd	0	Injury	2004
RT 33	Old Creek Rd	400	Injury	2004
Mission Dr	Catalina Dr	0	Injury	2004
El Roblar Dr	Lomita Av	100	Injury	2004
Mcnell Rd	Grand Av	1584	Injury	2004
Potrero Rd	Via Acosta	3168	Injury	2004
Jourdan St	Collins St	325	Injury	2004

Street 1	Street 2	Distance from Intersection (feet)	Type	Collision Year
N Highland Dr	Mission Dr	1320	Property Damage Only	2004
Ocean Dr	Van Nuys Av	0	Injury	2004
RT 23	Shekell Rd	8131	Injury	2004
Short St	RT 33	15	Injury	2004
W Telegraph Rd	Cummings Rd	1056	Killed, Injury	2004
Kanan Rd	Smoketree Av	450	Injury	2004
RT 150	RT 33	0	Injury	2004
Potrero Rd	White Stallion Rd	20	Injury	2004
RT 150	Casitas Pass Rd	246	Injury	2004
RT 33	Alvarado Av	0	Injury	2004
Vista Grande	Sunny Ln	0	Killed	2004
Central Av	Beardsley	3168	Property Damage Only	2004
Victoria Av	Gonzales Rd	100	Property Damage Only	2004
El Roblar Dr	Lomita Av	25	Injury	2004
RT 33	Brock Ln	108	Injury	2004
RT 1	Sycamore Canyon Rd	700	Injury	2004
Potrero Rd	White Stallion Rd	100	Injury	2004
RT 101	Old Pch	2640	Injury	2004
RT 1	Sycamore Canyon Rd	1056	Injury	2004
2004 Summary:	**37 Total Accidents**	**9 Intersection 28 Mid-block**	**1 Killed 32 Injured 5 Property**	
South Mountain Rd	Balcom Canyon Rd	300	Injury	2005
Ventura Av	Holt St	100	Property Damage Only	2005
Wheeler Canyon Rd	Foothill Rd	3696	Injury	2005
Virginia Dr	Theresa Dr	5	Injury	2005
Potrero Rd	Trentwood Dr	2112	Injury	2005
RT 1	Tonga St	1056	Injury	2005
Las Posas Rd	Laguna Rd	75	Injury	2005
Oak View Av	Bundren St	35	Injury	2005
RT 126	Camulos Rancho	528	Injury	2005
Santa Ana Bl	Ventura River Br	15	Injury	2005
RT 1	Calleguas Crk	3168	Injury	2005
RT 33	Valley Meadow Dr	10	Injury	2005
Sycamore Rd	Cliff Dr	150	Injury	2005
Broadway	Stockton Rd	15	Injury	2005
Simon Wy	Citrus St	190	Injury	2005
Island View Av	Eagle Rock Av	0	Injury	2005
Bundren St	Santa Ana Bl	45	Injury	2005
RT 33	Matilija Canyon Rd	52800	Injury	2005
Santa Clara Av	Central Av	1584	Injury	2005
Potrero Rd	White Stallion	1056	Injury	2005
Las Posas Rd	Laguna Rd	528	Injury	2005
Citrus View Dr	Marina Cir	15	Injury	2005
Ventura Av	Shell Rd	1013	Killed	2005

Street 1	Street 2	Distance from Intersection (feet)	Type	Collision Year
2005 Summary:	**23 Total Accidents**	**1 Intersection 22 Mid-block**	**1 Killed 21 Injured 1 Property**	

6. PUBLIC PARTICIPATION

Public participation was generated as part of the larger effort of the Ventura Countywide Bicycle Master Plan. In July 2006 two public outreach meetings were held, one for the west county in Ventura, and one for the east county in Moorpark. Additionally, an online survey was conducted for the entire county. More details on the overall public outreach conducted for the Countywide Plan are provided in Chapter 6, and a summary of the survey results are provided in Appendix M.

7. POLICY CONFORMANCE

As required by Caltrans, this section provides an overview of local and regional planning documents relevant to bicycle planning within Unincorporated Ventura County, illustrating the consistency between this Master Plan and the existing plans and policies. Additional planning documents relevant to this plan are also detailed in Chapter 5.

COUNTY OF VENTURA TRANSPORTATION VISION

The Ventura County Board of Supervisors passed a landmark Transportation Vision in January 2006, seeking to provide alternatives for transport beyond the standard freeway and road network for automobiles. Specifically, this vision included increased service and facilities for (bus) transit, rail, and bicycles. The Board recognized that funding will not be available to the degree necessary to fund capacity increases for single occupancy vehicles currently using the roadway network. Specific language directing the Bicycle Vision is listed below; similar language was passed supporting bus and rail transit.

Bicycle Vision

- Establish a system of bicycle lanes/trails linking all county cities
- Establish bicycle trail connections to California State University Channel Islands
- Establish adequate bicycle lanes on well-used bicycle routes
- Provide adequate bicycle carrying capacity on public transit vehicles
- Encourage provision of adequate bicycle racks and lockers

VENTURA COUNTY GENERAL PLAN

The County of Ventura's General Plan is the guiding document for integration and facilitation of development in the County. Specific Elements of the General Plan include Resources, Hazards, Land Use, and Public Facilities and Services. Goals, Policies, and Programs that directly address bicycling are found within the Public Facilities and Services Element. The Ventura County General Plan was most recently approved by the Board of Supervisors in 2006.

7.1.1. TRANSPORTATION AND CIRCULATION ELEMENT

The Transportation and Circulation sub-element, found within the Public Facilities and Services Element, contains specific goals and policies that seek to promote bicycling as an alternative transportation mode.

Goal 4.2.1.8: Encourage the use of bicycling and ridesharing (e.g., carpooling, vanpooling, and bus pooling) as a percentage of total employee commute trips throughout the County in order to reduce vehicular trips and miles traveled and consequently vehicular emissions, traffic congestion, energy usage, and ambient noise levels.

> **Policy 4.2.2.8** *Discretionary development* shall be conditioned, where feasible, to minimize traffic impacts by incorporating pedestrian and bicycle pathways, ridesharing programs, transit improvements (bus turnouts, shelters, benches), and/or transit subsidies for employees or residents of the proposed *development*.
>
> **Policy 4.2.2.9:** In the event that any railroad right-of-way within Ventura County is abandoned in the future, the County Public Works Agency and the General Services Agency shall evaluate the feasibility of acquiring such land for public use such as transit, bicycle and equestrian paths.

7.1.2. PARKS AND RECREATION ELEMENT

Bicycling as a recreational activity is supported in the Parks and Recreation Sub-Element with the establishment of a system of trails being a major priority. Funding constraints are considered with the recommendation of a dedicated funding stream through a proposed Regional Recreation Facilities Fee Ordinance.

Goal 4.10.1.5: Establish or assist in the establishment of a countywide network of trails, which will meet the needs of equestrians, bicyclists, hikers and other trail user groups.

> **Policy 4.10.2.5:** County facilities (e.g., flood control channels and easements) shall be made available for recreational use as appropriate.
>
> **Program 4.10.3.5**: The General Services Agency shall prepare, for consideration by the Board of Supervisors, a Regional Recreation Facilities Fee Ordinance to fund regional recreational facilities. The proposed funds would finance acquisition of land and construction of a variety of facilities along the regional trails within the General Services Agency's jurisdiction, including equestrian, hiking and backpacking trailheads.

7.1.3. VENTURA COUNTY GENERAL PLAN AREA PLANS

The Ventura County General Plan has a number of Area Plans that are dedicated sub-sections providing goals, policies, and programs for specific areas within the County. A number of overarching goals as well as detailed policies and programs pertaining to bicycles are found in the Area Plans.

Coastal Area Plan

> **General Statements:** Access Management 16: The County will coordinate and supervise programs with other private and public organizations to improve existing access, provide additional access, provide signing, parking, pedestrian and bicycle facilities, and the like.

Central Coast

A. Recreation/Policy 5: Walkways and bikeways around Channel Islands Harbor to link Hollywood and Silver Strand Beaches should be provided as funds are available

B. Access/Policy 9: Provide pedestrian walkways and bikeways around Channel Islands Harbor to link Hollywood and Silver Strand Beaches when funding is available.

Public Works Policy 3: In working toward solutions to circulation problems in the unincorporated beach communities of Hollywood Beach, Hollywood-by-the-Sea and Silver Strand Beach, the County of Ventura should initiate a renewed effort to coordinate with citizens and responsible agencies. Pedestrian walkways and bicycle paths should be considered as part of the solution.

El Rio/Del Norte Area Plan

Air Quality Resources Program 1.1.3.1: The County Public Works Agency will continue to work with the Air Pollution Control District and transportation planning agencies to develop and implement Transportation Control Measures (TCMs) to facilitate public transit and alternative transportation modes within the El Rio/Del Norte Area Plan boundary.

Commercial Policy 3.7.2.2: Commercial development shall be designed to promote ease of pedestrian/bicycle access in order to encourage walk-in business, as well as provide sufficient off-street parking.

Transportation Goal 4.1.1.2: Plan for safe pedestrian and bicycle pathways throughout the El Rio/Del Norte area.

Transportation/Circulation Program 4.1.3.2: The General Services Agency will continue to work with the El Rio/Del Norte Municipal Advisory Council, Ventura County Transportation Commission (VCTC) and other planning agencies to develop and implement the Regional Trails and Pathways Plan to facilitate the installation of bicycle lanes and trails within the El Rio/Del Norte Area Plan.

Parks and Recreation Goal 4.7.1.1: Discretionary development which may be expected to benefit from or contribute to the need for bicycle paths and trails systems shall be required to a) dedicate, improve, or pay a fee for planned bicycle lanes and trails and public trail access points, and b) install appropriate signage to the standards of the County of Ventura.

Parks and Recreation Goal 4.7.1.3: Encourage the development of new bicycle and equestrian trails, and an El Rio community gymnasium.

Parks and Recreation Policy 4.7.2.1: Discretionary development which may be expected to benefit from or contribute to the need for bicycle paths and trails systems shall be required to a) dedicate, improve, or pay a fee for planned bicycle lanes and trails and public trail access points, and b) install appropriate signage to the standards of the County of Ventura.

Lake Sherwood/Hidden Valley Area Plan

Transportation/Circulation Goal 4.1.1.3: Provide safe pedestrian and bicycle pathways throughout the Lake Sherwood Community.

Ventura Avenue Area Plan

Other Land Use Element Policy 3: Development Standards- Facilities such as streets, bikeways, secondary drainage facilities, and water systems shall conform to the development standards of the City of Ventura as of the adoption of this plan, or as may be subsequently amended by the City and approved by the County.

Other Land Use Element Policy 9: Bikeways - A Class II Bikeway along Ventura Avenue, a Class III Bikeway along Crooked Palm Road, and the Ojai/Ventura Class I Bike Path as shown on the "Bikeways Map" (*Figure 4*), should be established. (The Bikeway system is also reflected on the County's "Select System of Bikeways".

Oak Park Area Plan

Air Resources Policy 1.1.2.5: A pedestrian, equestrian and bicycle circulation system shall be constructed in accordance with the adopted Oak Park Development Plans and as shown on the Oak Park Community Circulation Map.

Transportation Goal 4.1.1.3: Provide safe pedestrian and bicycle pathways throughout the Oak Park Community

Transportation Policy 4.1.2.6: Discretionary commercial development shall provide secure bicycle parking facilities.

Transportation Policy 4.1.2.8: Pedestrian, equestrian, bicycle and bus turnout facilities shall be constructed and maintained in accordance with the requirements of the adopted Oak Park Specific Plans.

Ojai Valley Area Plan

Transportation/Circulation Program 4.1.3.5: The Ojai Valley Trail will continue to be maintained and should be extended where possible.

Parks and Recreation Goal 4.7.1.3: Protect existing trails and encourage the development of new bicycle and hiking/equestrian trails.

Parks and Recreation Program 4.7.3.3: The County Trails Advisory Committee, in cooperation with the General Services Agency, City of Ojai and National Forest Service will develop a master plan of proposed bicycle and hiking/equestrian trails.

Piru Area Plan

Air Quality Policy 1.7.2.4: Bike lanes, bicycle parking programs, solar water heating, solar space heating, and home delivery service programs and all other feasible air pollutant mitigation measures shall be encouraged in conjunction with discretionary development permits.

Transportation and Circulation Policy 4.1.2.5: Discretionary development shall be planned to facilitate pedestrian, bicycle, transit, as well as automobile access, both within and outside the development.

Transportation and Circulation Policy 4.1.3.2: Applicants for discretionary development projects will be encouraged to provide secure bicycle parking facilities.

Saticoy Area Plan

Air Quality Resources Goal 1.1.1.2: Reduce reliance on automobile travel by promoting alternative means of transportation.

Air Quality Resources Policy 1.1.2.1: To encourage alternative means of transportation to and from the Saticoy Community, Highway 118 shall be designated a "bicycle route" as indicated on the Circulation Plan, (*Figure 6 within the Public Facilities Section*). Caltrans shall be encouraged to stripe and sign the road accordingly.

Thousand Oaks Area Plan

Transportation and Circulation Goal 4.1.1.4: Provide safe pedestrian and bicycle pathways throughout the unincorporated Thousand Oaks area.

Transportation and Circulation Goal 4.1.1.6: Ensure that road improvements are compatible with existing and planned equestrian trails and bicycle pathways.

Transportation and Circulation Policy 4.1.2.7: Discretionary development projects which may be expected to benefit from the road network, bicycle path system and/or the equestrian trail system shall be conditioned to dedicate land and construct improvements or pay a fee for auto, bicycle and equestrian facilities in accordance with the circulation maps. Bicycle and/or equestrian trails shall be integrated, where feasible, into the overall circulation plan for discretionary development projects.

VENTURA COUNTY ZONING ORDINANCES

Zoning ordinances regulate land use, dictating the density and intensity of new development and changes to existing development, while requiring accommodations that must be made to reduce associated impacts. A major feature of zoning ordinances is the associated access and parking requirements that are specific to a development's particular size and type of land use. The County of Ventura has divided the zoning ordinances into two sets of geographically-oriented code, regulating non-coastal and coastal areas. The ordinances have quite different requirements for bicycles, the sole exception being in the circulation requirements, where both ordinances call for internal bicycle path systems within developments be designed to link with external circulation systems.

7.1.4. VENTURA COUNTY NON-COASTAL ZONING ORDINANCE

The Non-Coastal Ordinance mandates inclusion of bicycle access, parking, information kiosks, and locker facilities within commercial developments for transportation demand and trip reduction measures, although these requirements are only triggered when higher thresholds of employees or

residences in a project are reached. Residential uses require bicycle circulation only in developments ranging from 100 to 499 units. Otherwise the only absolute requirement for bicycle accommodations is for parking is at video game arcades.

7.1.5. VENTURA COUNTY COASTAL ZONING ORDINANCE

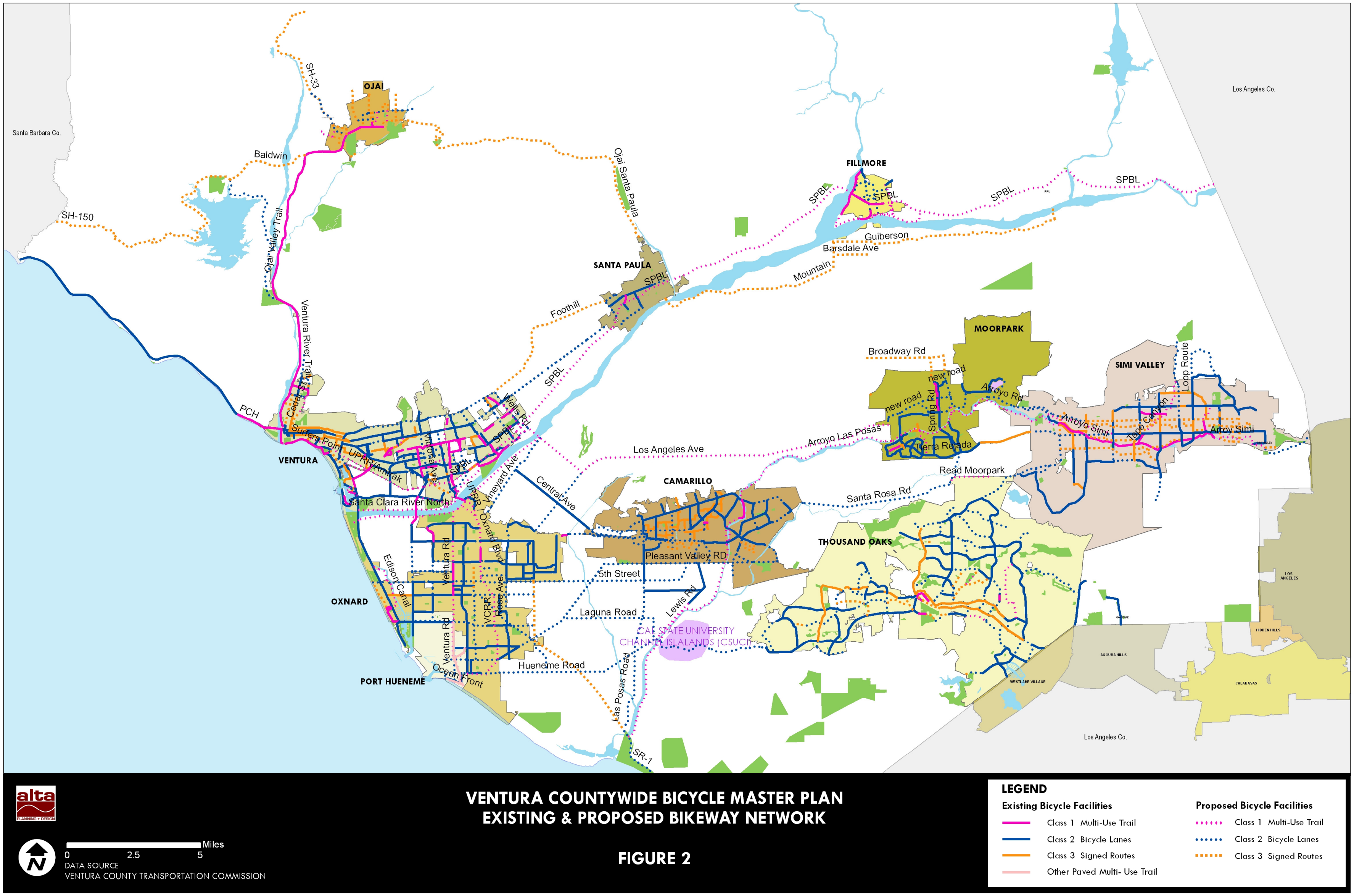
The Coastal Ordinance has more specific and stringent requirements than the Non-Coastal Ordinance, mandating levels of bicycle parking as a ratio of automobile parking for a large variety of land uses and specifying placement within the development adjacent to building entrances.

ROADWAY DESIGN STANDARDS

The County of Ventura is responsible for the administration of road design standards on roadways in the unincorporated areas of the county, and local cities are responsible for roadway design within their jurisdictions. This responsibility is superseded by California Department of Transportation (Caltrans) on designated state highways and freeways. Ventura County defers to Caltrans roadway standards for their roadway design. None of the standard Caltrans cross-sections makes explicit provisions for the inclusion of designated bicycle facilities into new roadways (although they do require minimum shoulders on rural roads). Recommendations for updating the Ventura County roadway design guidelines to include bicycle provisions are provided at the end of this document.

8. PROPOSED BICYCLE PROJECTS

The proposed bikeways network for Unincorporated Ventura County as shown in **Figure 2** has been developed to provide greater access throughout the county by improving inter-city connectivity and ensuring route continuity across jurisdictions. Following the map, some of the projects are detailed with individual projects sheets that provide more detailed recommendations for some of the bikeway improvement projects within the unincorporated county.


VENTURA COUNTYWIDE BICYCLE MASTER PLAN
EXISTING & PROPOSED BIKEWAY NETWORK
FIGURE 2
LEGEND
Existing Bicycle Facilities
Class 1 Multi-Use Trail
Class 2 Bicycle Lanes
Class 3 Signed Routes
Other Paved Multi- Use Trail
Proposed Bicycle Facilities
Class 1 Multi-Use Trail
Class 2 Bicycle Lanes
Class 3 Signed Routes
Miles
0
2.5
5
DATA SOURCE
VENTURA COUNTY TRANSPORTATION COMMISSION
Santa Barbara Co.
Los Angeles Co.
OJAI
FILLMORE
SANTA PAULA
MOORPARK
SIMI VALLEY
VENTURA
CAMARILLO
THOUSAND OAKS
OXNARD
PORT HUENEME
CAL STATE UNIVERSITY CHANNEL ISLANDS (CSUCI)
SH-33
SH-150
Baldwin
Ojai Valley Trail
Ventura River Trail
Ojai Santa Paula
Foothill
SPBL
Guiberson
Barsdale Ave
Mountain
Broadway Rd
new road
Arroyo Rd
Arroyo Simi
Loop Route
Arroyo Las Posas
Tierra Rejada
Read Moorpark
Santa Rosa Rd
Los Angeles Ave
Central Ave
PCH
Surfers Point
UPRR/Amtrak
Santa Clara River North
Vineyard Ave
Pleasant Valley RD
5th Street
Laguna Road
Lewis Rd
Hueneme Road
Las Posas Road
SR-1
Edison Canal
Ventura Rd
VCRR
Rose Ave
Oxnard Blvd
Ocean Front

STATE ROUTE 118/LOS ANGELES AVENUE FROM MOORPARK TO SAN BUENAVENTURA: CLASS I BICYCLE PATHWAY

Project Description

The route of this 14.9 mile Class I Bicycle Pathway would run parallel to SR-118/Los Angeles Avenue from the western edge of Moorpark to the intersection of Santa Clara and Los Angeles Avenues, and then northward to the City of San Buenaventura, terminating at the future Santa Paula Branch Line Trail. The eastern segment of the Class I Bicycle Pathway runs roughly parallel to the Arroyo Las Posas between Moorpark and the vicinity of Sand Canyon Rd. The Arroyo could serve as a possible alternative route, either as an entirely separate option or only on those segments that are the most conducive to accommodating a Class I Bicycle Pathway. The landscape of the proposed bicycle pathway west of Sand Canyon has the greatest variability with the fewest alternatives. A Class II facility should be considered if the Class I facility proves infeasible.

Graphic

Issues:

- Western segment has a variable road profile and land uses
- Rolling topography prevails along the eastern, possibly creating sight line concerns
- Agricultural fields lining the road could present difficulties for developing a bicycle pathway if right of way proves insufficient.
- There several distinctly different profiles along this stretch of the corridor necessitating a detailed feasibility study for each to develop firm cost estimates.

Improvement Options:

- Develop a Class I Bicycle Pathway.
- An alternative route for this project could utilize existing flood control channel embankment and an unimproved section of the Arroyo Los Posas which runs roughly parallel to SR-118 from Moorpark until the vicinity of Sand Canyon Road, there the arroyo turns southward from the corridor.
- Install fluorescent yellow green signage.
- On off-street routing to the west of La Vista Avenue and along the west side of a watercourse to the SR-118 and Santa Clara Avenue intersection could be an alternate alignment.
- A detailed feasibility and engineering study would need to be undertaken to find the appropriate routing for this project.

Cost Estimate

Total estimated cost: $24,000,000 (rough estimate; requires a detailed feasibility engineering study)

SANTA PAULA BRANCH LINE TRAIL

Project Description

This proposed 32-mile Class I bike path follows the former Santa Paula Branch Line Railroad right-of-way, which was acquired by the Ventura County Transportation Commission. Although currently only 1.25 miles of the trail have been constructed, within the City of Fillmore, when completed this bike path will extend from the junction of the railroad right-of-way and Johnson Road in Montalvo and run easterly all the way to the Santa Clara River Trail at the Los Angeles County line. Preliminary design and environmental work on the trail alignment is documented in the Santa Paula Branch Line Recreational Trail Master Plan, 1996. Through the design and environmental process, the exact location of future trail segments will be determined. The trail may be aligned on any or all of the following roads, Telegraph Road, Highway 126, Santa Barbara Street or the Santa Paula Branch Line right-of-way. The City of Santa Paula is currently completing construction and design drawings for an approximately 5-mile segment of the trail. The construction of the Santa Paula segment of trail is anticipated to be completed by the end of 2008. Although the focus of the branch line development thus far has been the segments within the incorporated cities of Fillmore and Santa Paula, the majority of the alignment falls within unincorporated County jurisdiction, comprised of the segments from Ventura to Santa Paula, Santa Paula to Fillmore, and Fillmore to the Los Angeles County line. Development of these segments will require coordination between Ventura County, VCTC, and the adjoining cities/county to ensure consistency and connectivity of the entire trail.

Graphic

Issues:

- Adjacent agricultural uses
- Constrained railroad right-of-way in segments
- Coordination between various cities, County, VCTC, and Los Angeles County to ensure consistency of trail

Improvement Options:

- Develop a Class I Bicycle Pathway.
- May need to use alternative on-street alignments in sections where RR right of way is constrained.
- Detailed design being undertaken by individual jurisdictions in implementing their segments.

Cost Estimate

Total estimated cost: $32,000,000

STATE ROUTE 1 FROM THE US-101 JUNCTION (NORTH OF VENTURA) TO SOUTH OF THE UNION PACIFIC RAILROAD OVER-CROSSING: CLASS I MULTI-USE PATHWAY EXTENSION

Project Description

A short extension of an existing Class I Bicycle Pathway, this 0.12 mile project would run roughly parallel to SR-1, skirting an existing parking lot. The current endpoint of the Class I Bicycle Pathway is adjacent to the junction of SR-1 and US-101. The project would bring bicyclists to a point south of the UPRR over-crossing where improved sightlines would increase safety. Due to Caltrans jurisdiction and highway requirements additional pavement and consequent engineering may be necessary.

Issues:

- Existing Class I Multi-Use Pathway ends abruptly at the SR-1 and US-101 junction where sightlines are obscured.
- Caltrans jurisdiction of this roadway requires consent by that agency for any changes to existing road configuration and right-of way.

Improvement Options:

- Develop a Class I Bicycle Pathway.
- Install fluorescent yellow green signage.
- A detailed feasibility and engineering study would need to be undertaken to find the appropriate routing for this project.

Cost Estimate

Total estimated cost: $190,000 (rough estimate; requires a detailed feasibility engineering study)

TELEGRAPH ROAD BETWEEN SAN BUENAVENTURA (VENTURA) AND SANTA PAULA: CLASS II BICYCLE LANES

Project Description

Telegraph Road is one of the major east-west routes in the Santa Clara River Valley. Between Ventura and Santa Paula, the 4.7 mile stretch of road runs parallel to the Santa Paula Freeway and carries a relatively high volume of traffic traveling at high speeds. The roadway appears to be able to accommodate Class II Bicycle Lanes on the paved road shoulders already in place.

Graphic

Issues:

- High traffic speeds and volumes
- Possible conflicts with agricultural uses lining the road

Improvement Options:

- Stripe/stencil Class II bike lanes in existing paved shoulder areas.
- Install fluorescent yellow green signage.

Cost Estimate

Total estimated cost: $224,000

VICTORIA AVENUE BETWEEN GONZALES ROAD AND FIFTH AVENUE: CLASS II BICYCLE LANES

Project Description

Victoria Avenue is a major arterial linking Port Hueneme and San Buenaventura (Ventura) through Oxnard. It is a heavily used roadway with four lanes and a median. Class II Bicycle Lanes are currently in place along this corridor, with the exception of the nearly 1.5 miles of this proposed project. By closing the gap, this project will help link the cities of Port Hueneme, Oxnard, and Ventura for bicyclists.

Graphic

Issues:

- High traffic speeds and volumes
- Median and four lanes result in near-freeway conditions along Victoria Avenue
- Possible conflicts with agricultural uses lining the road

Improvement Options:

- Stripe/stencil Class II bike lanes within existing paved shoulder
- Install fluorescent yellow green signage

Cost Estimate

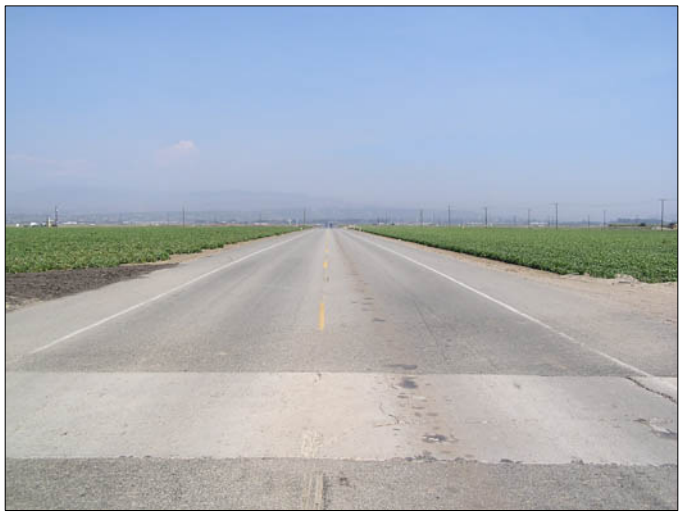
Total estimated cost: $71,000

LAS POSAS ROAD BETWEEN LAGUNA ROAD AND STATE ROUTE 1: CLASS II BICYCLE LANES

Project Description

Las Posas Road is a major two-lane road linking Camarillo with SR-1. This proposed segment of 4.3 miles of Class II Bicycle Lanes along Las Posas will fit on the existing paved shoulders and connect the south central portion of Ventura County with SR 1 and points further south. This project, along with the projects proposing bike lanes on segments of Hueneme Road and SR 1, will provide dedicated bike lanes for portions of the Pacific Coast Bike Route in Ventura County that currently have no bicycle facilities in place.

Graphic



from Hueneme Road southward.

Issues:

- High traffic speeds and truck volumes
- Possible conflicts with agricultural uses lining the road
- Road condition needs improvement

Improvement Options:

- Stripe/stencil Class II bike lanes on existing paved shoulders
- Install fluorescent yellow green signage
- The development of a Class I Bicycle Pathway along the banks of Calleguas Creek is an alternative route that could be utilized and/or tied into this facility

Cost Estimate

Total estimated cost: $206,000

HUENEME ROAD BETWEEN LAS POSAS ROAD AND OXNARD: CLASS II BICYCLE LANES

Project Description

Hueneme Road links Port Hueneme and CSUCI with SR-1, and is the major access route for trucks serving the port facilities at Port Hueneme. The project would install 5.3 miles of Class II Bicycle Lanes on the existing paved shoulders of this two-lane road. This project, along with the projects proposing bike lanes on segments of Las Posas Road and SR-1, will provide dedicated bike lanes for portions of the Pacific Coast Bike Route in Ventura County that currently have no bicycle facilities in place.

Graphic

Issues:

- High traffic speeds
- Possible conflicts with agricultural uses along the road
- Right of way at bridge may not be sufficient to fully accommodate Class II bicycle lanes

Improvement Options:

- Stripe/stencil Class II bike lanes within existing paved shoulders
- Install fluorescent yellow green signage

Cost Estimate

Total estimated cost: $253,000

SANTA ROSA ROAD BETWEEN CAMARILLO AND MOORPARK ROAD: CLASS II BICYCLE LANES

Project Description

Santa Rosa Road is a two-lane road linking Camarillo with Moorpark and Thousand Oaks. The project would install 5.7 miles of Class II Bicycle Lanes on existing paved shoulders. Together with other identified projects on Moorpark Rd and Read Rd this project will link Camarillo with Moorpark and Thousand Oaks.

Graphic

Issues:

- Debris gathers along the roadside.

Improvement Options:

- Stripe/stencil Class II bike lanes within existing paved shoulder
- Install fluorescent yellow green signage

Cost Estimate

Total estimated cost: $271,000

MOORPARK ROAD BETWEEN SANTA ROSA ROAD AND TIERRA REJADA: CLASS II BICYCLE LANES

Project Description

Moorpark Road is a two-lane road linking Moorpark and Thousand Oaks. The project would install Class II Bicycle Lanes on existing paved shoulders on this 1.3 mile segment of the road, extending from Moorpark to Santa Rosa Road. The wide profile of this well-maintained road will accommodate bicycle lanes without difficulty. The development of these Class II Bicycle Lanes along with suggested improvements along Santa Rosa Road will provide an easy connection between Moorpark and Camarillo and feed into the growing bicycle networks in those cities.

Graphic

Issues:

- High vehicle speeds

Improvement Options:

- Stripe/stencil Class II bike lanes within existing paved shoulder
- Install fluorescent yellow green signage

Cost Estimate

Total estimated cost: $65,000

SR-1 BETWEEN LAS POSAS ROAD AND THE LOS ANGELES COUNTY LINE: CLASS II BICYCLE LANES

Project Description

SR-1 transitions from a freeway to highway configuration south of Las Posas Road. This segment of roadway is well maintained by Caltrans and serves a high number of automobiles and trucks, as well as bicyclists traveling along the coast. This proposed 10.2 mile route represents a gateway to Ventura County providing access for county residents to scenic and recreational coastal areas. Striped Bicycle Lanes would also help provide a continuous bicycle facility for the Pacific Coast Bike Route as it passes through Ventura County. Due to Caltrans jurisdiction and highway requirements additional pavement and consequent engineering will be necessary.

Graphic

Issues:

- High automobile and truck traffic
- Additional pavement needed
- Caltrans jurisdiction of this roadway requires consent by that agency for any changes to existing road configuration including, and not limited to, the conversion of mandated paved shoulders to bike lanes.

Improvement Options:

- Stripe/stencil Class II bike lanes within existing paved shoulders where possible.
- Install fluorescent yellow green signage.

Cost Estimate

Total estimated cost: $3,259,000 (rough estimate; requires a detailed feasibility engineering study)

SANTA CLARA AVENUE BETWEEN LOS ANGELES AVENUE AND HWY 101: CLASS II BICYCLE LANES

Project Description

Santa Clara Avenue connects the SR-118 corridor to Oxnard and Rice Avenue. The development of Class II Bicycle Lanes along the 2.8 miles of this roadway will link the bicycle network of Oxnard into the upper Santa Clara River Valley and to Moorpark, when implemented in concert with the Class I Bicycle Pathway along the SR-118 corridor. The narrow profile of the road and the adjacent drainage ditches will require an additional engineering study to undertake pavement widening.

Graphic

Issues:

- Narrow roadway
- Drainage ditches

Improvement Options:

- Stripe/Stencil Class II bike lanes widening roadway to accommodate.
- Install fluorescent yellow green signage.

Cost Estimate

Total estimated cost: $1,669,000 (rough estimate; requires a detailed feasibility engineering study)

SANTA ANA ROAD BETWEEN VENTURA RIVER TRAIL AND STATE ROUTE 150: CLASS II BICYCLE ROUTE

Project Description

Santa Ana Road is a two-lane road to the west of the Ventura River linking SR-150 and SR-33. Due to the irregular profile of this road often dictated by the generally hilly terrain, Share the Road signage is the recommended short-term treatment for this 6.3 mile route. After a more detailed study, this route, with shoulder widening, could accommodate Class II Bicycle Lanes. This route would add to the bicycle network by creating alternate access to the Lake Casitas recreational area and points westward by directly connecting to the Ventura River Trail in the south.

Graphic

Issues:

- Inconsistent road profile
- Hilly terrain

Improvement Options:

- Install Share the Road sign for route along length
- Install fluorescent yellow green signage
- Study for possible widening and Class II bicycle lane installation.

Cost Estimate

Total estimated cost: $171,000

STATE ROUTE 150 BETWEEN OJAI AND SANTA PAULA: CLASS III

Project Description

SR 150 is a scenic route through the mountains between the cities of Ojai and Santa Paula. The variable and often steep terrain provides a scenic and challenging bicycle route, but limits the ability to widen or improve many segments of the 12.8 miles between the two cities. Share the Road signage will raise the awareness of drivers to the fact that this is a major bicycle route. As a Caltrans regulated highway, any treatment must meet with that agency's approval.

Graphic

Class II bicycle lanes.

Issues:

- Inconsistent road profile
- Mountainous terrain
- Caltrans jurisdiction of this roadway requires consent by that agency for any changes to existing road configuration and signage.

Improvement Options:

- Install Class III and Share the Road signage for route along length.
- Install fluorescent yellow green signage.
- Study potential in the Upper Ojai Valley for shoulder widening and installation of

Cost Estimate

Total estimated cost: $347,000

FIFTH STREET (STATE ROUTE 34) BETWEEN CAMARILLO AND OXNARD: CLASS II BICYCLE LANES

Project Description

This portion of SR 34/Lewis Road is runs between Rose Avenue in east Oxnard and Pleasant Valley Road in southwest Camarillo. This 7.15 mile portion of the road is two lanes through the agricultural area and runs parallel to the Coast Main Rail Line. The terrain is flat and the road carries local traffic as well as farm equipment and trucks. The roadway appears to be able to accommodate Class II Bicycle Lanes on the paved shoulders already in place. Share the Road signage will raise the awareness of drivers to the fact that this is a major bicycle route. As a Caltrans regulated highway, any treatment must meet with that agency's approval.

Graphic

Issues:

- Possible conflicts with agricultural uses lining the road.
- Caltrans jurisdiction of this roadway requires consent by that agency for any changes to existing road configuration and signage**.**

Improvement Options:

- Install Class II and Share the Road signage for route along length.
- Install fluorescent yellow green signage.

Cost Estimate

Total estimated cost: $286,106

PROJECT CATEGORIES

The proposed projects have been categorized in **Table 13** by bicycle facility class and engineering requirements. Projects have been broken down into four major category types, based on the ease of implementation of the project. For all on-street project types, the Bicycle Suitability Index analysis results (discussed in Chapter 4) were used to help categorize projects and determine the appropriate type of improvement.

Category A: Class III and Share the Road Project. These projects involve only signage installations, either "Bike Route" signs or "Share the Road" signs (or both) along a roadway. No improvements to the roadway travel lanes or shoulder would occur.

Projects were designated either "Class III" or "Share the Road" based on several factors, including existing level of bicycle usage, results of the bicycle compatibility analysis, and field observations. In general, roadways with relatively high levels of existing bicycle usage, and that had relatively high bicycle suitability ratings, were proposed as Class III Bike Route segments. Roadway segments that experience relatively low levels of existing bicycle usage, and have lower bicycle suitability ratings based on traffic volumes and speeds, were proposed only to have Share the Road signage. The distinction between Class III and Share the Road acknowledges that cyclists may ride on all these roadway segments, but that certain segments, for reasons of suitability and traffic levels, should not be encouraged as major cycling routes with a formal Bike Route designation. For those lower suitability roads the Share the Road signs would provide awareness to motorists that bicyclists may be on the road, but would not indicate to bicyclists that these roadways were a preferred bicycle route.

Category B: Class II Bicycle Lanes, Minimal or No Engineering. These projects involve the installation of striped Class II bike lanes along roadway segments where there is sufficient shoulder width to install these facilities with minimal engineering. In some cases there is a paved shoulder that can simply be restriped to a bike lane. In other cases, there is an unpaved shoulder, or an unimproved level area within the roadway right of way, that could be used to widen the paved surface and provide bike lanes. These projects assume no major drainage or earthwork (e.g. cut/fill, or retaining walls) is necessary.

Category C: Class II Bicycle Lanes, Major Engineering and/or ROW needed. These projects involve the installation of Class II bicycle lanes along segments where there additional right-of-way is necessary in order to obtain the width to install the bike lane, or where major engineering is necessary to widen the road out to install the lanes. Major engineering may include utility relocation, drainage channel undergrounding, or retaining walls in areas of steep topography.

Category D: Class I Multi-Use Trails. These projects involve the installation of Class I bike paths, completely separated from the roadway travel lane.

The categories are categorized as to ease of implementation and cost with Category A generally being the least costly and quickest to implement, and Category D being the most costly and requiring more detailed studies.

Table 13
Recommended Projects Construction Costs

Category	Notes	Estimated Cost
Category A: Class III and Share the Road	Sign Class III Bicycle Routes and Share the Road	$ 0.4 million
Category B: Class II Bicycle Lanes	Sign and stripe Class II Bicycle Lanes along roads with available paved right-of-way	$2.5 million
Category C: Class II Bicycle Lanes, additional engineering	Sign and stripe Class II Bicycle Lanes along roads with available right-of-way, additional paving/engineering needed	$6.3 million
Category D: Class I Multi-use Trails	Design and implement Class I Multi-use Trails	$61.4 million

IMPLEMENTATION COST BREAKDOWN

A summary of cost estimates for each category of the recommended bicycle network provided by this plan is presented in **Tables 14 through 17** below. The cost of the recommended projects is estimated to be about $41.2 million for Class I Bicycle Path projects; $2.5 million for Class II Bicycle Lane projects on paved right-of-way; approximately $6.3 million for Class II Bicycle Lane projects on unpaved right-of-way; and $636,000 for Class III Bicycle Routes. The combined total system build-out cost is approximately $50.6 million. Cost estimates include costs for survey and design, construction, administration and contingencies. The majority of the estimated cost (82%) is due to the high cost of constructing Class I Bicycle Paths. These preliminary estimates indicate that a majority of the proposed network (240 miles of on-street bikeways and share the road designations) can be constructed for approximately $9.4 million. Many of the proposed bikeways were carried over from Ventura County's prior bikeway plan, although only segments within unincorporated Ventura County were included in this plan update.

The lists of proposed 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. Ventura County 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; 3) it takes advantage of all available funding opportunities and grant cycles, and 4) any major road (re)construction project that is scheduled to take place along any of the project routes is designed to incorporate the project, thereby expediting planning and increasing cost-effectiveness. As projects are built and taken off the list, new projects should be moved up on the list.

All the projects are recommended to be implemented over the next two to twenty years, or as funding are 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 the main Countywide Plan document outlines some of the local, regional, state and federal funding methods and resources for non-motorized transportation projects.

