2009 OCTA Commuter Bikeways Strategic Plan

DRAFT

For the:

Orange County Transportation Authority

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KOA Corporation

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CHAPTER 1. Introduction

1.1. Purpose & Need

This Commuter Bikeways Strategic Plan (CBSP) has been developed by the Orange County Transportation Authority (OCTA) in an effort to encourage the enhancement of Orange County's regional bikeways network, in order to make bicycle commuting a more viable and attractive travel option.

There are a number of challenges that must be overcome for Orange County to excel as a bicycling region, including improving safety, access to key destinations, coordination of plans, and support facilities. Furthermore, there are also opportunities, such as increasing congestion, climate change, and oil dependency that bicycling can play a large role in mitigating. The goal of the CBSP is to help address these many challenges by providing:

- A strategy for improving the regional bikeway network;
- Eligibility for state Bicycle Transportation Account (BTA) funds;
- Identification of roles and responsibilities for OCTA regarding bikeways; and
- Documentation of existing and planned Orange County bikeways.

1.2. Setting

According to the 2005 American Community Survey (U.S. Census Bureau), less than 1 percent of Orange County's population commutes by bicycle. The vast majority of commuters (77.3%) commute to work by driving alone. This shows how automobile dependent Orange County currently is, and why many of the streets and freeways are at or close to their maximum capacity. The Orange County Projections, produced by the Center for Demographic Research (out of California State University, Fullerton), estimates Orange County's 2005 population of 3,059,950 to grow by nearly 600,000, or over 19 percent, by 2035, which will only put more demand on transportation infrastructure.

Much of the early suburban development took place in Northern Orange County, and infrastructure facilities were geared towards commutes into Los Angeles. The Pacific Electric rail cars served much of this area, until their service was stopped in the early 1960s. It was at that time that Orange County residents began to be more dependent on automobiles for their commutes.

North Orange County was designed with grid-pattern road networks, much like Los Angeles. The grid-pattern, along with the relatively level topography, is beneficial to bicycle commuters, as it allows them to maneuver through short blocks, providing for more direct routes. Unfortunately, many of these streets were not designed to support the demand that we see today. They are often narrow, and not designed to safely accommodate automobiles together with bicycles. However, these roadways, along with some of the watersheds and abandoned rail rights-of-way, retain opportunities to make bicycling more viable.

Much of South Orange County was developed as planned communities over the last 30 years. The roadway networks are generally wider and more circuitous than in North County. The advantage to these roads is that many of them were designed with bike lanes along the shoulders. However, South County has more elevation changes, and the planned communities tend to be relatively low density with housing separated from work and shopping centers. This layout often results in longer trips, and the lower densities consequently result in fewer job opportunities near the residential communities. Nonetheless, many opportunities still exist, such as providing improved access and facilities at transit stations.

Applying the strategies discussed in this plan, and implementing the local jurisdictions' projects, will help to create a regional bikeway network that will benefit Orange County communities, from the bicycle dependent, to casual cyclists, and people of all income levels. Furthermore, the build-out of the bikeway network, along with the favorable climate in the region, could make Orange County an even more enjoyable place to live and work.

1.3. Bikeway Fundamentals

Bicycles are considered a vehicle, equivalent to automobiles, by the California Department of Transportation (Caltrans). However, while bicyclists share all the same rights and responsibilities of motorists, bicycle-specific facilities are often provided in an effort to enhance safety for both bicyclists and motorists. Bicyclists also need to be conscious of their skill and comfort levels when choosing their travel routes. The following sections provide a brief overview of the various classes of bikeways, and some general characteristics of the different skill levels of bicyclists.

1.3.1. Classes of Bikeways

There are three classes of commuter bikeways:

- Class 1 – off-street paved bike paths
- Class 2 – on-road striped and signed bicycle lanes
- Class 3 – on-road shared-lane signed bicycle routes

Off-street paths are facilities on a separate right-of-way from roadways, and are usually shared by bicyclists and pedestrians. Shared paths are recreational facilities and should not be used as high-speed bikeways, as the safety of the other non-motorized users must be considered.

Bicycle lanes are on-street facilities that use painted stripes and stencils to delineate the right of way assigned to bicyclists and motorists, and to provide for more predictable movements by each.

Bicycle routes are signed on-street facilities that accommodate vehicles and bicycles in the same travel lane. Bicycles are permitted on most roadways; however, for safety purposes, signed bicycle routes are often found on streets with lower speeds and traffic volumes.

1.3.2. Bicyclist Skill Levels

The American Association of State Highway and Transportation Officials, or AASHTO, published the *Guide for the Development of Bicycle Facilities* in 1999. This guide provides descriptions for the three general skill levels of bicyclists, as summarized by the A,B, and C typologies below:

- **A**dvanced or experienced riders are generally using their bicycles as they would a motor vehicle. They are riding for convenience and speed and want direct access to destinations with a minimum of detour or delay, and they are typically comfortable riding with motor vehicle traffic.

- **B**asic or less confident adult riders may also be using their bicycles for transportation purposes, but prefer to avoid roads with fast and busy motor vehicle traffic unless there is ample roadway width to allow easy overtaking by faster motor vehicles.

- **C**hildren, who still require access to key destinations in their community, such as schools, convenience stores and recreational facilities. They prefer residential streets with low motor vehicle speeds, linked with shared-use paths and busier streets with well-defined pavement markings between bicycles and motor vehicles, so they can avoid riding in the travel lane of major arterials.

The "commuter" bicyclists that this plan refers to are generally the type A riders, but the implementation of the plan will benefit all types.

1.4. Orange County Bikeways

There are currently more than 1000 miles of bikeways in Orange County, with roughly another 700 miles that have been planned. It is the responsibility of the local jurisdictions to plan, implement, and maintain the bikeways in Orange County. These local jurisdictions include all of the 34 Orange County cities, the County of Orange, and Caltrans. All existing and planned bikeway data presented in this plan was submitted by these local jurisdictions. The commuting habits within Orange County region can be generally characterized with the following data:

Population: Approximately 3 million residents

Jurisdictions: 34 cities, the County of Orange, and Caltrans

Commuting Characteristics:

- Mode share (2000 U.S. Census):
    - 77% drive alone
    - 13% carpool
    - 3% public transportation
    - 2% walk
    - 1% ride a bicycle
- Average Daily Vehicle Hours of Delay (SCAG 2008 RTP)
    - In 2003, the average daily VHD was 686,000 hours
    - By 2035, VHD is projected to increase by 407,000 hours to 1,093,000
- Average Vehicle Miles Traveled (SCAG 2008 RTP)
    - In 2003, the average daily VMT was 70,458,000
    - By 2035, VMT is projected to increase by 14,829,000 to 85,287,000

Bikeways:

- 1037.7 miles built
    - 26% Class III bike routes
    - 65% Class II bike lanes
    - 9% Class I off-street paths

Overview of the bikeway planning roles for OCTA:

- Suggest regional priorities for optimal use by local jurisdictions;
- Assist in coordinating plans between jurisdictions;
- Provide planning and design guidelines; and
- Participate in outreach efforts to encourage bicycle commuting.

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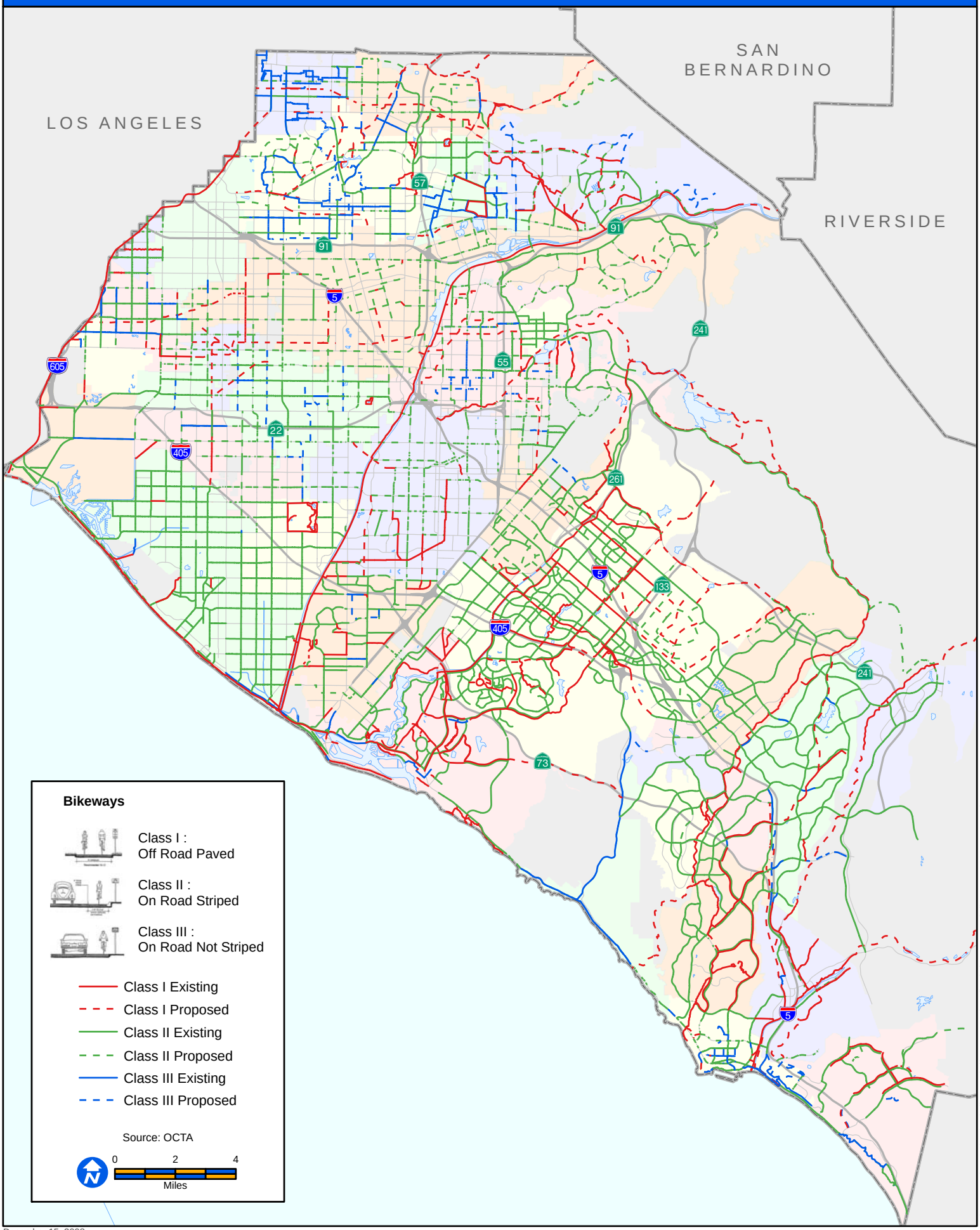
Map 1.1: Existing and Proposed Bikeways



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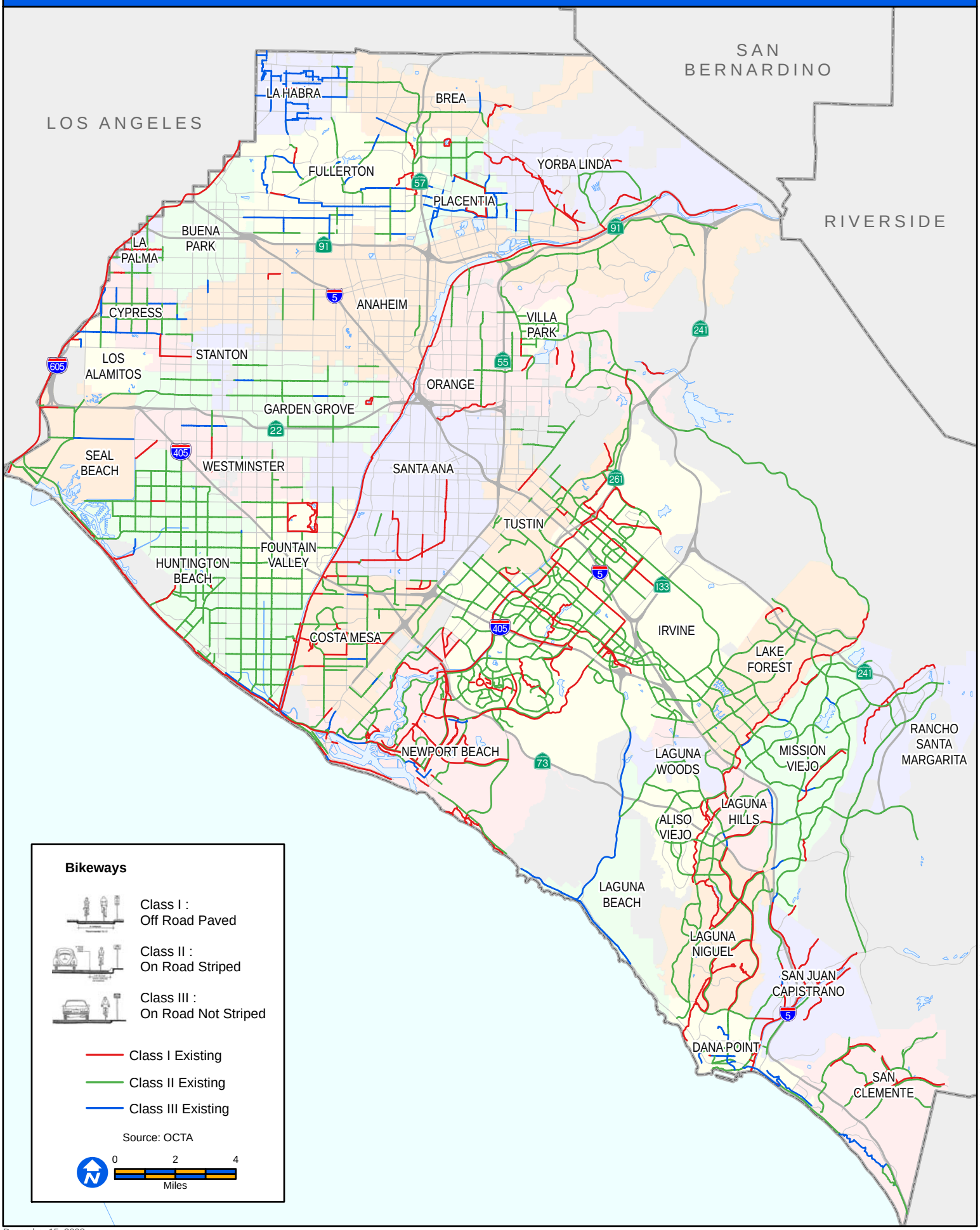
Map 1.2: Existing Bikeways



Bikeways

Class I :
Off Road Paved

Class II :
On Road Striped

Class III :
On Road Not Striped

Class I Existing

Class II Existing

Class III Existing

Source: OCTA

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Miles

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CHAPTER 2. Regional Strategy

In the development of this Commuter Bikeways Strategic Plan (CBSP), the Orange County Transportation Authority (OCTA) collected input from committees, stakeholders, and the public, in order to identify improvements that will provide the greatest benefit to commuters utilizing the regional bikeways network. This includes identifying bikeway needs, performance criteria, and general funding and design guidelines. Additionally, the CBSP examined OCTA's role regarding bikeways, and provides an action plan that outlines the responsibilities OCTA will assume in implementing this plan.

2.1. Regional Needs

To identify the critical needs of the regional bikeway network, OCTA undertook a number of outreach efforts. The input received was valuable, as it provided insights into the concerns of the public, local jurisdictions, and the committees within OCTA. Below is a description of the various outreach efforts, followed by more detailed discussions of critical issues that were identified.

2.1.1. Citizens Advisory Committee – Bicycle Ad Hoc Committee

The first committee approached by OCTA staff regarding the development of this plan was the Citizens Advisory Committee (CAC). This committee took a large role in guiding the development of the plan by creating a Bicycle Ad Hoc Committee. The ad hoc committee met about a dozen times, and provided input and oversight that focused the goals of the plan.

2.1.2. CBSP Advisory Groups

Two advisory groups were formed to provide input on specific items that were produced during the development of the CBSP. One group was referred to as the Technical Advisory Group (TAG), made up of planning and public works staff from local jurisdictions. The other group was referred to as the Public Stakeholders Group (PSG), which included members of the CAC, local bicycle advocates, and representatives from local riding groups. OCTA staff met with these groups three to four times each to discuss and receive input on data and strategies used in this plan.

2.1.3. General Public

Survey

A website was developed to help with the public outreach effort, which included the previous CBSP, as well as an online survey, which received nearly 1,100 responses. The survey collected information regarding the public's bicycling habits and needs.

The following summarizes some of the survey results (the full results are located in the appendix):

- The most popular reason people bicycle is for exercise and health reasons (92%). Other popular reasons include bicycling for pleasure (84%) and commuting to work (54%).
- The majority of survey respondents (53%) bicycle four or more times per week.
- The city of Irvine had the most survey respondents (12%) out of Orange County's local jurisdictions. The next most responsive jurisdiction was the city of Orange (7%), followed by Huntington Beach (6%).
- The most common roundtrip distance traveled by respondents was 11-24 miles (34%).

- The Santa Ana River Trail and Pacific Coast Highway are among the respondent's favorite places to bike.

- The absence of bike paths, lanes or bike routes was the most reported reason why the survey respondents are prevented from biking more often (58%).

- Off-street paved bike paths were ranked as the most preferred bicycle facility (69%); while unpaved trails or dirt paths were ranked as the least preferred facility.

- More paved off-street bike paths and more bike lanes are the improvements most likely to influence people to bike more often.

The CBSP website also provided information on the public workshop that was held at the OCTA offices. The workshop time and location was posted; and all the information that was presented, as well as the input received at the event, was posted on the website after the workshop was held. The public was also notified of the workshop with an OCTA press release to major newspapers, flyers that were mailed to over 500 Orange County residents, and through the OCTA website. Members of the PSG also helped to notify the bicycling community; and thanks in large part to them, the workshop was successful, drawing over 50 participants.

Public Workshop

The workshop was held on July 12, 2008, with the purpose of informing the public of the development of the CBSP, clarifying the roles and responsibilities of the various entities involved in bikeways, and gathering input from the attendees. The workshop had an open house format, with various stations where the participants could gather information and provide input. Hardcopies of the surveys were also available, as well as comment cards that allowed participants to address any remaining concerns or issues.

2.1.4. OCTA Committees

Additional input and oversight was provided by several OCTA committees. OCTA and Alta Planning staff presented data to the OCTA Board of Directors, Highways Committee, Transit Committee, Technical Steering Committee, and Citizens Advisory Committee, throughout the development of the CBSP. The guidance received from these committees was critical for addressing many of the policy and technical issues regarding OCTA and its role in regional bikeway planning.

2.1.5. Outreach Results

The following subsections discuss some of the issues that were of the most concern throughout the outreach effort. There may be other issues of equal importance; however, based on the input received, the issues below were viewed as priorities for this plan. These issues, along with the other input received, were used in the identification of priority improvement areas and project priorities, which are discussed later in this chapter.

Safety & Education

The safety and education of both bicyclists and drivers is the most commonly raised issue. It is important for everyone on the roadway to be familiar with the California Vehicle Code, as well as the California Department of Motor Vehicles' California Driver Handbook.

Bicyclists have all the rights, and are subject to all the provisions, applicable to drivers of vehicles. It is important to respect the right-of-way of others, especially pedestrians and bicycle riders; and if an automobile must pass a bicyclist, they should be patient when passing, only pass when it is safe, and pass at a reduced speed. However, it should be noted that a 1996 FHWA study of bicycle and

pedestrian crashes found that about half of bicycle crashes with vehicles are the fault of the bicyclist, which demonstrates the need to educate both bicyclists and drivers about safety.

Equally important is the quality and maintenance of the bicycle facilities. Bikeway facilities must be planned, implemented, and maintained at a level that does not put the users at risk. In order to grow the population of bicycle commuters, the facilities must be safe and inviting.

Ease of Implementation

Identification of projects that can be implemented relatively quickly and/or at a lower cost than most projects should be given some priority. The difficulty in identifying large amounts of funding, and obtaining necessary rights-of-way, often slows the development of the regional bikeways network. By picking the "low-hanging fruit" improvements will be implemented at a more rapid pace, which will contribute to a more complete and convenient bikeway system.

Multimodal Connections

In order for bicycle commuting to be an option for some Orange County residents, they would need to utilize transit services for portions of their commutes. Based on the assumption, used in a 2007 Transportation Research Board journal article, that people are willing to bicycle about five miles each way for a commute, the use of transit can greatly expand the length of a bicycle commute, and this is why providing access to transit facilities is seen as a priority issue.

Transit facilities are designed to accommodate a flow of automobiles, but they do not always meet the needs of bicyclists. Measures need to be taken to ensure that Orange County transit stations can be easily accessed and utilized by bicycle commuters.

Parking & Amenities

Another issue for the regional bikeways network is the need for bicycle parking and amenities. This is particularly important at regional destinations to encouraging bicycle commuting. Access to showers and lockers at employment centers allows bicycle commuters to clean up and change for work. Not having access to these kinds of facilities creates a difficult challenge for commuters who would like to bicycle to work.

Bicycle parking at transit stations is necessary due to the limited capacity for bicycles on transit vehicles. These parking facilities should be safe for long-term (all day) parking, and consist of bicycle lockers and/or monitored parking areas, both of which are described in more detail later in this chapter. Additionally, adequate bicycle parking is necessary at employment centers, and at colleges and universities.

2.2. Modeling Analysis and Regional Improvement Opportunity Prioritization

OCTA coordinated a modeling effort to identify regional commuter bikeway priorities. The analysis identified the following key regional employment centers: Irvine Spectrum, The Irvine Business Complex, Newport Center, South Coast Metro Area, Downtown Santa Ana, Main Street Area (Santa Ana/Orange), Anaheim Resort Area, Anaheim Industrial Area, and the Brea Mall.

These regional employment centers were analyzed for their trip generation characteristics. The trip generation analysis was based on OCTA's 2035 growth forecast model, OCTAM 3.3. Maps were produced that show the areas with the highest concentration of demand for trips to each of the employment centers (see Appendix B). In general, this data showed the highest concentrations of trip origins to be within a few miles of the employment centers.