Table 14
Construction Costs of Category A: Class III/ Share the Road Signage

Location	From	To	Type	Miles	Est. Cost
SR-33	Ojai	Wheeler Springs	Class III	6.08	$30,402
SR-150	Ojai	S.B. County line	Class III	14.41	$72,050
Santa Ana Rd.	Ventura River Trail	SR 150	Class III	6.30	$31,500
SR 150	Ojai	Santa Paula	Class III	12.76	$63,788
Foothill Rd.	Ventura	Santa Paula	Class III	5.96	$29,800
S. Mountain Rd.	Santa Paula	Balcom Canyon Rd	Class III	6.81	$34,070
S. Sespe St.	S. Mountain Rd	Pasadena Ave.	Class III	1.07	$5,369
Pasadena Ave.	Sespe St.	Chambersburg Rd.	Class III	1.51	$7,571
Bardsdale Ave.	Sespe St.	Chambersburg Rd.	Class III	1.26	$6,290
W. - E.Guiberson	SR-23	Torrey Rd.	Class III	7.01	$35,035
Torrey Rd.	E. Guiberson Rd	Over Riverbed	Class III	0.37	$1,843
Broadway Rd	Grimes Cnyn/SR-23	Walnut Cnyn. Rd.	Class III	1.34	$6,722
Rose Ave.	Los Angeles Ave.	Hwy 101	Class III	3.56	$17,780
Moorpark Rd.	Olsen Rd.	Santa Rosa Rd.	Class III	1.93	$9,657
Rice Ave.	5th St.	SR-1	Class III	2.06	$10,300
Pidduck Rd/Naval Air Rd.	Rice Ave.	Las Posas Rd.	Class III	4.74	$23,700
TOTAL CLASS III BIKE ROUTES AND SHARE THE ROAD			**Totals**	**77.17**	**$385,877**

Notes: Cost of constructing these segments may be significantly higher than the estimated costs presented here. All costs in 2007 dollars. Totals are rounded to the nearest tenth of a mile and the nearest hundred dollars.

Table 15
Construction Costs of Category B: Class II Bicycle Lanes, Minimal Engineering

Location	From	To	Type	Miles	Est. Cost
SR-232	US-101	SR-118	Class II	3.55	$141,929
Telegraph Rd.	Ventura	Santa Paula	Class II	4.71	$188,226
SR-126	Santa Paula	Fillmore	Class II	7.84	$313,600
SR-126	Fillmore	Piru	Class II	3.93	$157,253
SR-126	Piru	County Line	Class II	5.46	$218,429
Victoria Ave.	Gonzales	Fifth	Class II	1.49	$59,680
Pleasant Valley Rd.	Pancho Rd.	SR- 1	Class II	8.80	$352,050
Fifth St.	Rose Ave.	Pleasant Valley Rd.	Class II	7.15	$286,106
Las Posas Rd.	Pleasant Valley Rd.	Laguna Rd	Class II	2.01	$80,478
Las Posas Rd.	Laguna Rd.	SR-1	Class II	4.32	$172,763
Hueneme Rd.	Oxnard	Las Posas Rd.	Class II	5.32	$212,888
Hueneme Rd.	Las Posas Rd.	CSUCI	Class II	0.86	$34,456
Santa Rosa Rd.	Camarillo	Norwegian Grade - Moorpark Rd.	Class II	5.70	$227,837
Moorpark Rd.	Tierra Rejada	Santa Rosa Rd.	Class II	1.36	$54,341
W.–E. Potrero Rd.	W. of Comstock Pl.	Vista Oaks Way	Class II	5.64	$28,208
Rice Rd	Baldwin	Lomita	Class II	2.8	$78,626
Lomita/S..Lomita	Rice Rd.	El Roblar	Class II	2..8	$78,626
TOTAL CLASS II BICYCLE LANES				**76.50**	**$2,700,000**

Notes: The above segments require additional fieldwork to determine the feasibility of striping bicycle lanes. Installing bicycle lanes on these segments may require lane reduction, road widening, or other major adjustments to the roadway. Cost of constructing these segments may be significantly higher than the preliminary estimated costs presented here. All costs in 2007 dollars. Totals are rounded to the nearest tenth of a mile and the nearest hundred dollars.

Table 16
Construction Costs of Category C: Class II Bicycle Lanes, Engineering Required

Location	From	To	Type	Miles	Est. Cost
Santa Clara Ave.	Los Angeles Ave.	US-101	Class II	2.86	$1,669,472
Laguna Rd.	Lewis Rd.	Pleasant Valley Rd.	Class II	4.21	$1,343,490
SR-1	Las Posas Rd.	L.A. County Line	Class II	10.21	$3,259,130
W. Potrero Rd.	Hueneme Rd.	Thousand Oaks C.L.	Class II	2.76	$1,380,000
TOTAL CLASS II BICYCLE LANES (*additional engineering study required)*				**17.3**	**$7,650,000**

Notes: The above segments require additional fieldwork to determine the feasibility of striping bicycle lanes. Installing bicycle lanes on these segments may require lane reduction, road widening, or other major adjustments to the roadway. Cost of constructing these segments may be significantly higher than the preliminary estimated costs presented here. All costs in 2007 dollars. Totals are rounded to the nearest tenth of a mile and the nearest hundred dollars.

Additionally, the City of Simi Valley proposed Class II bike lanes on Santa Susana Pass Road from Kuehner Drive to the county line in their 2002 Bicycle Master Plan. The total estimated cost for this 2 mile project (1.5 of these miles are in unincorporated Ventura County) was $100,000. Alta estimates that the cost of this project will be much greater due to topography and other factors. Due to the complexity of this roadway, additional engineering study is required. Simi Valley is currently updating their BMP.

Table 17
Construction Costs of Category D: Class I Bicycle Paths

Location	From	To	Type	Miles	Est. Cost
SR-118	Ventura	Santa Clara	Class I	3.09	$3,089,335
Santa Paula Branch Line	Ventura	LA County Line	Class I	32.0	$32,000,000
Arroyo Las Posas	Moorpark	Camarillo	Class I	5.90	$5,900,000
Arroyo Las Posas	Camarillo	Calleguas Creek	Class I	1.10	$1,100,000
Calleguas Creek	Calleguas Creek	SR-1	Class I	7.10	$7,100,000
N. Bank Santa Clara River	Rogue River Cir	Harbor Dr.	Class I	5.50	$5,500,000
S. Bank Santa Clara River	SR-118	Ventura	Class I	3.94	$3,940,000
S. Bank Santa Clara River	Ventura	Pacific Ocean	Class I	2.66	$2,660,000
SR 1	SR-1/US-101 Junction	South of UPRR overcrossing	Class I	0.12	$120,000
TOTAL CLASS I BICYCLE PATHS				**61.4**	**$61,409,000**

Note: Cost of constructing these segments may be significantly higher than the preliminary estimated costs presented here. All costs in 2007 dollars. Totals are rounded to the nearest tenth of a mile and the nearest hundred dollars.

MAINTENANCE COST BREAKDOWN

The total annual maintenance cost of the primary bike path system, when it is fully implemented, is estimated to be about $918,550 annually as shown in **Table 18**. Bicycle facility maintenance costs are based on per mile estimate, which covers labor, supplies, and amortized equipment costs for weekly trash removal, monthly sweeping, bi-annual resurfacing and repair patrols. Other maintenance costs include re-striping bike lane lines, sweeping debris, and tuning signals for bicycle sensitivity. Inflation rates are calculated using a conversion factor of 1.282.

Table 18
Annual Maintenance Cost Estimates for Existing/Recommended Bikeway Network

Facility/ Program*	Unit Cost ($)	Description	Miles	Cost	Notes
Class I Maintenance	8,500	Annual Cost per Mile	73.5	$624,750	Lighting maintenance and debris and vegetation overgrowth removal.
Class II Maintenance	2,000	Annual Cost per Mile	103.1	$206,200	Repainting lane stripes and stencils, sign replacement as needed
Class III Maintenance	1,000	Annual Cost per Mile	87.6	$87,600	Sign and shared use stencil replacement as needed
		Average Cost Per Year		$918,550	
		Estimated 10-year Cost		**$9,185,500**	

* Based on full network completion. Includes existing and proposed bikeways.

As shown, the annual bikeway maintenance cost for unincorporated Ventura County well exceeds the total annual cost for the entire county's Bike Path Maintenance Fund which is distributed amont all the jurisdictions. Most of the high cost of the estimated maintenance is due to the proposed Santa Paula Branch Line, a 32-mile Class I segment. Actual maintenance costs would be lower, since some segments of the Branch Line are within incorporated cities. However, most of the Branch Line mileage is within unincorporated. This high maintenance cost, especially for Class I trails, points to the need for the County to pursue alternative maintenance strategies and funding sources, such as those described in Chapter 7 of the Ventura Countywide Bicycle Master Plan.

SUPPORT FACILITIES AND PROGRAMS

Support facilities and programs are an important component of a bicycle transportation system. Facilities include such elements as bicycle racks on buses, bicycle parking facilities, and showers and lockers for employees; while support programs include components such as bikeway management and maintenance, signage placement, and promotional/educational programs. A bicycle network that does not comprehensively incorporate all of these elements will fall short in achieving optimal functionality, particularly through failure to raise the necessary level of safety, security, and convenience for bicyclists. Specific recommendations that can be applied to the unincorporated areas of Ventura County are detailed in Chapter 7 of the Countywide Bicycle Master Plan. Bicycle parking design guidelines are provided in Appendix L (p. L-21).

UPDATE COUNTY ROAD DESIGN GUIDELINES

As discussed above, Ventura County defers to Caltrans standard roadway design guidelines for roadways in the unincorporated area. None of the standard Caltrans roadway cross-sections require the inclusion of bike lanes or other bikeway facilities in the development of new roads (although minimum shoulders are required on rural roads). It is recommended that the County of Ventura update their roadway guidelines to require the inclusion of designated Class I or Class II bikeway facilities in all new roadway construction.

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APPENDIX B: MOORPARK BICYCLE TRANSPORTATION PLAN

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MOORPARK BICYCLE TRANSPORTATION PLAN

The Moorpark Bicycle Transportation Plan was developed as part of the Ventura Countywide Bicycle Master Plan process. The Moorpark plan serves as a stand-alone document for use by the City of Moorpark to enhance and expand their existing network of bicycle facilities, connect gaps, address constrained areas, provide for greater local and regional connectivity, and encourage more residents to bicycle. In order for the City of Moorpark to be eligible for the Caltrans Bicycle Transportation Account (BTA) funding, compliance with BTA requirements must be demonstrated. The Caltrans Bicycle Transportation Account (BTA) is a significant source of funding for bicycle facility construction. The following table is provided for the convenience of Caltrans Staff, to outline the elements within the Ventura County Bicycle Master Plan that comply with the BTA requirements. The table contains brief answers to the required elements for the BTA and provides references to relevant tables, figures and sections within the Countywide Bicycle Master Plan. It is noted where a BTA requirement is not applicable.

Table 1

BTA Compliance Table for the Moorpark Bicycle Transportation Plan

Moorpark		Population based on 2000 US Census: 31,415	
Streets & Highways Code 891.2 BTP Requirements			
Section	**Description**	**Existing**	**Proposed**
a.	Estimated number of bicycle commuters	273 Based on 2000 US Census data	1128 Based on 2000 US Census data
b.	Land use and population density	Approximately 12.4 Square Miles	Approximately 2,522 persons per square mile
c.	Existing and proposed bikeways	Please see Table 6 and Figure 2	Please see proposed projects list and map: Table 9 and Figure 2.
d.	Existing and proposed bicycle parking	Please see Section 4.2. Also see VCBMP, Ch. 3	Please see Section 9.3 Also see VCBMP, Ch. 7
e.	Existing and proposed multi-modal connections	Please see Section 4.3. Also see VCBMP, Chapter 3	Please see Section 9.3 Also see VCBMP, Ch 7
f.	Existing and proposed facilities for changing and storing clothes and equipment	Please see Section 4.2	Please see Section 9.3
g.	Bicycle safety and education programs	Please see Section 6	Please see VCBMP, Ch 7
h.	Citizen and community participation	Public outreach efforts included surveys, workshops, and Technical Advisory Committee meetings. See the VCBMP Ch. 1 for more info.	
i.	Consistency with transportation, air quality, and energy plans	This Bicycle Transportation Plan is consistent with the Circulation Element of the Moorpark General Plan and all regional air quality and energy plans.	
j.	Project descriptions and priority listings	Please see Section 9	
k.	Past expenditures and future financial needs	$78,000 for Capital Projects (Last 5 years)	Please see Section 9

1. BACKGROUND

The City of Moorpark is located in southeastern Ventura County. Founded as an agricultural community, Moorpark is still surrounded by many productive fields. The nearest cities are Simi Valley five miles to the east and Thousand Oaks seven miles to the south.

The major east/west and north/south highways are SR-118 and SR-23 respectively, both of which have access-controlled freeway segments that join in central Moorpark. The SR-118 freeway enters the east side of Moorpark from Simi Valley, and in central Moorpark makes a sweeping curve to join the freeway segment of SR-23 heading south toward Thousand Oaks. Past this junction SR-118 continues as a local highway to the west toward Oxnard, and SR-23 continues as a local highway north toward Fillmore. With the exception of SR-118 west toward the Oxnard Plan, every route out of Moorpark traverses hilly terrain when entering and exiting the city.

Moorpark has a two-route local transit service that runs Monday through from 6:00AM to 6:00 PM, with dial-a-ride service available to both seniors and the disabled. Bus service to Simi Valley and Thousand Oaks is provided by VISTA-East, a Ventura County inter-city express bus route, with transfer points in those two cities providing access to the rest of the VISTA network. The Moorpark Amtrak/Metrolink Station offers daily Amtrak service, as well as eight roundtrip Metrolink commuter trains providing access into the Los Angeles basin.

2. MAJOR GENERATORS AND ATTRACTORS OF BICYCLE TRIPS

LAND USE AND EMPLOYMENT

Land use and settlement patterns play a large role in determining travel behavior. Moorpark initially was founded as an agricultural community, and fields with a variety of crops are still situated adjacent to the city. Civic and public facilities such as the city offices, the civic center, the library, and park areas are generally located along Moorpark Avenue north of High Street. High Street is Moorpark's historic downtown area, with a variety of small commercial and retail uses. Several larger shopping plazas are located along East Los Angeles Avenue. Light industrial areas are located along the highway, freeway, and rail corridors. Lower density suburban residential neighborhoods are dispersed throughout the remainder of the city, although there are some multi-unit higher density residential areas located near downtown. Land Uses are shown in **Figure 1.**

EDUCATIONAL FACILITIES

2.1.1. PRIMARY, SECONDARY, AND HIGH SCHOOLS

The Moorpark Elementary School District serves the city with six elementary schools and one middle school. Moorpark High School and Renaissance Continuation High School comprise the Moorpark Union High School District. These schools are listed in **Table 2**.

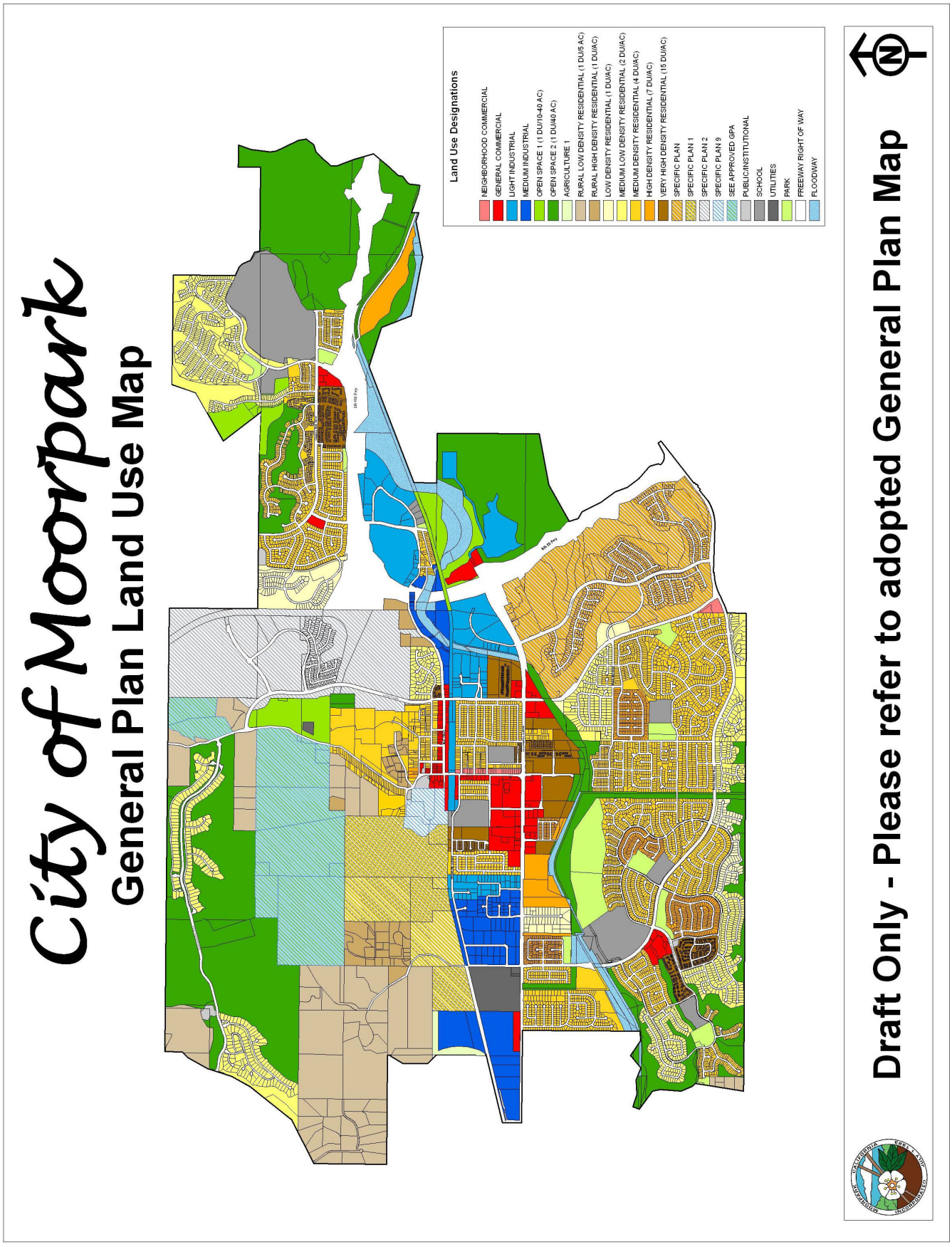


Figure 1
City of Moorpark Land Uses

Table 2
Schools in Moorpark

School Name	Address
Arroyo West Elementary School	4117 Country Hill Rd
Campus Canyon Elementary School	15300 Monroe Av
Flory Elementary School	240 Flory Av
Mountain Meadows Elementary School	4200 Mountain Meadow
Peach Hill Elementary School	13400 Christian Barrett Dr
Chaparral Middle School	280 Poindexter Av
Mesa Verde Middle School	14000 Peach hill Rd
Moorpark High School	4500 Tierra Rejada Rd
Moorpark Community Continuation High School	5700 Condor Dr
Moorpark College	7075 Campus Rd

2.2.2. COLLEGES AND UNIVERSITIES

Moorpark College, a member of the Ventura Community College District located in Moorpark, has an enrollment of 13,704 full and part-time students. California State University Channel Islands (CSUCI), with more than 3100 students enrolled, is the newest university in the California State system and is projected to eventually have a student body of approximately 15,000. CSUCI is located outside Camarillo, a driving distance of approximately twenty miles from Moorpark away via SR-23 and US 101. Moorpark College is also listed in **Table 2**

3. COMMUTER CHARACTERISTICS

A central focus of presenting commute information is to consider the current "mode split" of people that live and work in Moorpark. 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 improvement 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.

Journey to work and travel time to work data were obtained from the 2000 U.S. Census for Moorpark, California, and the United States. Journey to work data is shown in **Table 3**.

Table 3
Moorpark Journey to Work Data

Mode	United States	California	Moorpark
Bicycle	0.4%	0.8%	0.4%
Drove Alone	75.7%	71.8%	78.5%
Carpool	12.2%	14.6%	14.2%
Public Transit	4.7%	5.1%	0.9%
Walked	2.9%	2.9%	1.5%
Other	4.1%	4.8%	0.3%

Source: U.S. Census 2000

As shown in Table 9-2, approximately 0.4% of employed residents in Moorpark commute by bicycle, a rate that is half that of the California average bicycle mode share of 0.8%, but the same as the overall United States rate of 0.4%. This is a large percentage difference, in terms of bicycle usage, and represents an opportunity for capturing a greater mode share for bicycles. The automobile is the primary mode of transportation very high rate of nearly 95%, although the percentage of commuters carpooling is a significant share at approximately double the state and national rates.

An analysis of Travel Times of commute provides an indication of the number of potential new bicycle commuters. As compared to the state and the nation, at approximately 25% and 30% respectively, Moorpark has a fairly average rate of workers at 28.7% with a less than 15 minute commute. This percentage represents a reasonable opportunity for adding to the bicycling mode share in Moorpark. Travel time to work is shown in **Table 4**.

Table 4
Travel Time to Work Data

Travel Time to Work	United States	California	Moorpark
Less than 15 minutes	29.4%	25.3%	21.0%
15 to 29 minutes	36.1%	35.4%	35.5%
30 to 44 minutes	19.1%	20.9%	23.7%
45 to 59 minutes	7.4%	8.2%	9.8%
60 minutes or more	8.0%	10.1%	9.9%

Source: Census 2000

As previously noted, 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, and people who bicycle to school, for recreation or for errands are not included in Census Journey to Work data. Second, Census survey forms only allow a person to choose one mode when answering. If a commuter uses more than one mode during their trip (e.g. bicycling to Metrolink), only the longest (transit) mode is recorded.

In order to establish a more representative estimate of Moorpark's total existing bicycle mode share, a model was developed to augment the Journey to Work figure of 0.18% with data on school children, college students, and transit commuters. As shown in **Table 5** below, this model estimates the total number of existing commuter and students in Moorpark at 481 riders, making a total of 962 daily trips, and brings the estimated commute mode share to 2.1%. In all likelihood this model overestimates the overall bicycle mode share given the extremely low commuter mode share of Moorpark.

Table 5
Current Bicycle Commuters

Current Commuting Statistics		**Source**
Moorpark Population	31,274	*2000 US Census*
Number of Commuters	14,247	*2000 US Census (Employed persons less those working at home)*
Number of Bicycle-to-Work Commuters	55	*2000 US Census*
Bicycle-to-Work Mode Share	0.39%	*Mode share percentage of Bicycle to Work Commuters*
School Children Grades K-8	6,486	*2000 US Census, population ages 5-14*
Estimated School Bicycle Commuters	324	*Lamorinda School Commute Study (Fehr & Peers Associates, 1995) and San Diego County School Commute Study (1990). (5%)*
Number of College Students	1,998	*2000 US Census*
Estimated College Bicycle Commuters	100	*National Bicycling & Walking Study, FHWA, Case Study No. 1, 1995. Review of bicycle commute share in seven unversity communities (5%)*
Average Weekday Transit Ridership	139	*Public Transportation to Work, 2000 US Census*
Number of Daily Bike-Transit Users	2	*RTD (Denver) Bike-n-Ride Survey, December 1999 (1.4% of total boardings)*
Estimated Total Number of Bicycle Commuters	481	*Total of work, transit, school, and college bicycle commuters Does not include recreation.*
Estimated Adjusted Mode Share	2.1%	*Estimated Bicycle Commuters divided by commuting population*
Estimated Current Bicycle Trips		
Total Daily Bicycle Trips	962	*Total bicycle commuters x 2 (for round trips) plus total number of utilitarian bicycle trips*
Reduced Vehicle Trips per Weekday	401	*Assumes 73% of bicycle trips replace vehicle trips for adults/college students and 53% for school children*
Reduced Vehicle Miles per Weekday	1,139	*Assumes average one-way trip travel length of 4.6 miles for adults/college students and 0.5 mile for schoolchildren*

4. EXISTING BICYCLE FACILITIES

BIKEWAYS

There are a number of existing bikeways within Moorpark, with a total route mileage of 24.5 miles as shown in **Table 6**. Existing Class II bike lane facilities have a combined length of 18.3 miles, with the bike lanes along Tierra Rejada, providing a large share of the route mileage. Class III bike routes total 5.8 miles in length. Moorpark's existing bikeways network is also shown in **Figure 2** (p. 15).

Table 6
Existing Bikeways

Street	From	To	Class	Length (Miles)
Spring Rd	High St	Walnut Canyon Rd	I	1.1
off Street	east of Countrywood Dr	west of Tierra Rejada Rd	I	0.5
TOTAL MILES		**Class**	**I**	**1.6**
Countrywood Dr / Mountain Trail St	Tierra Rejada Rd	Mountain Meadow Dr	II	2.2
Walnut Creek Rd	Mountain Trail St	Mountain Meadow Dr	II	1.4
Gabbert Rd_Poindexter	Los Angeles Ave	Moorpark Ave	II	1.4
Collins Dr	Campus Park Dr	University Dr	II	0.8
Spring Rd	Tierra Rejada Rd	Walnut Canyon Rd	II	3.0
Science Dr	Los Angeles Ave	Tierra Rejada Rd	II	1.3
Peach Hill Rd	Tierra Rejada Rd	Science Dr	II	1.8
new road	Spring Rd	new SR-23	II	0.4
High St	Moorpark Ave	Spring Rd	II	0.4
Campus Park Dr	Moorpark CL north	Collins Dr	II	1.2
Tierra Rejada Rd	Los Angeles Ave	SR-23	II	3.9
Moorpark High access road	Tierra Rejada Rd	Moorpark High Gym	II	0.4
Mountain Meadow Dr	Mountain Trail St	Walnut Creek Rd	II	1.2
TOTAL MILES		**Class**	**II**	**19.6**
Liberty Bell	Los Angeles Ave	Arrovo Vista Park	III	0.4
Rustic View	Multi Use Trail	Mountain Trail St	III	0.2
TOTAL MILES		**Class**	**III**	**0.6**
TOTAL BIKEWAY MILES				**21.8**

Source: Alta Planning + Design field inventory, VCTC GIS data, November 2006.

END OF TRIP BICYCLE FACILITIES

End of trip facilities consist of bicycle parking, changing areas, and showering facilities. Bicycle parking facilities can be found at the local schools and most government facilities. Amgen, the largest employer with over 6000 employees at their Moorpark campus, provides 45-50 bicycle lockers, while nearly half of the buildings also have locker room and shower facilities. Moorpark Train Station provides bicycle lockers.

TRANSIT BICYCLE FACILITIES

The limited local transit service has front racks for bikes and the VISTA-East Commuter buses have bike storage underneath the coaches. Current local transit policy requires bicyclists to wait for the next bus with space on the bicycle rack to accommodate demand when approaching bus is already carrying two bicycles. Bicycles are not allowed on buses. The Moorpark Amtrak/Metrolink Station provides 16 bicycle lockers for use by bicycle commuters.

5. TRIP REDUCTION POTENTIAL/AIR QUALITY BENEFITS

As earlier noted, based on US Census and other commuting data there are an estimated 481 existing daily bicycle commuters in Moorpark. The next step is to determine how many future commuter cyclists we could reasonably expect in Moorpark once the proposed bikeway system is implemented. appears to be a We conservatively assume that all 326 commuters who bicycle and walk are traveling 15 minutes or less and subtract them from all 3,097 residents with commutes of this length, resulting in 2,666 residents that could potentially convert their short commute trip from a vehicle trip into a bicycle trip. Given these data, capturing even 15% of these short vehicle trips would produce an additional 400 bicycle commuters, as shown in **Table 7.** The net result of these additional bike riders would be improved air quality, with estimated daily reductions in Hydrocarbons (HC) of 17 kg, Carbon Monoxide (CO) of 127 kg, Nitrogen Oxide (NOX) 8 kg, and Carbon Dioxide (C02) 671,598 kg.

Table 7
Future Bicycle Commute and Air Quality Projections

Potential Future Bicycle Commuters		
Number of workers with commutes fifteen minutes or less	2,994	*US Census 2000*
Number of workers who already bicycle or walk to work	273	*US Census 2000*
Number of potential bicycle commuters	2,721	*Calculated by subtracting number of workers who already bicycle or walk from the number of workers who have commutes 15 minutes or less*
Future number of new bicycle commuters	408	*Based on capture rate goal of 15% of potential bicycle riders*
New Daily Bike-Transit Users	19	*Based on capture rate goal of 15% of total transit riders*
Total Future Daily Bicycle Commuters	908	*Current daily bicycle commuters plus future bicycle commuters*
Total Future Bicycle-to-Work Mode Share	6.4%	
Future Total Daily Bicycle Trips	1,816	*Total bicycle commuters x 2 (for round trips)*
Future Reduced Vehicle Trips per Weekday	1,326	*Assumes 73% of bicycle trips replace vehicle trips*
Future Reduced Vehicle Miles per Weekday	6,099	*Assumes average one-way trip travel length of 4.6 miles for adults. Assumes 12 mph average bicycle speed; 23 minute average travel time. Travel time data from NHTS 2001 Trends, Table 26.*
Future Reduced Vehicle Miles per Year	1,616,360	*256 weekdays per year*
Future Air Quality Benefits		
Reduced HC (kg/weekday)	17	*(0.0028 kg/mile)*
Reduced CO (kg/weekday)	127	*(0.0209 kg/mile)*

Potential Future Bicycle Commuters		
Reduced NOX (kg/weekday)	8	*(0.00139 kg/mile)*
Reduced CO2 (kg/weekday)	671,598	*(.4155 kg/mile)*
Reduced HC (metric tons/year)	4	*1000 kg per metric ton; 256 weekdays/year*
Reduced CO (metric tons/year)	33	*1000 kg per metric ton; 256 weekdays/year*
Reduced NOX (metric tons/year)	2	*1000 kg per metric ton; 256 weekdays/year*
Reduced CO2 (metric tons/year)	171,929	*1000 kg per metric ton; 256 weekdays/year*

6. SAFETY AND EDUCATION

EDUCATION

No bicycle safety programs are currently being offered in Moorpark.

ENFORCEMENT

The Moorpark Police Department is charged with enforcement of the vehicle code within the City of Moorpark, applicable to both bicyclists and motor vehicles. Enforcement of vehicle codes on all state routes within the City of Moorpark are the jurisdiction of the California Highway Patrol (CHP)

SAFETY CONDITIONS/COLLISIONS

An analysis of the Statewide Inventory of Traffic Related Statistics (SWITRS) data compiled by the California Highway Patrol (CHP) of collisions involving bicycles recorded by enforcement agencies revealed 30 total collisions over a four-year time frame from 2002 to 2005. These collisions resulted in a single fatality, 23 injuries, and a couple of property damage-only collisions, as represented in **Table 8.** For totals including listings primary road and secondary road within 25 feet of the intersection, the roadway with the largest number of collisions was SR-118 at nine total collisions, including the fatality in 2005. Spring Road also had a relatively high number at six total collisions. The intersection of SR-118 and Spring Road had the largest number of collisions with five collisions total.

Table 8
Reported Bicycle Collisions

Primary Road	Secondary Road	Distance from Intersection (feet)	Type	Collision Year
RT 118	Shasta Av	154	Injury	2002
Spring Rd	Peach Hill Rd	500	Injury	2002
RT 118	Spring Rd	0	Property Damage Only	2002
High St	Walnut St	10	Injury	2002
Golondrina St	Palomitas Cir	0	Injury	2002
2nd St	Bard St	0	Injury	2002

Primary Road	Secondary Road	Distance from Intersection (feet)	Type	Collision Year
RT 23	RT 118	100	Property Damage Only	2002
2002 Summary:	**7 total accidents**	**3 Intersection** **4 Mid-block**	**5 Injury** **2 Property Damage**	
RT 118	Spring Rd	428	Injury	2003
Spring Rd	RT 118	250	Property Damage Only	2003
Leta Yancy Rd	James Weak Av	0	Injury	2003
High St	Moorpark Av	0	Injury	2003
RT 118	Flory Av	2	Injury	2003
Gabbert Rd	RT 118	0	Injury	2003
RT 118	Park Ln	0	Injury	2003
Charles St	Walnut St	0	Injury	2003
Spring Rd	Roberts Av	0	Injury	2003
Spring Rd	RT 118	288	Injury	2003
2003 Summary:	**10 total accidents**	**7 Intersection** **3 Mid-block**	**9 Injury** **1 Property Damage**	
N Westwood St	E Purdue St	20	Injury	2004
High St	Spring Rd	528	Injury	2004
Moorpark Av	RT 118	21	Injury	2004
Mountain Meadow Dr	Mountain Trail St	24	Injury	2004
Peach Hill Rd	Honeybee St	0	Injury	2004
High St	RT 23	0	Property Damage Only	2004
Mountain Trail	Tierra Rejada Rd	0	Injury	2004
Millard St	Ruth Av	0	Injury	2004
RT 23	3rd St	9	Injury	2004
2004 Summary:	**9 total accidents**	**9 Intersection** **1 Mid-block**	**8 Injury** **1 Property Damage**	
Spring Rd	RT 118	15	Injury	2005
RT 118	Gabbert Rd	427	Killed	2005
Sherman Av	Harry St	335	Injury	2005
Alley Wy	1st St	168	Injury	2005
2005 Summary:	**4 total accidents**	**1 Intersection** **3 Mid-block**	**1 Killed** **4 Injury** **0 Property Damage**	

7. PUBLIC PARTICIPATION

Public participation for Moorpark's Bicycle Plan was generated as part of the larger effort of the Ventura Countywide Bicycle Master Plan. In June 2006 two public outreach meeting were held, one for the west county in Ventura, and one for the east county in Moorpark. Additionally, an

online survey was conducted for the entire county, although only three respondents were identified as residents of Moorpark.

8. POLICY CONFORMANCE

In accordance with Caltrans BTA requirements, an overview of local and regional planning documents and policies relevant to this Plan is to be provided. This section illustrates the consistency between this Plan and the existing local plans and policies. All other relevant regional policies are summarized in Chapter 4 of the Ventura Countywide Bicycle Master Plan. In particular, this section examines the Moorpark General Plan and the Circulation and Open Space Conservation and Recreation Elements.

MOORPARK GENERAL PLAN CIRCULATION ELEMENT

The Moorpark General Plan Circulation Element acknowledges the need for a "continuous bikeway system" to make bicycling "an attractive means of transportation in the City".

The Moorpark Bicycle Transportation Plan is consistent with the following goals and policies of the Circulation Element:

General

Goal 1: Provide a transportation system that supports the land use plan in the General Plan and provides for the safe and efficient movement of people, goods, and services within, into, out of, and through the City of Moorpark

Policy 1.7: Roadways, pedestrian areas, walks, street name sign and utilities in applicable outlying areas shall be designed to convey a rural appearance while providing for low maintenance costs and safe passage of vehicles, pedestrians, equestrians, and bicycles.

Level of Service

Goal 2: Provide a circulation system which supports existing, approved and planned land uses throughout the City while maintaining a desired level of service on all streets and at all intersections.

Policy 2.5 Driveway access points onto arterial roadways shall be limited in number and location in order to ensure the smooth and safe flow of vehicles and bicycles.

Bicycle and Pedestrian Facilities

Goal 5: Provide a citywide system of safe, efficient and attractive bicycle and pedestrian routes for commuter, school, and recreational use.

Policy 5.1: New development and redevelopment projects shall be required to include safe, separate, and convenient paths for bicycles and pedestrians so as to encourage these alternate forms of non-polluting transportation.

Policy 5.2: Plans for bicycle and pedestrian facilities shall give priority to providing continuity and closing gaps in the bikeway and sidewalk network.

Policy 5.3: Proposed residential, commercial, and industrial developments shall be required to include bikeways in their street improvement plans, consistent with the Circulation Element Bikeway Network Plan, and to construct the bicycle paths, or lanes, or routes as a condition of project approval.

Policy 5.4: Development projects shall be required to participate in the funding of planned bikeways which would allow employees to utilize bicycles as an alternative to automobiles.

Policy 5.5: The provision and maintenance of off-street bicycle paths shall be encouraged.

Policy 5.6: Bicycle Racks shall be required and storage facilities shall be encouraged at new and modified public, commercial, and industrial building sites.

Transportation Demand Management

Goal 7: Develop and encourage a transportation demand management system to assist in mitigating traffic impacts and in maintaining a desired level of service on the circulation system.

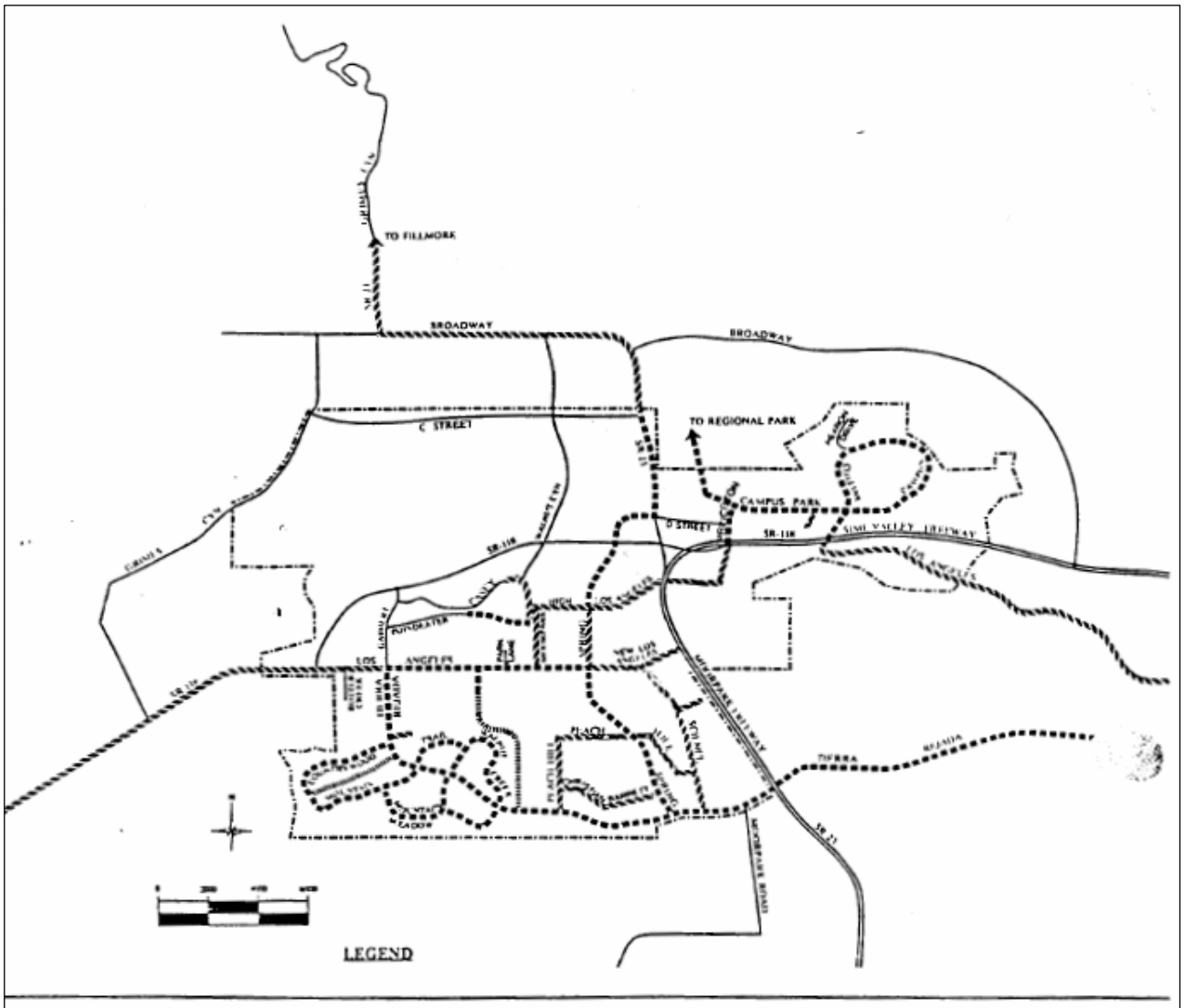
Policy 7.1: To reduce energy consumption, noise pollution and air pollution, employment generating developments shall provide incentives to employees to utilize alternatives to the conventional automobile, such as walking, bicycles, carpools, vanpools, buses , and commuter rail.

The following Circulation Element implementation measures provide guidance for the design and funding of bicycle facilities:

4. The City Engineer's office shall prepare and maintain a circulation facility design manual containing roadway standards which specify right-of-way, number of lanes, typical cross-sections and parking restrictions according to designated arterial

classifications. Included will be design guidelines for driveway placement, intersection site distance, dedicated turn lanes, stop sign installation, medians, landscaping, bike lanes, bike paths, sidewalks, and equestrian trails. Rural and hillside road standards for road widths, grading, pathways, pedestrian areas, walks, landscaping, street name signs, and utilities shall also be included.

8. The City Council shall adopt a transportation improvement fee program which will enable circulation (roadway and bikeway) improvements to be funded by new developments and, in conjunction with the City's capital improvement program, will determine estimated dates for construction. A phasing/improvement plan shall be included that identifies project specific improvement responsibilities and requires fair share funding for cumulative circulation improvements. Roadway and bikeway improvements which mitigate specific project related impacts shall be constructed or funded by the individual project applicant. Project applicants shall also be required to participate in the fair share finding program. The traffic forecasting model shall be used to evaluate specific project impacts and shall serve as the traffic share technical basis in establishing the transportation improvement fee program.



LEGEND

CLASS I BIKEWAY (BIKE PATH) - A facility designed for exclusive use by bicycles and physically separated from vehicular traffic by a barrier, grade separation or open space. Cross-flows by vehicles and pedestrians allowed but minimized.

CLASS II BIKEWAY (BIKE LANE) - A paved area of a roadway designated for preferential use of bicycles. Pavement markings and signage indicate the presence of a bike lane on the roadway.

CLASS III BIKEWAY (BIKE ROUTE) - A conventional street where bike routes are indicated by sign only. There are no special pavement, walkways and bicycle traffic shares the roadway with motorized traffic. Only Class III facilities which connect the Moorpark sphere with the regional bikeway system are identified in the bikeway network. Roadways which are not designated with a Class II bikeway, but which serve as connections between Class II facilities or the regional bikeway system should be considered as Class III bikeways.