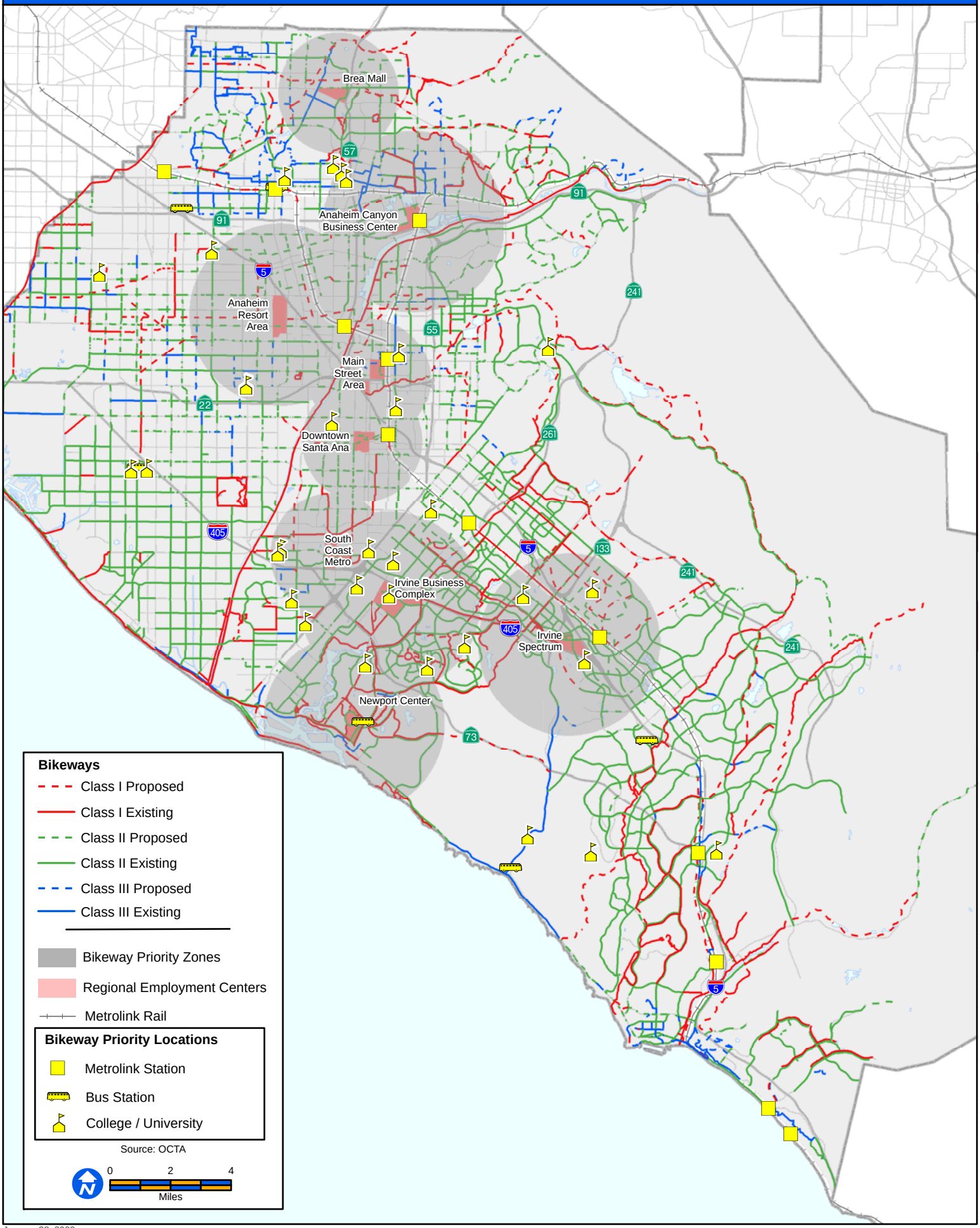
The intent of identifying the regional employment centers, as well as Orange County's transit stations, colleges and universities, which are also regional commuter destinations, is to improve

bicycle facilities at these locations in order to make bicycle commuting a more viable option. Therefore, bicycle access and support facility projects within, or connecting to, the regional destinations identified in Map 2-1 are viewed by OCTA as regional priorities.

Map 2-1 displays the regional commuter destinations. The radii around the employment centers was determined based on the trip origin analysis, discussed above, as well as by National Personal Transportation Survey data that shows the average bicycle trip is three miles or less. A study conducted in 2007 by the Transportation Research Board estimates that the average commuter is willing to bicycle about five miles to work, which is why projects that connect to the identified priority zone will be considered priorities as well. The transit stations, colleges and universities do not have radii since bicycle facilities should be at, or connect directly to, the specified location.

Note that the above prioritization methods are intended as guidelines, and that jurisdictions can use them to help justify the regional significance of their projects.

Map 2.1: Regional Commuter Bikeway Priority Zones



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The local jurisdictions of Orange County provided all of the information for proposed bikeways presented in this plan. Map 2.1 was used to identify the following bikeways as regional priority projects.

Table 2-1: Priority Regional Projects

City	Street/Path	From	To	Class	Mileage
Anaheim	Olive / Disney Path	Olive St.	Disney Way	Class I	2.00
Anaheim	UP RR	Broadway	County/City Border	Class I	2.92
Anaheim	Katella Ave.	Barclay Dr.	Howell Ave.	Class II	4.64
Anaheim	La Palma Ave.	La Reina St.	Jefferson St.	Class II	8.34
Brea	Birch St.	Mercury Ln.	State College Blvd	Class II	1.18
Brea	UP RR	Palm St.	Valencia Ave.	Class I	4.50
Buena Park	N Magnolia Ave.	La Palma Ave.	Crescent Ave.	Class I	0.50
Buena Park	Knott Ave.	Artesia Blvd.	Lincoln Ave.	Class II	2.86
Costa Mesa	Santa Ana Ave.	23rd St.	Mesa Dr.	Class II	1.00
Cypress	Katella Ave.	Walker St.	Stanton City Limit	Class II	1.49
Dana Point	Pacific Coast Hwy.	Monarch Bay Dr.	Street of the Blue Lantern	Class II	1.97
Dana Point	Pacific Coast Hwy.	Street of the Copper Lantern	Coast Hwy.	Class II	0.53
Dana Point	Stonehill Dr.	San Juan Capistrano City Limit	Niguel Rd.	Class II	2.13
Fullerton	BNSF RR	Commonwealth Ave.	Metrolink RR	Class I	2.32
Fullerton	UP RR	BNSF RR	La Habra City Limit	Class I	4.83
Fullerton	Rosecrans / Euclid Path	Euclid St.	Rosecrans Ave.	Class II	2.31
Garden Grove	Euclid St.	Orangewood Ave.	Westminster Ave.	Class II	6.14
Garden Grove	Westminster Ave.	Bushard St.	Brock Ln.	Class II	3.22
Huntington Beach	Pacific Coast Hwy Segment 1	County Limit	8th St.	Class II	4.61
Huntington Beach	Pacific Coast Hwy Segment 2	Huntington St.	County Limit	Class II	2.63
Irvine	Jeffrey Rd. Path	Trabuco Rd.	North of Alton Pkwy.	Class I	2.23
Irvine	OCTA Metrolink Path	Sand Canyon Ave.	Great Park Southeastern Path	Class I	1.96
La Habra	UPRR Bikeway	Western City Limit	Palm St.	Class I	3.00
La Habra	La Habra Blvd.	Valley Home Ave.	Vallejo St.	Class II	2.77
Laguna Beach	Pacific Coast Hwy.	City Limit (S El Moro Rdg.)	Broadway	Class II	4.83
Laguna Hills	Cabot Rd	La Paz Rd.	Oso Pkwy.	Class II	1.19
Laguna Niguel	Forbes Path	Mission Viejo City Limit	San Juan Capistrano City Limit	Class I	2.03
Laguna	El Toro Rd.	Moulton Pkwy.	Laguna Hills City	Class II	0.74

Woods			Limit		
Lake Forest	OCTA Metrolink RR	Irvine City Limit	El Toro Rd.	Class I	1.93
Mission Viejo	Camino Capistrano	Oso Pkwy.	Laguna Niguel City Limit	Class I	0.82
Orange	Glassell St.	Fletcher St.	Katella Ave.	Class II	1.39
Orange	Glassell St.	La Veta Ave.	Santa Ana City Limit (SR-22 E Exit 16)	Class II	0.40
Orange	Glassell St.	Woodvale Ave.	Fletcher St.	Class II	0.12
Orange	Glassell St.	City Limit	N Riverdale Ave.	Class II	0.08
Orange	Walnut Ave.	Hewes St.	Rancho Santiago Blvd.	Class III	0.25
Orange	Walnut Ave.	Walnut Ave. _Tustin St. Bikeway	Earlham St.	Class III	0.77
Placentia	Orangethorpe Ave.	Chapman Ave.	Anaheim City Limits (W Lakeview Ave.)	Class II	2.92
San Clemente	Avenida Vista Hermosa	Avenida La Pata	Avenida Pico	Class I	1.01
San Juan Capistrano	Las Ramblas / PCH	San Clemente City Limit	San Diego Fwy.	Class II	2.00
Santa Ana	Mc Fadden Ave. / Sunflower Ave.	Mc Fadden Ave.	Sunflower Ave.	Class I	2.72
Santa Ana	Birstol St. / La Veta Ave.	Orange City Limit (Santa Ana Fwy.)	Sunflower Ave.	Class II	5.88
Santa Ana	Grand Ave.	Orange City Limit (S 22E exit 16)	Dyer Rd.	Class II	4.64
Santa Ana	Westminster Ave.	Garden Grove City Limit (W Newhope St)	Garden Grove City Limit (W Clinton St)	Class II	1.36
Seal Beach	Westminster Ave.	Seal Beach Blvd.	City Limit Westminster	Class II	1.98
Stanton	Magnolia Ave.	Anaheim City Limit	UP RR	Class I	0.62
Stanton	Katella Ave.	Cypress City Limit	Magnolia St.	Class II	1.94
Tustin	Red Hill Ave.	Barranca Pkwy.	Warner Ave.	Class II	0.51
Tustin	Red Hill Ave.	Warner Ave.	Parkway Loop	Class II	0.78
Tustin	Red Hill Ave.	Edinger Ave.	Nisson Rd.	Class II	1.00
Tustin	Red Hill Ave.	El Camino Real	First St.	Class II	0.57
Tustin	Red Hill Ave	First St.	Melvin Way	Class II	0.78
Tustin	Red Hill Ave.	Melvin Way	North of Irvine Blvd.	Class II	0.18
Westminster	Bolsa Chica Rd. / Valley View St.	Garden Grove City Limit	Westminster Ave.	Class II	1.09
Westminster	Mc Fadden Ave.	Van Buren St.	Dalewood Ln.	Class II	1.83
Westminster	Westminster Ave.	Seal Beach City Limit	Atlantis Wy.	Class II	4.59
Yorba Linda	Bastanchury Rd.	Placentia City Limit	Village Center Dr.	Class II	4.02

2.3. Performance Criteria

The input received through the outreach process also served to identify project performance criteria that can be used by local jurisdictions to prioritize their projects listed in this plan, as well as future projects. The following criteria should be considered:

Safety – Projects that reduce conflicts between motorists and cyclists, and address other safety concerns.

Ease of implementation – Projects with an anticipated low difficulty for implementation, based on available rights-of-way, existing traffic operations, and other similar factors.

Support facilities and programs – Projects that include any of the following support facilities or programs:

- bicycle parking (including lockers)
- signage/street markings
- signal detection (buttons and/or in-ground)
- lighting
- bicycle sharing programs
- other similar facilities

Accessibility – Projects that provide one or more connections to regional destinations.

Continuity – Projects that improve continuity within the route, or between routes.

Directness – Projects that reduce travel distance and/or trip time between the origins and destinations, relative to existing facilities.

Route aesthetics – Projects that provide for visual aesthetics, increased comfort, a sense of personal safety, and/or other similar factors along the facility.

Public Support – Projects that appear to be supported by the public input received in the development of this plan.

Regional significance – Projects that will benefit the overall region by addressing regional priorities identified within this plan.