FIGURE 3

CITY OF MOORPARK
GENERAL PLAN CIRCULATION ELEMENT

BIKEWAY ELEMENT

May 13, 1992

MOORPARK GENERAL PLAN OPEN SPACE CONSERVATION AND RECREATION ELEMENT:

The Moorpark Bicycle Transportation Plan is consistent with the following goals and policies from the Open Space Conservation and Recreation Element:

Goal 1: Preserve and enhance the unique aesthetic and visual qualities for Moorpark as a city with scenic topographic features and elements that promote the quality of life that Moorpark citizens pursue.

Policy 1.2: Study, monitor, and link the existing Greenbelt Agreement Area to include landscaped arterial roadways as entrance ways to the City, bikeways, equestrian paths and hiking trails, to create a network of aesthetically pleasing links into and around the City.

Goal 2: Acquire, provide and maintain public parkland for both passive and active use that is equally accessible to the community on a neighborhood, community and regional basis.

Policy 2.3: Encourage the development and provision of recreational activities that are both active and passive; e.g., hiking, biking, running, sightseeing, swimming.

Goal 3: Ensure the health, safety and general welfare of the public through designating land uses that will minimize the risk of danger to the public.

Policy 3.1: In areas designated for flood control purposes, promote the use of the area for passive recreation activities, (e.g., hiking, fishing, bike riding) and reserve in open space use until the land can be used for a purpose.

Policy 3.2: Where the Safety Element of the General Plan defines an area where building or development should be limited, promote the use of the property for recreation uses that do not require infrastructure (e.g., hiking, fishing, bike riding) and reserve the area in an open space category.

9. PROPOSED BICYCLE FACILITIES AND PROGRAMS

BIKEWAYS NETWORK

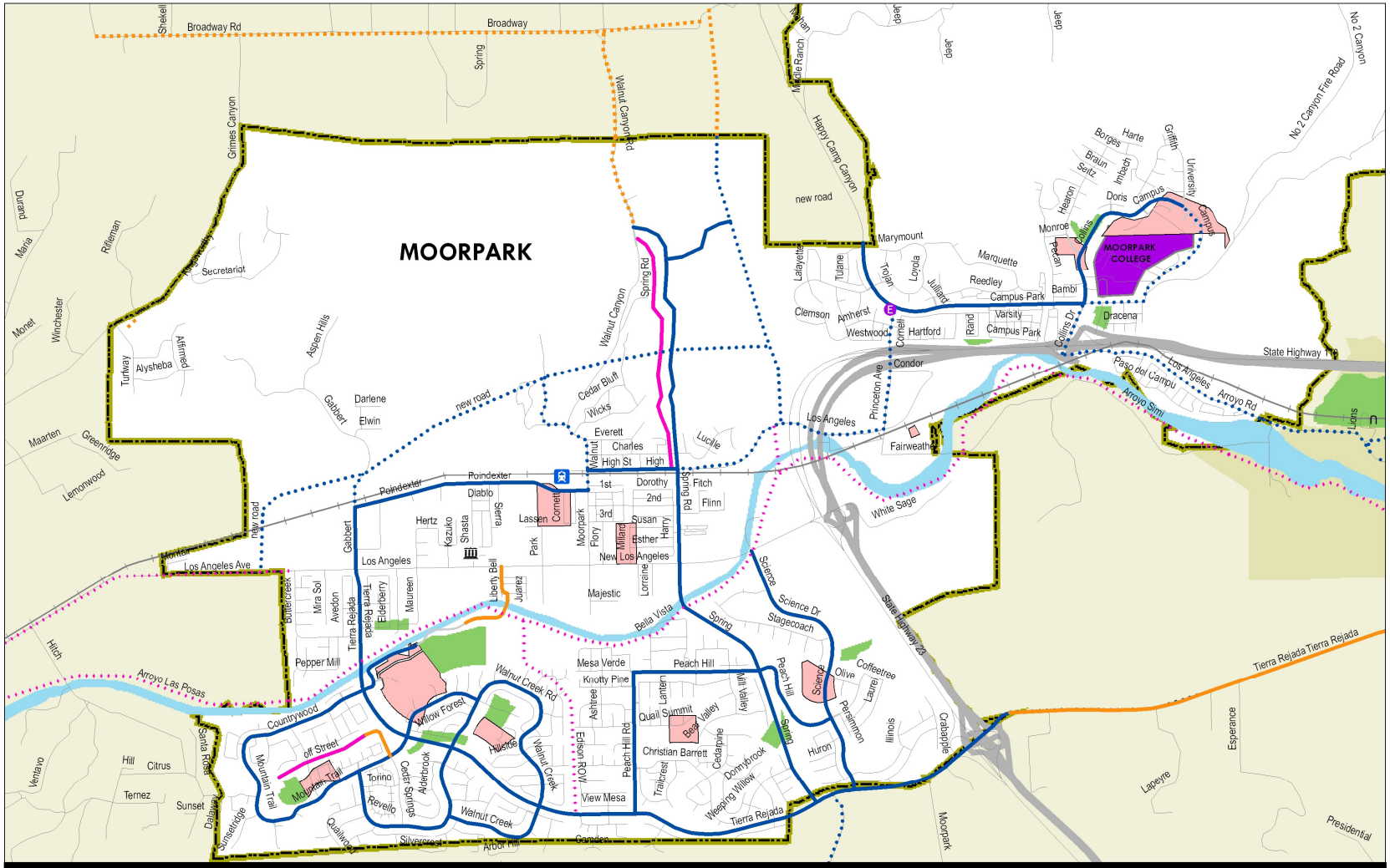
The proposed bikeways network for Moorpark as shown in **Figure 2** has been developed to provide greater access throughout the city, build on connections to Oxnard and the rest of Ventura County, and to address some of the bicycle facilities that are otherwise not standard for Caltrans purposes. The location and type of the proposed bikeways, as well as the estimated cost for their implantation, are listed in **Table 9**.

Table 9
Proposed Bikeways

Street	From	To	Class	Length (Miles)	Cost*
Edison ROW	Arroyo Simi Trail	Tierra Rejada Rd	I	1.0	$1,000,000
Arroyo Simi	Eastern City Limits	Western City Limits	I	5.4	$5,400,000
New Multi Use Trail	Princeton Ave	Arroyo Simi Trail	I	0.2	$215,0000
TOTAL CLASS I 6.4					$6,615,000
Casey Rd. / Moorpark Ave	Poindexter Ave	new road	II	0.7	$28,000
new SR-23	Moorpark CL north	Princeton Ave	II	1.4	$56,000
Princeton Ave	Spring Rd	Campus Park Dr	II	1.6	$64,000
Campus Park	University Dr	Collins Dr	II	0.9	$36,000
Collins Dr	Campus Park Dr	SR-118	II	0.3	$12,000
new road	Los Angeles Ave	new SR-23	II	2.8	$112,000
Arroyo Rd	Collins Dr	Moorpark CL East	II	1.0	$40,000
Gabbert Rd	Poindexter Ave	new road	II	0.2	$8,000
TOTAL CLASS II			II	2.9	$356,000
TOTAL BIKEWAY				**9.3**	$6,971,000

Source: Alta Planning + Design field inventory, VCTC GIS data, January 2007

**Note:: These are rough estimate only and require a detailed feasibility engineering study*



alta PLANNING + DESIGN

VENTURA COUNTYWIDE BICYCLE MASTER PLAN
MOORPARK EXISTING & PROPOSED BIKEWAYS

FIGURE B-3

0 0.5 1 Miles

DATA SOURCE
VENTURA COUNTY TRANSPORTATION COMMISSION

LEGEND

Existing Bicycle Facilities
- Class 1 Multi-Use Trail
- Class 2 Bicycle Lanes
- Class 3 Signed Routes

Proposed Bicycle Facilities
- Class 1 Multi-Use Trail
- Class 2 Bicycle Lanes
- Class 3 Signed Routes

- Schools
- Parks
- Colleges

MAINTENANCE COST BREAKDOWN

The total annual maintenance cost of the primary bike path system, when it is fully implemented, is estimated to be about $113,620 annually as shown in **Table 10**. Bicycle facility maintenance costs are based on per mile estimate, which covers labor, supplies, and amortized equipment costs for weekly trash removal, monthly sweeping, bi-annual resurfacing and repair patrols. Other maintenance costs include re-striping bike lane lines, sweeping debris, and tuning signals for bicycle sensitivity. Inflation rates are calculated using a conversion factor of 1.282.

Table 10
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	8.0	$68,000	Lighting maintenance and debris and vegetation overgrowth removal.
Class II Maintenance	2,000	Annual Cost per Mile	22.5	$45,000	Repainting lane stripes and stencils, sign replacement as needed
Class III Maintenance	1,000	Annual Cost per Mile	0.62	$620	Sign and shared use stencil replacement as needed
		Average Cost Per Year		$113,620	
		Estimated 10-year Cost		**$1,136,200**	

* Based on full network completion. Includes existing and proposed bikeways.

Maintenance costs for the bikeway network may be higher than these estimates if the County implements the expanded maintenance program proposed in Chapter 7 of the Ventura Countywide Bicycle Master Plan. 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.

SUPPORT FACILITIES AND PROGRAMS

Support facilities and programs are an important component of a bicycle transportation system. Facilities include such elements as bicycle racks on buses, bicycle parking racks, and showers and lockers for employees; while support programs include components such as bikeway management and maintenance, signage placement, and promotional/educational programs. A bicycle network that does not comprehensively incorporate all of these elements will fall short in achieving optimal functionality, particularly through failure to raise the necessary level of safety, security, and convenience for bicyclists. Specific recommendations that can be applied to Moorpark as part on a local program or in concert with countywide programs are detailed in Chapter 7 of the Countywide Bicycle Master Plan. Bicycle parking design guidelines are provided in Appendix L (p. L-21).

APPENDIX C: PORT HUENEME BICYCLE TRANSPORTATION PLAN

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PORT HUENEME BICYCLE TRANSPORTATION PLAN

The Port Hueneme Bicycle Transportation Plan was developed as part of the Ventura Countywide Bicycle Master Plan process. The Port Hueneme plan serves as a stand-alone document for use by the City of Port Hueneme to enhance and expand their existing network of bicycle facilities, connect gaps, address constrained areas, provide for greater local and regional connectivity, and encourage more residents to bicycle. In order for the City of Port Hueneme to be eligible for the Caltrans Bicycle Transportation Account (BTA) funding, compliance with BTA requirements must be demonstrated. The Caltrans Bicycle Transportation Account (BTA) is a significant source of funding for bicycle facility construction. The following table is provided for the convenience of Caltrans Staff, to outline the elements within the Ventura County Bicycle Master Plan that comply with the BTA requirements. The table contains brief answers to the required elements for the BTA and provides references to relevant tables, figures and sections within the Ventura Countywide Bicycle Master Plan document. It is noted where a BTA requirement is not applicable.

Table 1

BTA Compliance Table for the Port Hueneme Bicycle Transportation Plan

Port Hueneme		Population based on 2000 US Census: 21,846	
Streets & Highways Code 891.2 BTP Requirements			
Section	**Description**	**Existing**	**Proposed**
a.	Estimated number of bicycle commuters	166 Based on 2000 US Census data	1190 Based on 2000 US Census data
b.	Land use and population density	Approximately 4.4 Square Miles	Approximately 4,965 persons per square mile
c.	Existing and proposed bikeways	Please see Tables 6 & 7 and Figure 2	Please see proposed projects map and list: Figure 2 and Table 10
d.	Existing and proposed bicycle parking	Please see Section 4.2 Also see VCBMP, Ch. 3	Please see Section 9.3 Also see VCBMP, Ch. 7
e.	Existing and proposed multi-modal connections	Please see Section 4.3 Also see VCBMP, Chapter 3	Please see Section 9.3 Also see VCBMP, Ch 7
f.	Existing and proposed facilities for changing and storing clothes and equipment	Please see Section 4.2	Please see Section 9.3
g.	Bicycle safety and education programs	Please see Section 7	Please see VCBMP, Ch 7
h.	Citizen and community participation	Public outreach efforts included surveys, workshops, and Technical Advisory Committee meetings. See the VCBMP Ch 1 for more info.	
i.	Consistency with transportation, air quality, and energy plans	This Bicycle Transportation Plan is consistent with the Circulation Element of the Port Hueneme General Plan and all regional air quality and energy plans.	
j.	Project descriptions and priority listings	Please see Section 9	
k.	Past expenditures and future financial needs	$190,000 for Capital Projects (Last 5 years)	Please see Section 9

1. BACKGROUND

Port Hueneme (pronounced "Why-nee-mee") is a relatively small seaside community located on the south-central coast of California, 60 miles north of Los Angeles and 50 miles south of Santa Barbara. The City's name derives from a Chumash Indian term (Wene'mu) that means "resting place." Today's Port Hueneme (along with neighboring Point Mugu) is the home of the Naval Base Ventura County, the west coast homeport of the Navy's mobile construction force. Port Hueneme is also the home of the Port of Hueneme, serving as the US Port of Entry for California's central-coast region as the only deep-water harbor between Los Angeles and the San Francisco Bay area.

Although there are no major transportation facilities located within the Port Hueneme City limits, Metrolink/Amtrak passenger rail service is available at the nearby City of Oxnard Transit Center, the South Coast Area Transit (SCAT) provides local bus service to Port Hueneme and neighboring Ventura County communities, and the City has contracted with the neighboring City of Oxnard for local dial-a-ride services.

2. MAJOR GENERATORS AND ATTRACTORS OF BICYCLE TRIPS

LAND USE AND EMPLOYMENT

Land use and settlement patterns play a large role in determining travel behavior. **Figure 1** shows that Port Hueneme is strongly influenced by the presence of the Naval Base, which occupies a central location, as well as more than half of the land of the City of Port Hueneme. The Naval Base at Port Hueneme is also the largest employer in the city with approximately 6,000 employees. Commercial areas are generally located adjacent to the Naval Base on Channel Islands Boulevard and Port Hueneme Road, while residential neighborhoods are dispersed throughout the remainder of the city. Residential neighborhoods with higher density are located near the Naval Base, as well as close to the beach in the southeast corner of the city this is shown in Figure 1. Greater than half of the population lives in rental housing, a reflection of the influence the Naval Base has upon the city.

EDUCATIONAL FACILITIES

2.1.1. PRIMARY, SECONDARY, AND HIGH SCHOOLS

There are five elementary schools located within the City of Port Hueneme, listed in **Table 2**. There are no middle or high schools within the City of Port Hueneme, although there are two middle schools and one high school located less than a mile away from the eastern city boundary in Oxnard. These schools, with exception of the private schools, are part of the Hueneme School District and the Oxnard Unified High School District. These districts include Port Hueneme, but extend beyond the city limits. Elementary students living north of Channel Islands Blvd. are served by the Oxnard School District, with schools similarly located less than a mile from the northern city limits, has four elementary schools located within a mile of Port Hueneme and two middle schools which are both located further than a mile away.

Table 2

Elementary Schools in Port Hueneme

School Name	Address
Parkview Elementary	1416 Sixth Pl
Bard (Richard) Elementary	622 E. Pleasant Valley Rd
Hueneme Elementary	344 N. Third St.
Hueneme Christian School	312 N. Ventura Rd
Port Hueneme Private School	259 N. Third St

2.2.2. COLLEGES AND UNIVERSITIES

There are no colleges or universities located in Port Hueneme. Oxnard Community College, with 6,447 students enrolled, is only a mile and a half away. California State University Channel Islands (CSUCI), with more than 3,100 students enrolled, the newest university in the California State system is projected to eventually have a student body of approximately 15,000. CSUCI is located about eight miles away, accessible via narrow country roads that are primarily agricultural in nature. Despite the fact these facilities are not located within the City limits, there is a significant opportunity to add to the number of bicyclists, given that there are a large number of Port Hueneme residents enrolled in college, again most likely a result influenced by the presence of the Naval Base.

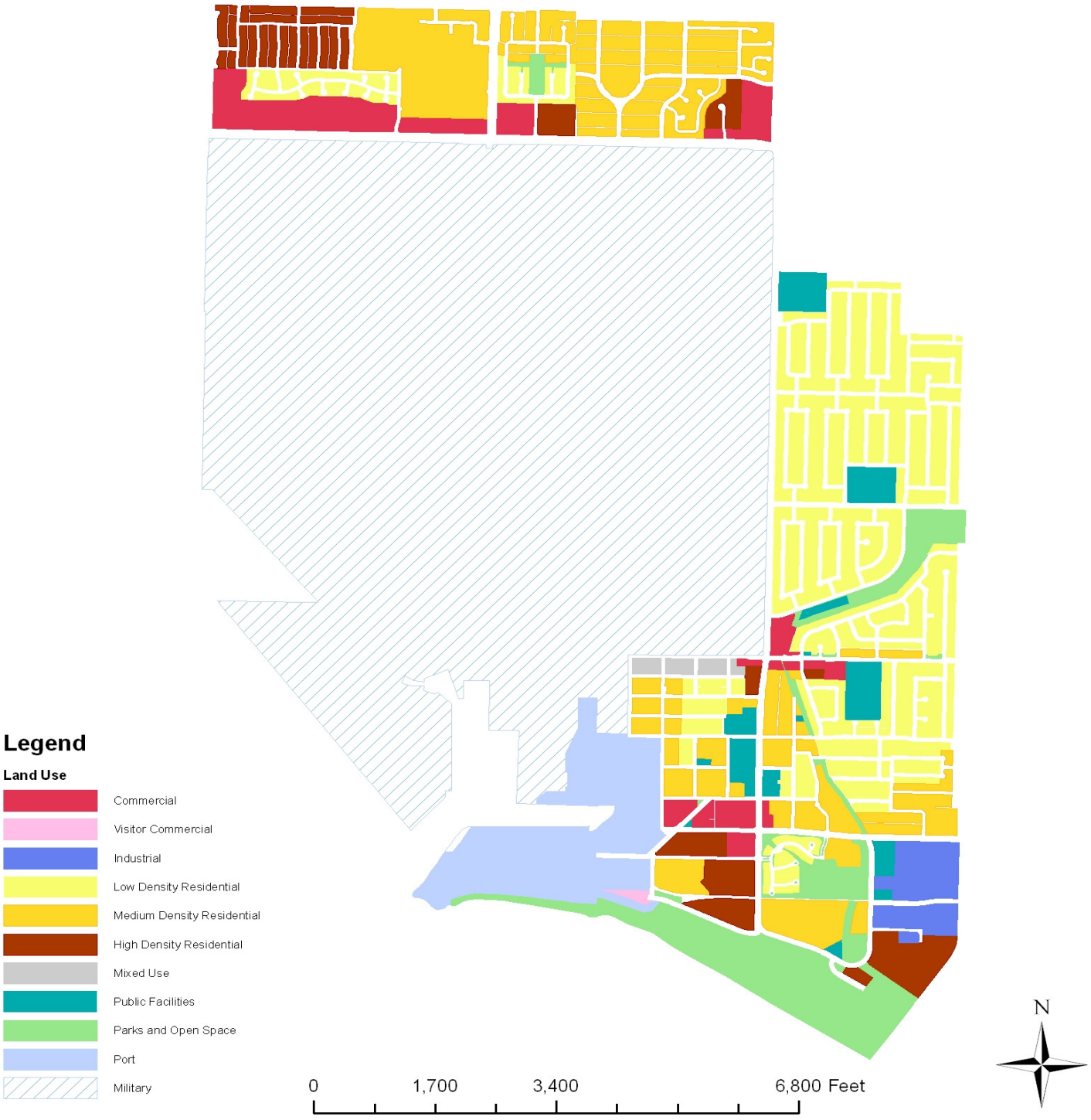

Figure 1
Port Hueneme Land Use Map

3. COMMUTER CHARACTERISTICS

A central focus of presenting commute information is to consider the current "mode split" of people that live and work in Port Hueneme. 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 improvement 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.

Journey to work and travel time to work data were obtained from the 2000 U.S. Census for the City of Port Hueneme and the United States. Journey to work data are shown in **Table 3**.

Table 3
Port Hueneme Journey to Work Data

Mode	United States	California	Port Hueneme
Bicycle	0.4%	0.8%	1.7%
Drove Alone	75.7%	71.8%	71.5%
Carpool	12.2%	14.6%	17.9%
Public Transit	4.7%	5.1%	1.1%
Walked	2.9%	2.9%	5.7%
Other	4.1%	4.8%	1.5%

Source: U.S. Census 2000

As shown in Table 3, approximately 1.7% of employed residents in Port Hueneme commute by bicycle, a rate double the California average bicycle mode share of 0.8%, and quadruple the United States rate of 0.4%. This is a large percentage difference, in terms of bicycle usage, and absent any significant number of bicycle facilities is indicative of a strong latent demand for bicycling. Of note is the high mode share of those walking to work, at 5.7%, a figure further indicative of the desire and/or need of Port Hueneme residents to find alternative forms of transportation.

Examining the commuter travel times shown in **Table 4** can also provide an indication of the number of potential new bicycle commuters. As compared to the state and the nation, at approximately 25 % and 30% respectively, Port Hueneme has 35.2% of commuters with a less than 15 minute commute. This percentage further underscores the opportunity for adding to the bicycling mode share in Port Hueneme.

Table 4
Travel Time to Work Data

Travel Time to Work	United States	California	Port Hueneme
Less than 15 minutes	29.4%	25.3%	35.2%
15 to 29 minutes	36.1%	35.4%	40.1%
30 to 44 minutes	19.1%	20.9%	15.1%
45 to 59 minutes	7.4%	8.2%	4.7%
60 minutes or more	8.0%	10.1%	5.0%

Source: Census 2000

As previously noted, 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, and people who bicycle to school, for recreation or for errands are not included in Census Journey to Work data. Second, Census survey forms only allow a person to choose one mode when answering. If a commuter uses more than one mode during their trip (e.g. bicycling to Metrolink), only the longest (transit) mode is recorded.

In order to establish a more representative estimate of Port Hueneme's total existing bicycle mode share, a model was developed to augment the Journey to Work figure of 1.7% with data on school children, college students, and transit commuters. As shown in **Table 5,** this model estimates the total number of existing commuter and students in Port Hueneme at 408 riders, making a total of 816 daily trips, and bringing the estimated commute mode share to 2.8%.

Table 5
Current Bicycle Commuters

Current Commuting Statistics		Source
Port Hueneme Population	21,846	*2000 US Census*
Number of Commuters	9,603	*2000 US Census (Employed persons minus those working at home)*
Number of Bicycle-to-Work Commuters	166	*2000 US Census*
Bicycle-to-Work Mode Share	1.73%	*Mode share percentage of Bicycle to Work Commuters*
School Children Grades K-8	3,248	*2000 US Census, population ages 5-14*
Estimated School Bicycle Commuters	162	*Lamorinda School Commute Study (Fehr & Peers Associates, 1995) and San Diego County School Commute Study (1990). (5%)*
Number of College Students	1,562	*2000 US Census*
Estimated College Bicycle Commuters	78	*National Bicycling & Walking Study, FHWA, Case Study No. 1, 1995. Review of bicycle commute share in seven unversity communities (5%)*
Average Weekday Transit Ridership	103	*Public Transportation to Work, 2000 US Census*
Number of Daily Bike-Transit Users	1	*RTD (Denver) Bike-n-Ride Survey, December 1999 (1.4% of total boardings)*
Estimated Total Number of Bicycle Commuters	408	*Total of work, transit, school, and college bicycle commuters Does not include recreation.*
Estimated Adjusted Mode Share	2.8%	*Estimated Bicycle Commuters divided by commuting population*
Estimated Current Bicycle Trips		
Total Daily Bicycle Trips	816	*Total bicycle commuters x 2 (for round trips) plus total number of utilitarian bicycle trips*
Reduced Vehicle Trips per Weekday	445	*Assumes 73% of bicycle trips replace vehicle trips for adults/college students and 53% for school children*
Reduced Vehicle Miles per Weekday	1,692	*Assumes average one-way trip travel length of 4.6 miles for adults/college students and 0.5 mile for schoolchildren*

4. EXISTING BICYCLE FACILITIES

BIKEWAYS

Existing bikeway facilities within the City of Port Hueneme that comply with State of California Department of Transportation (Caltrans) bikeway criteria are shown in **Figure 2** . As indicated in **Table 6**, all of the Caltrans-compliant bikeways are Class II (on-street marked) in nature, and total 2.6 miles in length, including the northbound bike lane on Victoria Avenue (the southbound lane is in the City of Oxnard).

Table 6
Existing Bikeways

Street	From	To	Class	Length (Miles)
Bard Rd.	J St	Ventura Rd	II	0.5
Surfside Dr	Pt Hueneme Rd	Wharf Plaza	II	0.9
Hemlock Dr	Ventura Road	Patterson Rd	II	0.8
Victoria Ave.(northbound)	Channel Islands Blvd	Hemlock St	II	0.4
TOTAL BIKEWAY MILES				**2.6**

It should be noted that the 2005 VCTC Ventura County Bikeways Map denotes other bikeways within the City limits; however, these bikeways are not in full conformance with Caltrans standards for their class type for various reasons, including lack of required width and bi-directionality. These other bikeways are identified in **Table 7**.

Table 7
Other Bikeways

Street	From	To	Other Type	Length (Miles)
Ventura Rd	Channel Islands Blvd	Pleasant Valley Rd	non-conforming Multi- Use Pathway	1.4
Bubbling Springs Corridor	Bard Rd	Surfside Dr	non-conforming Multi- Use Pathway	2.4
Ocean Front	Surfside Dr	End	non-conforming Multi- Use Pathway	0.8
Channel Islands Blvd	Victoria Rd	Ventura Rd	Class II Bikeway (eastbound only)	1.5
TOTAL OTHER BIKEWAY MILES				**6.1**

END OF TRIP BICYCLE FACILITIES

End-of-trip facilities consist of bicycle parking, changing areas, and showering facilities. The Naval Base has advised that there are a number of bicycle lockers, as well as shower and locker room facilities on the Base, although the Base authorities did not have a complete inventory. There was no response from other employers, including shopping centers, as to whether they provide any bicycle facilities.

TRANSIT BICYCLE FACILITIES

As noted there are no major multi-modal transit facilities within Port Hueneme. The local transit service, SCAT, does provide front racks on buses that will accommodate two bikes.

5. TRIP REDUCTION POTENTIAL/AIR QUALITY BENEFITS

As earlier noted, based on the existing mode split and travel time to work data, there appears to be a rather significant opportunity for increasing the bicycling mode share within the City limits. In the case of Port Hueneme, it has been conservatively assumed that all 716 commuters who bicycle and walk, are traveling 15 minutes or less. These 716 commuters have been subtracted from all 3,382 residents with commutes of this length, resulting in 2,666 residents that could potentially convert their short commute trip from a vehicle trip into a bicycle trip. Given this data, capturing even 15% of these short vehicle trips would produce an additional 400 bicycle commuters, as shown in **Table 8.** The net result of these additional bike riders would be enhanced air quality, with estimated daily reductions in Hydrocarbons (HC) of 15 kg, Carbon Monoxide (CO) of 115 kg, Nitrogen Oxide (NOX) 8 kg, and Carbon Dioxide (C02) 607,743 kg.`

Table 8
Future Bicycle Commute and Air Quality Projections

Potential Future Bicycle Commuters		
Number of workers with commutes fifteen minutes or less	3,382	*US Census 2000*
Number of workers who already bicycle or walk to work	716	*US Census 2000*
Number of potential bicycle commuters	2,666	*Calculated by subtracting number of workers who already bicycle or walk from the number of workers who have commutes 15 minutes or less*
Future number of new bicycle commuters	400	*Based on capture rate goal of 15% of potential bicycle riders*
New Daily Bike-Transit Users	14	*Based on capture rate goal of 15% of total transit riders*
Total Future Daily Bicycle Commuters	822	*Current daily bicycle commuters plus future bicycle commuters*
Total Future Bicycle-to-Work Mode Share	8.6%	
Future Total Daily Bicycle Trips	1,644	*Total bicycle commuters x 2 (for round trips)*
Future Reduced Vehicle Trips per Weekday	1,200	*Assumes 73% of bicycle trips replace vehicle trips*
Future Reduced Vehicle Miles per Weekday	5,520	*Assumes average one-way trip travel length of 4.6 miles for adults. Assumes 12 mph average bicycle speed; 23 minute average travel time. Travel time data from NHTS 2001 Trends, Table 26.*
Future Reduced Vehicle Miles per Year	1,462,679	*256 weekdays per year*
Future Air Quality Benefits		
Reduced HC (kg/weekday)	15	*(0.0028 kg/mile)*
Reduced CO (kg/weekday)	115	*(0.0209 kg/mile)*
Reduced NOX (kg/weekday)	8	*(0.00139 kg/mile)*
Reduced CO2 (kg/weekday)	607,743	*(.4155 kg/mile)*
Reduced HC (metric tons/year)	4	*1000 kg per metric ton; 256 weekdays/year*
Reduced CO (metric tons/year)	30	*1000 kg per metric ton; 256 weekdays/year*
Reduced NOX (metric tons/year)	2	*1000 kg per metric ton; 256 weekdays/year*
Reduced CO2 (metric tons/year)	155,582	*1000 kg per metric ton; 256 weekdays/year*

6. SAFETY AND EDUCATION

EDUCATION

The City of Port Hueneme is not currently sponsoring or offering any bicycle safety programs.

ENFORCEMENT

The Port Hueneme Police Department is charged with enforcement of the California Vehicle Code within the City limits, applicable to both bicyclists and motor vehicles. Safety enforcement and other security concerns within the Naval Base Ventura County are handled by the local division of Force Protection of the Navy.

SAFETY CONDITIONS/COLLISIONS

An analysis of the Statewide Inventory of Traffic Related Statistics (SWITRS) data compiled by the California Highway Patrol (CHP) of collisions involving bicycles recorded by enforcement agencies revealed 22 total collisions over a four-year time frame from 2002 to 2005. These collisions resulted in a single fatality, 19 injuries, and a couple of injury-only collisions, as represented in **Table 9.** The roadways that were the site of a majority of these collisions were: Pleasant Valley Road with five- including the single fatality, Bard Road with five, Ventura Road with four, and Park Avenue with three. The intersections that recorded the most collisions were: Bard Road and Park Avenue with two, and Channel Islands Boulevard and Wheelhouse Avenue with two as well.

Table 9
Reported Bicycle Collisions

Primary Rd	Secondary Rd	Distance from Intersection (feet)	Type	Collision Year
Pleasant Valley Rd	Camelia Dr	60	Injury	2002
Pleasant Valley Rd	Evergreen Ln	0	Injury	2002
Patterson Rd	Hemlock St	260	Injury	2002
Clara St	Ventura Rd	0	Injury	2002
Bard Rd	Park Av	0	Injury	2002
2002 Summary:	**5 Total Accidents**	**3 Intersection** **2 Mid-block**	**5 Injury** **0 Property**	
Evergreen Ln	Forest Loop Dr	150	Property Damage Only	2003
Halyard Av	Anchor Av	75	Injury	2003
Sextant Av Alley	Halyard Av	60	Injury	2003
Bard Rd	Park Av	0	Property Damage Only	2003
Park Av	Bard Rd	300	Injury	2003
Bard Rd	Ventura Rd	3	Injury	2003
Hueneme Rd	Surfside Dr	0	Injury	2003
2003 Summary:	**7 Total Accidents**	**3 Intersection** **4 Mid-block**	**5 Injury** **2 Property**	
Channel Islands Blvd	Wheelhouse Av	0	Injury	2004
Wheelhouse Av	Channel Islands	2	Injury	2004

Primary Rd	Secondary Rd	Distance from Intersection (feet)	Type	Collision Year
Ventura Rd	Scott St	76	Injury	2004
N 7th Pl	7th St	87	Injury	2004
Pleasant Valley Rd	2nd St	131	Killed	2004
Scott St	3rd St	2	Injury	2004
Bard Rd	8th Pl	40	Injury	2004
Pleasant Valley Rd	Camelia Dr	83	Injury	2004
2004 Summary:	**8 Total Accidents**	**3 Intersection** **5 Mid-block**	**1 Killed** **7 Injury** **0 Property**	
Ventura Rd	Pleasant Valley Rd	0	Injury	2005
Clara St	Ponoma St	126	Injury	2005
2005 Summary:	**2 Total Accidents**	**1 Intersection** **1 Mid-block**	**2 Injury** **0 Property**	

7. PUBLIC PARTICIPATION

Public participation was generated as part of the larger effort to update the Ventura Countywide Bicycle Master Plan, with outreach meetings held throughout the County. Additionally, an on-line survey was conducted, although only one respondent was identified as a resident of the City of Port Hueneme.

8. POLICY CONFORMANCE

As required by Caltrans, an overview of local and regional planning documents and policies relevant to this Local Bicycle Plan is to be provided. This section illustrates the consistency between this Plan and the existing local plans and policies. All other relevant regional policies are summarized in Chapter 4 of the Ventura County Bicycle Master Plan.

The General Plan for Port Hueneme has several goals and policies in regards to bicycles.

SPECIFICS LOCATED IN THE CIRCULATION ELEMENT INCLUDE:

GOAL 3: ENCOURAGE ALTERNATIVE TRANSPORTATION MODES

Policy 3-1: Promote the use of alternative forms of transportation (other than single passenger cars) to reduce congestion, traffic, noise, and air quality impacts.

Policy 3-3: When new circulation routes or street improvements are proposed consider the inclusion of bicycle lanes wherever feasible.

SPECIFICS LOCATED IN THE CONSERVATION/OPEN SPACE/ENVIRONMENTAL RESOURCES ELEMENT INCLUDE:

Conservation/Open Space/Environmental Resources

Linear parks are designed for recreational travel. These parks may include trails for hiking, biking, snowmobiling, horseback riding, or cross-country skiing.

The **Bubbling Springs Recreation Corridor** contains a shared bicycle and pedestrian path which runs along the course of the Bubbling Spring Waterway. The corridor links Bubbling Springs, Moranda, and Hueneme Beach Parks. The trail is utilized for jogging, walking, and bicycling.

9. PROPOSED BICYCLE FACILITIES AND PROGRAMS

BIKEWAYS NETWORK

The proposed bikeways network for the City of Port Hueneme as shown in **Figure 2** has been developed to provide greater access throughout the city, provide for a complete, comprehensive, and coordinated bikeway system not only within the City limits but also with the rest of Ventura county, and address non-standard design conditions. The location and type of the proposed bikeways, as well as the estimated cost for their implementation, are listed in **Table 10**. It should be emphasized that implementation of the proposed projects requires further engineering studies to determine overall impacts on existing and planned vehicular transportation and on-street parking.

Table 10
Proposed Bikeways

Street	From	To	Class	Length (Miles)	*Cost
Ventura Rd	Channel Islands Blvd	Surfside Dr	II	2.2	$88,000
Port Hueneme Rd	J St	Market	II	0.8	$32,000
Pleasant Valley Rd	J St	Naval Base	II	0.9	$36,000
Market/Surfside	Port Hueneme	Existing Surfside BL	II	0.4	$16,000
Patterson Rd	Channel Islands Blvd	Hemlock St	II	0.4	$16,000
Channel Islands Blvd	Victoria Ave	Ventura Rd	Class II (westbound only)	1.5	$60,000
Ocean Front	Surfside Dr	End	Upgrade existing to Class I standards		Requires detailed study
Bubbling Springs Corridor	Bard Rd	Surfside Dr	Upgrade existing to Class I standards		Requires detailed study
Ventura Rd	Channel Islands Blvd	Pleasant Valley Rd	Upgrade existing to Class I standards		Requires detailed study
Ocean Front	Wharf Plaza	Lighthouse	Multipurpose Trail	0.5	$3,900,000
TOTAL BIKEWAYS				**6.7**	$4,148,000

Source: Alta Planning + Design field inventory, VCTC GIS data, January 2007

**Note:: These are rough estimate only and require a detailed feasibility engineering study*

MAINTENANCE COST BREAKDOWN

The total annual maintenance cost of the primary bike path system, when it is fully implemented, is estimated to be about $56,700 per year as shown in **Table 11**. Bicycle facility maintenance costs are based on per mile estimate, which covers labor, supplies, and amortized equipment costs for weekly trash removal, monthly sweeping, bi-annual resurfacing and repair patrols. Other maintenance costs include re-striping bike lane lines, sweeping debris, and tuning signals for bicycle sensitivity. Inflation rates are calculated using a conversion factor of 1.282.

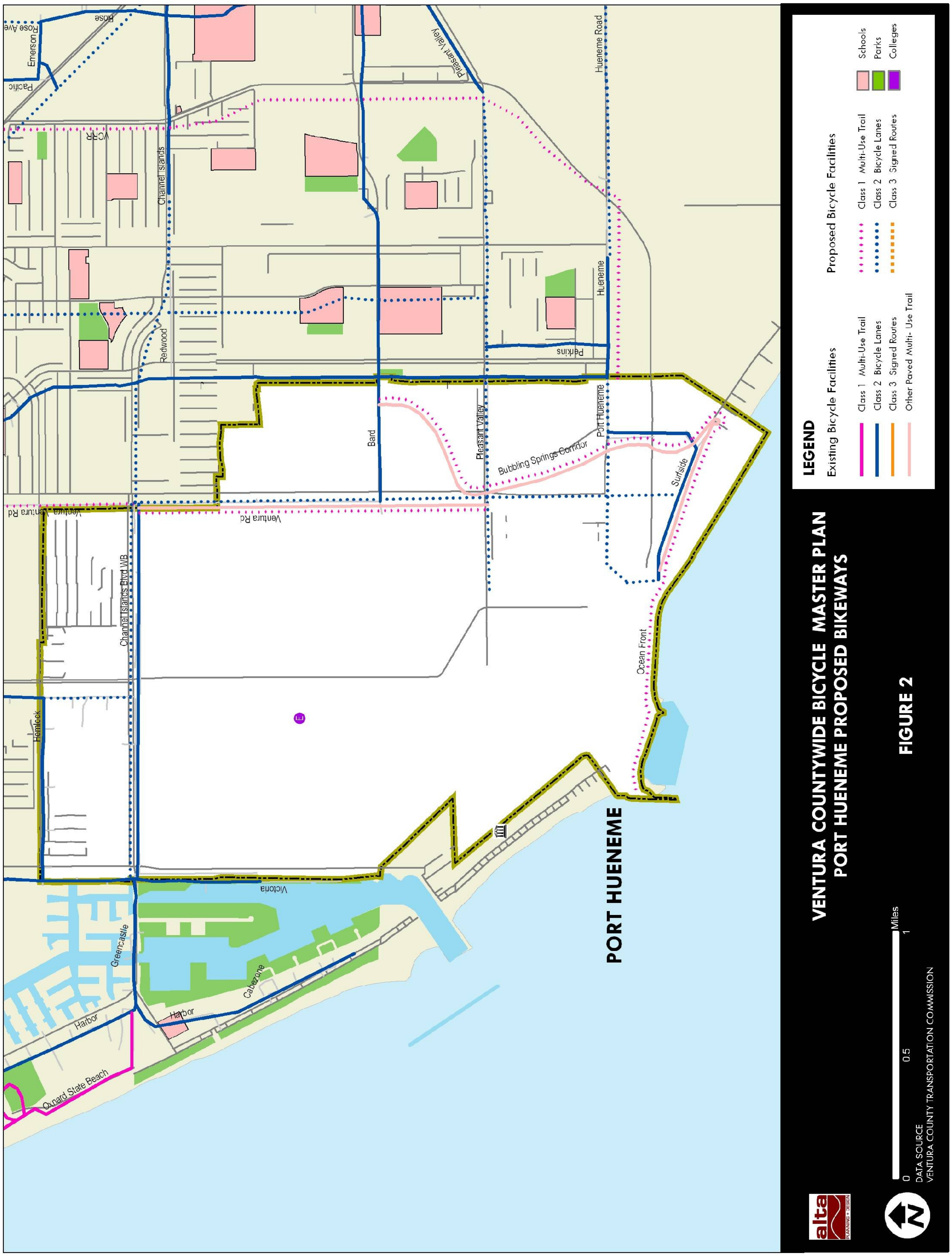
VENTURA COUNTYWIDE BICYCLE MASTER PLAN
PORT HUENEME PROPOSED BIKEWAYS
FIGURE 2
LEGEND
Existing Bicycle Facilities
Class 1 Multi-Use Trail
Class 2 Bicycle Lanes
Class 3 Signed Routes
Other Paved Multi- Use Trail
Proposed Bicycle Facilities
Class 1 Multi-Use Trail
Class 2 Bicycle Lanes
Class 3 Signed Routes
Schools
Parks
Colleges
0
0.5
1
Miles
DATA SOURCE
VENTURA COUNTY TRANSPORTATION COMMISSION
PORT HUENEME
Rose Ave
Rose
Emerson
Pacific
VCRR
Channel Islands
Pleasant Valley
Hueneme Road
Hueneme
Perkins
Redwood
Bard
Bubbling Springs Corridor
Port Hueneme
Surfside
Ventura Rd
Channel Islands Blvd WB
Ocean Front
Hemlock
Victoria
Greencastle
Harbor
Cabezone
Oxnard State Beach

Table 11
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	4.6	$39,100	Lighting maintenance and debris and vegetation overgrowth removal.
Class II Maintenance	2,000	Annual Cost per Mile	8.8	$17,600	Repainting lane stripes and stencils, sign replacement as needed
Class III Maintenance	1,000	Annual Cost per Mile	0	$0	Sign and shared use stencil replacement as needed
		Average Cost Per Year		**$56,700**	
		Estimated 10-year Cost		**$567,000**	

* Based on full network completion. Includes existing and proposed bikeways.

Maintenance costs for the bikeway network may be higher than these estimates if the County implements the expanded maintenance program proposed in Chapter 8 of the Ventura Countywide Bicycle Master Plan. 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.

SUPPORT FACILITIES AND PROGRAMS

Support facilities and programs are an important component of a bicycle transportation system. Facilities include such elements as bicycle racks on buses, bicycle parking racks, and showers and lockers for employees; while support programs include components such as bikeway management and maintenance, signage placement, and promotional/educational programs. A bicycle network that does not comprehensively incorporate all of these elements will fall short in achieving optimal functionality, particularly through failure to raise the necessary level of safety, security, and convenience for bicyclists. Specific recommendations that can be applied to Port Hueneme as part on a local program or in concert with countywide programs are detailed in Chapter 7 of the Countywide Bicycle Master Plan. Bicycle parking design guidelines are provided in Appendix L.