2.4. OCTA Action Plan

Input received during the outreach process indicated that OCTA needed to clearly establish its roles and responsibilities regarding bikeway planning in Orange County. The following Action Plan identifies the tasks OCTA will undertake to ensure the implementation of the CBSP, as well as OCTA's support for bicycle commuting:

Improve the regional bikeways network

- Provide funding, when feasible, for capital bikeway improvements through a competitive call-for-projects
- Support efforts by local jurisdictions to seek funding, such as state Bicycle Transportation Account funds
- Encourage local jurisdictions to emphasize their consideration of bikeways within environmental and planning documents

External coordination

- Designate an OCTA bicycle coordinator
- Maintain the countywide bicycle transportation plan, ensure it remains compliant with the Bicycle Transportation Account requirements, and make it available for adoption by local jurisdictions
- Facilitate bikeway planning coordination efforts between jurisdictions and other involved entities
- Encourage local jurisdictions to coordinate local planning efforts with the CBSP
- Encourage each local jurisdiction to designate a bicycle coordinator
- Update and work with bicycle coordinators, Employee Transportation Coordinators, and other involved entities, on issues relating to bicycling, such as funding opportunities
- Provide technical support to local jurisdictions

Internal coordination

- Ensure that the needs for bicyclists and bikeways are considered in the development of projects and programs within OCTA
- Plan and participate in events that promote bicycling, such as Bike-to-Work Week and Rideshare Week
- Provide bikeway outreach and support through internet resources, including a countywide commuter bikeways map
- Communicate with OCTA committees as necessary

Address the regional priorities

- Lead the implementation efforts of projects within OCTA owned rights-of-way
- Review planning and environmental documents and provide comments regarding opportunities to implement projects that address the regional priorities within the CBSP
- Advise local jurisdictions to submit projects that address the regional priorities when state or federal funds become available
- Provide incentives to local jurisdictions for submitting projects that address the regional priorities during calls-for-projects for funds controlled by OCTA

2.5. Funding Opportunities

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

2.5.1. Federal Funding Sources

The primary federal source of surface transportation funding—including bicycle and pedestrian facilities—is the Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users. This Federal bill is the third iteration of the transportation vision established by Congress in 1991 with the Intermodal Surface Transportation Efficiency Act and renewed in 1998 and extended in 2003 through the Transportation Equity Act for the 21st Century and the Safe, Accountable, Flexible, and Efficient Transportation Equity Act of 2003. Also known as the Federal Transportation Bill, the $286.5 billion bill was passed in 2005 and authorizes federal surface transportation programs for the five-year period between 2005 and 2009.

Federal funding is administered through the state (Caltrans and the State Resources Agency) and regional planning agencies. Most, but not all, of these funding programs are oriented toward transportation versus recreation, with an emphasis on reducing auto trips and providing inter-modal connections. Many Federal programs require a local match of between 10-20%. Federal funding is intended for capital improvements and safety and education programs and projects must relate to the surface transportation system.

Specific funding programs under the federal transportation bill for bicycle facilities that might be potential funding sources for the CBSP may include:

Federal Lands Highway Funds—Approximately $1 billion dollars are available nationally through 2009 for planning and construction of bicycle projects built in conjunction with roadways

Transportation, Community and System Preservation Program—$270 million nationally through 2009 for projects that improve the efficiency of the transportation system, reduce the impact on the environment, and provide efficient access to jobs, services and trade centers

Recreational Trails Program—$370 million nationally through 2009 for non-motorized trail projects.

Congestion Mitigation and Air Quality Improvement Program—About $1.7 billion available nationwide per year. Estimated annual program level for California is $360 million.

Highway Safety Improvement Program—The annual program funding is approximately $54 million for Federal Fiscal Year2008/2009 at which time the HSIP program will end, unless it is extended or reauthorized. The maximum funding amount for a project is $1 million, and the federal reimbursement rate is 90%.

Regional Surface Transportation Program—Estimated annual program level is $330 million which is eligible for State Match and Exchange Program funding.

Safe Routes to School—This is a 100% federal reimbursement program. California will receive $68 million over the five year life of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). There is no local match required.

Transportation Enhancements—California will receive approximately $75 million per year for five years, starting in 2006.

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 and is managed by the United States Department of Transportation.

Transportation, Community and System Preservation Program

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

Recreational Trails Program

The Recreational Trails Program (RTP) provides funds annually for recreational trails and trails-related projects. The RTP is administered at the federal level by the Federal Highway Administration (FHWA). It is administered at the state level by the California Department of Parks and Recreation (DPR). The maximum amount of RTP funds allowed for each project is 88% of the total project cost. The applicant is responsible for obtaining a match amount that is at least 12% of the total project cost. The application deadline is in October. Funds may be used for:

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

Land and Water Conservation Fund

The Land and Water Conservation Fund is a federally funded program that provides grants for planning and acquiring outdoor recreation areas and facilities. 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. The application deadline is in May, and 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.

Congestion Mitigation and Air Quality Improvement Program (CMAQ)

CMAQ Funds are directed to transportation projects and programs which contribute to the attainment or maintenance of National Ambient Air Quality Standards in non attainment or air quality maintenance areas for ozone, carbon monoxide, or particulate matter under provisions in the Federal Clean Air Act. Eligible projects include bicycle facilities.

Highway Safety Improvement Program (HSIP)

The Highway Safety Improvement Program is managed locally by Caltrans. For a project to be eligible for HSIP funds, the project must be on any public road, publicly owned bicycle, pedestrian pathway, or trail. Projects must identify a specific safety problem that can be corrected or be improved substantially.

Regional Surface Transportation Program (RSTP)

Regional Surface Transportation Program (RSTP) funding is distributed based on population, among the urbanized and non-urbanized areas of the State through Metropolitan Planning Organizations (MPOs) and Regional Transportation Planning Agencies (RTPAs). Bicycle facilities are eligible for funding through this federally administered program.

Safe Routes to School (SRTS)

Eligible projects fall under the category of infrastructure (capital improvements), or non-infrastructure (education, encouragement, enforcement). Infrastructure projects must be located within a two mile radius of a grade school or middle school. Local Caltrans representatives serve as the administrative authority on SRTS projects.

Transportation Enhancements (TE)

Federal Transportation Enhancement funds are to be used for transportation-related capital improvement projects that enhance quality-of-life, in or around transportation facilities. Facilities that qualify for TE funds include bicycle safety, education and facility projects. Transportation Enhancements projects are managed locally by Caltrans.

2.5.2. Statewide Funding Sources

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

Bicycle Transportation Account

The Bicycle Transportation Account provides state funding for local projects that improve the safety and convenience of bicycling for transportation. Because of its focus on transportation, Bicycle Transportation Account projects must provide a demonstrable level of utility for transportation purposes. For example, all in-town on-street and paved bikeways would be good candidates for funding. Funds are available for both planning and construction. Bicycle Transportation Account funding is administered by Caltrans and cities and counties must have an adopted Bicycle Transportation Plan in order to be eligible. The maximum amount available through the Bicycle Transportation Account is $1.2 million dollars, cities and counties are eligible to apply. All projects must be designed to the standards outlined in Chapter 1000 of the Highway Design Manual. The application deadline is in December.

Community Based Transportation Planning Demonstration Grant Program

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

Safe Routes to School (SR2S)

To be eligible for SR2S funds, the project must be located on any state highway or on any local road. Projects must correct an identified safety hazard or problem on a route that students use for trips to

and from school. Up to 10 percent of the project's cost can fund a non infrastructure component that supports the infrastructure project. Only cities and counties are eligible to compete for funds.

State Transportation Improvement Program (STIP)

All STIP projects must be capital projects (including project development costs) needed to improve transportation. Eligible projects include bicycle facility improvements and improved access to transit and are administered by Caltrans.

Transportation Development Act

Transportation Development Act Article 3 funds are state block grants awarded monthly to local jurisdictions for transit, bicycle and pedestrian projects in California by Caltrans. 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. Application deadlines vary within county transportation agencies.

2.5.3. Local and Regional Funding Sources

Developer Impact Fees

Fees placed on new development local government could be used as local matching funds to attract other grant sources.

2.5.4. Non-Traditional Funding Sources

Community Development Block Grants

The Community Development Block Grant program provides money for streetscape revitalization, which may be largely comprised of pedestrian improvements. Federal Community Development Block Grant grantees may "use [these] funds for activities that include (but are not limited to): acquiring real property; reconstructing or rehabilitating housing and other property; building public facilities and improvements, such as streets, sidewalks, community and senior citizen centers and recreational facilities, paying for planning and administrative expenses, such as costs related to developing a consolidated plan and managing Community Development Block Grant funds; provide public services for youths, seniors, or the disabled; and initiatives such as neighborhood watch programs."

American Greenways Program

Administered by The Conservation Fund, the American Greenways Program provides funding for the planning and design of greenways. Applications for funds can be made by local regional or statewide non-profit organizations and public agencies. The maximum award is $2,500, but most range from $500 to $1,500. American Greenways Program monies may be used to fund unpaved trail development. The application deadline is June 1.

2.6. Design Guidelines

This section provides basic bikeway planning and design guidelines for use in developing the OCTA bikeway system and support facilities. Where noted, designs are for elements required by the State of California for compliance with Caltrans Highway Design Manual Chapter 1000 "Bikeway Planning and Design" guidelines. Otherwise, these guidelines include additional recommendations, providing information on optional design treatments. Although this information meets Caltrans requirements it is not intended to state a minimum or maximum accommodation or to replace any existing adopted roadway design guidelines. Also included in this Chapter are experimental or nonstandard best practices with information about optional innovative bikeways and support facilities that have not been adopted by the Manual of Uniform Traffic Control Devices (MUTCD) or State of California for use in California and do not meet Caltrans Chapter 1000 design requirements.

All facility designs are subject to engineering design review.

2.6.1. Bikeway Facility Classifications

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. For each type of bikeway facility both "Design Requirements" and "Additional Design Recommendations" are provided. "Design Requirements" contain requirements established by Caltrans Chapter 1000 "Bikeway Planning and Design." "Additional Design Recommendations" are provided as guidelines to assist with design and implementation of facilities and include alternate treatments approved or recommended but not required by Caltrans. **Figure 2.1** provides an illustration of these three types of bicycle facilities.

Class I Bikeway Design

Typically called a "bike path" or "shared use path," a Class I bikeway provides bicycle travel on a paved right-of-way completely separated from any street or highway. The recommended width of a shared use path is dependent upon anticipated usage:

- 8 feet (2.4 m) is the minimum width for Class I facilities
- 8 feet (2.4 m) may be used for short neighborhood connector paths (generally less than one mile in length) due to low anticipated volumes of use
- 10 feet (3.0 m) is the recommended minimum width for a typical two-way bicycle path
- 12 feet (3.6 m) is the preferred minimum width if more than 300 users per peak hour are anticipated, and/or if there is heavy mixed bicycle and pedestrian use

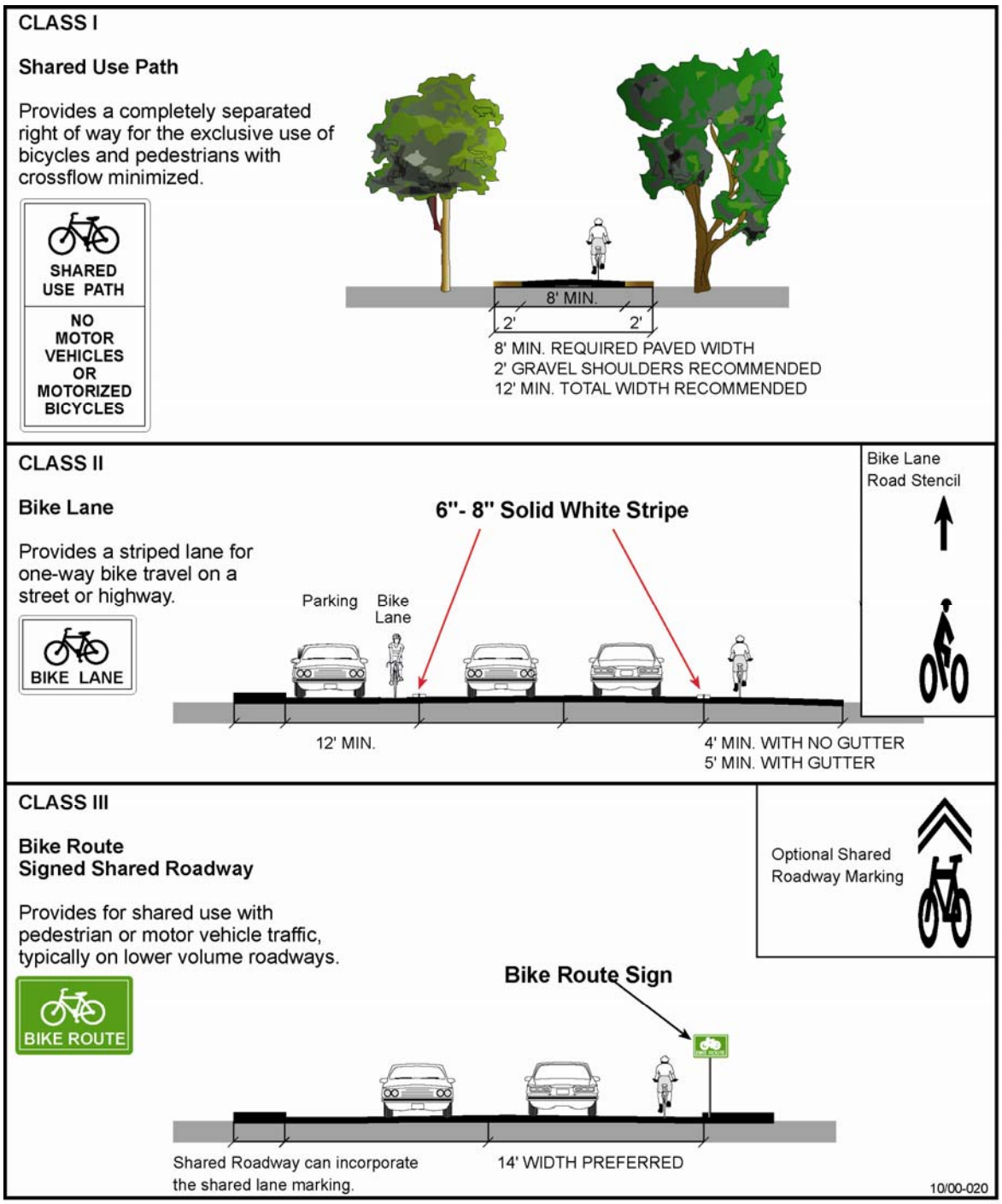


Figure 2.1: Bicycle Facility Types

A minimum 2 feet (0.6 m) wide graded area must be provided adjacent to the path to provide clearance from trees, poles, walls, guardrails, etc. On facilities with expected heavy use, a yellow centerline stripe is recommended to separate travel in opposite directions. **Figure** 2.2: Typical Class I Cross Section illustrates a typical cross-section of a Class I multi-use path.

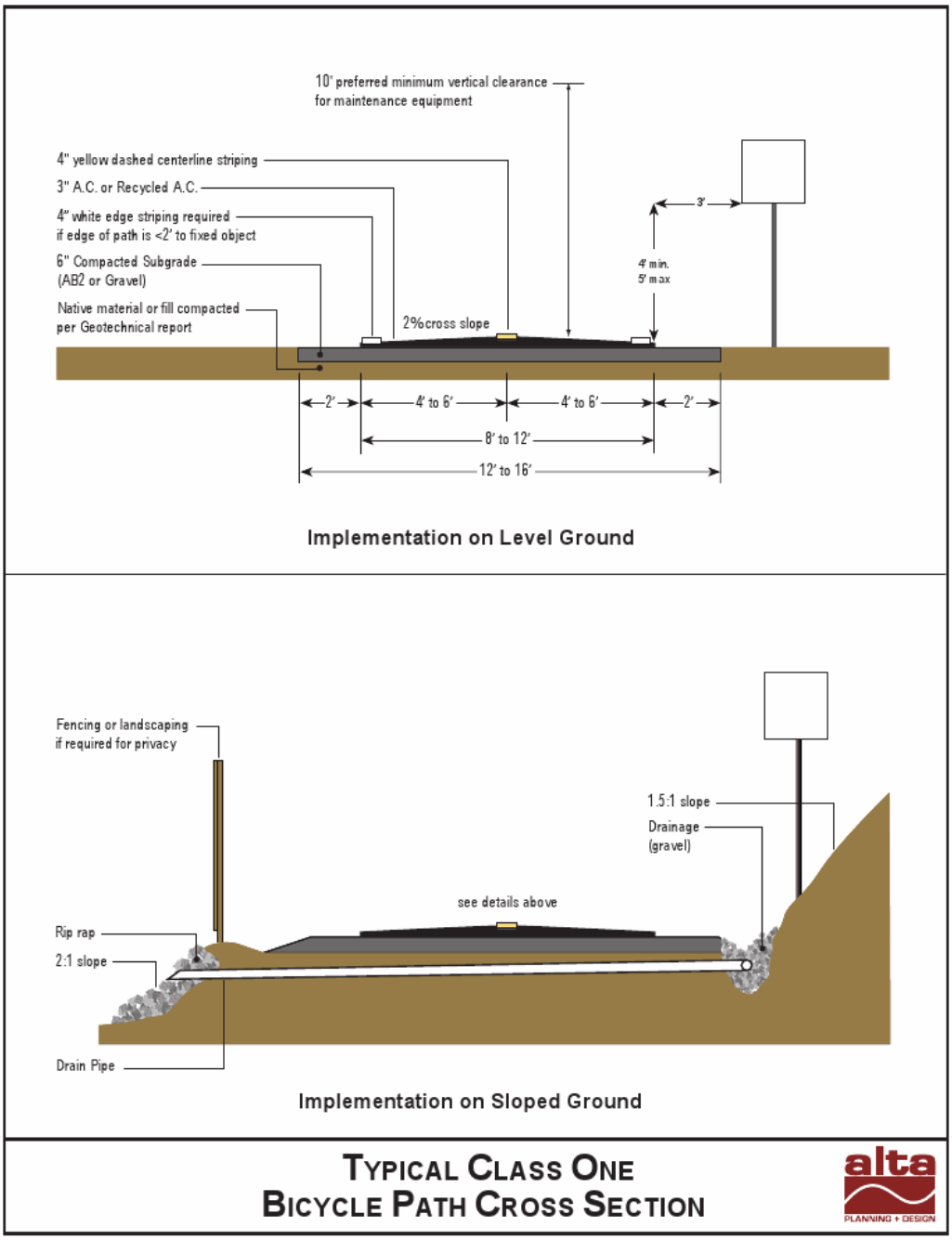


Figure 2.2: Typical Class I Cross Section

Class I Bikeway Crossing Designs

At-Grade Intersection

When shared-use paths cross streets, proper design should be developed on the pathway as well as on the roadway to alert bicyclists and motorists of the crossing. Sometimes on larger streets, at mid-block pathway crossing locations as shown in **Figure 2.3: Shared Use Path Mid-Block Crossing**, an actuated signal is necessary. A signal allows bicyclists a clear crossing of a multi-lane roadway. If a signal is or is not needed, appropriate signage and pavement markings should be installed, including stop signs and bike crossing pavement markings.

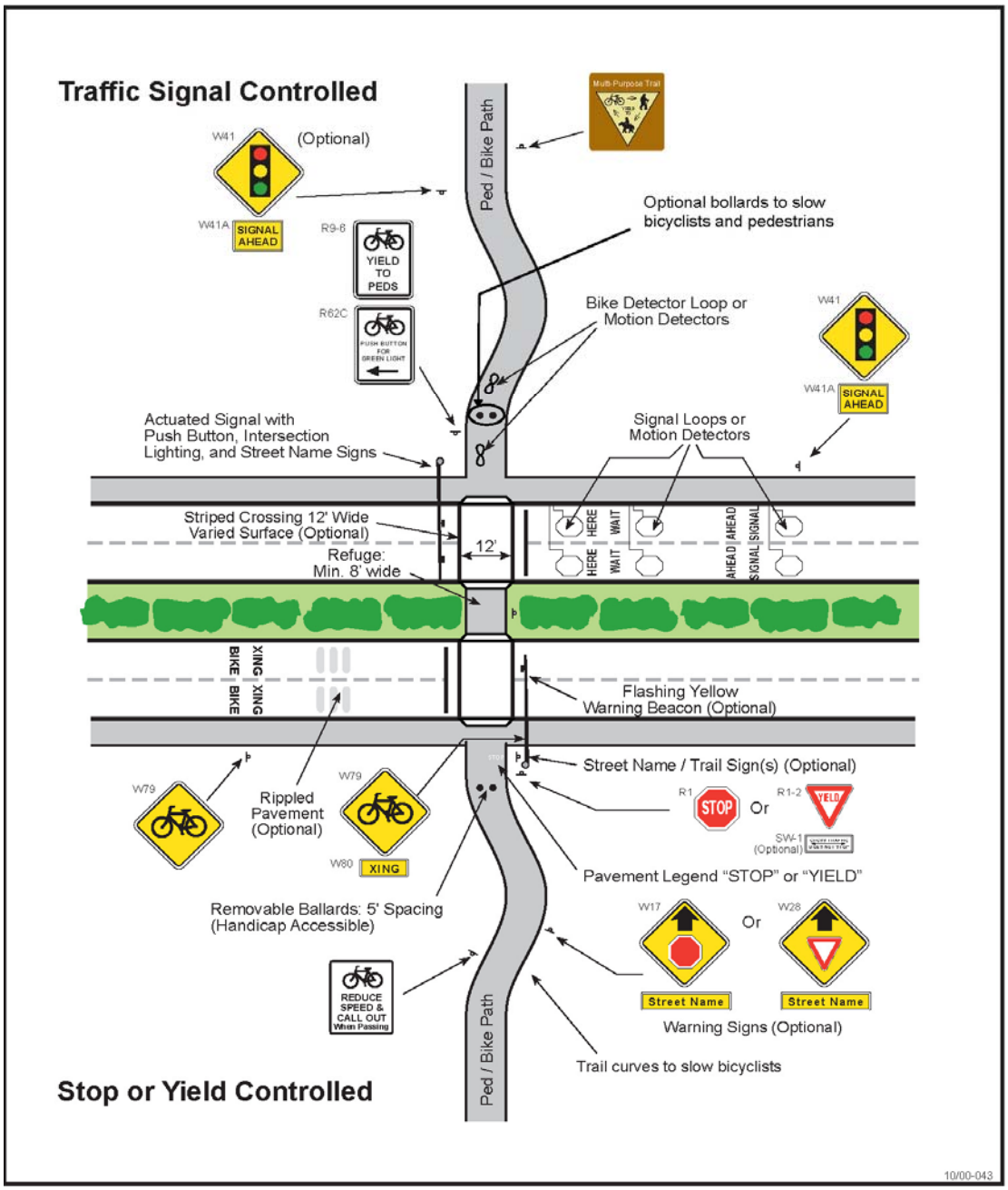


Figure 2.3: Shared Use Path Mid-Block Crossing

Overcrossings

Overcrossings are also an important component of bikeway design. Barriers to bicycling often include freeways, complex interchanges, and rivers. When a route is not available to cross these barriers a bicycle overcrossing is necessary.