APPENDIX D: SANTA PAULA BICYCLE TRANSPORTATION PLAN

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SANTA PAULA BICYCLE TRANSPORTATION PLAN

The Santa Paula Bicycle Transportation Plan was developed as part of the Ventura Countywide Bicycle Master Plan process. The Santa Paula plan serves as a stand-alone document for use by the City of Santa Paula to enhance and expand their existing network of bicycle facilities, connect gaps, address constrained areas, provide for greater local and regional connectivity, and encourage more residents to bicycle. In order for the City of Santa Paula to be eligible for the Caltrans Bicycle Transportation Account (BTA) funding, compliance with BTA requirements must be demonstrated. The Caltrans Bicycle Transportation Account (BTA) is a significant source of funding for bicycle facility construction. The following table is provided for the convenience of Caltrans Staff, to outline the elements within the Ventura County Bicycle Master Plan that comply with the Bicycle Transportation Account (BTA) requirements. The table contains brief answers to the required elements for the BTA and provides references to relevant tables, figures and sections within the Ventura Countywide Bicycle Master Plan document. It is noted where a BTA requirement is not applicable.

Table 1

BTA Compliance Table for the Santa Paula Bicycle Transportation Plan

Santa Paula		Population based on 2000 US Census: 28,631	
Streets & Highways Code 891.2 BTP Requirements			
Section	**Description**	**Existing**	**Proposed**
a.	Estimated number of bicycle commuters	112 Based on 2000 US Census data	719 Based on 2000 US Census data
b.	Land use and population density	Approximately 4.5 Square Miles	Approximately 6,362 persons per square mile
c.	Existing and proposed bikeways	Please see Table 6 and Figure 2	Please see proposed projects list and map: Table 9 and Figure 2
d.	Existing and proposed bicycle parking	Please see Section 4.2. Also see VCBMP, Ch. 3	Please see Section 9.3 Also see VCBMP, Ch. 7
e.	Existing and proposed multi-modal connections	Please see Section 4.3. Also see VCBMP, Ch 3	Please see Section 9.3 Also see VCBMP, Ch 7
f.	Existing and proposed facilities for changing and storing clothes and equipment	Please see Section 4.2	Please see Section 9.3
g.	Bicycle safety and education programs	Please see Section 6	Please see VCBMP, Ch 7
h.	Citizen and community participation	Public outreach efforts included surveys, workshops, and Technical Advisory Committee meetings. See the VCBMP Ch 1 for more info.	
i.	Consistency with transportation, air quality, and energy plans	This Bicycle Transportation Plan is consistent with the Circulation Element of the Santa Paula General Plan and all regional air quality and energy plans.	
j.	Project descriptions and priority listings	Please see Section 9	
k.	Past expenditures and future financial needs	No known capital expenditures (Last 5 years)	Please see Section 9

1. BACKGROUND

The City of Santa Paula is an agricultural city located in the Santa Clara River Valley in southwestern Ventura County, California. Santa Paula is surrounded by productive field, with the nearest cities, San Buenaventura five miles to the west and Fillmore seven miles to the east, both accessed by State Route 126. Ojai, approximately 15 miles to the northwest is accessed by State Route 150.

The major transportation facility is SR-126, also known as the Santa Paula Freeway, a freeway from the its initial junction with US 101 in San Buenaventura through Santa Paula to the city's eastern city limits. There is local transit in the form of dial-a-ride service and a commuter service VISTA – Hwy. 126 that runs Monday thru Saturday between 5 am and 7 pm days providing local access in early mornings and afternoons. The Santa Paula Branch Line of the Southern Pacific Railroad is a an old rail line which has been purchased and is being upgraded to a multi-use trail while maintaining the possibility of future rail transit along the corridor which extend the length of the Santa Clara Valley and into Los Angeles County to the east.

2. MAJOR GENERATORS AND ATTRACTORS OF BICYCLE TRIPS

LAND USE AND EMPLOYMENT

Land use and settlement patterns play a large role in determining travel behavior. Santa Paula has strong agricultural sector, with the productive fields of mainly citrus trees surrounding the city. **Figure 1** shows that the downtown retail and commercial areas are generally located along Main Street, with additional areas on the adjacent streets, Harvard and Santa Barbara, to south and north respectively. Industrial areas are located proximate to the freeway, while residential neighborhoods are dispersed throughout the remainder of the city, although generally to the north and west of the downtown commercial area.

EDUCATIONAL FACILITIES

2.1.1. PRIMARY, SECONDARY, AND HIGH SCHOOLS

The Santa Paula Elementary School District serves the city with six elementary schools and one middle school, listed in Table 9-1. Santa Paula High School and Renaissance Continuation High School comprise the Santa Paula Union High School District. These schools and the sole private school, John Jenkins Christian Academy, are shown in **Table 2**.

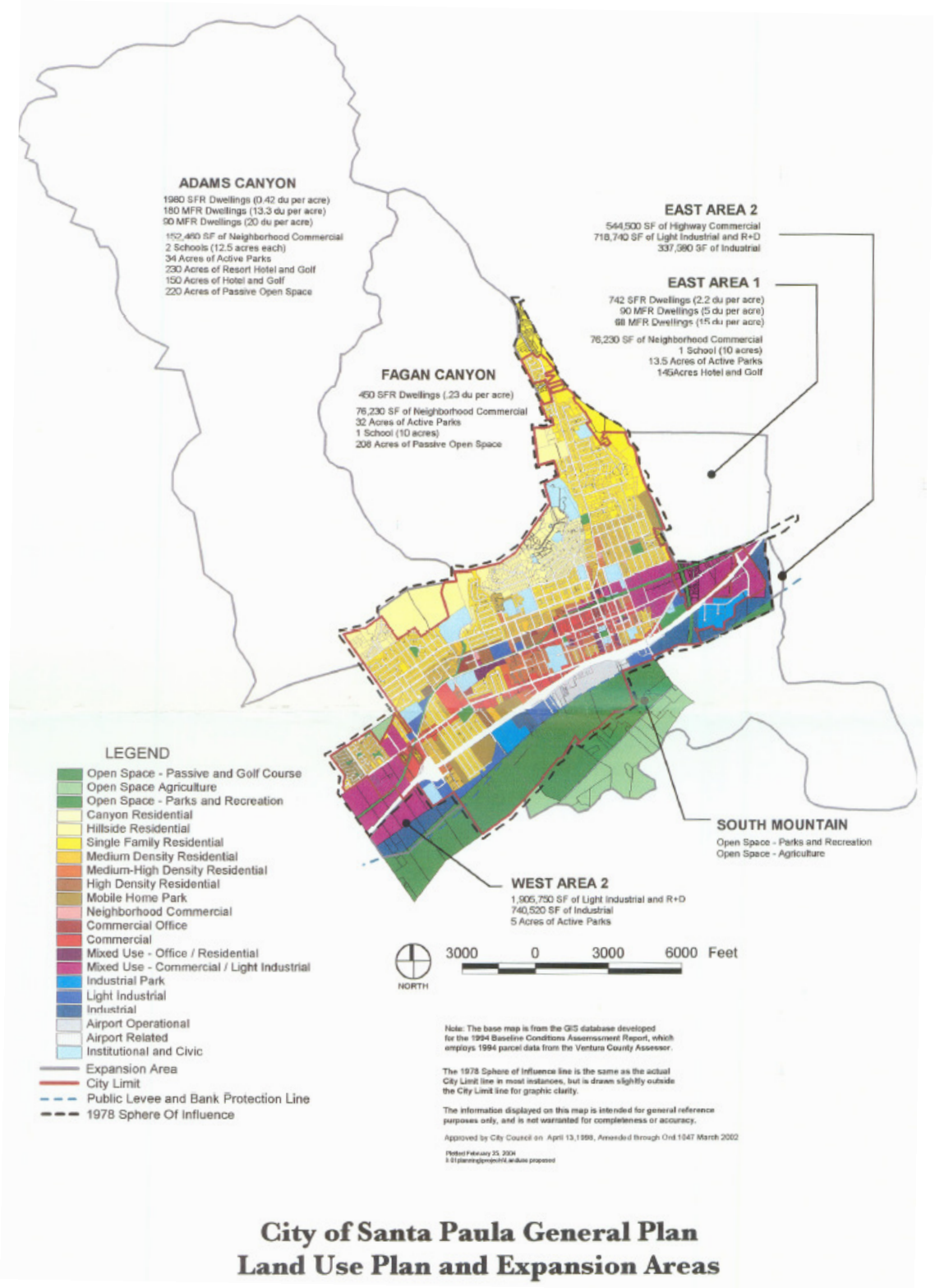


Figure 1
Santa Paula Land Uses

Table 2

Schools in Santa Paula

School Name	Address
John Jenkins Christian Academy	217 N, 10th St.
Saint Sebastian Elementary School	325 E Santa Barbara St.
Bedell, Thelma B Elementary School	1305 Laurel rd.
Blanchard Elementary School	115 N. Peck Rd.
Glen City Elementary School	141 S. Steckel Dr.
McKevett Elementary School	955 Pleasant St.
Grace S Thille Elementary School	1144 Ventura St.
Barbara Webster Elementary School	1150 Saticoy St.
Renaissance Continuation High School	404 N. 6th St.
Santa Paula High School	404 N. 6th St.
Isbell Middle School	221 S. 4 th St.

2.2.2. COLLEGES AND UNIVERSITIES

There are no colleges or universities located in Santa Paul, although the Ventura Community College District is developing a local campus the Santa Clara Valley Center in Santa Paula. The main campus of Ventura Community College is approximately ten miles away in Ventura and has 12,025 students enrolled, with 1,234 of the students being Santa Paula residents. California State University Channel Islands (CSUCI), with more than 3100 students enrolled, is the newest university in the California State system and is projected to eventually have a student body of approximately 15,000. CSUCI is a driving distance of approximately twenty miles, accessible via a roundabout route.

3. COMMUTER CHARACTERISTICS

A central focus of presenting commute information is to consider the current "mode split" of people that live and work in Santa Paula. 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 improvements 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. Journey to work and travel time to work data were obtained from the 2000 U.S. Census for Santa Paula, California and the United States. Journey to work data is shown in Table 3.

Table 3
Santa Paula Journey to Work Data

Mode	United States	California	Santa Paula
Bicycle	0.4%	0.8%	0.2%
Drove Alone	75.7%	71.8%	65.6%
Carpool	12.2%	14.6%	29.3%
Public Transit	4.7%	5.1%	0.8%
Walked	2.9%	2.9%	2.8%
Other	4.1%	4.8%	1.3%

Source: U.S. Census 2000

As shown in Table 11-2, approximately 0.2% of employed residents in Santa Paula commute by bicycle, a rate that is a quarter of the California average bicycle mode share of 0.8%, and half the United States rate of 0.4%. This is a large percentage difference, in terms of bicycle usage, and represents an opportunity for capturing a greater mode share for bicycles. The automobile is the primary mode of transportation very high rate of nearly 95%, although the percentage of commuters carpooling is a significant share at approximately double the state and national rates.

An analysis of Travel Times of commute provides an indication of the number of potential new bicycle commuters. As compared to the state and the nation, at approximately 25% and 30% respectively, Santa Paula has a fairly average rate of workers at 28.7% with a less than 15 minute commute. This percentage represents a reasonable opportunity for adding to the bicycling mode share in Santa Paula. Travel time to work is shown in **Table 4**.

Table 4
Travel Time to Work Data

Travel Time to Work	United States	California	Santa Paula
Less than 15 minutes	29.4%	25.3%	28.7%
15 to 29 minutes	36.1%	35.4%	29.3%
30 to 44 minutes	19.1%	20.9%	28.6%
45 to 59 minutes	7.4%	8.2%	7.6%
60 minutes or more	8.0%	10.1%	5.7%

Source: Census 2000

As previously noted, 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, and

people who bicycle to school, for recreation or for errands are not included in Census Journey to Work data. Second, Census survey forms only allow a person to choose one mode when answering. If a commuter uses more than one mode during their trip (e.g. bicycling to Metrolink), only the longest (transit) mode is recorded.

In order to establish a more representative estimate of Santa Paula's total existing bicycle mode share, a model was developed to augment the Journey to Work figure of 0.18% with data on school children, college students, and transit commuters. As shown in **Table 5** below, this model estimates the total number of existing commuter and students in Santa Paula at 408 riders, making a total of 816 daily trips, and brings the estimated commute mode share to 2.4%. In all likelihood this model overestimates the overall bicycle mode share given the extremely low commuter mode share of Santa Paula.

Table 5
Current Bicycle Commuters

Current Commuting Statistics		Source
Santa Paula Population	28,631	*2000 US Census*
Number of Commuters	10,774	*2000 US Census (Employed persons minus those working at home)*
Number of Bicycle-to-Work Commuters	20	*2000 US Census*
Bicycle-to-Work Mode Share	0.2%	*Mode share percentage of Bicycle to Work Commuters*
School Children Grades K-8	5,070	*2000 US Census, population ages 5-14*
Estimated School Bicycle Commuters	326	*Lamorinda School Commute Study (Fehr & Peers Associates, 1995) and San Diego County School Commute Study (1990). (5%)*
Number of College Students	1,211	*2000 US Census*
Estimated College Bicycle Commuters	61	*National Bicycling & Walking Study, FHWA, Case Study No. 1, 1995. Review of bicycle commute share in seven unversity communities (5%)*
Average Weekday Transit Ridership	87	*Public Transportation to Work, 2000 US Census*
Number of Daily Bike-Transit Users	1	*RTD (Denver) Bike-n-Ride Survey, December 1999 (1.4% of total boardings)*
Estimated Total Number of Bicycle Commuters	408	*Total of work, transit, school, and college bicycle commuters Does not include recreation.*
Estimated Adjusted Mode Share	2.4%	*Estimated Bicycle Commuters divided by commuting population*
Estimated Current Bicycle Trips		
Total Daily Bicycle Trips	816	*Total bicycle commuters x 2 (for round trips) plus total number of utilitarian bicycle trips*
Reduced Vehicle Trips per Weekday	292	*Assumes 73% of bicycle trips replace vehicle trips for adults/college students and 53% for school children*
Reduced Vehicle Miles per Weekday	636	*Assumes average one-way trip travel length of 4.6 miles for adults/college students and 0.5 mile for schoolchildren*

4. EXISTING BICYCLE FACILITIES

4.1 BIKEWAYS

There are a total of four bikeways within Santa Paula shown in Figure 2. These bikeways have an overall route mileage of three miles and are listed in Table 6. The three existing Class II facilities have a combined length of 2.7 miles, with the bikeway along Santa Paula Street providing the bulk of the route mileage. A Class I multi-use trail, adjacent to Cemetery Street, in need of rehabilitation, also exists.

Table 6 - Existing Bikeways

Street	From	To	Class	Length (Miles)
Cemetery St.	Santa Paula St.	Main St	I	0.3
TOTAL CLASS I MILES				0.3
Santa Paula St.	Peck Rd.	10th St.	II	1.8
Palm Ave.	Santa Paula St.	SR-126	II	0.6
Steckel Dr.	Main St.	Harvard St.	II	0.3
TOTAL CLASS II MILES				2.7
TOTAL EXISTING BIKEWAYS MILES				**3.0**

4.2 END OF TRIP BICYCLE FACILITIES

End of trip facilities consist of bicycle parking, changing areas, and showering facilities. Bicycle parking facilities can be found at the local schools. There were no other end of trip facilities identified in Santa Paula.

4.3 TRANSIT BICYCLE FACILITIES

As noted there are no major multi-modal transit facilities within Santa Paula. The limited local transit service provides front racks on vehicles that will accommodate two bikes and the Vista – Hwy. 126 intercity service has bike storage under the coaches.

5. TRIP REDUCTION POTENTIAL/AIR QUALITY BENEFITS

As earlier noted, based on the existing mode split and travel time to work data, there appears to be a We conservatively assume that all 326 commuters who bicycle and walk are traveling 15 minutes or less and subtract them from all 3,097 residents with commutes of this length, resulting in 2,666 residents that could potentially convert their short commute trip from a vehicle trip into a bicycle trip. Given these data, capturing even 15% of these short vehicle trips would produce an additional 400 bicycle commuters, as shown in **Table 7.** The net result of these additional bike riders would be improved air quality, with estimated daily reductions in Hydrocarbons (HC) of 16 kg, Carbon Monoxide (CO) of 117 kg, Nitrogen Oxide (NOX) 8 kg, and Carbon Dioxide (C02) 617,652 kg.`

Table 7
Future Bicycle Commute and Air Quality Projections

Potential Future Bicycle Commuters		
Number of workers with commutes fifteen minutes or less	3,097	*US Census 2000*
Number of workers who already bicycle or walk to work	326	*US Census 2000*
Number of potential bicycle commuters	2,771	*Calculated by subtracting number of workers who already bicycle or walk from the number of workers who have commutes 15 minutes or less*
Future number of new bicycle commuters	416	*Based on capture rate goal of 15% of potential bicycle riders*
New Daily Bike-Transit Users	12	*Based on capture rate goal of 15% of total transit riders*
Total Future Daily Bicycle Commuters	835	*Current daily bicycle commuters plus future bicycle commuters*
Total Future Bicycle-to-Work Mode Share	7.8%	
Future Total Daily Bicycle Trips	1,671	*Total bicycle commuters x 2 (for round trips)*
Future Reduced Vehicle Trips per Weekday	1,219	*Assumes 73% of bicycle trips replace vehicle trips*
Future Reduced Vehicle Miles per Weekday	5,610	*Assumes average one-way trip travel length of 4.6 miles for adults. Assumes 12 mph average bicycle speed; 23 minute average travel time. Travel time data from NHTS 2001 Trends, Table 26.*
Future Reduced Vehicle Miles per Year	1,486,528	*256 weekdays per year*
Future Air Quality Benefits		
Reduced HC (kg/weekday)	16	*(0.0028 kg/mile)*
Reduced CO (kg/weekday)	117	*(0.0209 kg/mile)*
Reduced NOX (kg/weekday)	8	*(0.00139 kg/mile)*
Reduced CO2 (kg/weekday)	617,652	*(.4155 kg/mile)*
Reduced HC (metric tons/year)	4	*1000 kg per metric ton; 256 weekdays/year*
Reduced CO (metric tons/year)	30	*1000 kg per metric ton; 256 weekdays/year*
Reduced NOX (metric tons/year)	2	*1000 kg per metric ton; 256 weekdays/year*
Reduced CO2 (metric tons/year)	158,119	*1000 kg per metric ton; 256 weekdays/year*

6. SAFETY AND EDUCATION

6.1 EDUCATION

Bicycle safety programs are not currently being offered in Santa Paula.

6.2 ENFORCEMENT

The Santa Paula Police Department is charged with enforcement of the vehicle code within the City of Santa Paula, applicable to both bicyclists and motor vehicles.

6.3 SAFETY CONDITIONS/COLLISIONS

An analysis of the Statewide Inventory of Traffic Related Statistics (SWITRS) data compiled by the California Highway Patrol (CHP) of collisions involving bicycles recorded by enforcement agencies revealed 39 total collisions over a four-year time frame from 2002 to 2005. These collisions resulted in a no fatalities, 36 injuries, and three of property damage-only collisions, as represented in **Table 8.** The roadways that were the site of a majority of these collisions were: Harvard Boulevard with twelve, Palm Avenue with six, and Main Street and Santa Paula Street with four each. The intersection of Harvard Boulevard and Palm Avenue was the site of the most collisions with three, while the intersection of Palm Avenue and Santa Paula Street had two collisions, as did Harvard Boulevard and Laurie Lane.

Table 8
Reported Bicycle Collisions

Primary Rd	Secondary Rd	Distance from Intersection (feet)	Type	Collision Year
Main St	Palm Av	200	Injury	2002
10th St	Harvard Bl	0	Injury	2002
Harvard Bl	Palm Av	0	Property Damage Only	2002
Steckel St	Moultrie	90	Injury	2002
Olive St	Harvard Bl	175	Injury	2002
Palm Av	Santa Paula St	0	Injury	2002
Palm Av	Santa Paula St	0	Injury	2002
Main St	Cameron St	900	Injury	2002
Santa Maria St	Laurie Ln	0	Injury	2002
Harvard Bl	7th St	0	Injury	2002
4th St	Harvard Bl	2	Injury	2002
2002 Summary:	**11 total accidents**	**6 Intersection** **5 Mid-block**	**10 Injury** **1 Property Damage**	
12th St	Main St	0	Injury	2003
Harvard Bl	Acacia Rd	0	Injury	2003
Virginia Ter	10th St	27	Property Damage Only	2003
Saticoy Av	12th St	0	Injury	2003
Harvard W Bl	Craig Dr	493	Injury	2003
Estriga Ct	Steckel Dr	115	Injury	2003
Saticoy St	14th St	0	Injury	2003
Mill St	Yale St	0	Injury	2003
Main St	Ojai St	120	Injury	2003

Primary Rd	Secondary Rd	Distance from Intersection (feet)	Type	Collision Year
2003 Summary:	**9 total accidents**	**5 Intersection** **4 Miblock**	**8 Injury** **1 Property Damage**	
Harvard Bl	Laurie Ln	0	Injury	2004
North Aly	Miller Pl	0	Injury	2004
Craig Dr	Harvard Bl	0	Injury	2004
Main St	RT 150	75	Property Damage Only	2004
Harvard Bl	Palm Av	0	Injury	2004
Guiberson St	High St	0	Injury	2004
Main St	12th St	0	Injury	2004
Forest Dr	Grant Line St	165	Injury	2004
Yale St	S Mill St	0	Injury	2004
Steckel S Dr	Santa Cruz St	100	Injury	2004
6th N St	View Dr	136	Injury	2004
RT150	Oakdale Pl	0	Injury	2004
Harvard Bl	Laurie Ln	0	Injury	2004
2004 Summary:	**13 total accidents**	**9 Intersection** **4 Miblock**	**12 injury** **1 Property Damage**	
Main St	Davis St	0	Injury	2005
10th St	Santa Paula St	100	Injury	2005
Harvard Bl	Palm Ave	0	Injury	2005
Ventura St	11th St	0	Injury	2005
Harvard Bl	4th St	0	Injury	2005
Saticoy St	RT-150	10	Injury	2005
2005 Summary:	**6 total accidents**	**4 Intersection** **2 Miblock**	**6 Injury** **0 Property Damage**	

7. PUBLIC PARTICIPATION

Public Participation was generated as part of the larger effort to update the Ventura County Bicycle Master Plan, with outreach meetings held throughout the county. Additionally, an online survey was conducted, although only three respondents were identified as residents of Santa Paula.

8. POLICY CONFORMANCE

As required by Caltrans, an overview of local and regional planning documents and policies relevant to this Plan is to be provided. This section illustrates the consistency between this Plan and the existing local plans and policies. All other relevant regional policies are summarized in Chapter 4 of the Ventura County Bicycle Master Plan.

The General Plan for Santa Paula has an overarching statement of transportation principles and several goals and policies in regards to bicycles.

8.1. SPECIFICS LOCATED IN THE CIRCULATION ELEMENT INCLUDE:

PURPOSE AND AUTHORITY

…There are a number of ways to efficiently and safely transport people and goods, including automobiles, buses, rail, bicycles, airplanes, and pedestrian facilities. The nature of transportation is such that each means of travel - or transportation mode - can be used by people in their day-to-day activities provided they have access to an integrated transportation system. The automobile is currently the primary form of transportation in Santa Paula. However, because of the City's relatively compact size and level terrain, alternative travel facilities for bicycles, pedestrians, and transit can be successful.

FUTURE CIRCULATION SYSTEM

E. Alternative Transportation Modes

Bicycle and Pedestrian, and Trail Facilities. There is a growing understanding of the importance of providing for travel with modes other than motorized vehicles. An important part of any circulation system is the accommodation of facilities for pedestrians and bicyclists. Most cities, including Santa Paula, have long provided sidewalks for pedestrians. But since World War II, sidewalks have declined in size relative to right-of-way areas provided for automobiles and other motorized vehicles. This has been a response and a symbol of our communities' growing reliance on vehicular travel.

Automobile-dominated travel has several detrimental effects that have begun to come to light in recent years. In addition to the more apparent adverse effects on air quality and noise conditions, reliance on cars has caused a perceived decline in the livability of cities.

According to 1990 Census data, residents of Santa Paula rely less on the single occupant vehicle than do Ventura County residents as a whole. In the category of "Method of Travel to Work," 76% of Ventura County residents reported that they drove alone, whereas only 67% of Santa Paulans drove alone. By contrast, 5.5% of Ventura County residents reported that they walked to work, whereas 6.5% of Santa Paulans did so. When analyzing where Santa Paulans work, the Census reveals than 34% of the City's residents work in Santa Paula, the highest location of any destination. This suggests that if the City increased walking and bicycling facilities and implemented other trip reduction policies, the City could expect a higher percentage of work trips in town to be by foot or bicycle.2

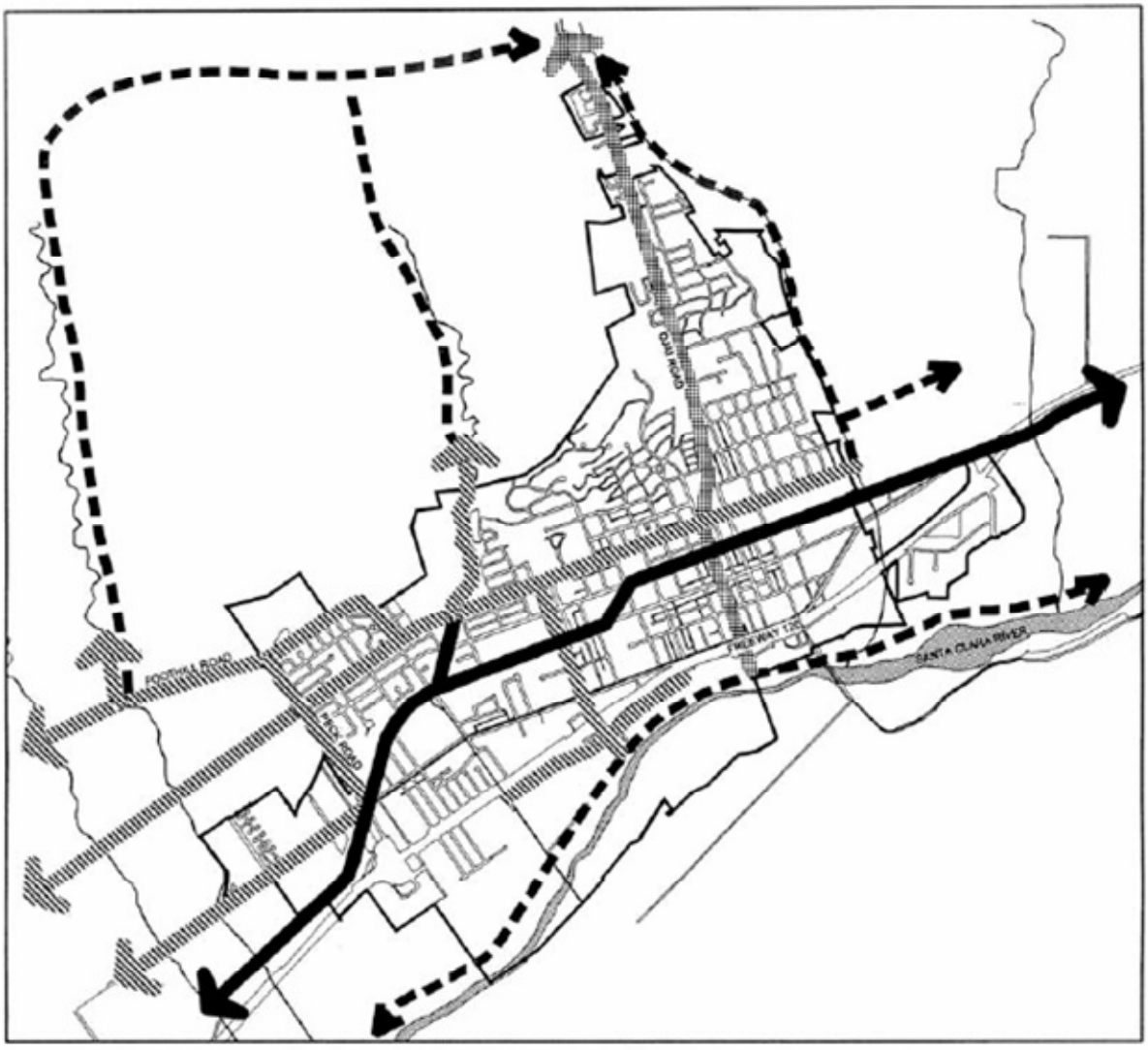
As a parallel development, there has been a growing movement to use circulation systems for more than simply movement from place to place. Joggers, walkers, and bicyclists increasingly use the street and sidewalk systems as a kind of linear park. Such use suggests that a circulation system ought to provide access to parks and open space systems within and adjacent to a community. With

numerous outdoor hiking, bicycling, and mountain bicycling opportunities within and adjacent to the Santa Paula Planning Area, provision of a non-motorized route connection to these opportunities is desirable.
The Ventura County Regional Trails & Pathways Program initiated the preparation of a Non Motorized Transportation Plan in 1993. One of the goals was to link all of the communities in the County via formal multi-purpose trail systems or designated bikeways. It also acknowledged the bicycle and trail plans of each of the County's ten cities. The Board of Supervisors accepted the plan in 1995.

In 1996, The Ventura County Transportation Commission (VCTC) purchased the Southern Pacific Railroad right-of-way from the Montalvo junction to a location east of Piru. The rail segment, known as the Santa Paula Branch line, is currently being used for recreational passenger travel between Santa Paula and Fillmore. It is currently being planned as a multi-modal transportation corridor that envisions to accommodate passenger rail travel as well as pedestrians and bicyclists, however, the addition of freight travel to the line may occur in the future as well. VCTC adopted a Master Plan in December 1996. In 1997, VCTC began an 18-month process to develop a recreational trail plan that is anticipated to be completed in 1998. The effort is being conducted in conjunction with adjacent properties and the cities of Ventura, Santa Paula, and Fillmore. The development of the Santa Paula Branch Line recreational trail through Santa Paula represents a major opportunity to develop a comprehensive non-motorized transportation system in the City. Its central location along an east-west axis forms a spine of non-motorized right-of-way through the City, and becomes a trail link the community to Fillmore and Ventura, as well as points beyond. As such, it will provide an important link to Santa Paula's neighborhoods, the northern canyon areas, and the river. Benefits of such a system will include:

- *Providing increased options for movement for residents by improving opportunities to use alternatives to the automobile;*
- *Improving the livability for Santa Paula's neighborhoods and commerce districts by reducing motor vehicle traffic and associated air pollution and noise impacts;*
- *Expanding the recreational opportunities for residents, visitors, and tourists by providing additional recreation facilities, as well as additional connections between existing facilities.*

This Circulation Element endorses the concept of developing a comprehensive bicycle and pedestrian circulation system in the City. The system is illustrated in Figure C 17, Bicycle and Trail Master Plan.



Class I Multi-purpose Trail / Bikeway
(Santa Paula Branch Line)

Class II Bikeway

Unsigned State Bicycle Route

Trails

Note: Class I bikeways are separated from the road. Class II bikeways are on-street marked lanes.

Bicycle and Trail Plan

Figure CI-7

NON-MOTORIZED TRANSPORTATION

Goals

5.1 City streets should be designed for safe bicycle, pedestrian, and equestrian use.
5.2 An off-street bicycle and pedestrian corridor should be provided to serve major points of interest in town and beyond.
5.3 Facilities should be provided to accommodate all types of non-motorized transportation with user friendly access.

Objectives

5(a) The City should de-emphasize street bike lanes in favor of a policy that encourages street design for all methods of travel (car, bikes, pedestrians, and equestrian).
5(b) The City should develop a system of trails along Santa Paula Creek to provide travel and recreational opportunities to City residents and visitors.
5(c) The City should develop and build Class II bicycle lane facilities on City streets to accommodate, encourage, and formalize bicycle use within the City.
5(d) Future development should encourage the use of alternative transportation modes for commuting.

Policies

5.a.a The City should continue to develop the depot facility at 10th and Santa Paula Streets as a multi-modal transportation hub. (IM 22, 23)
5.b.b The depot should be accessible by bicycle from districts to the north and south, which are not served by the main multi-modal trail. (IM 22, 23)
5.c.c Adams and Fagan Canyon should be developed with a Class I bicycle path providing access the length of the canyon. (IM 24)
5.d.d The Adams and Fagan Canyon bicycle paths should connect to Santa Paula Canyon, thereby providing a loop opportunity to East Area 1. (IM 24
5.g.g New commercial and industrial developments should provide well-designed, convenient pedestrian and bicycle parking facilities. (IM 26)

V. IMPLEMENTATION MEASURES

The City of Santa Paula should take the following actions to implement the Non-Motorized Transportation goals of the Circulation Plan.

22. The railroad right-of-way should be utilized for a mixed mode corridor including bicycle
    hiking trails and future rail transit. The City should coordinate and work with the Ventura County Transportation Commission to ensure maximum utility and quality of the facility.
23. The City should encourage the development of non-motorized routes through coordination with the County of Ventura in their Regional Trails and Pathway Master Plan, consistent with the Bicycle and Trial Plan of this element.
24. New development in all expansion areas should be required to develop non-motorized
    transportation systems, and present these with roadway plans.

26. Site plans for new commercial and industrial developments should include pedestrian and bicycle facilities. Examples include:

- *bicycle parking facilities*.

9. PROPOSED BICYCLE FACILITIES

9.1. BIKEWAYS

The proposed bikeways for Santa Paula, a total of five with an overall route mileage of 5.8 miles, with an estimated cost of approximately $4.8 million, are shown in **Table 9**. The four proposed Class II facilities have a combined length of 2.9 miles, with a cost of $138, 740. In addition to an extension of existing Class II Bicycle lanes on Santa Paula Street, new facilities are to be located along Foothill/Steckel Roads, Santa Maria Street, and Peck Road. The only other bikeway is a Class I Multi-use trail which has long been a planned segment of the Santa Paula Branch Line Trail, with length of 2.9 miles through Santa Paula and very preliminary cost of $4.65 million.

Table 9
Proposed Bikeways

Street	From	To	Class	Length (Miles)	Cost
Santa Paula Branch Line Trail	Western City Limits	Eastern City Limits	I	2.9	$2,939,845
TOTAL CLASS I			2.9		$2,939,845
Santa Paula St.	10th St.	Eastern City Limits	II	0.6	$25,920
Foothill Rd./Steckel Rd.	Peck Rd.	Santa Paula St.	II	0.9	$36,480
Santa Maria St.	Steckel Dr.	Palm Ave.	II	0.7	$28,080
Peck Rd.	Foothill Rd.	Telegraph Rd.	II	0.7	$26,040
TOTAL CLASS II				2.9	$116,520
TOTAL BIKEWAY				**5.8**	**$3,056,365**

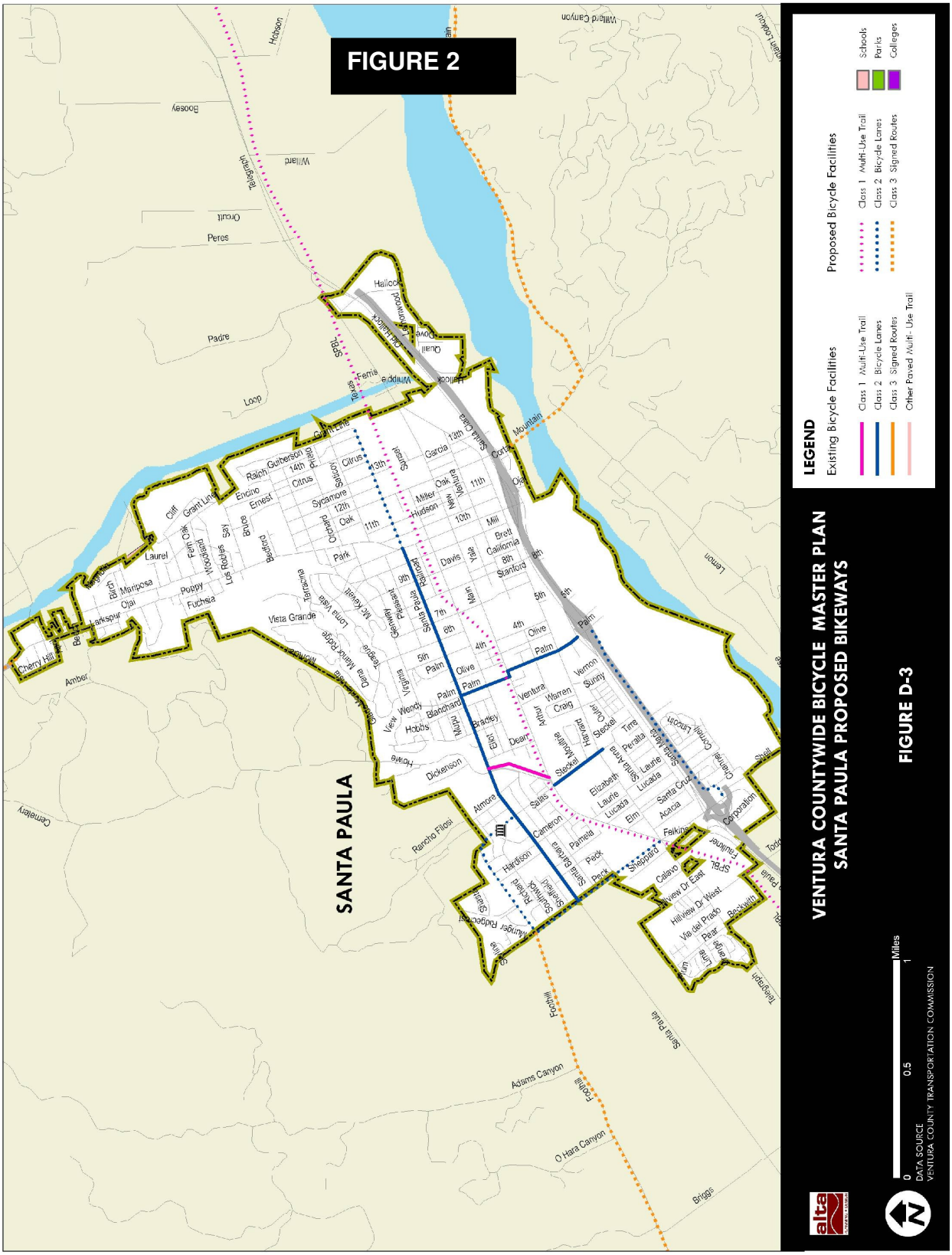


FIGURE 2
SANTA PAULA
VENTURA COUNTYWIDE BICYCLE MASTER PLAN
SANTA PAULA PROPOSED BIKEWAYS
FIGURE D-3
LEGEND
Existing Bicycle Facilities
Class 1 Multi-Use Trail
Class 2 Bicycle Lanes
Class 3 Signed Routes
Other Paved Multi- Use Trail
Proposed Bicycle Facilities
Class 1 Multi-Use Trail
Class 2 Bicycle Lanes
Class 3 Signed Routes
Schools
Parks
Colleges
0
0.5
1
Miles
DATA SOURCE
VENTURA COUNTY TRANSPORTATION COMMISSION

9.2. MAINTENANCE COST BREAKDOWN

The total annual maintenance cost of the primary bike path system, when it is fully implemented, is estimated to be about $38,656 per year as shown in **Table 10**. Bicycle facility maintenance costs are based on per mile estimate, which covers labor, supplies, and amortized equipment costs for weekly trash removal, monthly sweeping, bi-annual resurfacing and repair patrols. Other maintenance costs include re-striping bike lane lines, sweeping debris, and tuning signals for bicycle sensitivity. Inflation rates are calculated using a conversion factor of 1.282.

Table 10
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	3.2	$27,449	Lighting maintenance and debris and vegetation overgrowth removal.
Class II Maintenance	2,000	Annual Cost per Mile	5.6	$11,207	Repainting lane stripes and stencils, sign replacement as needed
Class III Maintenance	1,000	Annual Cost per Mile	0		Sign and shared use stencil replacement as needed
		Average Cost Per Year		$38,656	
		Estimated 10-year Cost		**$386,560**	

* Based on full network completion. Includes existing and proposed bikeways.

Maintenance costs for the bikeway network may be higher than these estimates if the County implements the expanded maintenance program proposed in Chapter 8 of the Ventura Countywide Bicycle Transportation Plan. 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.

9.3. SUPPORT FACILITIES AND PROGRAMS

Support facilities and programs are an important component of a bicycle transportation system. Facilities include such elements as bicycle racks on buses, bicycle parking racks, and showers and lockers for employees; while support programs include components such as bikeway management and maintenance, signage placement, and promotional/educational programs. A bicycle network that does not comprehensively incorporate all of these elements will fall short in achieving optimal functionality, particularly through failure to raise the necessary level of safety, security, and convenience for bicyclists. Specific recommendations that can be applied to Santa Paula as part on a local program or in concert with a larger county-wide effort are detailed in Chapter 7, section

7.2 Support Facilities and Programs. A model bike parking ordinance to assist in developing bicycle parking standards is provided in Appendix L (Table L-2, p. L-22).

APPENDIX E: CAMARILLO EXISTING AND PROPOSED BIKEWAYS NETWORK

The City of Camarillo adopted the Camarillo Bikeway Master Plan in November 2003. The Ventura Countywide Master Plan defers to the Camarillo Bikeway Master Plan as applicable to the City of Camarillo. A map of the existing and proposed Camarillo Bikeways Network is included in this Ventura Countywide Bicycle Master Plan to ensure consistency between the plans.