Figure 2.4: Overcrossing Design Guidelines

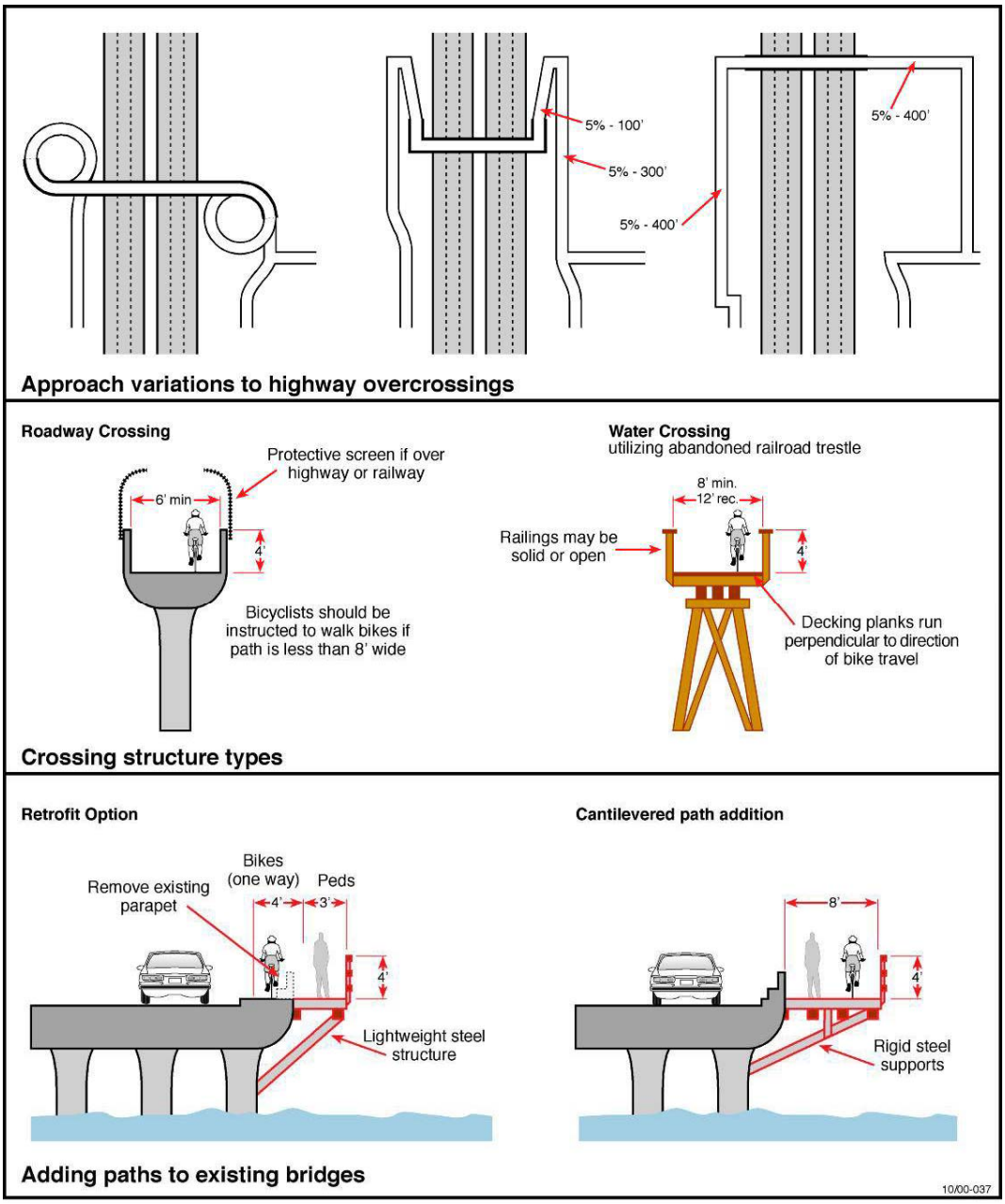


Figure 2.4: Overcrossing Design Guidelines illustrates basic design standards for typical designs. Some design considerations for overcrossings include:

- Pathways must be a minimum 6 feet wide, with a preferred width of 8 or 10 feet wide
- Slope of any ramps must comply with ADA Guidelines
- Screens are often a necessary buffer between vehicle traffic and the bicycle overcrossing

Undercrossings

Undercrossings are an important component of Class I bikeway design. **Figure 2.5: Undercrossing Design Guidelines** shows designs for undercrossings. Some considerations for undercrossings include:

- Must have adequate lighting and sight distance for safety
- Must have adequate over-head clearance of at least 3.1 m (10 ft)
- Tunnels should be a minimum 4.3 m (14 ft) for several users to pass one another safely; a 3.0 m x 6.0 m (10 ft x 20 ft) arch is the recommended standard
- "Channeling" with fences and walls into the tunnel should be avoided for safety reasons
- May require drainage if the sag point is lower than the surrounding terrain.

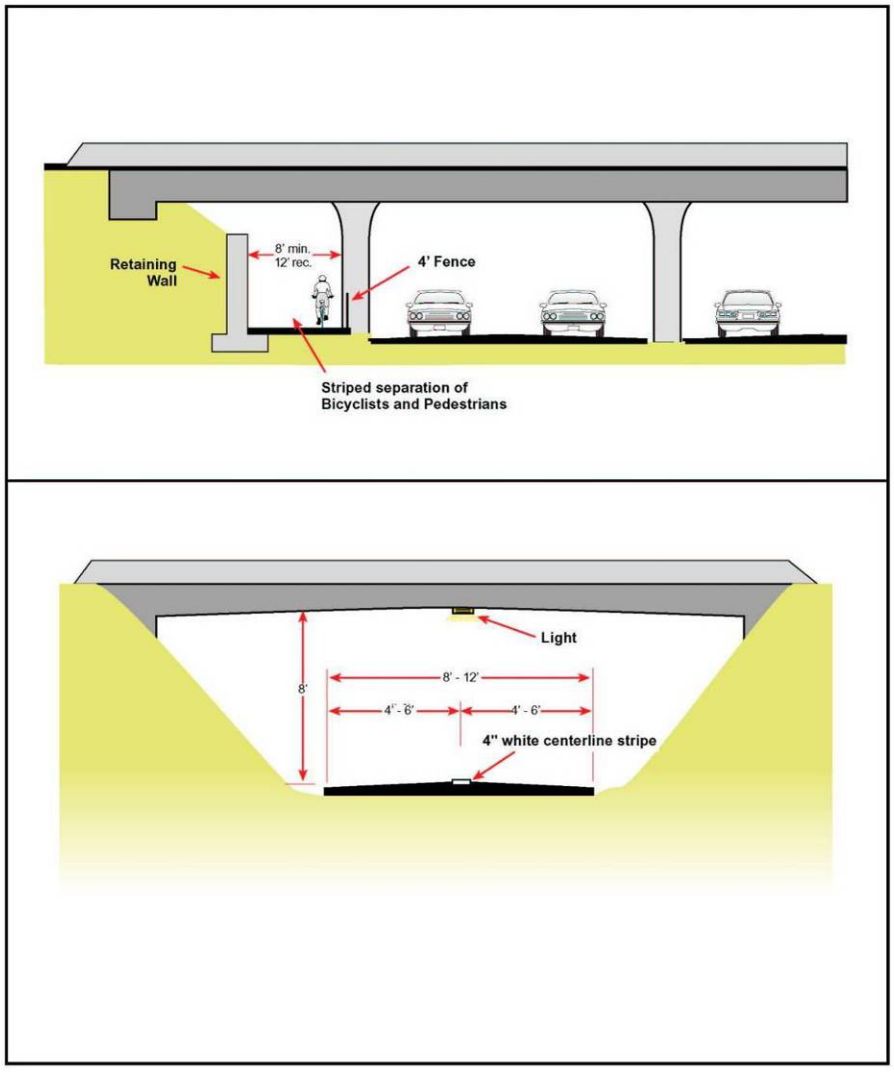


Figure 2.5: Undercrossing Design Guidelines

2.6.2. Class II Bikeway Design

Often referred to as a "bike lane," a Class II bikeway provides a striped and stenciled lane for one-way travel on either side of a street or highway. **Figure 2.6: Typical Class II Cross Section** shows a typical Class II cross-section. To provide bike lanes along corridors where insufficient space is currently available, extra room can be provided by removing a traffic lane, narrowing traffic lanes, or prohibiting parking. The width of the bike lanes vary according to parking and street conditions. Note that these dimensions are for reference only, may not meet OCTA Standards and are subject to engineering design review.

- 4 feet (1.2 m) minimum if no gutter exists, measured from edge of pavement
- 5 feet (1.5 m) minimum with normal gutter, measured from curb face; or 3' (0.9 m) measured from the gutter pan seam
- 5 feet (1.5 m) minimum when parking stalls are marked
- 11 feet (3.3 m) minimum for a shared bike/parking lane where parking is permitted but not marked on streets without curbs; or 12 feet (3.6 m) for a shared lane adjacent to a curb face.

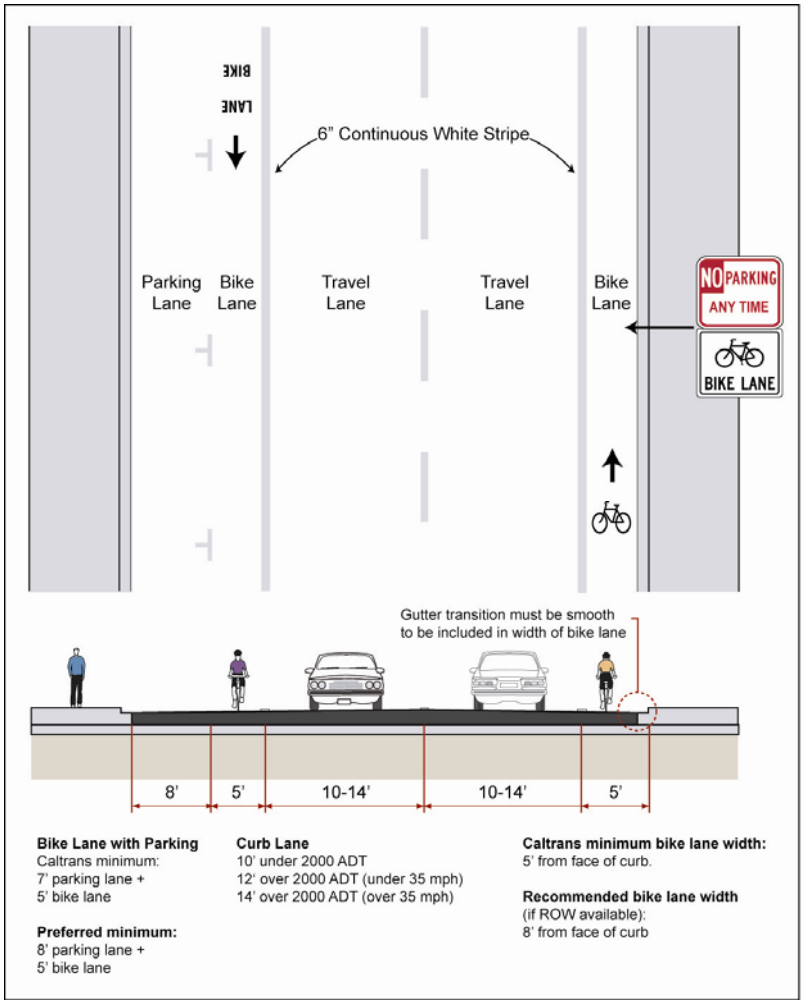


Figure 2.6: Typical Class II Cross Section

Bike Lanes

Figure 2.7: CA MUTCD Examples of Optional Word provides examples for bike lane marking and striping. Further details regarding bicycle lane demarcation—specifically addressing turn movements—can be found in the CA MUTCD.