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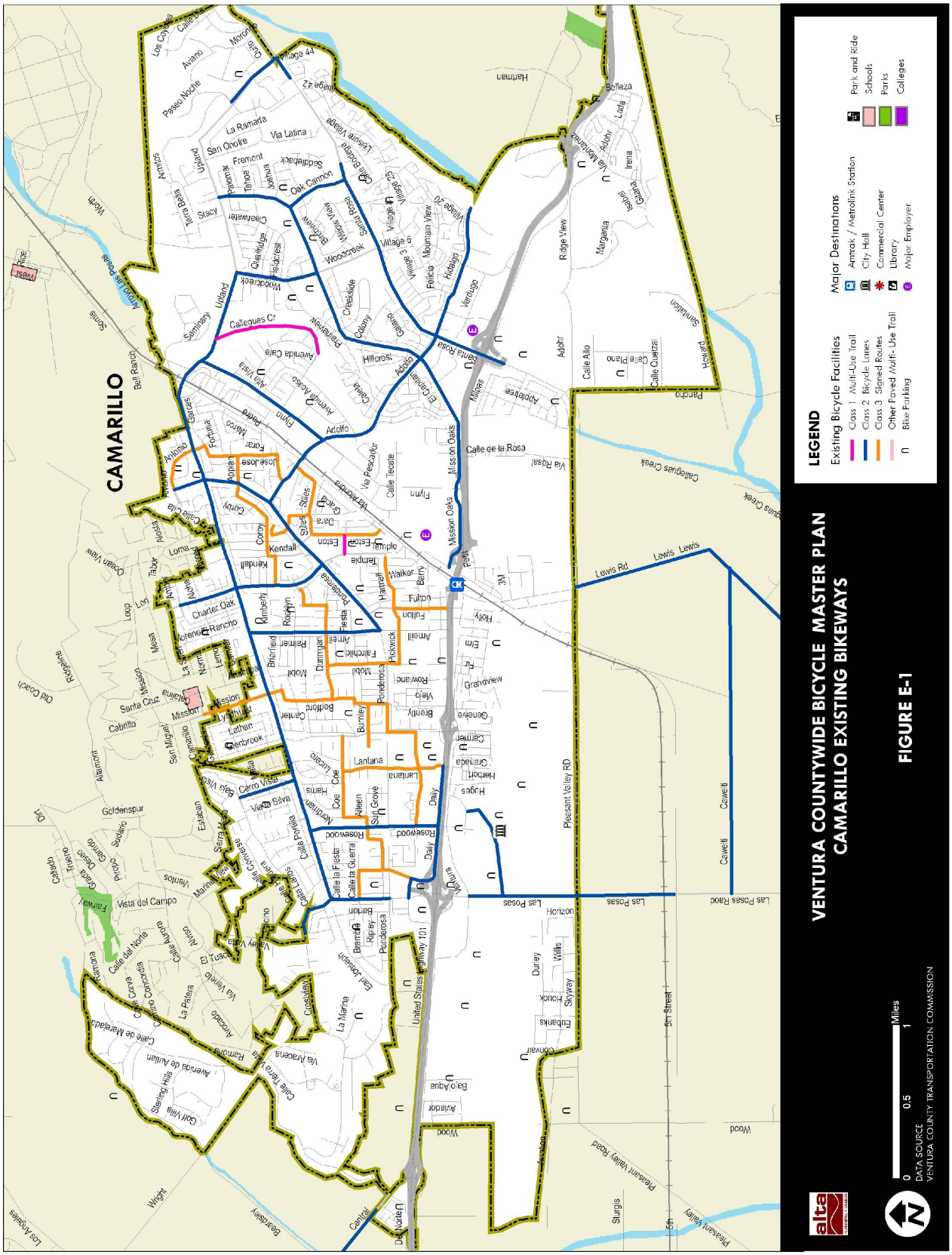
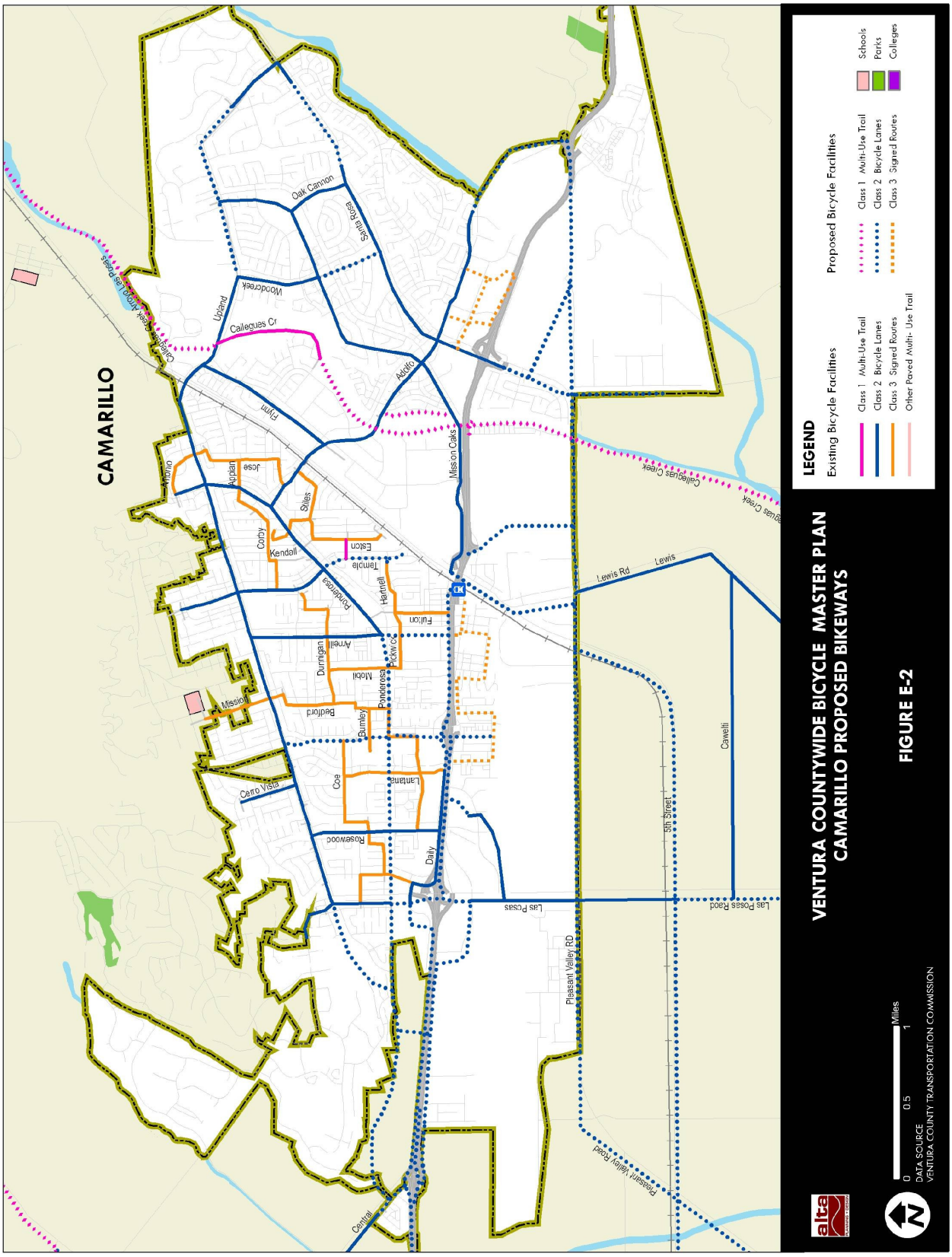

CAMARILLO
LEGEND
Existing Bicycle Facilities
Class 1 Multi-Use Trail
Class 2 Bicycle Lanes
Class 3 Signed Routes
Other Paved Multi-Use Trail
Bike Parking
Major Destinations
Amtrak / Metrolink Station
City Hall
Commercial Center
Library
Major Employer
Park and Ride
Schools
Parks
Colleges
VENTURA COUNTYWIDE BICYCLE MASTER PLAN
CAMARILLO EXISTING BIKEWAYS
FIGURE E-1
0
0.5
1
Miles
DATA SOURCE
VENTURA COUNTY TRANSPORTATION COMMISSION


CAMARILLO
Oak Cannon
Santa Rosa
Woodcreek
Upland
Calleguas Cr
Adolfo
Flynn
Mission Oaks
Calleguas Creek
Lewis Rd
Lewis
Antonio
Adrian
Jose
Skies
Corby
Kendall
Eaton
Tamzie
Hemmell
Fulton
Pickwick
Durnigan
Arnell
Mobil
Ponderosa
Mission
Bedford
Burnley
Cerro Vista
Coe
Lantana
Rosewood
Daily
Las Posas
Las Posas Road
Caswell
5th Street
Pleasant Valley RD
Pleasant Valley Road
Central
LEGEND
Existing Bicycle Facilities
Class 1 Multi-Use Trail
Class 2 Bicycle Lanes
Class 3 Signed Routes
Other Paved Multi- Use Trail
Proposed Bicycle Facilities
Class 1 Multi-Use Trail
Class 2 Bicycle Lanes
Class 3 Signed Routes
Schools
Parks
Colleges
VENTURA COUNTYWIDE BICYCLE MASTER PLAN
CAMARILLO PROPOSED BIKEWAYS
FIGURE E-2
0
0.5
1
Miles
DATA SOURCE
VENTURA COUNTY TRANSPORTATION COMMISSION

APPENDIX F: FILLMORE EXISTING AND PROPOSED BIKEWAYS NETWORK

The City of Fillmore adopted the Fillmore Bicycle Transportation Plan in 2005. The Ventura Countywide Master Plan defers to the Fillmore Bicycle Transportation Plan as applicable to the City of Fillmore. A map of the existing and proposed Fillmore Bikeways Network is included in this Ventura Countywide Bicycle Master Plan to ensure consistency between the plans.

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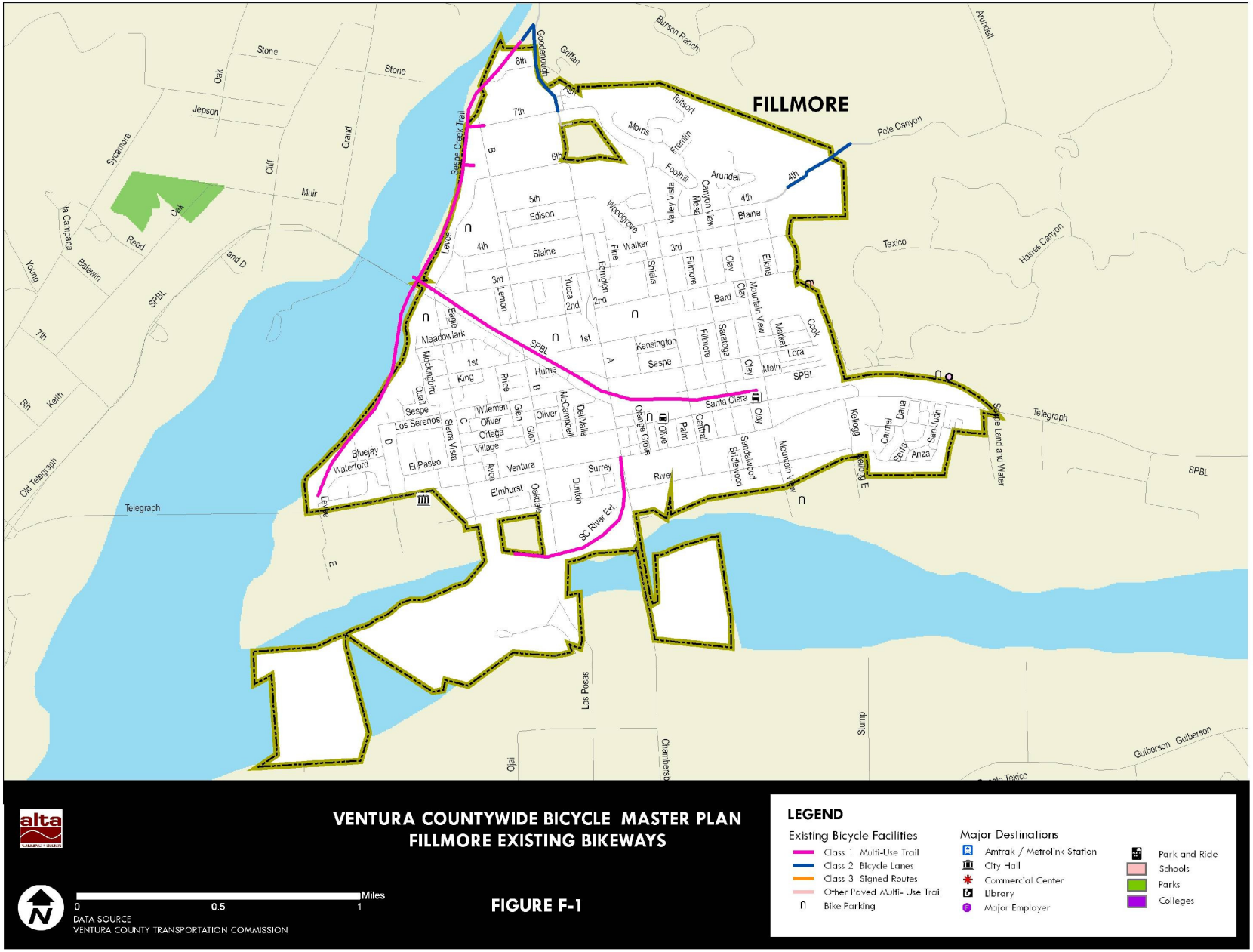

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VENTURA COUNTYWIDE BICYCLE MASTER PLAN
FILLMORE EXISTING BIKEWAYS

0 0.5 1 Miles

DATA SOURCE
VENTURA COUNTY TRANSPORTATION COMMISSION

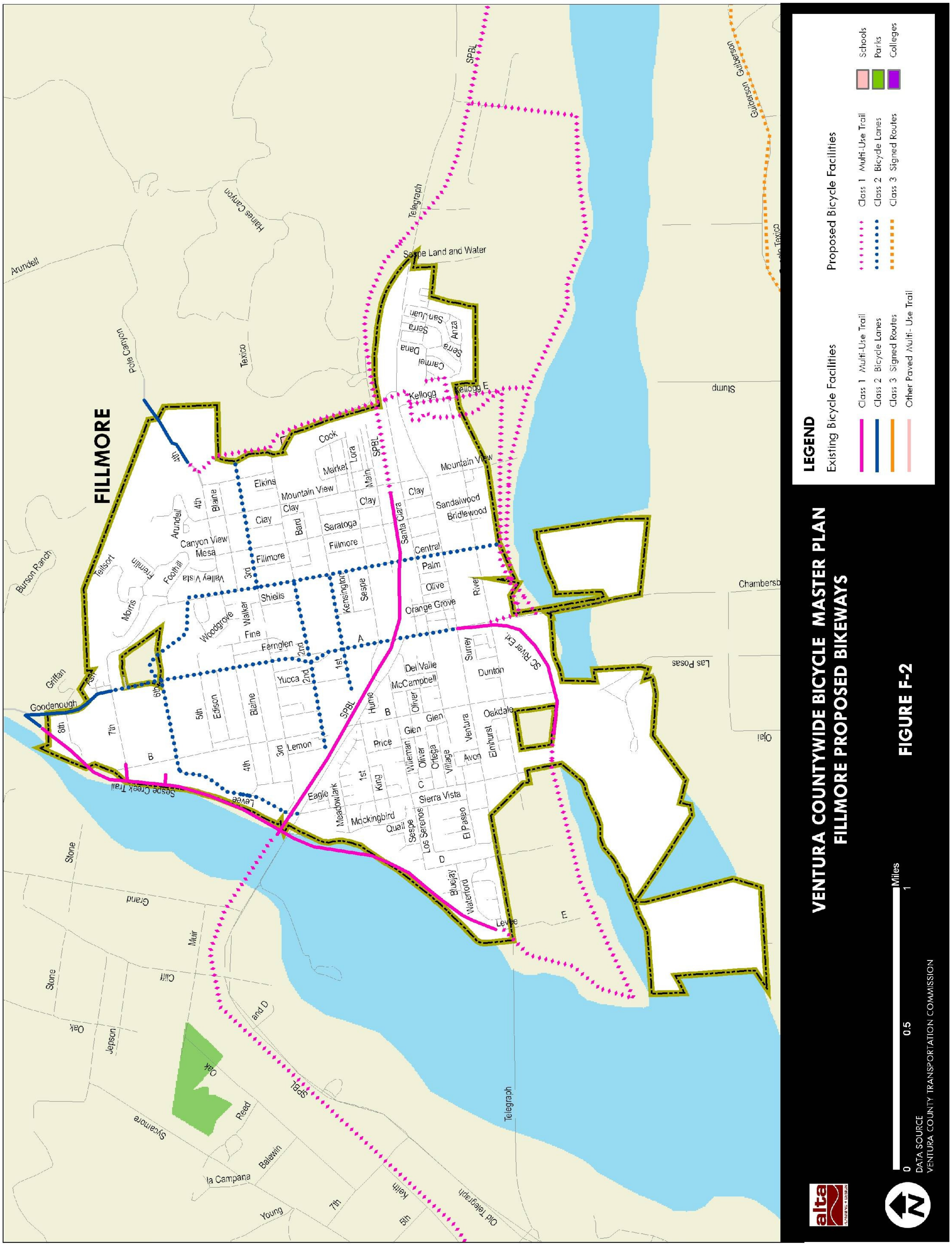
FIGURE F-1

LEGEND

Existing Bicycle Facilities
- Class 1 Multi-Use Trail
- Class 2 Bicycle Lanes
- Class 3 Signed Routes
- Other Paved Multi- Use Trail
- Bike Parking

Major Destinations
- Amtrak / Metrolink Station
- City Hall
- Commercial Center
- Library
- Major Employer

- Park and Ride
- Schools
- Parks
- Colleges


VENTURA COUNTYWIDE BICYCLE MASTER PLAN
FILLMORE PROPOSED BIKEWAYS
FIGURE F-2
FILLMORE
LEGEND
Existing Bicycle Facilities
Class 1 Multi-Use Trail
Class 2 Bicycle Lanes
Class 3 Signed Routes
Other Paved Multi- Use Trail
Proposed Bicycle Facilities
Class 1 Multi-Use Trail
Class 2 Bicycle Lanes
Class 3 Signed Routes
Schools
Parks
Colleges
0
0.5
1
Miles
DATA SOURCE
VENTURA COUNTY TRANSPORTATION COMMISSION

APPENDIX G: OJAI EXISTING AND PROPOSED BIKEWAYS NETWORK

The City of Ojai is in the process of updating their Bicycle and Pedestrian Master Plan which was initially adopted in February 1999. The Ventura Countywide Master Plan defers to the Ojai Bicycle and Pedestrian Master Plan as applicable to the City of Ojai. A map of the existing and proposed Ojai Bikeways Network is included in this Ventura Countywide Bicycle Master Plan to ensure consistency between the plans.

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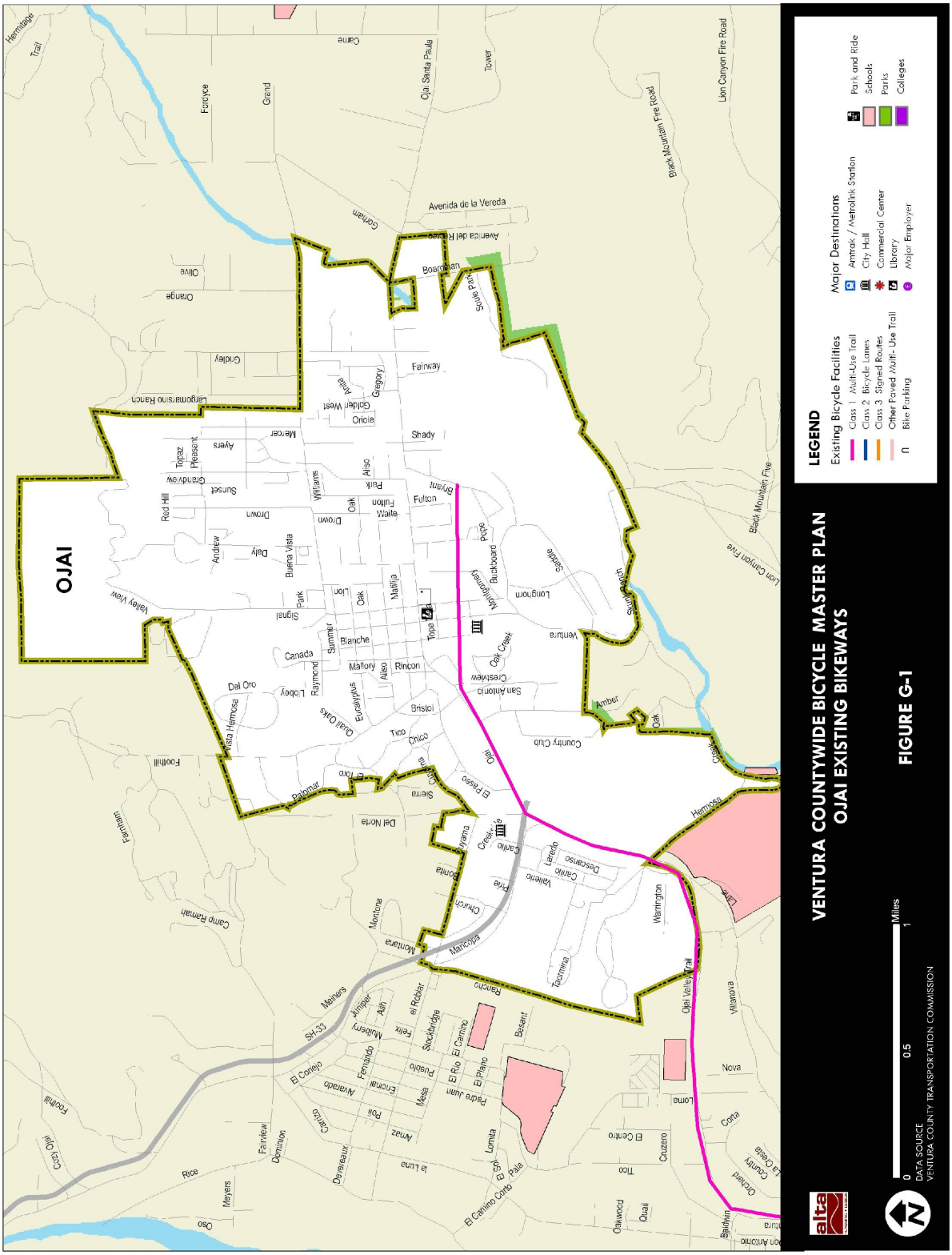
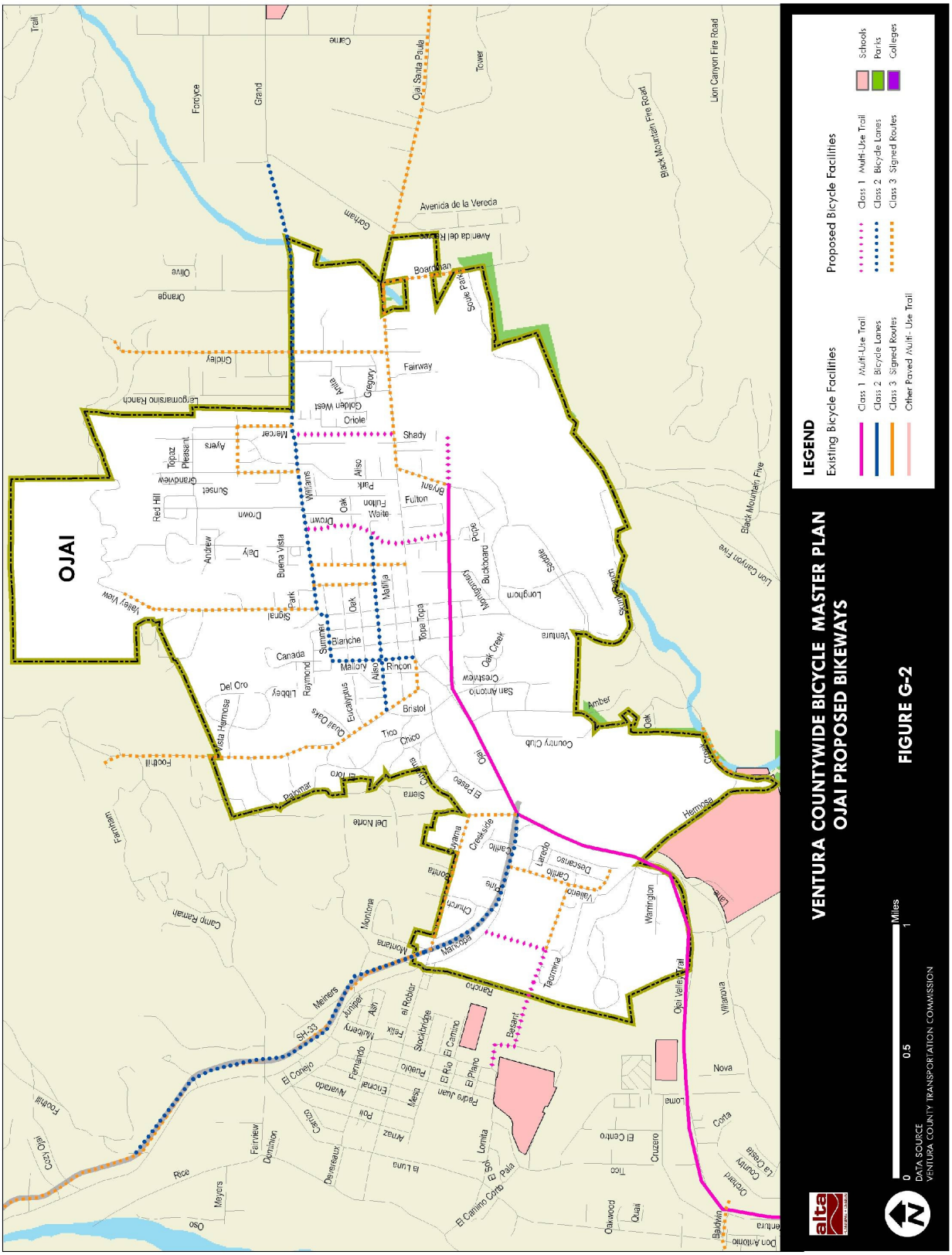

VENTURA COUNTYWIDE BICYCLE MASTER PLAN
OJAI EXISTING BIKEWAYS
FIGURE G-1
LEGEND
Existing Bicycle Facilities
Class 1 Multi-Use Trail
Class 2 Bicycle Lanes
Class 3 Signed Routes
Other Paved Multi- Use Trail
Bike Parking
Major Destinations
Amtrak / Metrolink Station
City Hall
Commercial Center
Library
Major Employer
Park and Ride
Schools
Parks
Colleges
OJAI
Miles
0
0.5
1
DATA SOURCE
VENTURA COUNTY TRANSPORTATION COMMISSION


OJAI
LEGEND
Existing Bicycle Facilities
Class 1 Multi-Use Trail
Class 2 Bicycle Lanes
Class 3 Signed Routes
Other Paved Multi- Use Trail
Proposed Bicycle Facilities
Class 1 Multi-Use Trail
Class 2 Bicycle Lanes
Class 3 Signed Routes
Schools
Parks
Colleges
VENTURA COUNTYWIDE BICYCLE MASTER PLAN
OJAI PROPOSED BIKEWAYS
FIGURE G-2
Miles
0
0.5
1
DATA SOURCE
VENTURA COUNTY TRANSPORTATION COMMISSION
alta

APPENDIX H: OXNARD EXISTING AND PROPOSED BIKEWAYS NETWORK

The City of Oxnard adopted the Oxnard Bicycle and Pedestrian Facilities Master Plan in September 2002. The Ventura Countywide Master Plan defers to the Oxnard Bicycle and Pedestrian Facilities Master Plan as applicable to the City of Oxnard. A map of the existing and proposed Oxnard Bikeways Network is included in this Ventura Countywide Bicycle Master Plan to ensure consistency between the plans.

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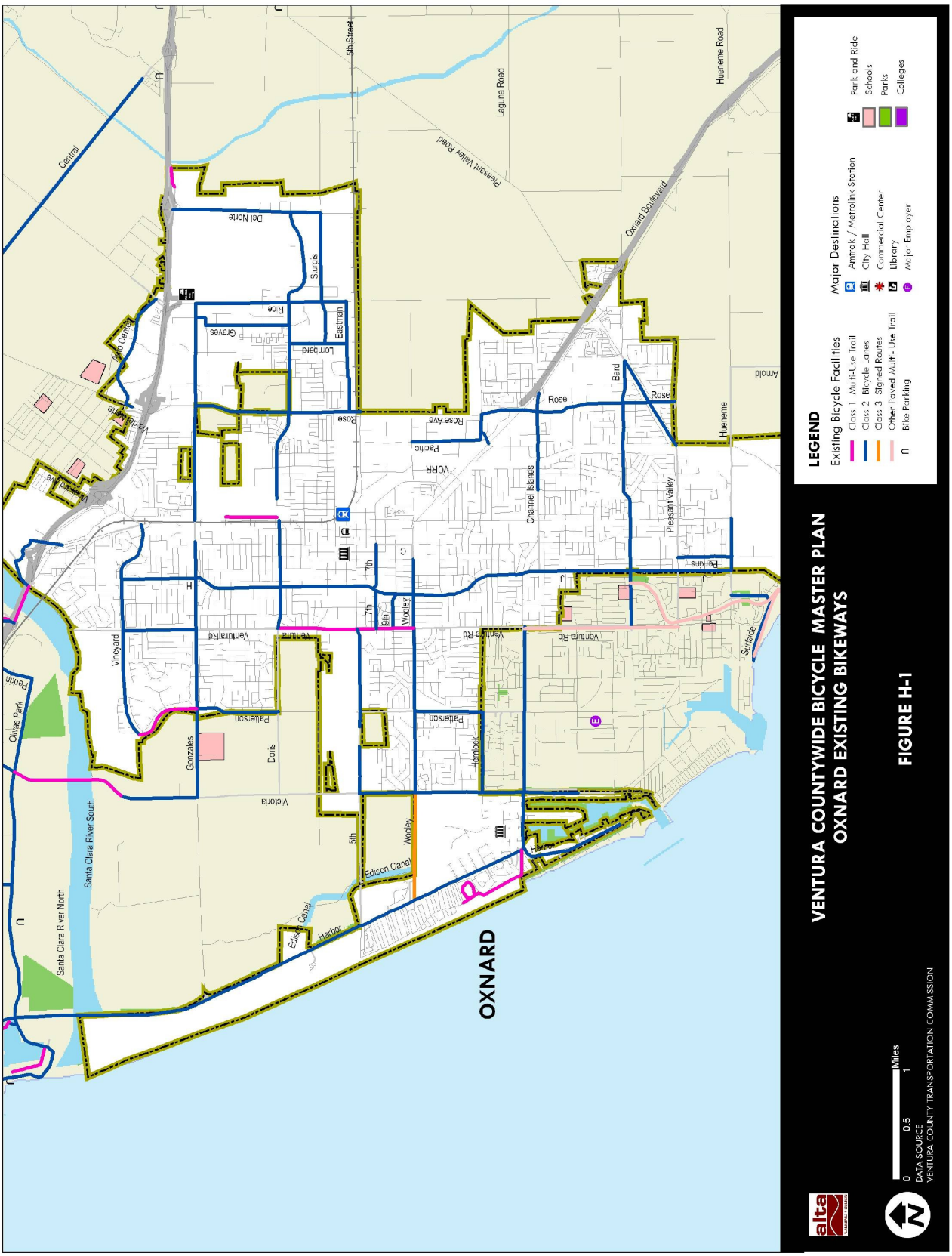
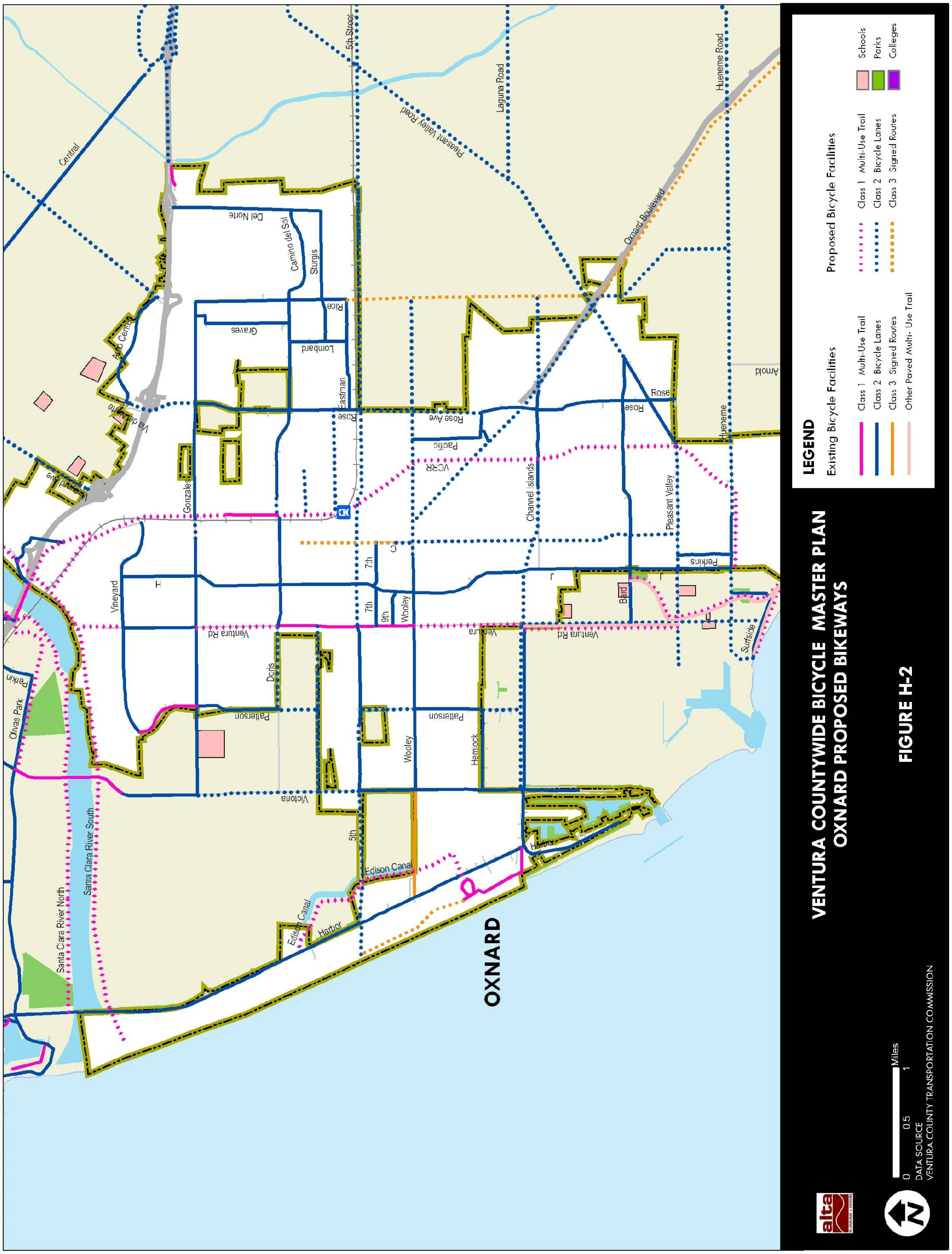

VENTURA COUNTYWIDE BICYCLE MASTER PLAN
OXNARD EXISTING BIKEWAYS
FIGURE H-1
LEGEND
Existing Bicycle Facilities
Class 1 Multi-Use Trail
Class 2 Bicycle Lanes
Class 3 Signed Routes
Other Paved Multi-Use Trail
Bike Parking
Major Destinations
Amtrak / Metrolink Station
City Hall
Commercial Center
Library
Major Employer
Park and Ride
Schools
Parks
Colleges
OXNARD
Central
Del Norte
Sturgis
Eastman
Lombard
Graves
Rose
Rose Ave
Pacific
VCRR
Channel Islands
Pleasant Valley
Perkins
Hueneme
Arnold
Bard
Laguna Road
Pleasant Valley Road
Oxnard Boulevard
Hueneme Road
5th Street
Ventura Rd
Wooley
7th
5th
Vineyard
Patterson
Gonzales
Doris
Hamlock
Victoria
Harbor
Edison Canal
Santa Clara River South
Santa Clara River North
Olivas Park
Parkin
Surfside
0
0.5
1
Miles
DATA SOURCE
VENTURA COUNTY TRANSPORTATION COMMISSION



VENTURA COUNTYWIDE BICYCLE MASTER PLAN
OXNARD PROPOSED BIKEWAYS
FIGURE H-2
LEGEND
Existing Bicycle Facilities
Class 1 Multi-Use Trail
Class 2 Bicycle Lanes
Class 3 Signed Routes
Other Paved Multi- Use Trail
Proposed Bicycle Facilities
Class 1 Multi-Use Trail
Class 2 Bicycle Lanes
Class 3 Signed Routes
Schools
Parks
Colleges
0 0.5 1 Miles
DATA SOURCE
VENTURA COUNTY TRANSPORTATION COMMISSION
OXNARD
Central
Del Norte
Camino del Sol
Sturgis
Rice
Graves
Lombard
Eastman
Rose
Rose Ave
Pacific
VCRR
Gonzales
Vineyard
Ventura Rd
Doris
Patterson
Victoria
Wooley
Hemlock
Channel Islands
Pleasant Valley
Perkins
Bard
Surfside
Hueneme
Hueneme Road
Laguna Road
Pleasant Valley Road
5th Street
Oxnard Boulevard
Arnold
Edison Canal
Harbor
Santa Clara River North
Santa Clara River South
Olivas Park
7th
9th

APPENDIX I: SIMI VALLEY EXISTING AND PROPOSED BIKEWAYS NETWORK

The City of Simi Valley adopted the Simi Valley Bicycle Master Plan in May 2002 and was in the process of updating their Bicycle Master Plan at the time of publication of this document. The Ventura Countywide Master Plan defers to the Simi Valley Bicycle Master Plan as applicable to the City of Simi Valley. A map of the existing and proposed Simi Valley Bikeways Network is included in this Ventura Countywide Bicycle Master Plan to ensure consistency between the plans.

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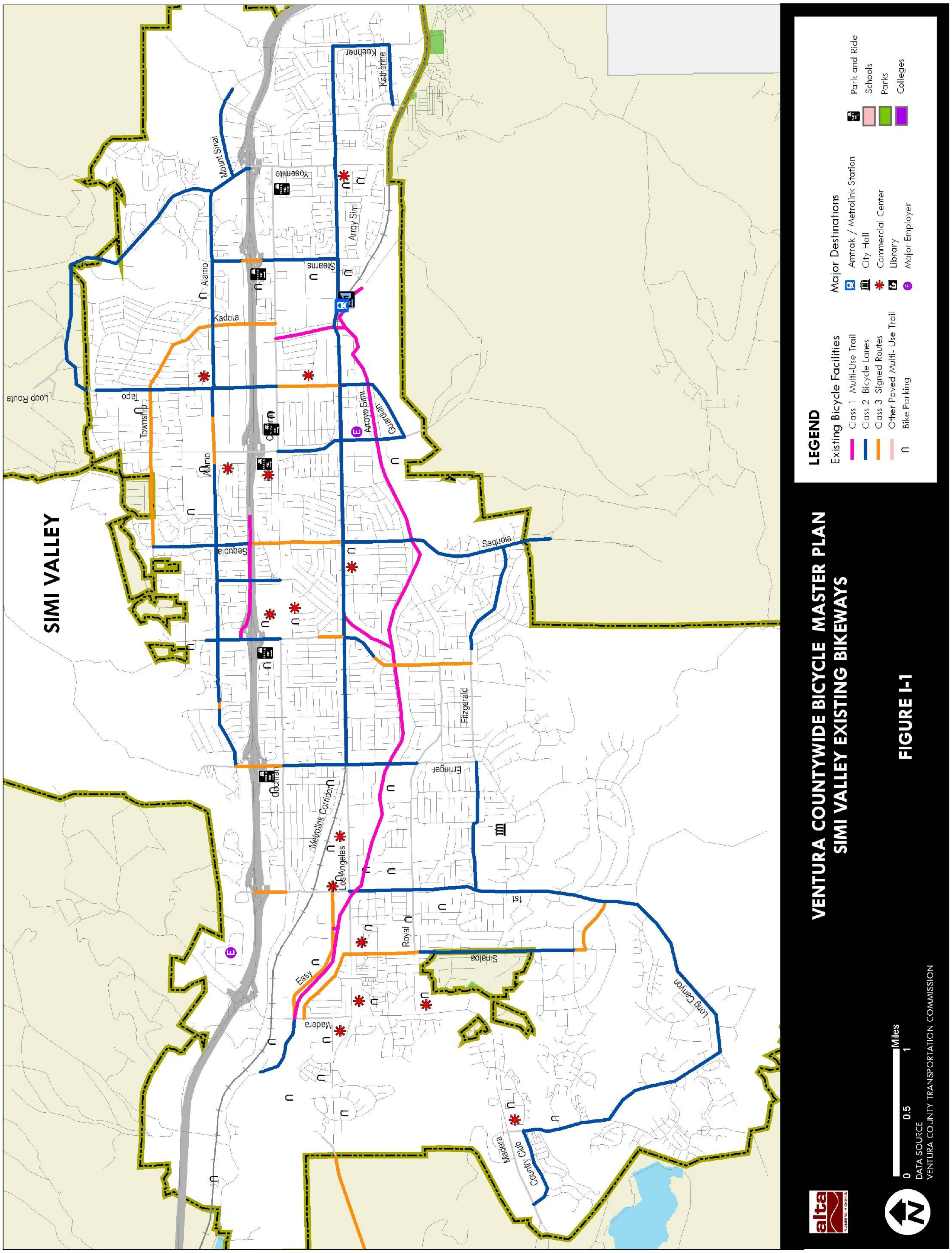
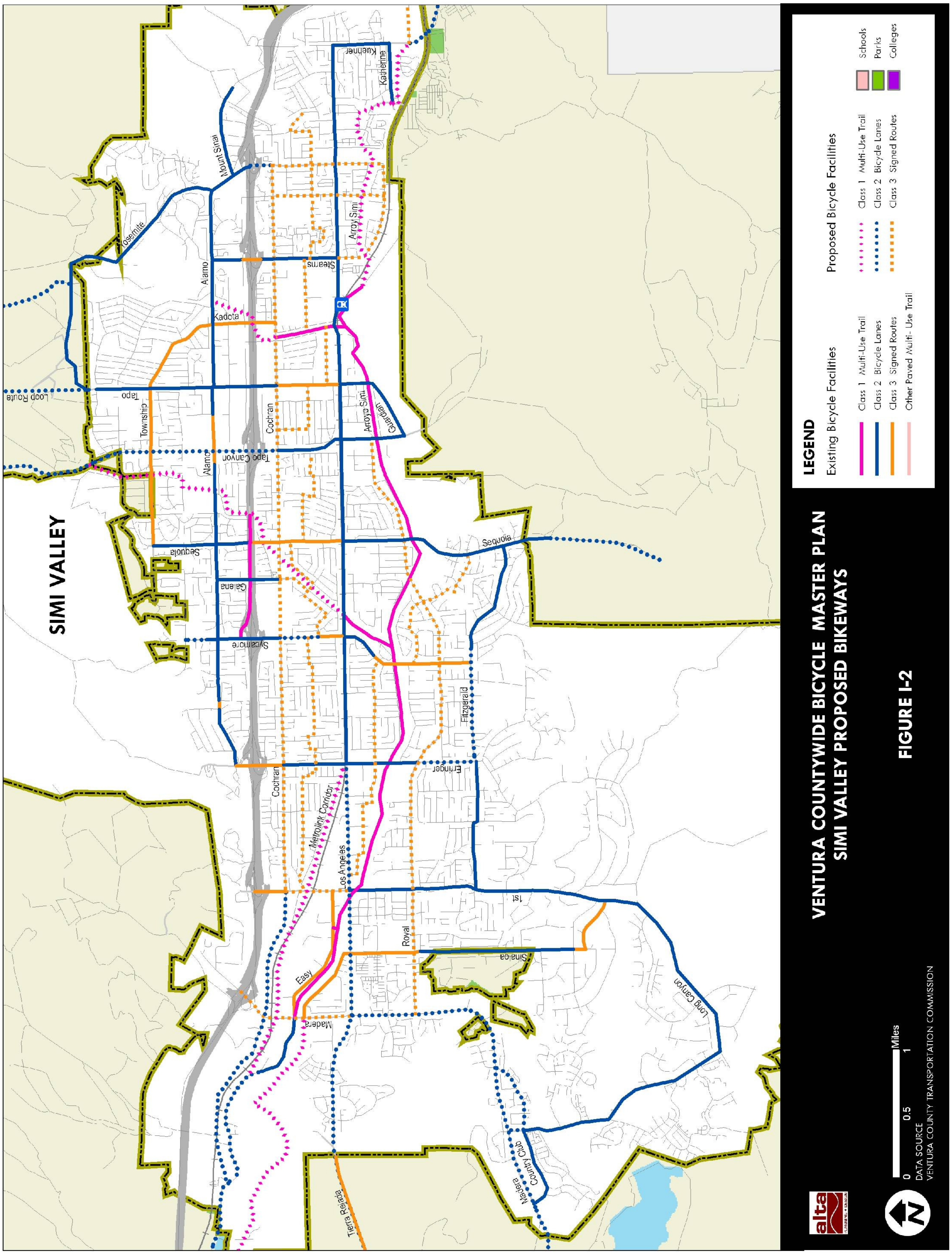

VENTURA COUNTYWIDE BICYCLE MASTER PLAN
SIMI VALLEY EXISTING BIKEWAYS
FIGURE I-1
SIMI VALLEY
LEGEND
Existing Bicycle Facilities
Class 1 Multi-Use Trail
Class 2 Bicycle Lanes
Class 3 Signed Routes
Other Paved Multi-Use Trail
Bike Parking
Major Destinations
Amtrak / Metrolink Station
City Hall
Commercial Center
Library
Major Employer
Park and Ride
Schools
Parks
Colleges
Miles
0
0.5
1
DATA SOURCE
VENTURA COUNTY TRANSPORTATION COMMISSION
alta
Kuehner
Katherine
Mount Sinai
Yosemite
Arroyo Simi
Stearns
Alamo
Kadota
Loop Route
Tapo
Township
Guardian
Sequoia
Fitzgerald
Erringer
Cochran
Metrolink Corridor
Los Angeles
1st
Royal
Sinaloa
Easy
Madera
Long Canyon
Country Club


VENTURA COUNTYWIDE BICYCLE MASTER PLAN
SIMI VALLEY PROPOSED BIKEWAYS
FIGURE I-2
LEGEND
Existing Bicycle Facilities
Class 1 Multi-Use Trail
Class 2 Bicycle Lanes
Class 3 Signed Routes
Other Paved Multi- Use Trail
Proposed Bicycle Facilities
Class 1 Multi-Use Trail
Class 2 Bicycle Lanes
Class 3 Signed Routes
Schools
Parks
Colleges
SIMI VALLEY
0 0.5 1 Miles
DATA SOURCE
VENTURA COUNTY TRANSPORTATION COMMISSION
Kuehner
Katherine
Mount Sinai
Yosemite
Alamo
Stearns
Arroyo Simi
Kadota
Loop Route
Tapo
Township
Cochran
Guardian
Tapo Canyon
Sequoia
Galena
Sycamore
Fitzgerald
Erringer
Metrolink Corridor
Los Angeles
1st
Royal
Sinaloa
Easy
Madera
Long Canyon
Country Club
Tierra Rejada

APPENDIX J: THOUSAND OAKS EXISTING AND PROPOSED BIKEWAYS NETWORK

The City of Thousand Oaks adopted the Thousand Oaks Bikeway Facilities Master Plan in August 2005. The Ventura Countywide Master Plan defers to the Thousand Oaks Bikeway Facilities Master Plan as applicable to the City of Thousand Oaks. A map of the existing and proposed Thousand Oaks Bikeways Network is included in this Ventura Countywide Bicycle Master Plan to ensure consistency between the plans.

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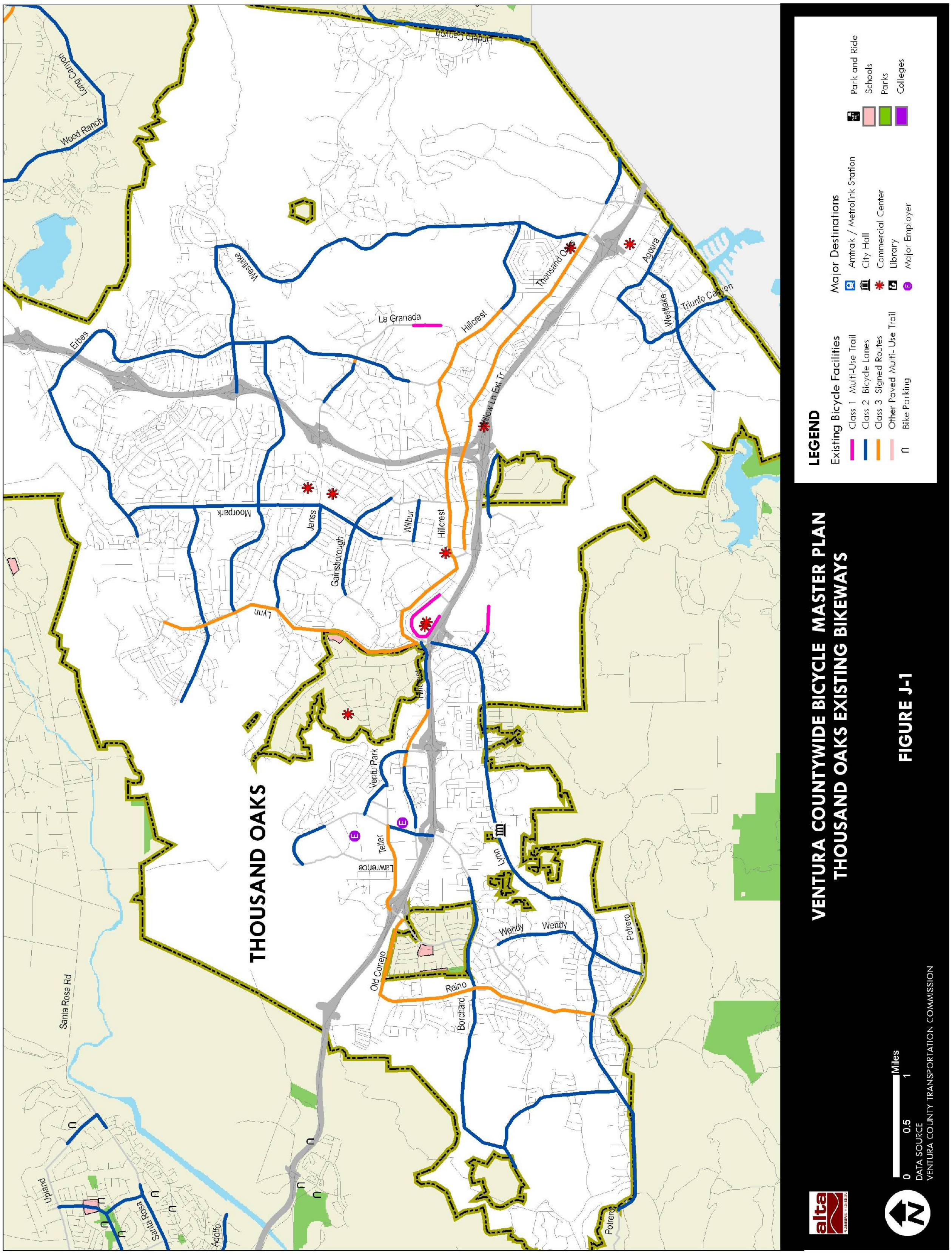
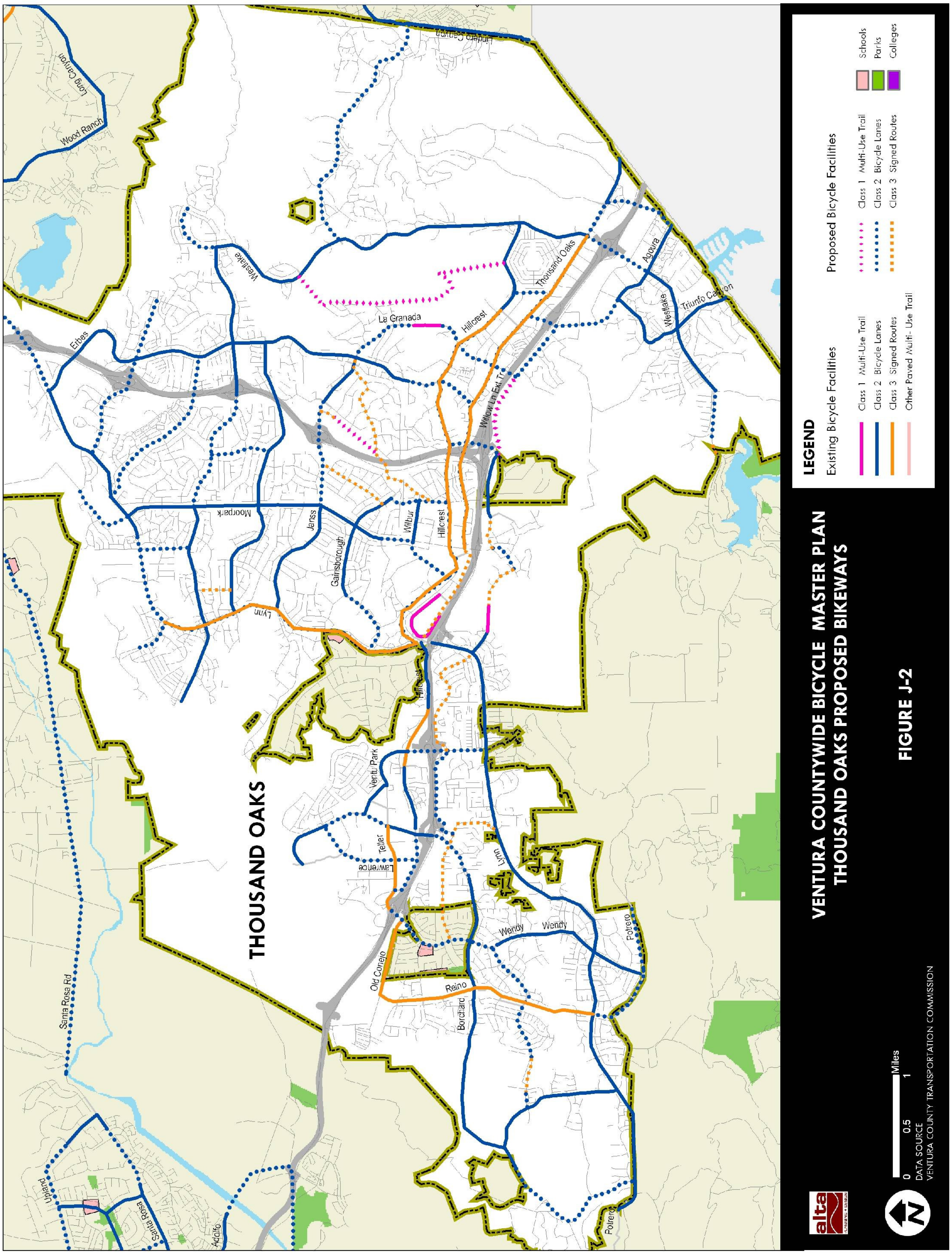

VENTURA COUNTYWIDE BICYCLE MASTER PLAN
THOUSAND OAKS EXISTING BIKEWAYS
FIGURE J-1
LEGEND
Existing Bicycle Facilities
Class 1 Multi-Use Trail
Class 2 Bicycle Lanes
Class 3 Signed Routes
Other Paved Multi-Use Trail
Bike Parking
Major Destinations
Amtrak / Metrolink Station
City Hall
Commercial Center
Library
Major Employer
Park and Ride
Schools
Parks
Colleges
THOUSAND OAKS
Long Canyon
Wood Ranch
Erbes
Westlake
La Granada
Hillcrest
Thousand Oaks
Agoura
Triunfo Canyon
Willow Ln Ext Tr
Moorpark
Janss
Gainsborough
Wilbur
Lynn
Ventu Park
Teller
Lawrence
Wendy
Potrero
Old Conejo
Reino
Borchard
Santa Rosa Rd
Upland
Santa Rosa
Adolfo
0 0.5 1 Miles
DATA SOURCE
VENTURA COUNTY TRANSPORTATION COMMISSION



VENTURA COUNTYWIDE BICYCLE MASTER PLAN
THOUSAND OAKS PROPOSED BIKEWAYS
FIGURE J-2
LEGEND
Existing Bicycle Facilities
Class 1 Multi-Use Trail
Class 2 Bicycle Lanes
Class 3 Signed Routes
Other Paved Multi-Use Trail
Proposed Bicycle Facilities
Class 1 Multi-Use Trail
Class 2 Bicycle Lanes
Class 3 Signed Routes
Schools
Parks
Colleges
0 0.5 1 Miles
DATA SOURCE
VENTURA COUNTY TRANSPORTATION COMMISSION
THOUSAND OAKS
Moorpark
Janss
Lynn
Hillcrest
Wilbur
Gainsborough
Westlake
La Granada
Thousand Oaks
Agoura
Triunfo Canyon
Willow Ln Ext Tr
Erbes
Wood Ranch
Long Canyon
Ventu Park
Teller
Lawrence
Old Conejo
Reino
Borchard
Wendy
Potrero
Santa Rosa Rd
Santa Rosa
Upland
Adolfo

APPENDIX K: SAN BUENAVENTURA (VENTURA) EXISTING AND PROPOSED BIKEWAYS NETWORK

The City of San Buenaventura (Ventura) adopted their General Bikeway Plan in January 2005. The Ventura Countywide Master Plan defers to the San Buenaventura General Bikeway Plan as applicable to the City of San Buenaventura (Ventura). A map of the existing and proposed San Buenaventura Bikeways Network is included in this Ventura Countywide Bicycle Master Plan to ensure consistency between the plans.

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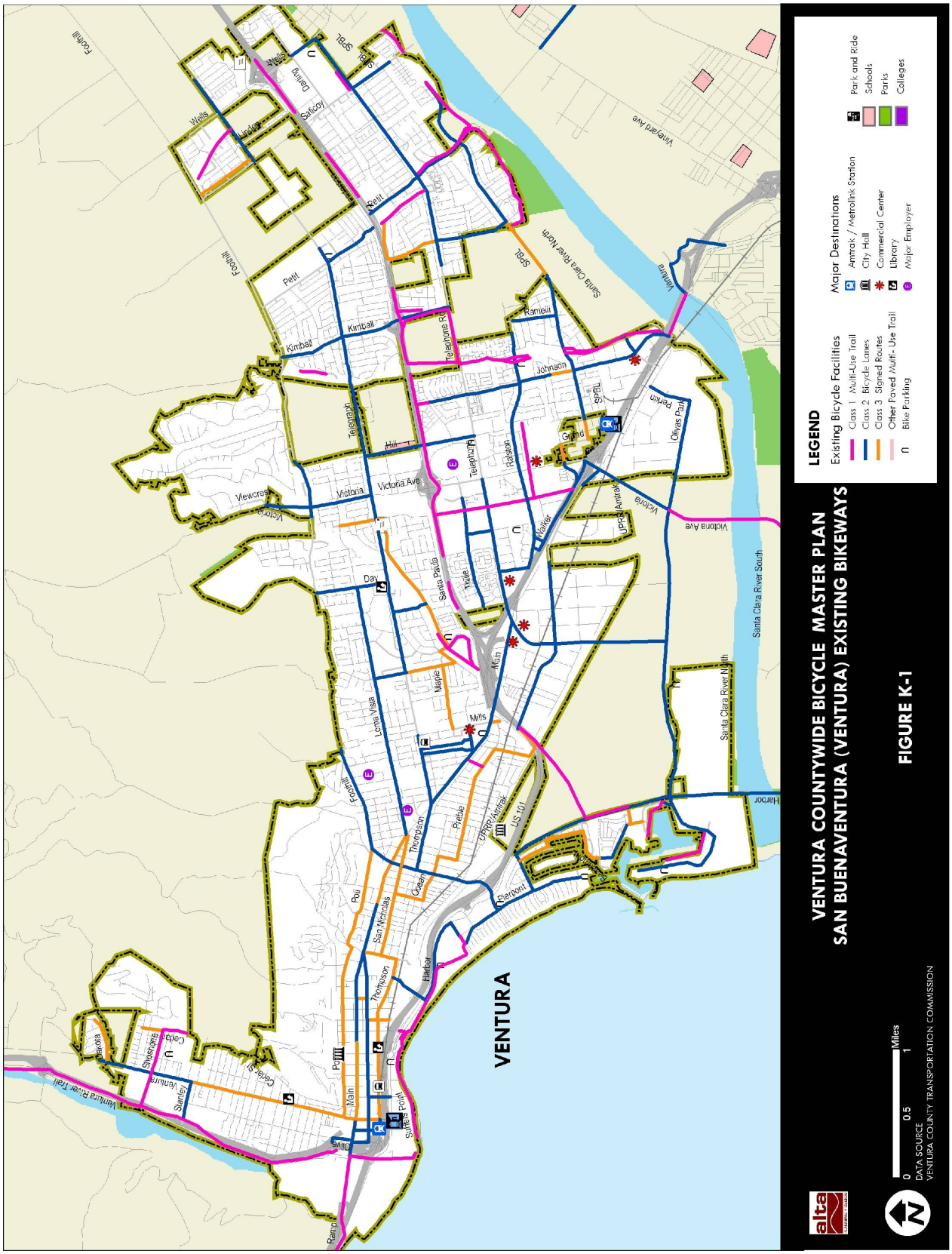
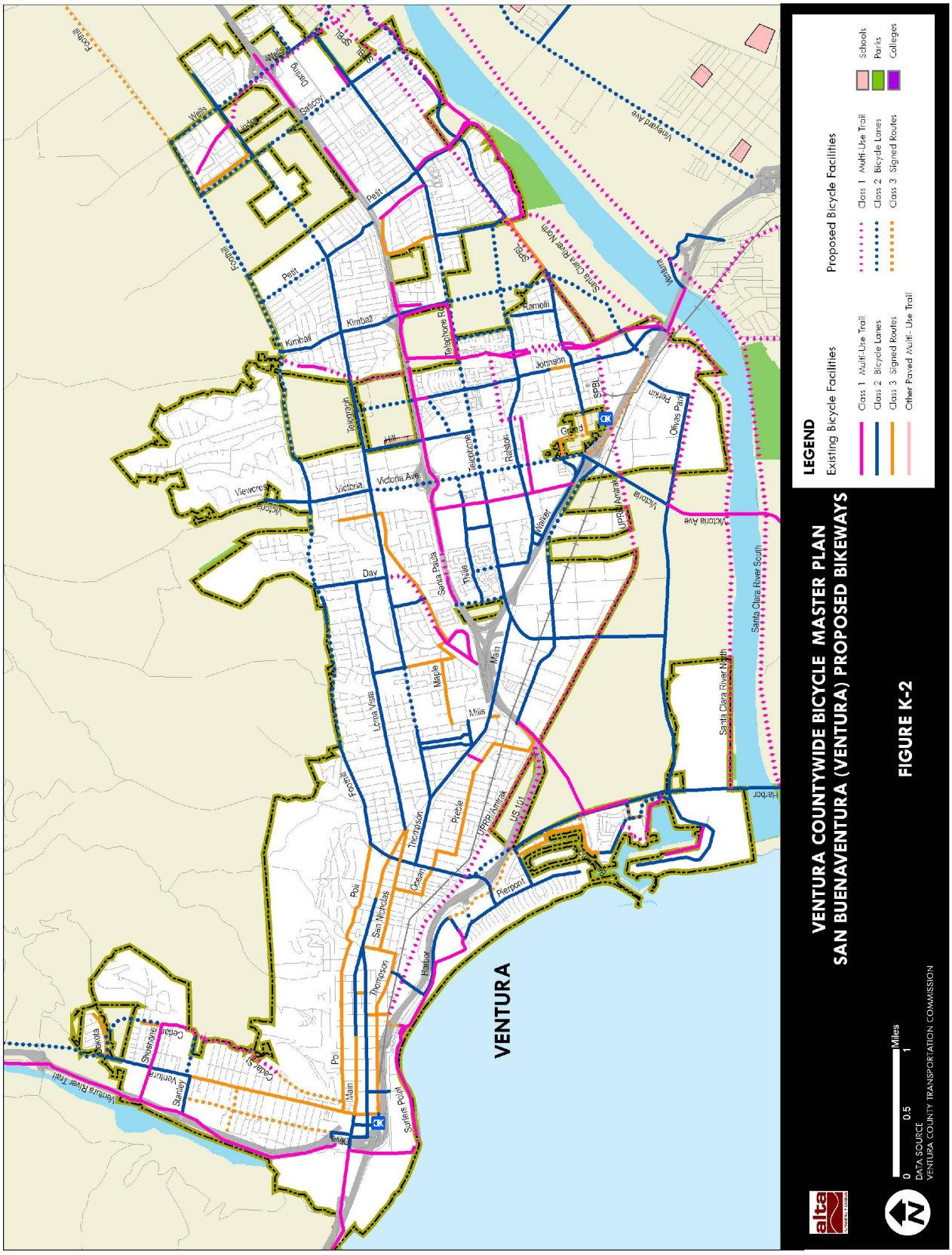

VENTURA COUNTYWIDE BICYCLE MASTER PLAN
SAN BUENAVENTURA (VENTURA) EXISTING BIKEWAYS
FIGURE K-1
LEGEND
Existing Bicycle Facilities
Class 1 Multi-Use Trail
Class 2 Bicycle Lanes
Class 3 Signed Routes
Other Paved Multi- Use Trail
Bike Parking
Major Destinations
Amtrak / Metrolink Station
City Hall
Commercial Center
Library
Major Employer
Park and Ride
Schools
Parks
Colleges
VENTURA
Santa Clara River South
Santa Clara River North
Ventura River Trail
Miles
0
0.5
1
DATA SOURCE
VENTURA COUNTY TRANSPORTATION COMMISSION


VENTURA COUNTYWIDE BICYCLE MASTER PLAN
SAN BUENAVENTURA (VENTURA) PROPOSED BIKEWAYS
FIGURE K-2
LEGEND
Existing Bicycle Facilities
Class 1 Multi-Use Trail
Class 2 Bicycle Lanes
Class 3 Signed Routes
Other Paved Multi- Use Trail
Proposed Bicycle Facilities
Class 1 Multi-Use Trail
Class 2 Bicycle Lanes
Class 3 Signed Routes
Schools
Parks
Colleges
VENTURA
Miles
0 0.5 1
DATA SOURCE
VENTURA COUNTY TRANSPORTATION COMMISSION

APPENDIX L: BICYCLE DESIGN GUIDELINES

DESIGN GUIDELINES FOR BICYCLE FACILITIES

Ventura County as a policy defers to Caltrans roadway design guidelines, which do have standards for bicycle facilities, although many older roadways have not been brought up to these standards. Clearly a retrofit of all existing roadways up to ideal standards for the proposed bikeway system is not feasible at this time. Accordingly this chapter provides basic bikeway planning and design requirements as required by Caltrans, and recommendations for use in developing components of the Ventura County bikeway system and support facilities to be implemented at the appropriate juncture.

INTRODUCTION

The bikeway design guidelines presented in this section are a combination of the minimum standards outlined in the Caltrans *Highway Design Manual* (HDM) Chapter 1000 and the California Manual of Uniform Traffic Control Devices (CA MUTCD), recommended standards prescribed by the American Association of State Highway and Transportation Officials (AASHTO) *Guide for the Development of Bicycle Facilities*, as well as design solutions tailored to Ventura County's unique bicycle facility needs. Some treatments draw upon creative solutions in use in other locations in California and other states, are conceptual at this stage, and must be reviewed further before being applied to actual situations.

This document does not attempt to replace material covered within the HDM or CA MUTCD, but rather, to clarify local treatments of bicycle facility design. Caltrans HDM Chapter 1000 and the CA MUTCD should be referenced and the use of this document should be supplemental. Having a toolbox of strong and innovative design guidelines such as those presented here will allow the County of Ventura to improve the quality of the bicycle network by applying the highest standard of bicycle safety, comfort, and convenience.

Note that the County of Ventura would need to adopt new County Standard Details and Specifications in order to implement bikeway designs not in the CA MUTCD or Caltrans Highway Design Manual.

CLARIFICATIONS ON TERMINOLOGY

"SHALL" or "MUST" All language that is explicitly stated as such, is referenced within Caltrans' HDM, CA MUTCD, or other traffic engineering manuals. Ventura County's Bikeway Design Guidelines conform to these overriding documents.

"SHOULD" All language that is suggestively stated as such, represents a "best practices" guideline that should be followed, but is still open for interpretation depending on a multiple of local factors including; topography, lane widths, vehicle speeds, collision history, etc. Suggestive guidelines can not conflict with these explicit standards.

"MAY" All language that is conditionally stated as such, represents a guideline that could be followed in Ventura County. Conditional guidelines are dependant on multiple variables. Often times they should be coupled with a "before and after" study to determine their effectiveness. They can not conflict with explicit standards set forth in the HDM or MUTCD.

BIKEWAY CLASSIFICATION DESCRIPTIONS

According to Caltrans, the term "bikeway" encompasses all facilities that provide primarily for bicycle travel. Caltrans has defined three types of bikeways in Chapter 1000 of the Highway Design Manual: Class I, Class II, and Class III. Class I Bike Paths provide a completely separated right-of-way for exclusive use of bicyclists and pedestrians. Class II Bike Lanes provide a striped lane for one-way travel on a street or highway. Class III Bike Routes provide for shared use of the vehicular travel lane, typically on lower volume roadways. An illustration of the three types of bicycle facilities, the Caltrans bikeway classification overview, follows in this section.

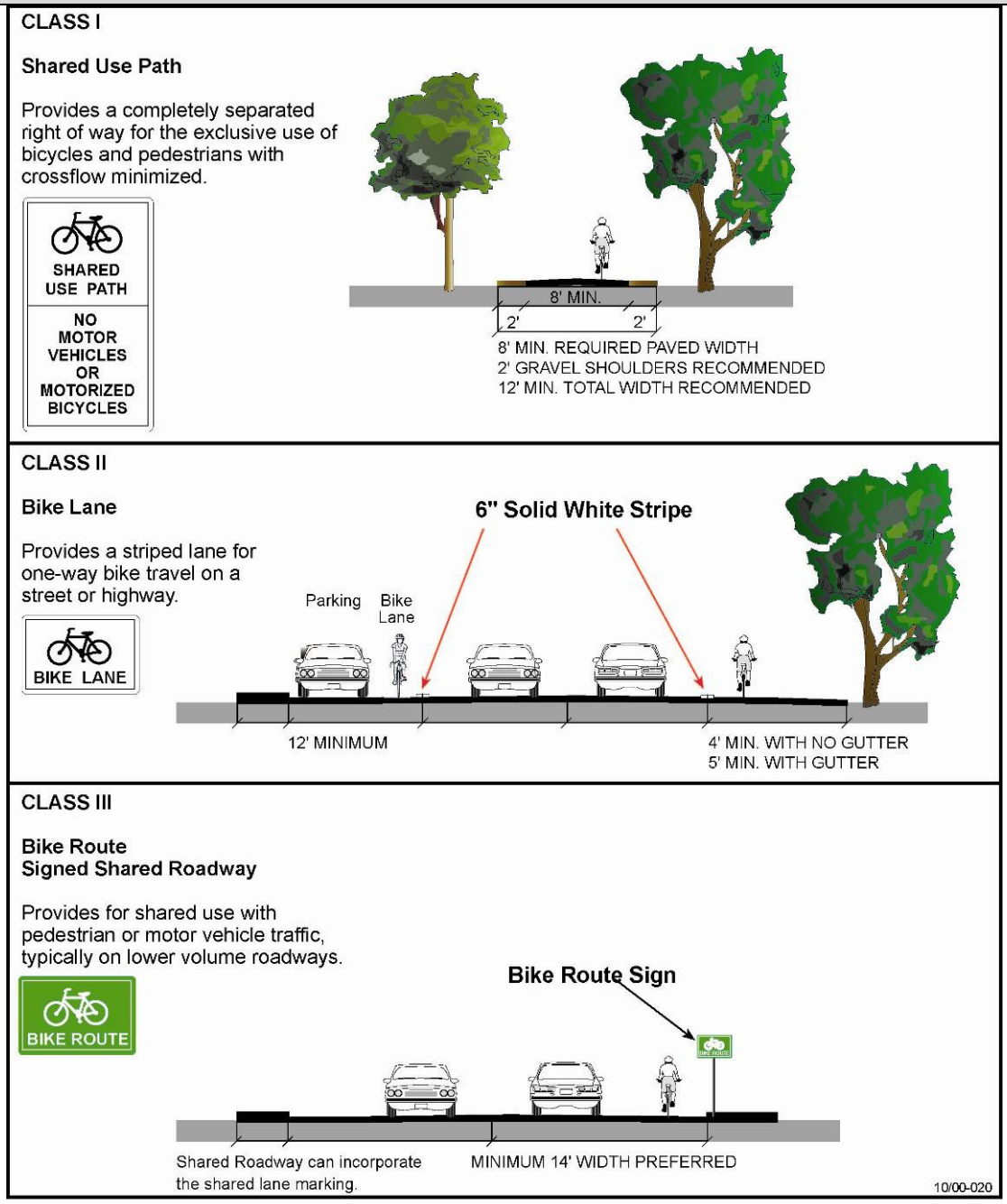
As this Bicycle Master Plan is primarily focused on bicycle transportation, and most of the recommended network facilities are on-street bikeways, design guidelines for the Class II and III facilities are presented first, followed by Class I bike paths at the end of the chapter. These design guidelines are of major importance in elevating the level of safety for all bicyclists, given that that vast majority of collisions involving bicycles take place along the bikeways themselves rather than at intersections, the ability to provide clearly marked and signed routes is critical. These design guidelines provide the necessary structure to enhance bicyclist safety.

CALTRANS BIKEWAY CLASSIFICATION OVERVIEW

Description

Caltrans has defined three types of bikeways in Chapter 1000 of the Highway Design Manual: Class I, Class II, and Class III. Minimum and recommended standards for each of these bikeway classifications are shown below.

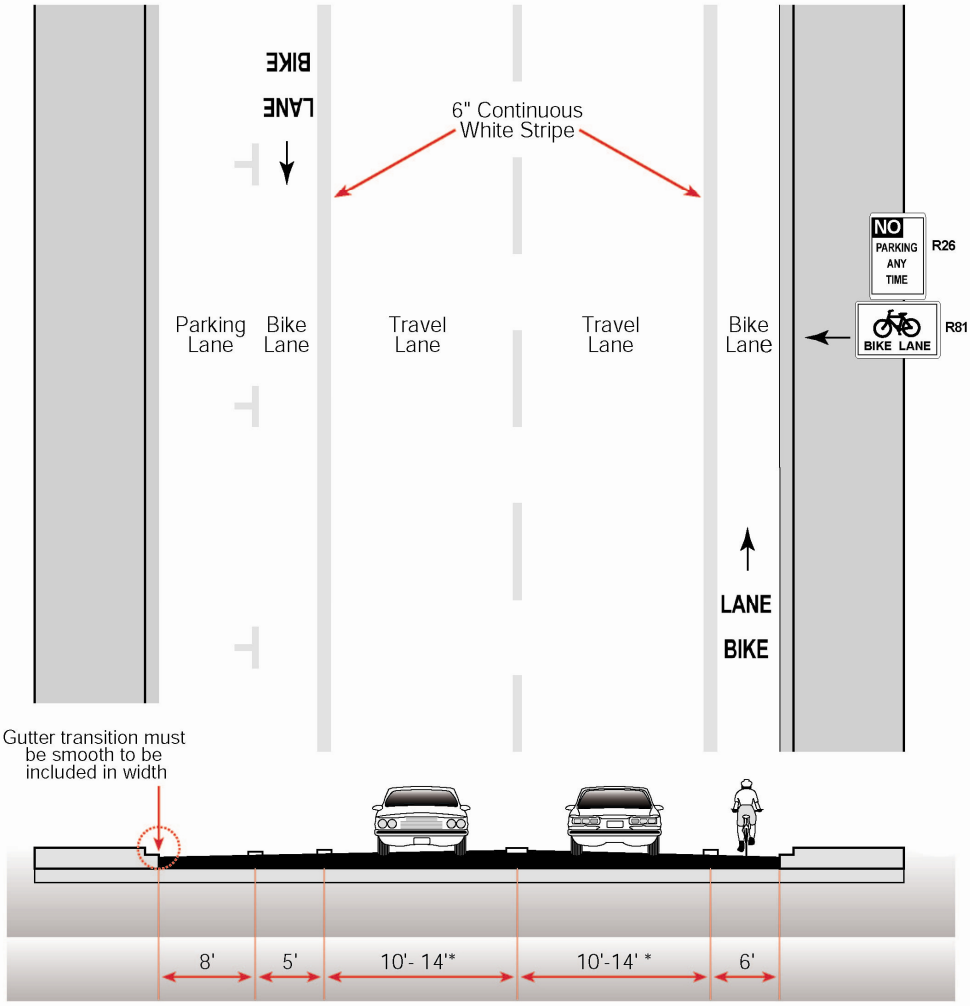
Graphic



CLASS II BIKE LANE MINIMUM STANDARDS

Description
Chapter 1000 of the Caltrans Highway Design Manual provides standards for Class II Bike Lane planning and design, in situations where there is striped parking stalls adjacent to the bike lane or no parking altogether. These standards, as illustrated below, outline minimum dimensions, proper pavement markings, signage, and other design treatment. Refer to Caltrans website: www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm.

Graphic



Bike Lane with Parking
Caltrans minimum:
7' parking lane +
5' bike lane

Preferred minimum:
8' parking lane +
5' bike lane

Curb Lane:
10' Under 2000 ADT
12' over 2000 ADT (under 35 mph)
14' over 20,000 ADT (over 35 mph)

Caltrans minimum bike lane
width 5' from face of curb

Recommended bike
lane width (if ROW available)
6' from face of curb

Summary of Standards

- Bicycle lanes shall be one way facilities, running with the direction of traffic.
- Where on-street parking is allowed, bicycle lanes must be striped between the parking area and the travel lanes.
- Width of bicycle lane:
    1. Without an existing gutter, bicycle lanes must be a minimum of 4 feet wide.
    2. With an existing gutter, bicycle lanes must be a minimum of 5 feet wide.
    3. Where on-street parking stalls are marked and bicycle lanes are striped adjacent to on-street parking, bicycle lanes must be a minimum of 5 feet wide, and parking stalls 8 feet wide for a combined total of 13 feet width.
    4. Where on-street parking is allowed but stalls are not striped, bicycle lane and parking lane must total a minimum of 10 feet in width, with 12 feet preferred. Depending on the type and frequency of traffic, wider bicycle lanes may be recommended.
- Bicycle lane striping standards:
    1. Bicycle lanes shall be comprised of a 6 inch solid white stripe on the outside of the lane, and a 4 inch solid white stripe on the inside of the lane.
    2. Bicycle lanes must never be delineated with raised barriers.
    3. The inside 4 inch stripe of the bicycle lane should be dropped 90-180 feet prior to any intersection where right turns are permitted, and the outside 6 inch stripe should be dashed in this location. Bicycle lanes are generally not marked through intersections.
    4. Bicycle lanes shall never be striped to the right of a right-hand turn lane
- Bicycle lane signage standards:
    1. The R81 bicycle lane sign shall be placed at the beginning of all bicycle lanes, on the far side of arterial street intersections, at all changes in direction and at a maximum of .6 mile intervals.
    2. Standard signage is shown in Chapter 9 of the 2003 California Supplement to the MUTCD.

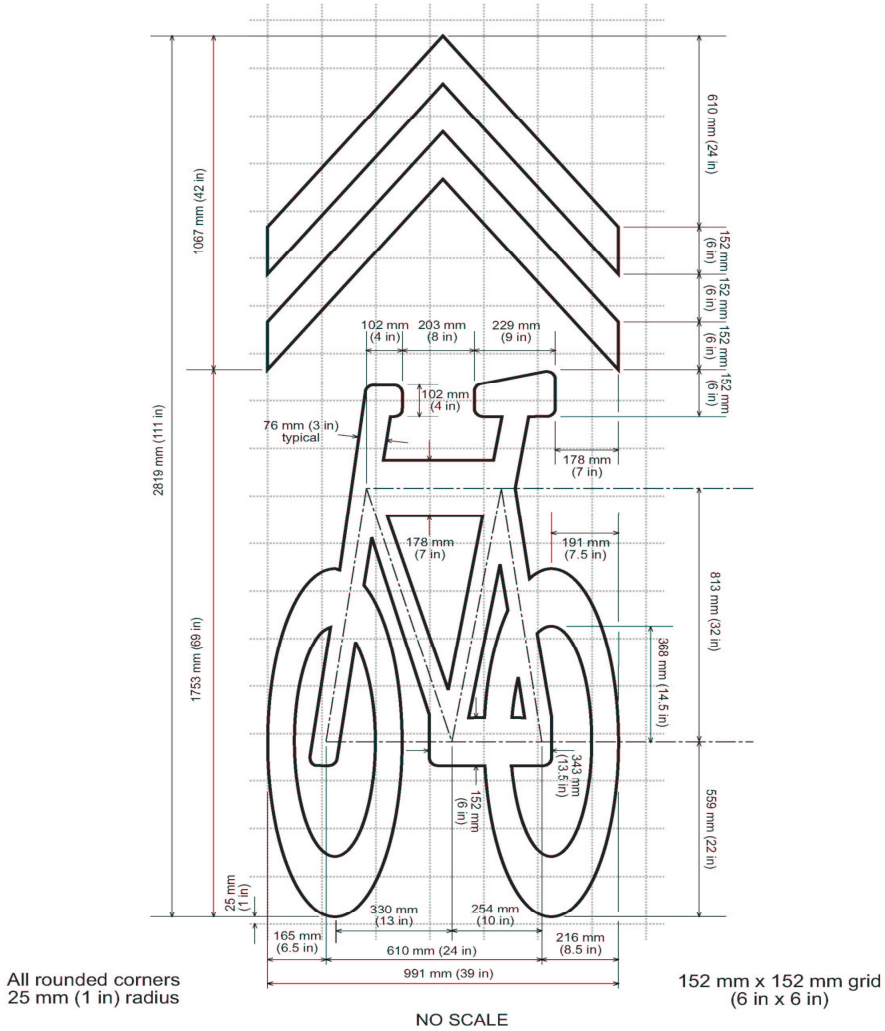
ON-STREET BIKEWAYS: CLASS III BIKE ROUTES

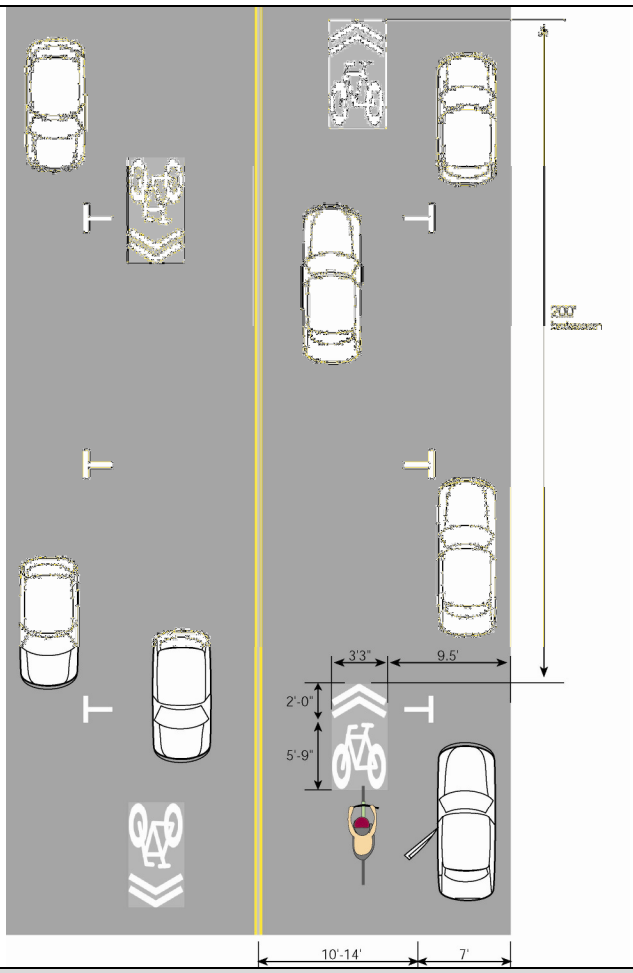
Description
Generally referred to as a "bike route," a Class III bikeway provides routes through areas not served by Class I or II facilities or to connect discontinuous segments of a bikeway. Class III facilities are shared with motorists on roadways and identified only by signing. There are no recommended minimum widths for Class III facilities, but when encouraging bicyclists to travel along selected routes, traffic speed and volume, parking, traffic control devices, and surface quality should be acceptable for bicycle travel. A wide outside traffic lane (15') is preferable to enable cars to safely pass bicyclists without crossing the centerline.
Summary of Standards
There are no recommended minimum widths for Class III facilities, but when encouraging bicyclists to travel along selected routes, traffic speed and volume, parking, traffic control devices, and surface quality should be acceptable for bicycle travel. A wide outside traffic lane (15') is preferable to enable cars to safely pass bicyclists without crossing the centerline.