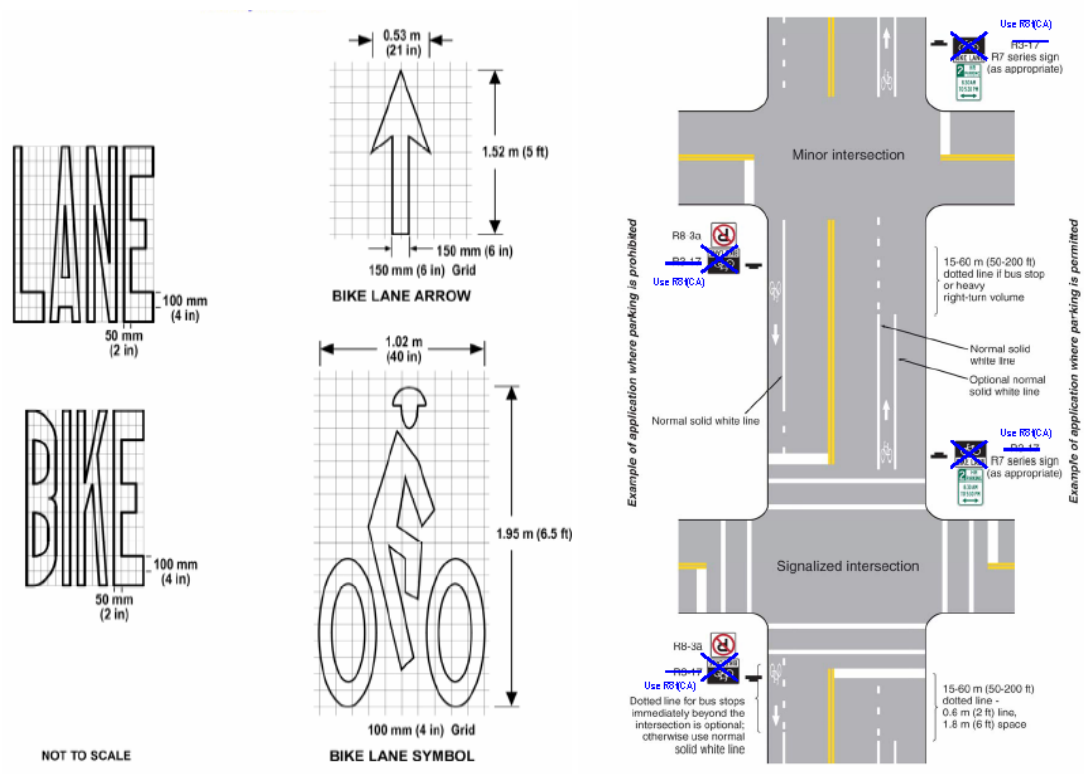


Figure 2.7: CA MUTCD Examples of Optional Word and Symbol Pavement Markings for Bicycle Lanes

Class II Intersection Design

Signalized Intersections

Intersections represent a primary collision points for bicyclists. Small intersections with few lanes are relatively easy to manage. **Figure 2.8: Bicycle Lane Configurations at Intersections** shows how to configure bicycle lanes at intersections with minimal vehicle lanes. Large, multi-lane intersections are more difficult for bicyclists to travel through than smaller, two-lane intersections.

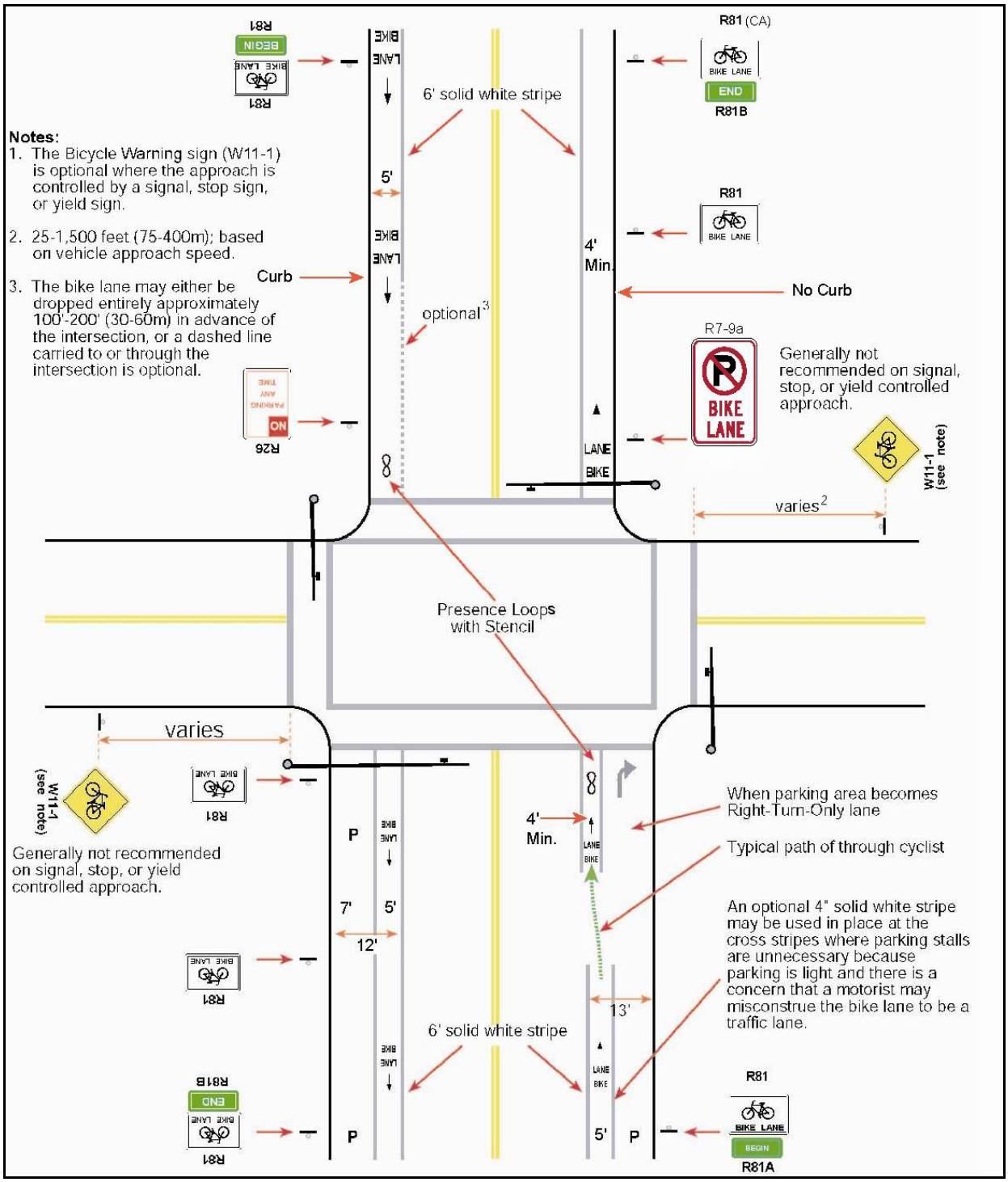


Figure 2.8: Bicycle Lane Configurations at Intersections

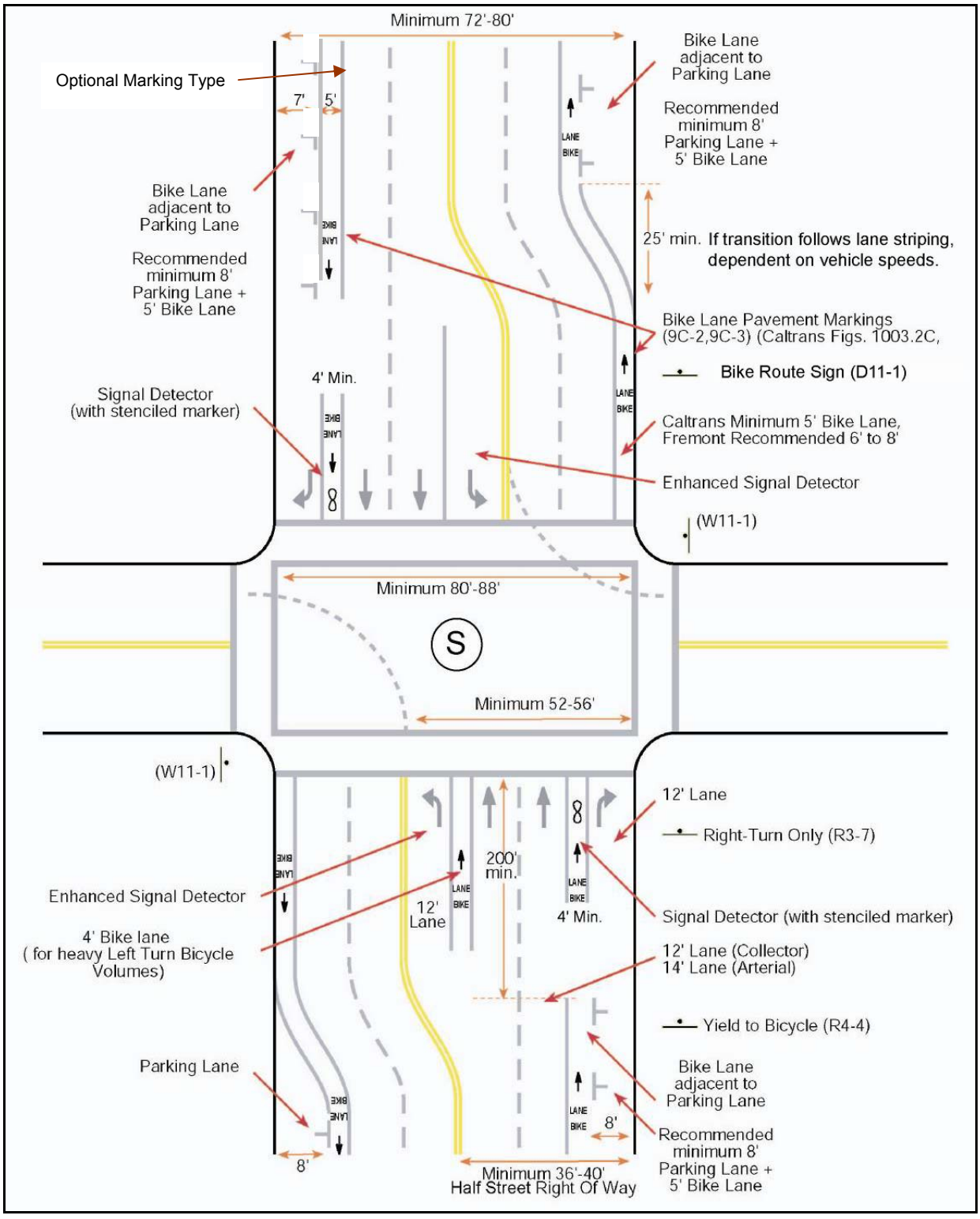


Figure 2.9: Dedicated Bike Turn Lanes at an Intersection

Challenges and potential solutions for bicyclists' at large signalized intersections include:

Signals may not be timed to allow slower-moving bicyclists to travel across the intersection.

Solution: Bicycle adaptive signal timing:

Loop detectors or video detection that is used to actuate the signal may not be calibrated to detect bicyclists.

Solution: Design standard of bike loop use.

Bicyclists may not know how to actuate the signal using loop detectors, even if it is calibrated.