SHARED LANE MARKINGS

Description
Recently, "shared lane marking" stencils, an additional treatment for Class III facilities, have been used. The stencil can serve a number of purposes, such as making motorists aware of bicycles potentially in their lane, showing bicyclists the direction of travel, and, with proper placement, reminding bicyclists to bike further from parked cars to prevent "dooring" collisions. The County of Denver has effectively used the "bike-in-house" shared marking treatment (shown in photo on previous page) for several years, and San Francisco recently tested two designs of the shared lane marking stencil for use on Class III facilities where lanes are too narrow for sharing. Based on the results of the San Francisco study, the California Traffic Control Devices Committee (CTCDC) recommended in August 2004 that the "Chevron Bicycle Symbol" design of the Shared Lane Marking be adopted by Caltrans as a standard traffic control device in California.

Graphic





Potential Applications
Various situations, specific to each site. This treatment is an option where there is limited possibility for engineering solutions for widening to allow for bike lanes, yet there are significant numbers of bicyclists using facilities. In particular, this treatment would be appropriate for enhancing driver awareness of bicyclists in areas of unincorporated Ventura County where the main connectivity is on narrow two-lane highways popular with bicyclists and drivers alike.

Guidelines
Guidance language recommended by the CTCDC for use of the Shared Lane Marking is as follows: Support: The Shared Lane Marking is intended to improve the positioning of bicyclists on roadways with significant bicycle usage and parked vehicles where the curb lanes are too narrow for motorists and bicyclists to travel side by side within the lane. Option: The Shared Lane Marking may be used in shared lanes to improve bicyclists' positioning on roadways, encourages cycling in the correct direction, discourage cycling on sidewalks, and to decrease motor vehicle/bicycle conflicts by informing motorists where to expect cyclists, especially on urban and suburban roadways with narrow curb lanes.

INTERSECTION CONSIDERATIONS

Intersections represent one of the primary collision points for bicyclists. Generally, the larger the intersection, the more difficult it is for bicyclists to cross. Oncoming vehicles from multiple directions and increased turning movements make it difficult for motorists to see non-motorized travelers.

Most intersections do not provide a designated place for bicyclists. Bike lanes and pavement markings often end before intersections, causing confusion for bicyclists. Loop and other detectors, such as video, often do not detect bicycles.

Bicyclists wanting to make left turns can face quite a challenge. Bicyclists must either choose to behave like motorists by crossing travel lanes and seeking refuge in a left-turn lane, or they act as pedestrians and dismount their bikes, push the pedestrian walk button located on the sidewalk, and then cross the street in the crosswalk. Bicyclists traveling straight also have difficulty maneuvering from the far right lane, across a right turn lane, to a through lane of travel. Furthermore, motorists often do not know which bicyclist movement to expect. Examples of intersections that provide bike lanes at critical locations follow in this section.

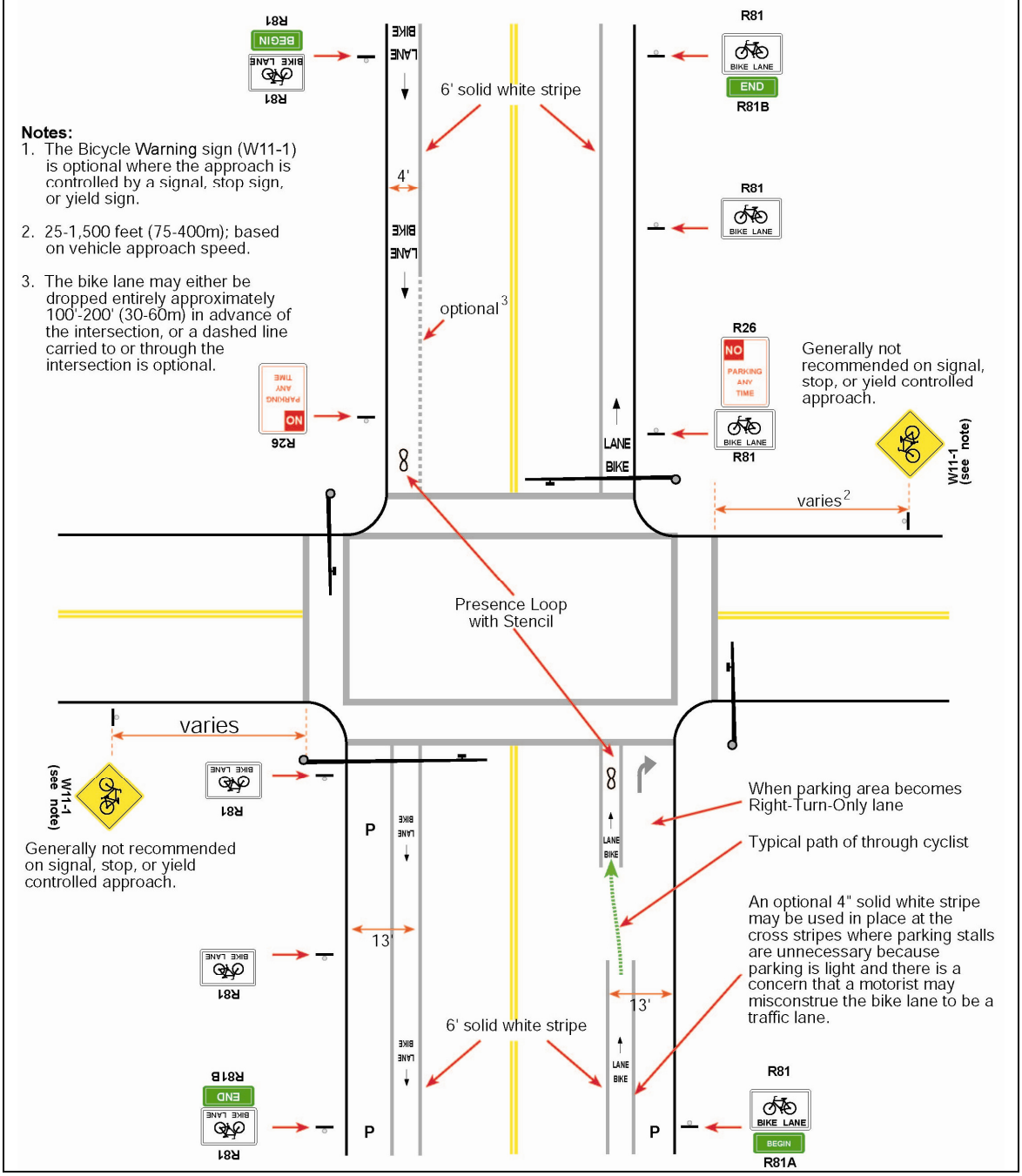
Changing how intersections operate also can help make them more “friendly” to bicyclists. Improved signal timings for bicyclists, bicycle-activated loop detectors, and camera detection make it easier and safer for cyclists to cross intersections. Proper placement of infrastructure, such as drains can also make for safer intersections and bicycling in general.

TYPICAL CLASS II BIKE LANE SIGNING AT A SIGNALIZED INTERSECTION

Description

This treatment provides a design for where a roadway with Class II bike lanes intersects with a road at a signalized intersection.

Graphic

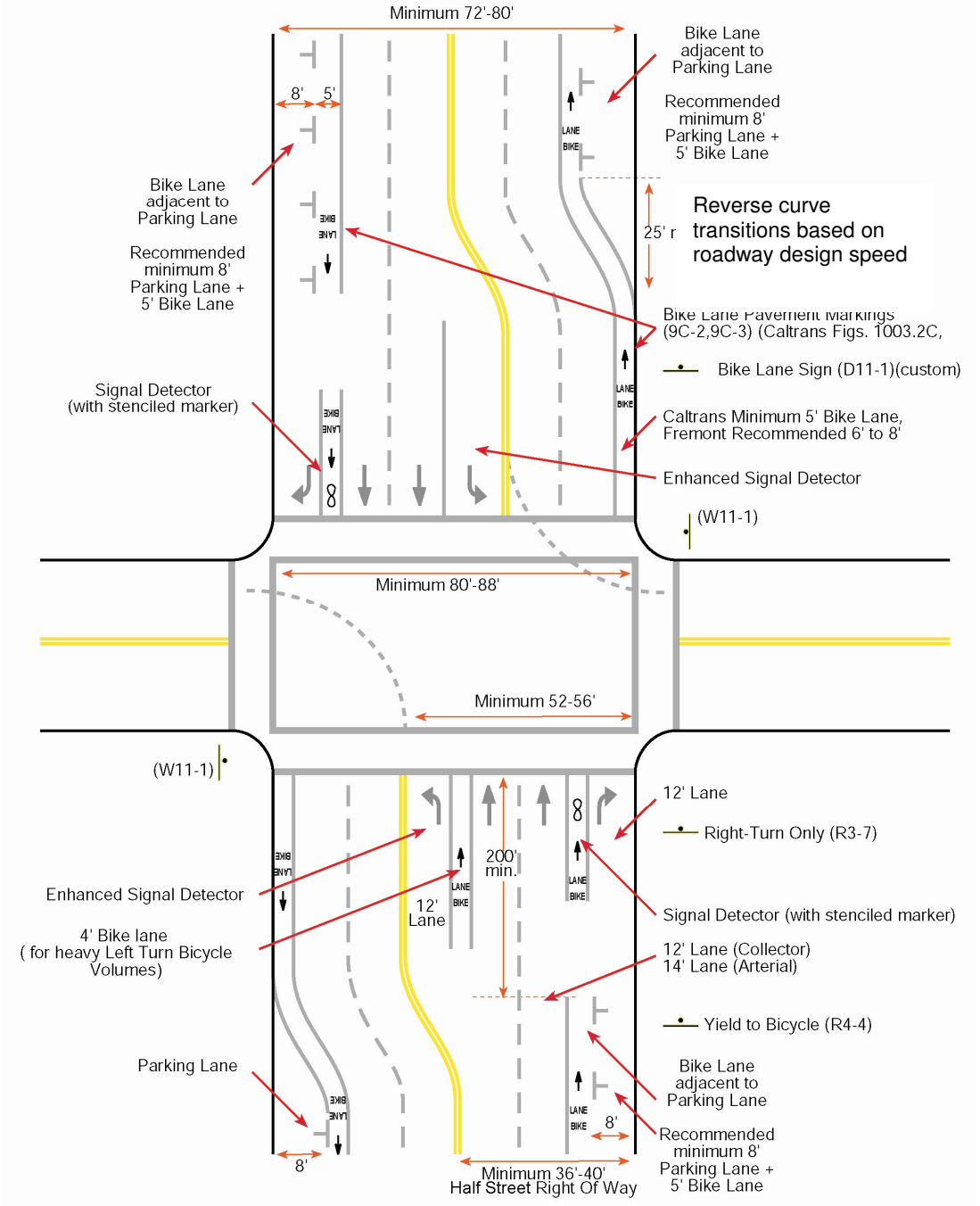


DEDICATED BIKE TURN LANES AT AN INTERSECTION

Description

This treatment provides a design for where a roadway with Class II bike lanes intersects with a road at a signalized intersection.

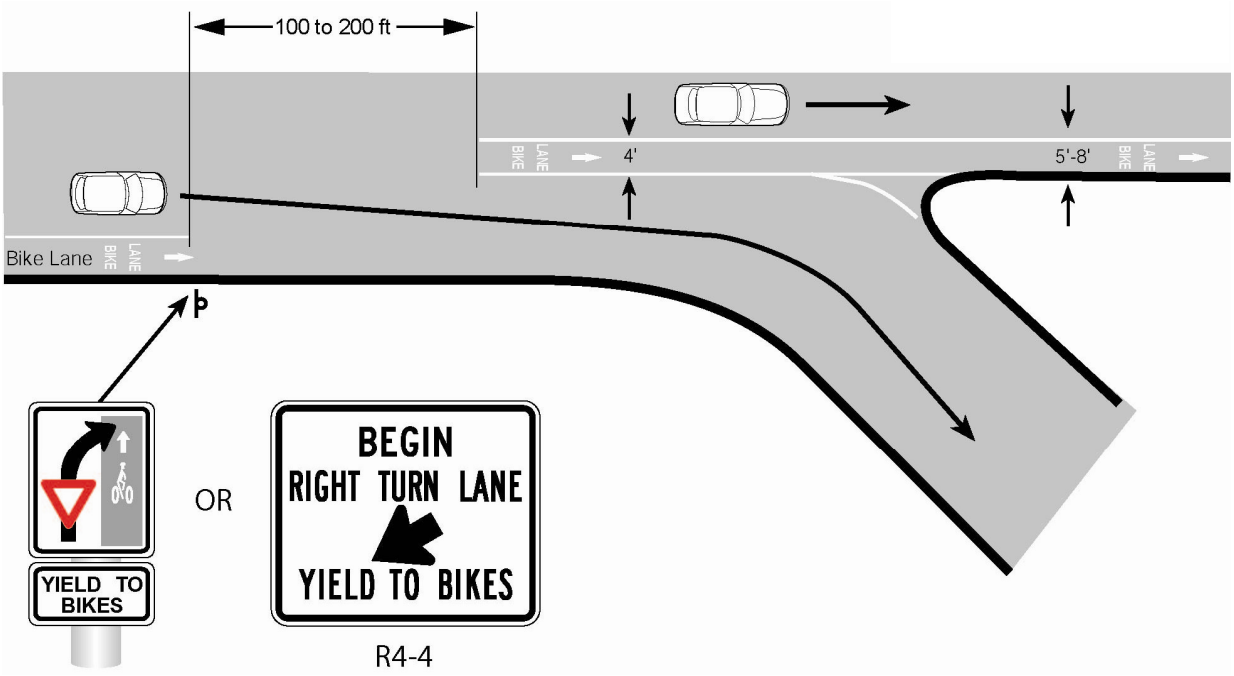
Graphic



BIKE LANE THROUGH FREEWAY RAMP

Description
Freeway on- and off-ramp crossings present another potential conflict zone for bicyclists, as bike lanes are typically dropped and cyclists must merge across travel lanes where vehicles are accelerating or decelerating from freeway speeds. As with the free right turn lanes, the appropriate cyclist behavior is to merge left away from the curb so as to be positioned in the through lane well before the mouth of the on-ramp, and to remain out away from the curb until past the off-ramp.

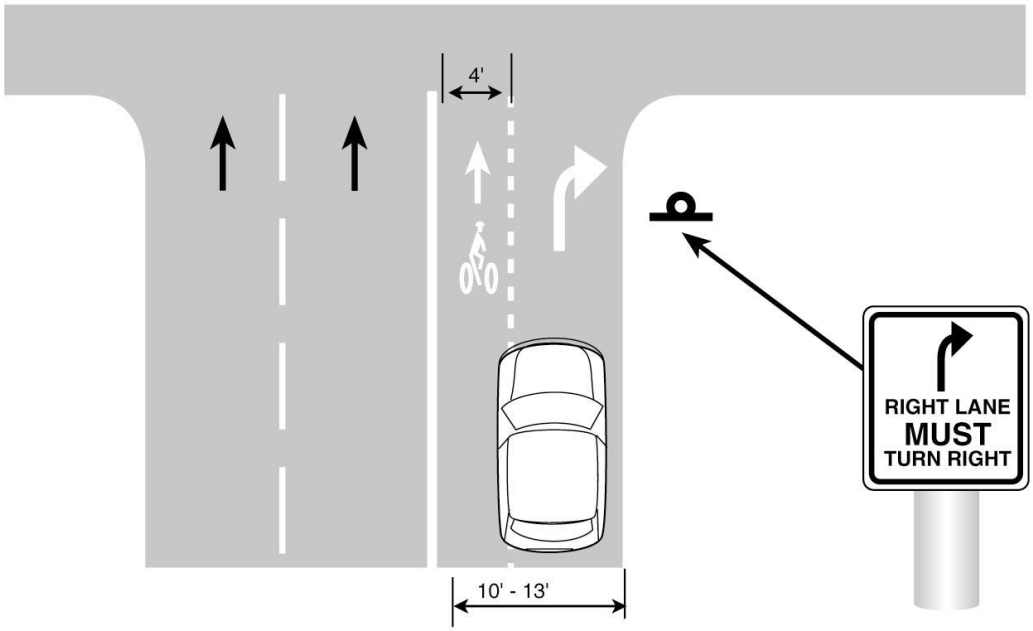
Graphic



Potential Applications
Freeway ramp crossings

COMBINED BICYCLE/RIGHT TURN LANE

Description
This treatment places a standard-width bicycle lane on the left side of a dedicated right-hand turn lane when there isn't enough room for both. A dashed stripe delineates the space for bicyclists and motorists within the right-hand turn lane. Signs should be installed to instruct bicyclists and motorists of the usage of this facility. This installation should be used on roadways where there is not enough room to provide a standard-width bicycle lane and a standard-width dedicated right-turn lane. These facilities are currently used in Eugene, Oregon.

Graphic


Potential Applications
1. Average vehicle speeds < 30 mi/h (48 km/h) 2. Install a sign to instruct motorists and bicyclists how to use the facility 3. Stripe and sign bicycle lane pavement markings in the turn lane to position and guide bicyclists in the right-turn lane

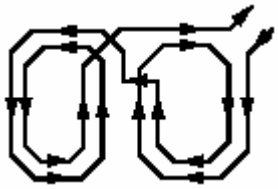
Guidelines
Shared-Lane Arrow placed at outside turn lane may prove to be more appropriate marking for this treatment.

BICYCLE LOOP DETECTORS

Description
Bicycle loop detectors activate traffic signals at intersections, similar to standard loop detectors used for auto traffic. Where bicycle loop detectors are not present, bicyclists are forced to wait for a motor vehicle to trigger a signal; where motor vehicle traffic is infrequent, they may cross against a red signal. Bicycle loop detectors should be identified with pavement markings that show cyclists where to position themselves to trigger the traffic signal.

Graphic

Bicycle-Sensitive Loop Detector Examples

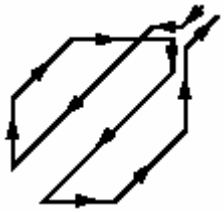


Quadrupole Loop – Type "C"

Detects most strongly in center

Sharp cut-off sensitivity

Used in bike lanes



Diagonal Quadrupole Loop – Type "D"

Sensitive over whole area

Sharp cut-off sensitivity

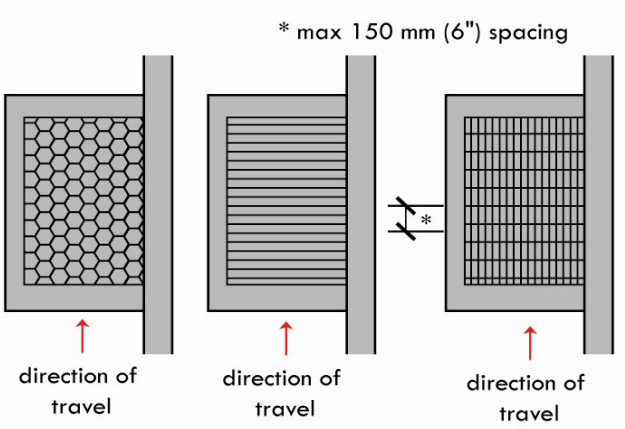
Used in shared lanes

Potential Applications
At signalized intersections along on-street segments of the Ventura Countywide Bikeway Network.

Guidelines
1. Pavement markings should identify proper cyclist position above the loop detector. 2. Loop detectors should provide adequate time for cyclists to cross the intersection, keeping in mind the slower travel speed (10-15 mph) of bicyclists.

DRAINAGE GRATES AND UTILITY COVERS

Description
Improper drainage grates and utility covers can catch bicycle tires and cause bicyclists to lose control. Because of this, cyclists may veer into traffic lanes to avoid grates and utility covers. Properly designed grates and utility covers allow cyclists to maintain their direction of travel without catching tires or being forced into travel lanes.

Graphic
 Example of bicycle friendly drainage grates.

Potential Applications
Wherever drainage grates or utility covers are located along on-street segments of the Ventura County Bikeway Network route.

Guidelines
1. Grates must feature crossbars or a grid which prevents bicycle tires from catching or slipping through, as shown above. 2. Metal covers used in construction zones must have a non-slip coating.

SIGNAGE AND WAYFINDING

Critically important for all who use the road, signage reflecting information about bicycling need to be apparent to both bicyclists and motorists. It is only through awareness of conditions affecting all who use the road that a greater measure of safety can be achieved. As is the case with automobile signage, bicycle signage can be indicative of hazards and road conditions, as well as serve for route indication and wayfinding.

A major consideration for signage is the appropriate placement of signs for the maximum effect. Table 1 provides specific placement instructions for the sign by type.

OTHER SIGNAGE

Innovative signing is often developed to increase bicycle awareness and improve visibility. Signs to be installed on public roadways in California must be approved by Caltrans' California Traffic Control Devices Committee. New designs can be utilized on an experimental basis with Caltrans approval.

San Francisco was the first county in California to use the approved customized bike route logo sign. Jurisdictions may choose a graphic of their choice for the upper third portion of the sign and a numbering system, similar to the highway numbering system, can be used in the lower third. Some considerations for the use of directional signage:

- Use signs sparingly, primarily at intersections and junctions with other bicycle routes
- A consistent and recognizable logo, arrows and a destination should be on the sign to clearly direct bicyclists
- Bicycle route signs should be accompanied with destination and direction plaques.

The new "Share the Road" sign, adopted by the California Traffic Control Devices Committee in 1999, is designed to advise motorists that bicyclists need to share narrow roadways with motor vehicles. This sign has been installed throughout Marin County.

Interest has been generated over the "Bikes Allowed Use of Full Lane" sign. These words, taken directly from the California Vehicle Code (CVC 21202), remind motorists of the rights of bicyclists on the roadway, Cities may consider using this sign as an experiment as it has not yet been approved by the California Traffic Control Devices Committee.

ON-STREET BIKEWAY REGULATORY & WARNING SIGNAGE

Description
Signage for on-street bikeways includes standard BIKE LANE and BIKE ROUTE signage, as well as supplemental signage such as SHARE THE ROAD and warning signage for constrained bike lane conditions.

Graphic

R81

D11-1

Standard Bike Lane and Bike Route signage

R7-9

R7-9a

Signs for bike lanes where there is no auto parking on right of lane

W11-1

W16-1

Sign for use at transition from Class II to Class III, at the beginning of routes, and on non-bicycle-route roads where bicycle traffic might be expected, or at intervals on all city streets.

W5-2

W5-4A

Signs for use at bridge or undercrossing locations where roadway width is constrained and Class II bicycle lanes may be dropped

R4-4

Sign for use where right turn only lane begins and bicyclists must merge across

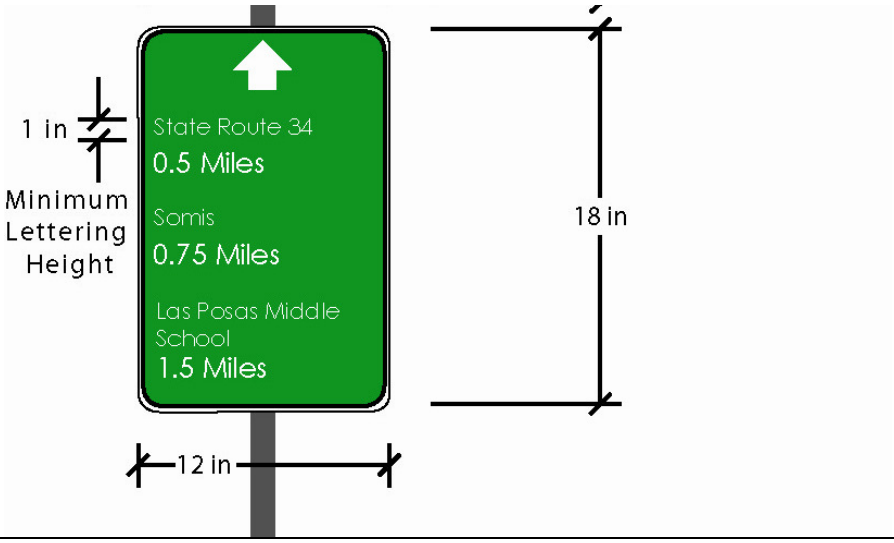
Figures are from CA MUTCD

Potential Applications
Various situations, specific to each site. The County should install SHARE THE ROAD signs along all Class III Bike Routes in addition to standard BIKE ROUTE signage.

Guidelines
Signage should be installed on existing signposts if possible, reducing visual clutter along the path or roadway.

COUNTY OF VENTURA BIKEWAY NETWORK WAYFINDING

Description
Destination signage acts as a "map on the street" for cyclists. Destination signage can not only direct cyclists to locations, but provide mileage and draw attention to local destinations. The destination signage shown below indicates destinations along the route, and may include mileage.

Graphic


Potential Applications
Along bicycle network streets throughout Ventura County Bikeway Network.

Guidelines
1. Destination signage should be easy to read. 2. Destination signage should be installed with enough frequency to effectively guide cyclists throughout the Ventura County Bikeway Network. Installation of signage every ¼ to ½ mile, depending on the route, is recommended. Placement of signage at key decision points is recommended. Many communities are developing customized signage along bikeways to accommodate both commuter and recreational users.

Table 1

Recommended Signing and Marking

Item	Location	Color	CAMUTCD Designation
No Motor Vehicles	Entrances to trail	B on W	R5-3
Use Ped Signal / Yield to Peds	At crosswalks; where sidewalks are being used	B on W	R9-5, R9-6
Bike Lane Ahead: Right Lane Bikes Only	At beginning of bike lanes	B on W	R3-16, R3-17
STOP, YIELD	At trail intersections with roads	W on R	R1-1, R1-2
Bicycle Crossing	For motorists at trail crossings	B on Y	W11-1
Bike Lane	At the far side of all arterial intersections	B on W	D11-1
Hazardous Condition	Slippery or rough pavement	B on Y	W8-10
Turns and Curves	At turns and curves which exceed 20- mph design specifications	B on Y	W1-1, W1-2, W1-4, W1-5, W1-6
Trail Intersections	At trail intersections where no STOP or YIELD required, or sight lines limited	B on Y	W2-1, W2-2, W2-3, W2-4, W2-5
STOP Ahead	Where STOP sign is obscured	B, R on Y	W3-1
Signal Ahead	Where signal is obscured	B, R, G	W3-3
Bikeway Narrows	Where bikeway width narrows or is below 8’	B on Y	W5-4

Item	Location	Color	CAMUTCD Designation
Downgrade	Where sustained bikeway gradient is above 5%	B on Y	W7-5
Pedestrian Crossing	Where pedestrian walkway crosses trail	B on Y	W11A-2
Restricted Vertical Clearance	Where vertical clearance is less than 8'6"	B on Y	W11A-2
Railroad Crossing	Where trail crosses railway tracks at grade	B on Y	W10-1
Directional Signs	At intersections where access to major destinations is available	W on G	D1-1b(r/l), D1-1-c
Right Lane Must Turn Right; Begin Right Turn Here; Yield to Bikes	Where bike lanes end before intersection	B on W	R3-7, R4-4

BICYCLE PARKING

As more bikeways are constructed and bicycle usage grows, the need for bike parking will climb. Long-term bicycle parking at transit stations and work sites, as well as short-term parking at shopping centers and similar sites, can both support bicycling. Bicyclists have a significant need for secure long-term parking because bicycles parked for longer periods are more exposed to weather and theft. Long term parking is very popular and the demand for this service often outpaces the supply. Specific recommended quantities and locations of bicycle parking facilities can found in **Table 2**.

Table 2

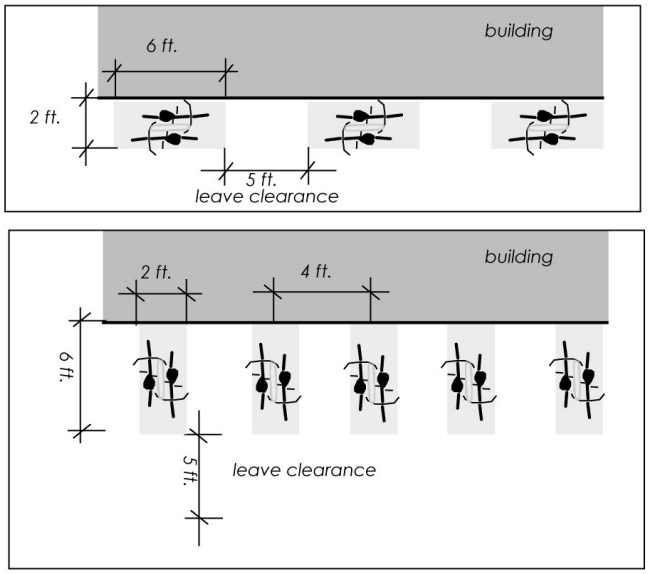
Recommended Guidelines for Bicycle Parking Locations and Quantities

BICYCLE RACKS

Land Use or Location	Physical Location	Bicycle Capacity
County Park	Adjacent to restrooms, picnic areas, fields, and other attractions	8 bicycles per acre
County Schools	Near school buildings, in area with good visibility	8 bicycles per 40 students
Public Facilities (County hall, libraries, community centers)	Near main entrance with good visibility	8 bicycles per location
Commercial, retail and industrial developments over 10,000 gross square feet	Near main entrance with good visibility	1 bicycle per 15 employees or 8 bicycles per 10,000 gross square feet
Shopping Centers over 10,000 gross square feet	Near main entrance with good visibility	8 bicycles per 10,000 gross square feet
Commercial Districts	Near main entrance with good visibility; not to obstruct auto or pedestrian movement	2 bicycles every 200 feet
Transit Stations	Near platform or security guard	1 bicycle per 30 parking spaces

Description
Secure bicycle parking is an essential element of a functional bicycle network. Bicycle racks are a common form of short-term secure bicycle parking and should be installed and maintained in various locations in Ventura County.

Graphic



Potential Applications

Throughout the Ventura County Bikeway Network, with priority given to significant destinations such as parks, schools, shopping centers, transit hubs and job centers.

Guidelines

1. The rack element (part of the rack that supports the bicycle) should keep the bicycle upright by supporting the frame in two places without the bicycle frame touching the rack. The rack should allow one or both wheels to be secured.
2. A standard inverted-U style rack (shown above) is a simple and functional design that takes up minimal space on the sidewalk and is easily understood buy users. Most rack vendors offer the inverted-U design
3. In general, avoid use of multiple-capacity "wave" style racks. Users commonly misunderstand how to correctly park at wave racks, placing their bikes parallel to the rack and effectively limiting capacity to 1 or 2 bikes.
4. Position racks so there is enough room between adjacent parked bicycles. If it becomes too difficult for a bicyclist to easily lock their bicycle, they may park it elsewhere and the bicycle capacity is lowered. A row of inverted "U" racks should be situated on 30" minimum centers.
5. Empty racks should not pose a tripping hazard for visually impaired pedestrians. Position racks out of the walkway's clear zone.
6. When possible, racks should be in a lighted, high visibility, covered area protected from the elements. Long-term parking should always be protected.

It should be noted that the APBP *Bicycle Parking Guidelines* do not recommend use of the wave-style rack, for the reasons that bicycles parked perpendicular to wave racks are only supported on one place and more likely to fall over, and as a result a bicyclist will commonly use a wave rack as if it were a single inverted "U," limiting its capacity.

Attended Bicycle Parking Facilities

Description
Attended bike parking is analogous to a coat check – your bike is securely stored until you need it in a supervised location. An organization called The Bikestation® Coalition is promoting enhanced attended parking at transit stations.

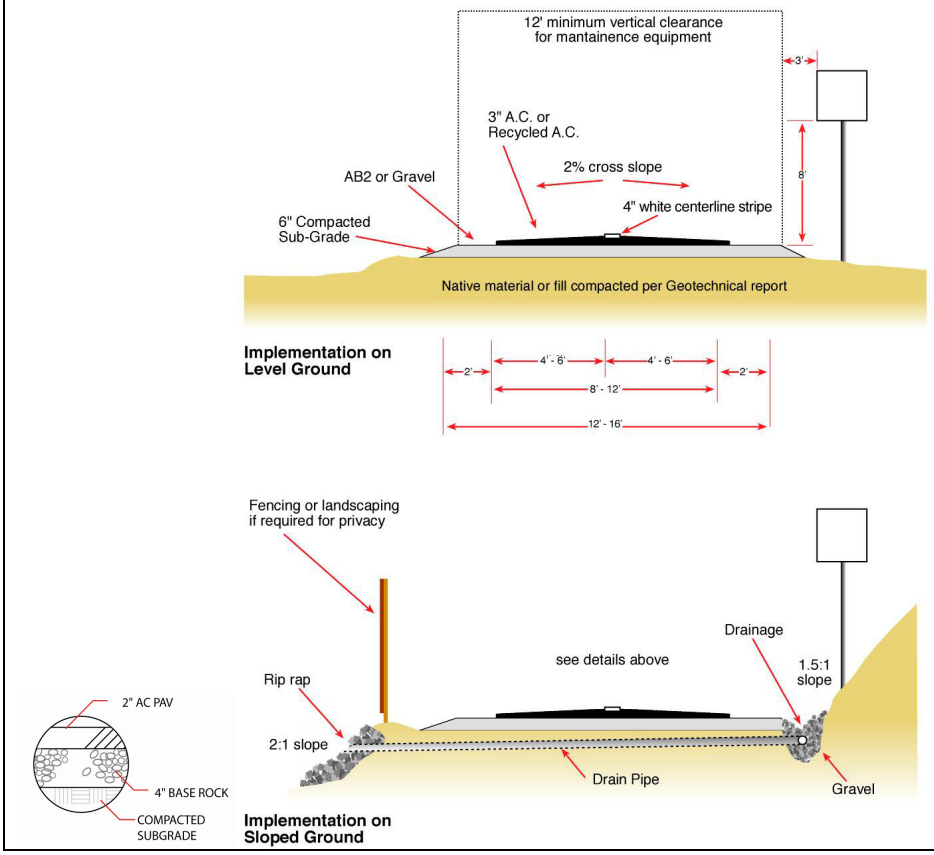
Potential Applications
The Bikestation® concept is now in use in Palo Alto and Berkeley in the Bay Area. Bikestations® offer secured valet bicycle parking near transit centers. What makes Bikestations® distinctive are the other amenities that may be offered at the location – bicycle repair Attended bicycle parking can be offered at some special events. For example, the Marin County Bicycle Coalition sponsors valet parking at many festivals in the county, the Sonoma County Bicycle Coalition sponsors valley parking at the downtown Santa Rosa Farmer's Market, and secured bicycle parking is offered at SBC Park in San Francisco.

TYPICAL CLASS I PATH DESIGN DETAILS

Description

In order to accommodate both bicyclists and pedestrians, Class I paths should be designed to the minimum standards shown below. In locations with high use, or on curves with limited sight distance, a yellow centerline should be used to separate travel in opposite directions. High use areas of the trail should also provide additional width up to 12 feet -16 feet as recommended below. Lighting should be provided in locations where evening use is anticipated or where paths cross below freeways or other structures.

Graphic



Potential Applications

All Class I Paths.

Guidelines

1. Paths should be constructed with adequate sub grade compaction to minimize cracking and sinking, and should be designed to accommodate appropriate loadings, including emergency vehicles.
2. A 2% cross slope shall be provided to ensure proper drainage.

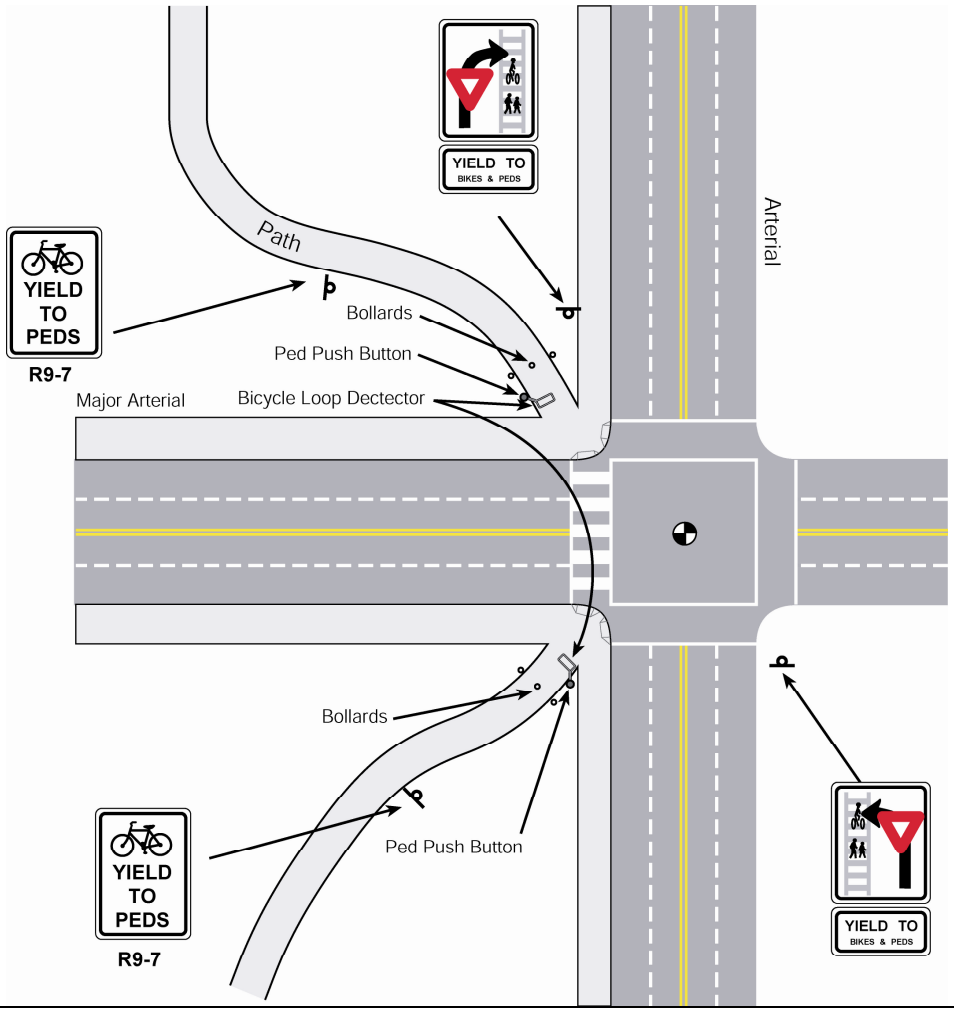
3. Shared use trails and unpaved facilities that serve primarily a recreation rather than a transportation function and will not be funded with federal transportation dollars may not need to be designed to Caltrans standards. However, state and national guidelines have been created with user safety in mind and should be followed as appropriate. Wherever any trail facility intersects with a street, roadway, or railway, standard traffic controls should always be used.
4. Class I bike path crossings of roadways require preliminary design review. Generally speaking, bike paths that cross roadways with average daily trips (ADTs) over 20,000 vehicles will require signalization or grade separation.
5. Landscaping should generally be low water consuming native vegetation and should have the least amount of debris.
6. Lighting should be provided where commuters will use the bike path in the evenings.
7. Barriers at pathway entrances should be clearly marked with reflectors and be ADA accessible (minimum five feet clearance).
8. Bike path construction should take into account impacts of maintenance and emergency vehicles on shoulders and vertical and structural requirements. Paths should be constructed with adequate sub grade compaction to minimize cracking and sinking.
9. All structures should be designed to accommodate appropriate loadings. The width of structures should be the same as the approaching trail width, plus minimum two-foot wide clear areas.
10. Where feasible, provide two-foot wide unpaved shoulders for pedestrians/runners, or a separate tread way.
11. Direct pedestrians to the right side of pathway with signing and/or stenciling.
12. Provide adequate trailhead parking and other facilities such as restrooms and drinking fountains at appropriate locations.

CLASS I PATH CROSSING OF ROADWAY

Description

This treatment provides a design for locations where Class I off-street paths cross roadways. Bollards and path geometry could be used to slow path users as they approach the intersection, however the use of bollards should only be used with prudence and where motorized vehicles may attempt to drive on paths.

Graphic

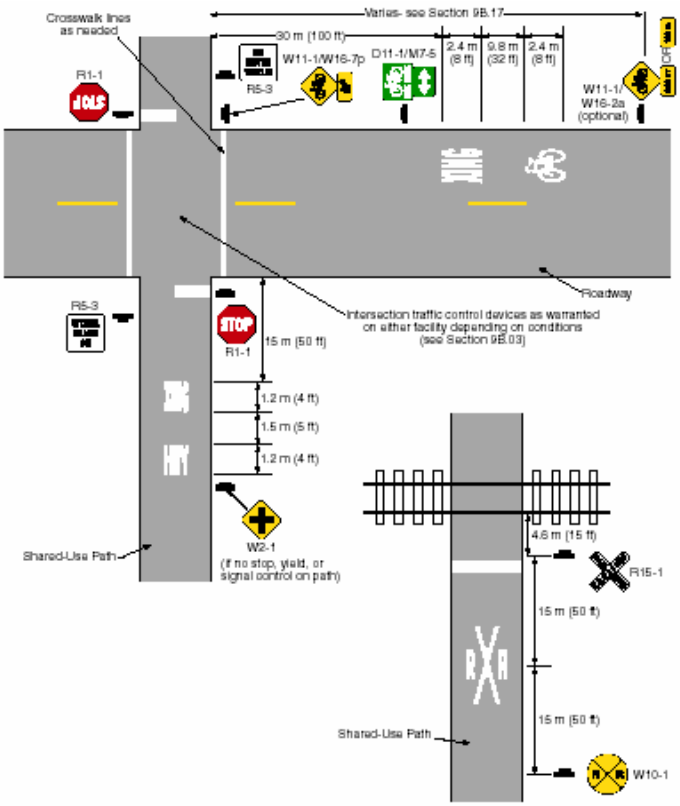


Potential Applications

1. Intersections of Class I paths and high volume and/or high speed roadways
2. Can also be used at a signalized mid-block crossing with median

Class I Path Crossing of Roadway at Midblock Location Description
This treatment should be used where Class I paths cross residential streets with low to moderate traffic volume and speed. Paths should intersect roadways as close to a 90 degree angle as is possible. Design features for mid-block path crossings include high-visibility crosswalks and advanced crossing warning signage for motorists. Stop or yield controls should be used for either trail users or street traffic, depending on right-of-way.

Graphic



Graphic source: CA MUTCD.

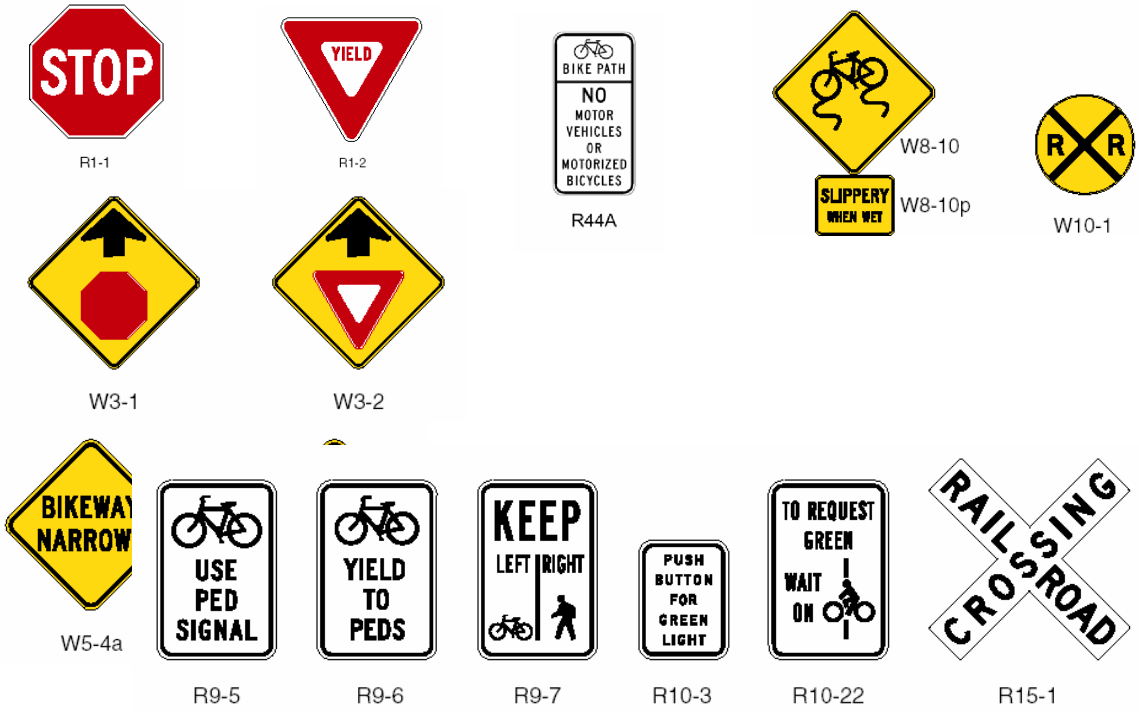
Potential Applications
Intersections of Class I paths with roadways with low to moderate traffic volume and speed.

Guidelines
1. Path should intersect roadway as close to 90 degrees as possible. 2. Warning, stop or yield signage should be installed along pathway to alert users to impending roadway intersection. 3. Midblock crossings should not be installed close to intersections. When a path emerges at a midblock close to an intersection, it should be routed to the intersection for crossing.

CLASS I PATH REGULATORY AND WARNING SIGNAGE

Description
Signage for Class I paths includes warning signage for path-roadway crossings, destination and way finding signage for path users, signage to assist path users in crossing roadways, and signage to encourage proper use of path facilities. Striping along paths can help separate different types of path users, can separate opposing flows of pathway traffic, and can provide information to path users about upcoming roadway crossings or obstacles.

Graphic



Figures are from CA MUTCD

Potential Applications
Various situations, specific to each site.

Guidelines
Signage should be installed on existing signposts if possible, reducing visual clutter along the path or roadway.

APPENDIX M: SURVEY RESULTS

A survey was conducted from July to November 2006 to gather feedback on the current conditions and attitudes toward bicycling in Ventura County. The survey was conducted and administered via website and garnered 439 responses. The questionnaire and a summary of survey responses are provided in this Appendix.

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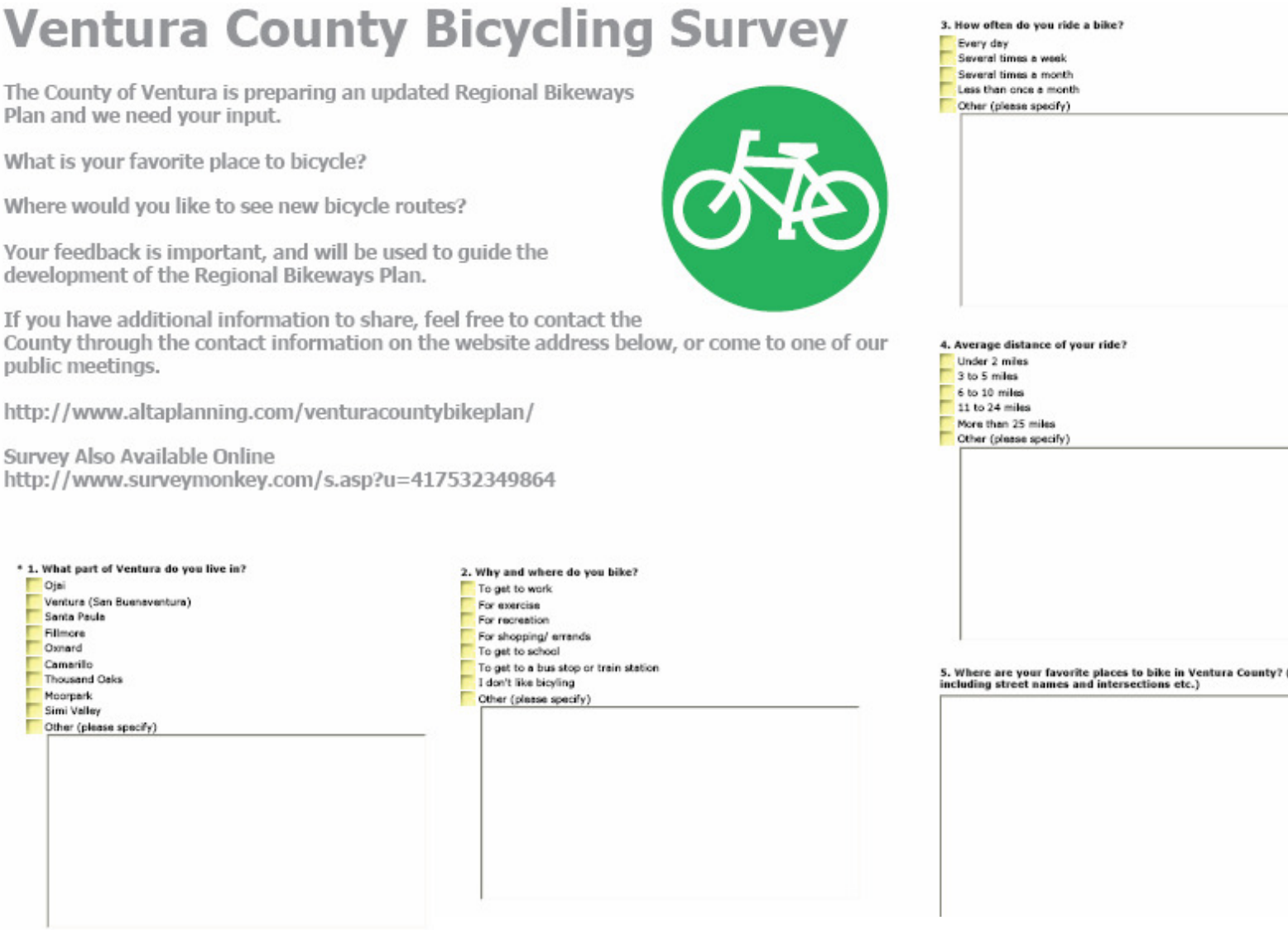

Ventura County Bicycling Survey

The County of Ventura is preparing an updated Regional Bikeways Plan and we need your input.

What is your favorite place to bicycle?

Where would you like to see new bicycle routes?

Your feedback is important, and will be used to guide the development of the Regional Bikeways Plan.

If you have additional information to share, feel free to contact the County through the contact information on the website address below, or come to one of our public meetings.

http://www.altaplanning.com/venturacountybikeplan/

Survey Also Available Online
http://www.surveymonkey.com/s.asp?u=417532349864

*** 1. What part of Ventura do you live in?**
- Ojai
- Ventura (San Buenaventura)
- Santa Paula
- Fillmore
- Oxnard
- Camarillo
- Thousand Oaks
- Moorpark
- Simi Valley
- Other (please specify)

2. Why and where do you bike?
- To get to work
- For exercise
- For recreation
- For shopping/ errands
- To get to school
- To get to a bus stop or train station
- I don't like bicyling
- Other (please specify)

3. How often do you ride a bike?
- Every day
- Several times a week
- Several times a month
- Less than once a month
- Other (please specify)

4. Average distance of your ride?
- Under 2 miles
- 3 to 5 miles
- 6 to 10 miles
- 11 to 24 miles
- More than 25 miles
- Other (please specify)

5. Where are your favorite places to bike in Ventura County? (including street names and intersections etc.)

Figure M-1
Ventura County Bicycle Survey

6. What prevents you from biking more often?

- Too many cars / cars drive too fast
- No bike paths, lanes or bike routes
- Bike paths are in poor condition
- Places are too far away
- Not enough lighting
- I have to carry things
- I travel with small children
- I don't own a bicycle
- I don't have enough time
- Other (please specify)

7. If you have children, do they walk or bike to school?

- Every day
- Sometimes
- Never
- This question does not apply to me

8. Where are the most difficult places in for you to bike in Ventura County? (Please be specific by including street names and intersections etc.)

9. Please rank your preference for bicycle facilities

	Most Preferred	Indifferent	Least Preffered
Off-street paved bike paths			
On-street bike lanes			
Bike routes or boulevards on local streets			
Trails or single track dirt paths			

10. Please tell us the bicycling improvements you would like to see in Ventura County. This could include new bike lanes, paths, or routes, enhancements to existing bikeways or intersections, additional signage, or educational and encouragement programs to promote bicycling.

11. Would you like more information?
If you would like us to contact you regarding future meeting dates, please fill in your contact information:

- Yes
- No

Ventura County Bicycle Master Plan Update

2. Contact Information

12. Name
Please enter your name:

13. Street Address
Please enter your street address:

14. City
Please enter your city of residence:

15. Zip Code
Please enter your zip code:

16. Email

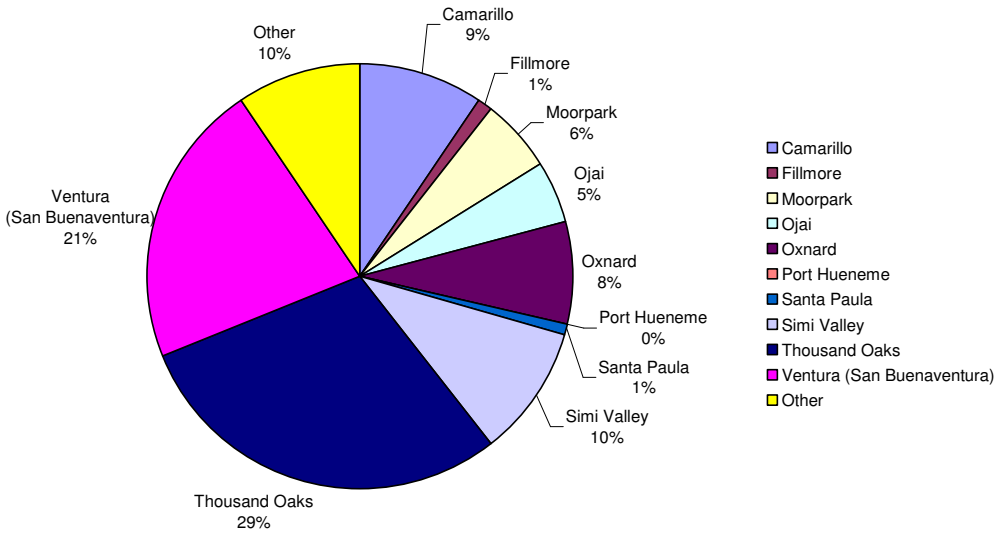

Figure M-2
Question 1: What part of Ventura County do you live in?

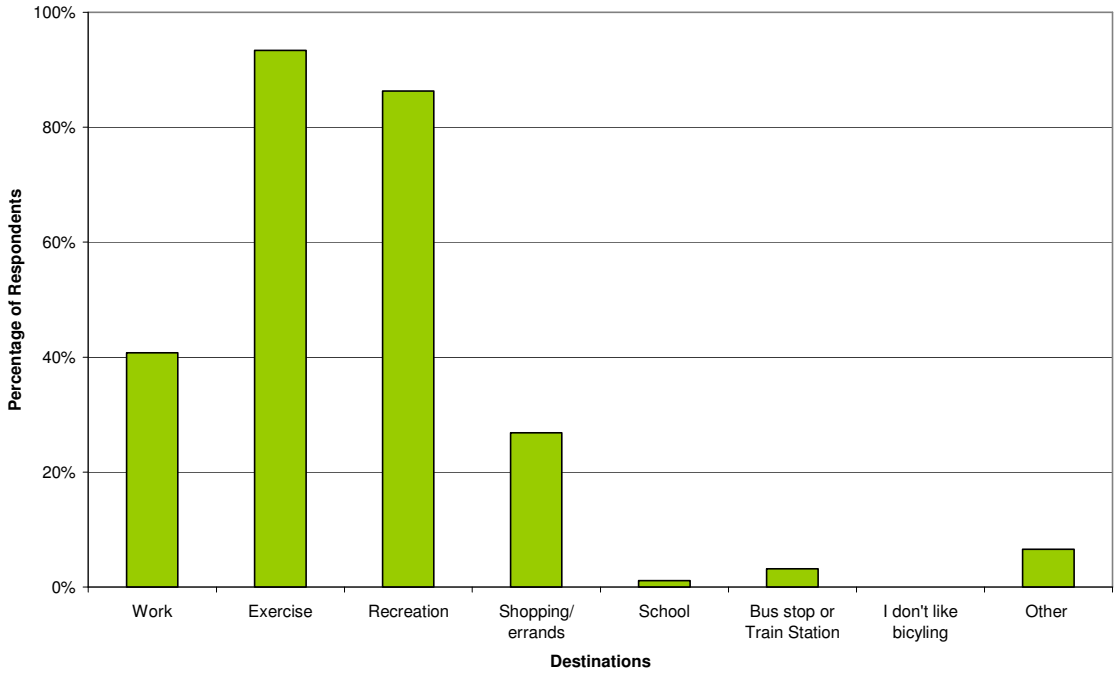

Figure M-3
Question 1: Where and why do you bike?

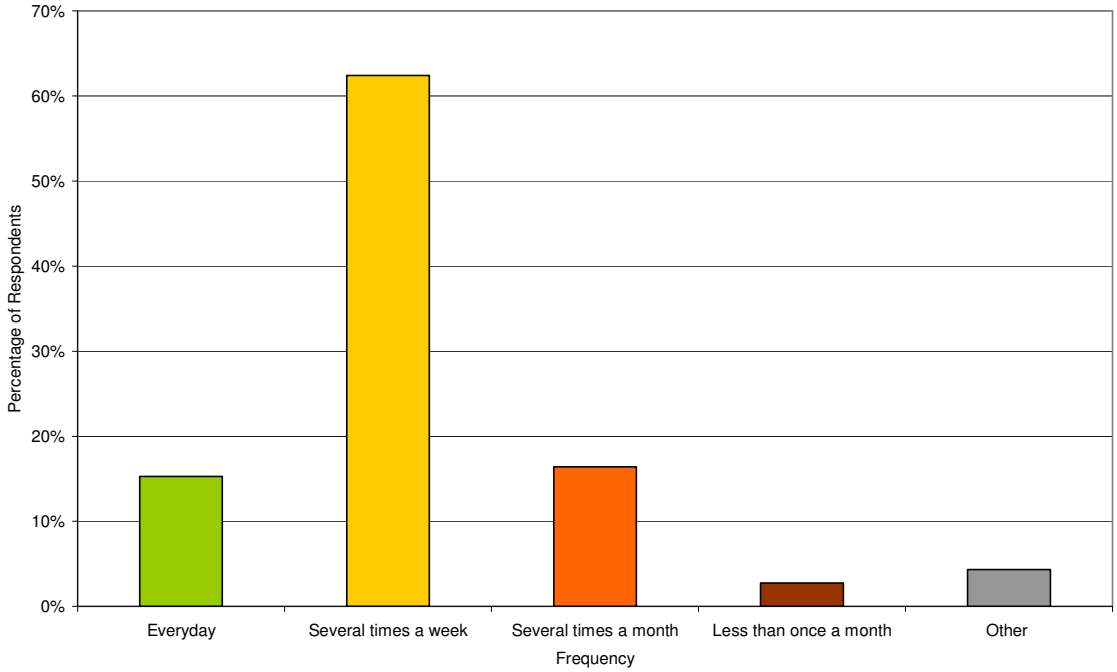

Figure M-4
Question 3: How often do you ride a bike?

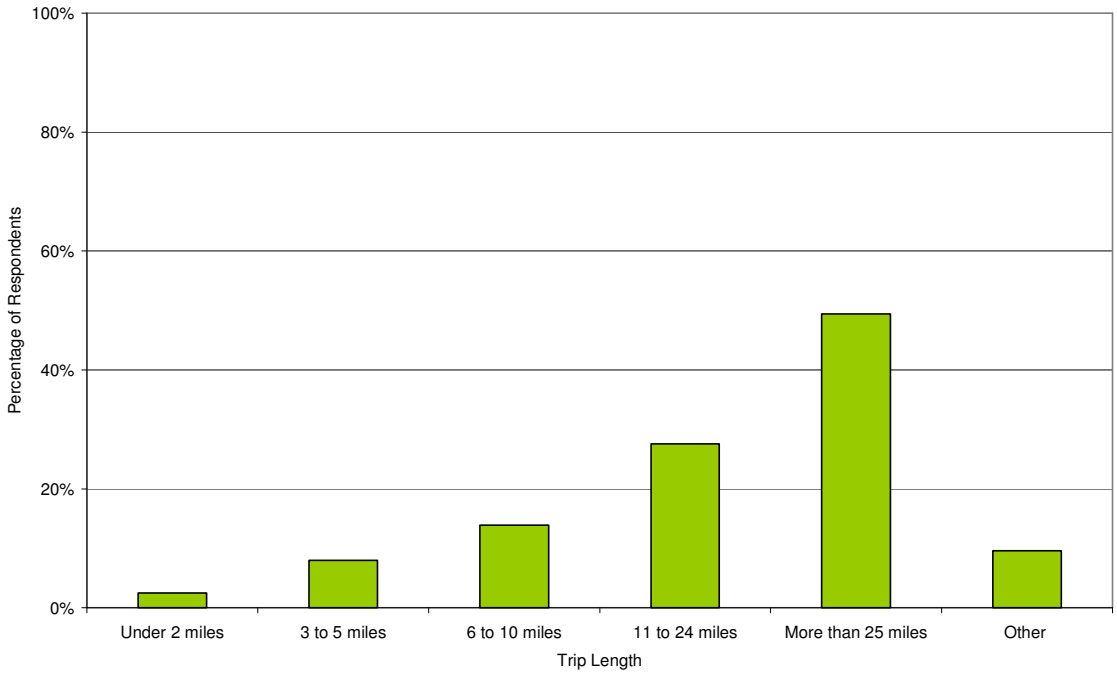

Figure M-5
Question 4: What is the average distance of your ride?

Table M-1
Question 5: Where are you favorite places to bike Ventura County?

PCH between Pt Mugu and Malibu Las Posas Rd between Camarillo and Pt Mugu (and various interconnecting roads) Ojai Valley Trail Farm roads north of the 118 in Camarillo
Coast to lake casitas, Ojai bike path, Ventura Santa Rosa Road (NEEDS ATTENTION) Portrero Road (Needs to be more bicycle friendly - wider)
Pleasant Valley Road to Las Posas to PCH and up one of the canyon roads to Hidden Valley, down Potrero Road and back to Mission Oaks
Ventura Beach
From downtown Ventura to Carpinteria From Downtown Ventura to Ojai From Camarillo to Thousand Oaks a Loop from Camarillo to Moorpark to the roads on the North side of route 118 and then back to Camarillo
Las Posas to Point Mugu Las Posas to upland to Santa Rosa Spanish Hills
Portrero Canyon.
Santa Rosa Road, Hueneme Road, Pleasant valley, Las Posas, PCH Mugu to Mulholland, Thousand oaks, hidden lake, Potrero road
Santa Rosa Rd. Los Posas Pleasant Valley Rd. Hwy 33 Casitas Pass Rd
Somis- LA Ave, Bradely, Berylwood, Agen, E. La Loma, West La Loma, back to LA Ave. (beautiful stretch thru orchards and country back roads)
Pleasant Valley Rd., Lewis Rd., Hueneme Rd, Las Posas Rd., PCH, Santa Rosa Rd, Moorpark Rd., Highway 118,Central Ave, Saticoy Rd., Foothill Rd., Telephone Rd., South Mtn.., Balcom Canyon, Grimes Canyon, Hwy. 150, Hwy 33, Potrero Rd. Some of these I frequent, but are not favorite because they are not safe!
*Guiberson Rd. (Fillmore/Piru) *PCH *Ventura coastal route *Along the 126 *Hidden Valley (in T.O.) *Grimes Canyon *South Mountain Rd. (Fillmore Santa Paula)
Take T.R to Santa Rosa to Flynn to work (Would love to take 118 if ot was not horrible). Weekend rides go through Simi to Valley (L.A. Ave) and pass. Out to Fillmore via 23 and Giberson Rd, South Mountain. All hills north of MPK (Balcom, Bradley, etc).
Given the number of recent accidents with cars hitting cyclists, I prefer bike paths with no auto traffic.
1. Hwy 150 between Ojai and Santa Paula 2. Hwy 33 up to Pine Mountain 3. Ojai to Ventura via Santa Ana Rd and the Ventura-Ojai bike trail 4. Ojai to Santa Barbara via 3 above and the coast route. 5. Creek Rd between Oak View and Ojai 6. Ojai to Santa Paula via Foothill Rd.
Port Hueneme Bubbling Springs Bike Path Buenaventura State Beach ocean front bike path Ojai Valley bike trail Point Mugu State Park - Big Sycamore Canyon trail
I bike from Long Canyon to Olsen on Woodranch on Olsen, Lynn Rd, Moorpark Rd, Erbes Rd, Hillcrest, Potrero, Wendy, Kanan, Read Rd, Tierra Rejada, Spring Rd (Moorpark), Walnut Canyon.
Santa Monica Mountains, Mulholland Rd. Portrero Road
Simi Valley - Wood Ranch Loop, Big Sky Loop, LA Avenue to Santa Susana Pass Road. Oxnard: Harbor blvd except for traffic concerns, Ventura river bike trail/foster park/ojai/casitas
I love all separated bike paths. The trail to Ojai is great. Also like to ride along the Ventura waterfront (Surfer's Pt to State Beach).

Tierra Rejada Road from beginning (New L.A. Ave) to end (Madera Rd). Ventura to Ojai bike path. Ventura Coastal route (like in Cool Breeze ride). Channel Islands Harbor to Ventura Harbor.
Kanan Road, Westlake Blvd, Lindero Canyon Road, Agoura Road, Erbes Road, Hillcrest Blvd, Thousand Oaks Blvd; main criteria is a street that has bike lanes to provide a measure of safety
Los Posas road from Point Mugu to Camarillo Airport. Bard Road to Ventura Road to CI to Harbor to Ventura State Park to Ojai Bike Path. 101 to Bates Road to 150 to Carpinteria. These are just a few. There are other routes like hwy 1 to Malibu and Zuma Beach, but there are some hazards along that route.

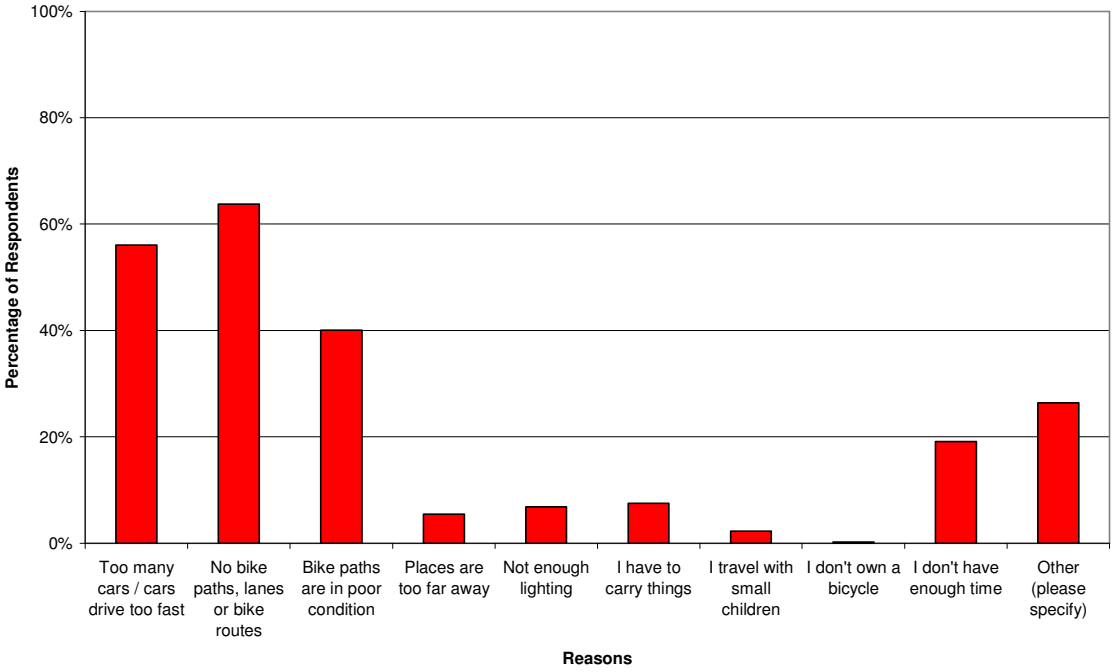

Figure M-6
Question 6: Reasons preventing you from biking more often.

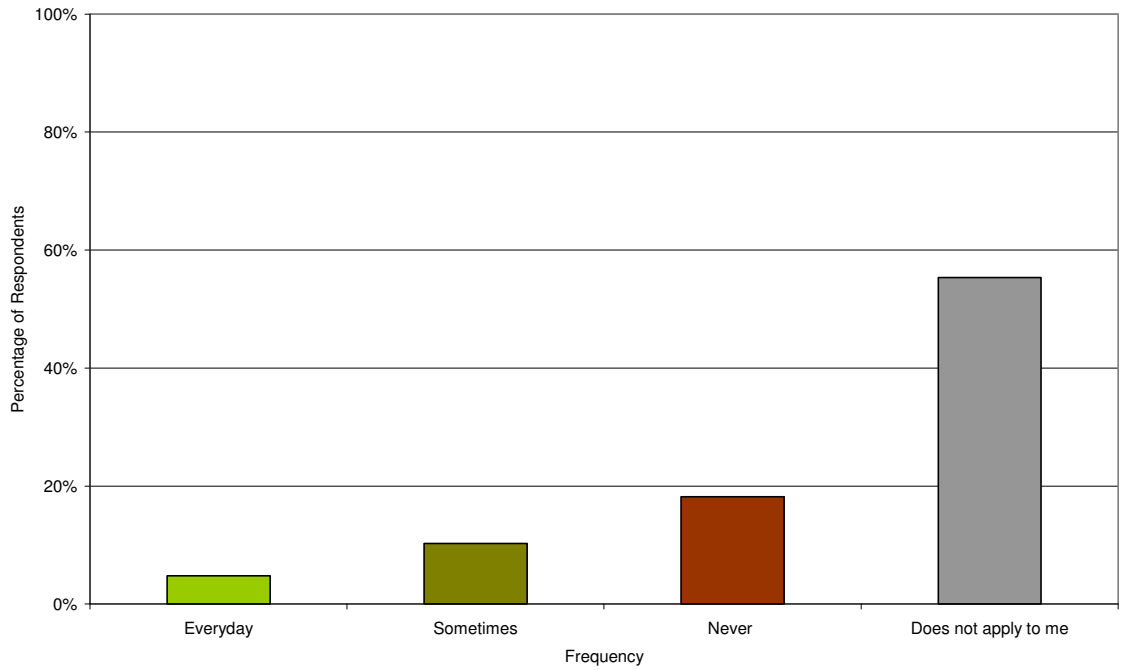

Figure M-7
Question 7: If you have children, do the walk or bike to school?

Question 8: What are the most places for you to bike in Ventura County?

Rte 118 from Center School Rd to Rte 126 in Saticoy.
Santa Rosa, Camarillo
Santa Rosa Road (obstacles in bike lanes), Portrero road (too narrow) Debris in many of the bike lanes - glass, nails, bolts, tire pieces etc. Drivers that hate bikers anywhere Bikers that ride too wide into the streets (not paying attention)
There are basically two main routes from Camarillo to Thousand Oaks and beyond. The first is the Norwegian Grade via Santa Rosa Road. This is a beautiful route, but the shoulder is narrow and virtually non-existent on the actual Grade. The second is Potrero Road. I know that sections were recently re-paved but the shoulder is tiny and many of the corners are blind. Also, Lewis Road has virtually no shoulder past Ventura BLVD to Las Posas.
Pleasant Valley Road, east of Las Posas near Camarillo. No berm; cars whizz by very close at high speeds!
Las Posas that crosses 101. The on-ramps make it very dangerous for cyclists. Upland near Woodcreek-bike lane is missing for large section Sections of pleasant Valley without bike lanes between 101 and Lewis Sections of Arneil without bike lanes
118 Hwy from Saticoy to Moorpark. Yerba Buena and Little Sycamore are in terrible shape. Norwegian Grade (N. Moorpark Rd). No bike path or shoulder but at least it's really narrow. Santa Rosa Rd. The rumble strips will shake the fillings out of your teeth and it is always dirty.
intersections that don't change for cyclists INTERSECTIONS THAT DON'T CHANGE FOR CYCLISTS Norwegian Grade Hillcrest Lynn Rd (by the Hospital) T.O. Blvd
Madera from Wood Ranch to Royal - no bike lanes and multiple entrances to the strip mall. Intersection of Madera to Royal. All traffic lights are limited in green light time length for left hand turns out onto Madera from all three of the Wood Ranch intersections. These are local for me but are stressing and make me apprehensive when starting and or returning home. Intersection of Lynn and Los Arboles. Traffic light does not respond to bicycle pressure to activate light. Dismount and press the pedestrian crossing button.
Route along Telegraph west from Wells to Petit is not good for recreation or young riders. Neither is Foothill from Wells to any where. So there is no good east-west route from Wells Rd west. Saticoy south from Telegraph, over the 126 to Telephone is a disaster with no safe place to ride. To cross the 126, you have to go all the way to Kimball as crossing on Wells is also too dangerous for the casual (think young) rider.
Unmaintained roads like Santa Rosa Road between Camarillo and Moorpark and the roads in and around Ojai, unrepaired areas like the bike path along the coast near the Ventura County Fairgrounds, lack of bike lanes/shoulder around Lake Casitas, only 1 route with wide shoulder between Santa Paula and Fillmore (Hwy 126), only 1 route with wide shoulder between Ventura and Santa Paula (Telegraph Rd), no bicycle signage along Pacific Coast Highway from Las Posas to LA County line...
to Government Center, Trader Joes, Mall...Victoria Avenue, Main Street between, Five-Points and Telephone Road
Route 150 needs bike lanes the whole way - to narrow. Its a beautiful ride and not too steep.

In front of Ventura high where the city redesigned the road to accommodate cars but not bicycles. No bike lane at a school! What's up with that? From Ventura college to central and vineyard where I work. The bridge over the Santa Clara river out of Saticoy is always difficult. Vineyard is scary. There is no bike lane in spots and with the river ridge development in progress it will only get worse. Please Help!
Potrero Road. Bike lane disappears due to small 2 lane road. However it is one of the MAJOR scenic attractions to cyclists in the area. Lynn Road north of the 101 FWY. It becomes a Freeway as an alternate route to the 23 FWY. Also crossing over the 101 FWY from either direction on Lynn road. Norwegian Grade/Santa Rosa Road/Moorpark Road. As Moorpark road descends into Camarillo there is no bike lane ascending or descending. Again cyclists love this road yet there is no bike lane. Very dangerous unless you go VERY early in the morning.
Lynn Road, any crossing of the 101, PCH between La Conchita and Ventura.
Not easy to ride between west county and east county. Allowing use of 101 shoulder between Camarillo & Newbury Park would help a little. Widening 118 or providing good alternate route would help.

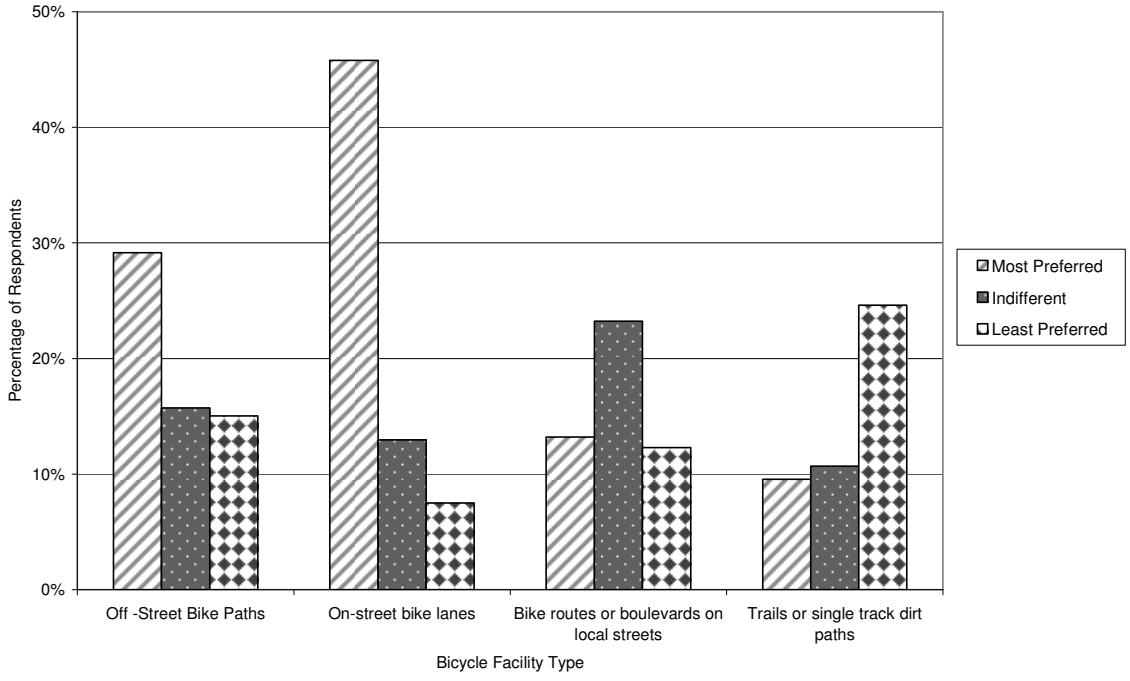

Figure M-8
Question 9: Preference for Bicycle Facilities

Table M-3
Question 10: Please tell us the bicycling improvements you would like to see in Ventura County

I would like to see more bike lanes, and just as important, bike friendly signals. Many signals will not change if there is only a bike to trigger it. I would also like to see some mountain biking trails in Camarillo--I do not know of any. Also, more trails like the Ojai valley bike trail would be very nice. Also, a convenient bike commute trail from Camarillo to thousand oaks would be the most effective at promoting bicycle commuting. Petrero and Santa Rosa are too long and dangerous, and obviously the 101 off limits. A straight line from Adolfo to Rancho Conejo would do it.
WIDE bike lanes please! Especially on Portrero!!
Ventura County and its residents would benefit from the addition of a bike lane (or at least a wider road shoulder) along Santa Rosa Road in Camarillo to Moorpark. Additionally, the existing road is often covered with gravel and debris. Recreational cyclists and commuters to Amgen would prefer better conditions along this pass. Ostensibly, the Amgen Tour of California would also appreciate improved conditions for this route.
Biggest two problems for me is cleanliness of existing bike lanes. Especially on Santa Rosa. Next is safe access to existing bike lanes. There are only three ways from Camarillo to T.O. (my commute) and they are all dangerous for various reasons. Norwegian grade has little room and down hill side pavement is in dangerous condition. FWY 23 bike lane is too hard to access for northbound from Olsen. Very dangerous. Potrero, besides being out of the way is dangerous. Moorpark to Simi route is either LA Ave. (easy st), or Tierra Rejada. Both are generally filthy. LA Ave. is narrow and deteriorating. Too many paths start and stop where its convenient. They don't seem meant for real transportation, they are just lip service.
Better maintenance of current bike lanes, e.g., Santa Rosa Rd. Tell Verizon and other workers not to place their signs (i.e., Road Work Ahead) in the middle of the bike path so that it forces the bike rider into the lanes of traffic. This also applies to their trucks that they seem to always park in the middle of the bike path instead of allowing at least a 2'space for riders. Widen the paths on Hwy 118 - it's terrible to ride because of the traffic and crappy maintenance of the paths.
Sign 5th street to help make motorist aware of bicycles. Provide a safe route between Camarillo and Thousand Oaks. Advertisements in newspapers, radio, and television to educate public how to safely interact between motorists and cyclists and to show the public that cycling can be safe. Teach public that cycling should be encouraged. Discourage harassment, possibly advertising a hotline for cyclists to call and report harassing motorist which facilitates police enforcement and provides follow-up to the reporting cyclist.
i love riding back roads (ie. Guiberson) the only problem is that some of these roads are simply too narrow. it gets very dangerous at some points. i know it would be very expensive but i would love to see lightly traveled back roads paved a little wider to accommodate bicyclists. thank you for doing this survey.
Widen Moorpark Rd. into TO, Potrero into Newbury Park, or a bike path either through Hill canyon, or from Camarillo Springs park into Newbury Park. Widen 150 between Santa Paula and Carpenteria. Get CalTrans to sweep the shoulders everywhere. Improve signal sensors so traffic light systems detect bicycles.

I live in Camarillo and work in Moorpark. I would bike to work if it were not for the dangerous conditions on hwy 118. I think highway 118 is the key to connect bicycling city to city. You can access all the cities from Ventura to Simi via 118. Make this corridor safe from one end to the other - kind of like a bicycle express way - and you will see more people traveling by bicycle.
1) More bike racks on the bus route from Ojai to Ventura. 2)A paved and marked bike route through Meiners Oaks and by Nordhoff High School on Hwy 33. 3) I live in Ojai and work at the Harbor in Ventura. In the morning, I take the bus route #16 from Ojai to Main St. and Figueroa in Ventura then follow the bike path along the beach to the harbor. This is great. In the afternoon, I ride back to Figueroa St. to ride the bus back to Ojai and the bike rack is full in the afternoon (space for 2 bikes), with other bikers waiting. The bus goes once per hour. The ride to Ojai is an 800' elevation gain over about 12 miles. It can be done, but not practical on a regular basis. More bike racks are needed on Route #16.
Cross walk buttons located closer to the street for cyclists so you don't have to get off the bike and go on the sidewalk to push the button. Left turn arrows that are activated by a bike.
1. The biggest improvement I would like to see is a good bike path that connects Camarillo to Newbury Park/ Thousand Oaks. I believe there are many people that live in Camarillo/Oxnard/Ventura that would consider commuting by bicycle to work in the Conejo valley if there was a good way to go up the grade. Taking Santa Rosa to the Norwegian grade and up is too far out of the way, and going up Portrero is dangerous. There is so much land on either side of the grade - is this available for a path? Or how about a paved path inserted where the water treatment plant is (existing dirt path often floods) connecting Santa Rose road to Ventu Park Road?
Santa Rosa Rd-Rumble strips
More marked bike lanes, with signing and street marking to alert drivers. Also more Share the Road Signs, signing to improve driver awareness More bike lanes to employment centers, including Industrial parks to promote commuting by bike A renewed effort by the state DMV to educated drivers in bicycling and automobile safety
Perhaps create wide, safe bike lanes along the bus routes. People could then get most locations safely and could take the bus if need be.
LOWER speed limits in Ventura More police patrol of city streets and speeders New bike lanes, well marked and wide or separate bike paths, linking the major areas with each other... downtown, mall, east end, beach, etc. Make Harbor blvd SAFER to ride on... it is the MAIN getaway to the beaches and the Harbors. CAMPaign for a bike friendly town, ride to work incentives, encourage employers to have bike facilities, etc. FIX the bike trail at the end of Surfer's Point