Solution: Use of bike loop detector symbol.

Bicyclists who wish to turn left may be required to travel across several motor vehicle lanes to reach the left hand turn lane.

Solution: Enhanced signage.

Bicyclists who wish to turn left like a pedestrian may experience long delays as they wait through several light cycles.

Solution: Well-signed bikeways.

Bicyclists who are traveling straight may have to merge across motor vehicle traffic that is turning right from a right-turn lane.

Solution: Bike lane pockets at intersections, between through and right turn lanes.

Motorists may be less likely to be aware of bicyclists' at large, multi-lane intersections due to higher traffic volumes, more lanes of traffic and the complexity of large intersections

Solution: Enhanced bike lane signage.

Large intersections without bicycle facilities are very auto-centric, leading motorists to assume that bicyclists are not supposed to be on the roadway.

Solution: Installation of bicycle facilities, including pavement markings and signage.

Design treatments can help bicyclists travel through intersections and alert motorists of bicyclists' presence. Good intersection design alerts motorist to bicyclists, indicates to motorists and bicyclists where bicyclists may ride, and guides bicyclists through intersections.

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

Bicycle Actuated Signals & Adaptive Signal Timing

Make intersections more "friendly" to bicyclists, involves modifying how they operate. Improved signal timing, calibrating loop detectors to detect bicyclists, and camera detection makes intersections easier for bicyclists to cross intersections.

Loop detectors are installed within the roadway to allow the metal of a motor vehicle to trigger a change in the traffic signal. Many standard motor vehicle loop detectors can be

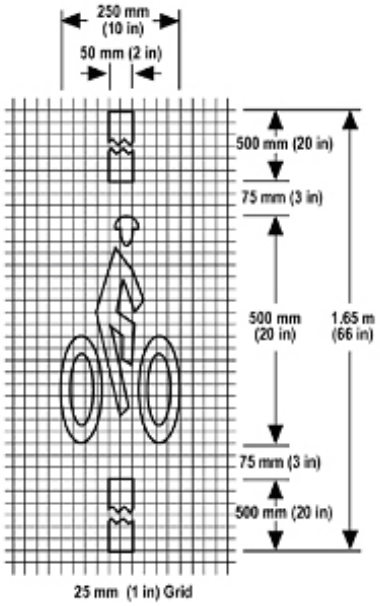


Figure 2.10: Bike Detector Symbol

calibrated to detect bicycles. This allows the bicyclist to stay within the lane of travel and avoid maneuvering to the side of the road to trigger a push button. Signals can be configured so that if a bicycle is detected, an extended green time can be provided. OCTA should use hard-wire loops at signalized intersections with bike lanes instead of video detection to reduce false detection or extension of green for adaptive timing.

Signal Timing

Cities often apply signal timing techniques to enhance bicycle travel along major streets. For instance, closely-spaced signals (e.g., along one-way streets in downtown areas) can be timed to match bicyclists' travel speeds. Signals timed for speeds of 12 to 16 MPH enable most bicyclists to ride comfortably with traffic. Signal timing should also take into account the necessary time needed for a bicyclist to cross a wide intersection. Activation devices can also be used on a roadway approach to prolong the green phase and extend the time needed for a bicyclist to clear the intersection.

Standards suggest intersections utilize markings to indicate the location where a bicyclist is to be positioned in order to actuate a signal. Adjacent signage is also recommended to emphasize the connection between the marking and the signal.

Right-Turn Only Lanes

Right-turn only lanes can present challenges for bicyclists traveling through an intersection. Bicyclists must merge to the left to position themselves in the through travel lane. Jurisdictions will sometimes stripe bike lanes on the right-side of right-turn only lanes, which places the through-cyclist in direct conflict with a right-turning vehicle. The appropriate treatment for right-turn only lanes is to either drop the bike lane entirely approaching the right-turn lane, or to place a bike lane pocket between the right-turn lane and the right-most through lane.

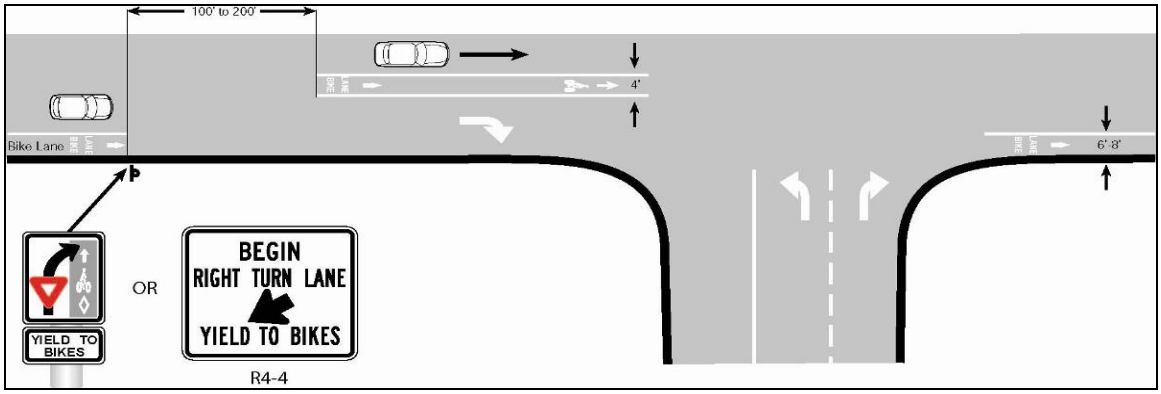


Figure 2.11: Bike Lane Adjacent to Right Turn Only Lane

Freeway Ramps

Freeway on- and off-ramp crossings present a potential conflict zone for bicyclists and motorists, as bicycle lanes are typically dropped and bicyclists must merge across travel lanes where vehicles are accelerating or decelerating from freeway speeds. The appropriate bicyclist behavior is to merge left away 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. Implementation of interchange improvements requires coordination with Caltrans District 12 regarding placement of signage and striping because these areas are in Caltrans' right-of-way. Two guidelines for these improvements are:

- The bicycle merge should begin 250 feet in advance of the freeway on-ramp.
- Appropriate signage and striping should be used to warn bicyclists and motorists of the merge.

Bicycle improvements to freeway ramps are shown in **Figure 2.12: Bike Crossing of Freeway Ramps**.

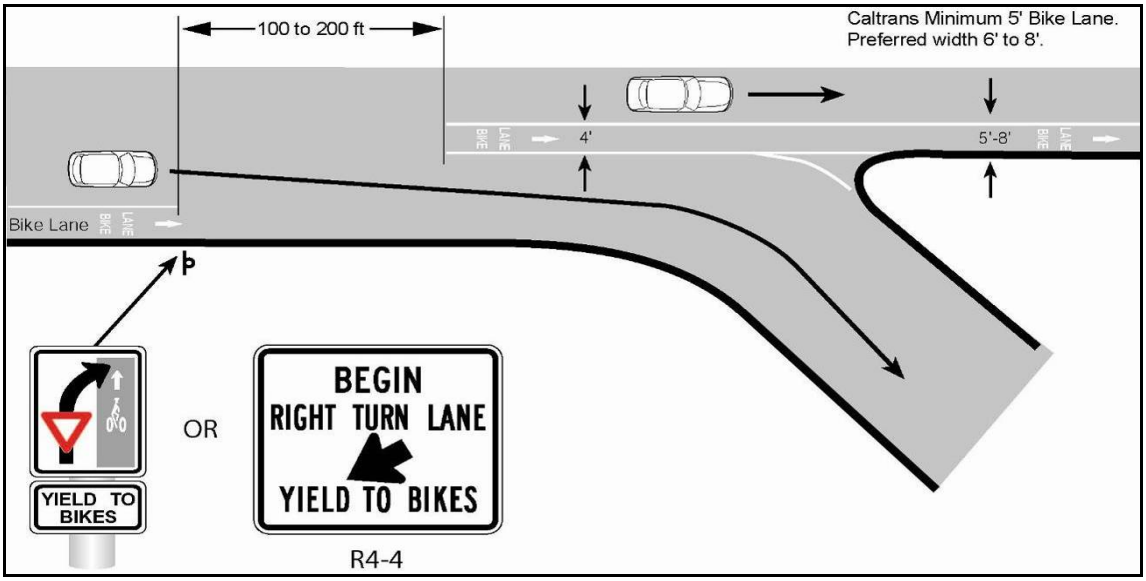


Figure 2.12: Bike Crossing of Freeway Ramps

The City of Portland has addressed this issue with striping or physical elements that encourage bicyclists to cross ramps at or close to a right angle. The treatment shortens the vehicle/bicycle conflict zone while also improving sight distance for bicyclists. Some bicyclists may choose to ignore this treatment however, as this creates a less-direct route through the interchange area and forces them to relinquish right-of-way to exiting motorists.

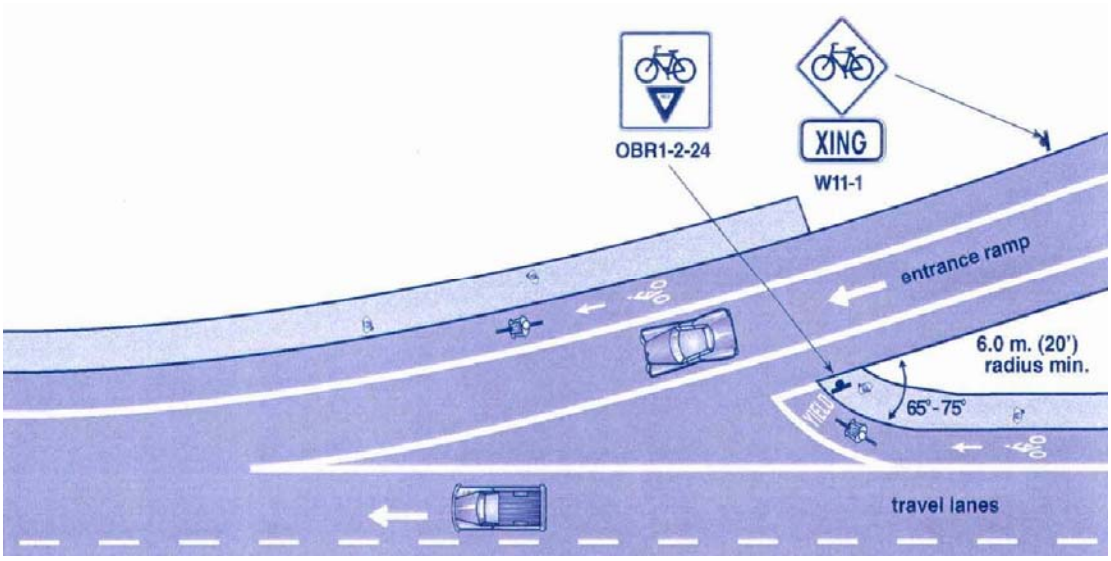


Figure 2.13: Signage and pavement markings encouraging bicyclists to cross ramp

Figure 2.14: Dashed bike lane through conflict zone (optional painted lane) shows a dashed bike lane through the conflict zone of a freeway interchange in Jacksonville, Florida, clearly demarcating the cyclist's route and lane positioning. Treating the pavement with color enhances the visibility of the conflict area.

Figure 2.14: Dashed bike lane through conflict zone (optional painted lane)

At-Grade Railroad Crossings

OCTA has at-grade railroad crossings for existing and proposed bikeways. If bicyclists do not ride at a 90 degree angle over the tracks, bicyclists' wheels can catch in the tracks and potentially lead to a collision. **Figure 2.15: Bike Lanes Crossing at Railroad Tracks** shows the proper design for a bike lane crossing railroad tracks.

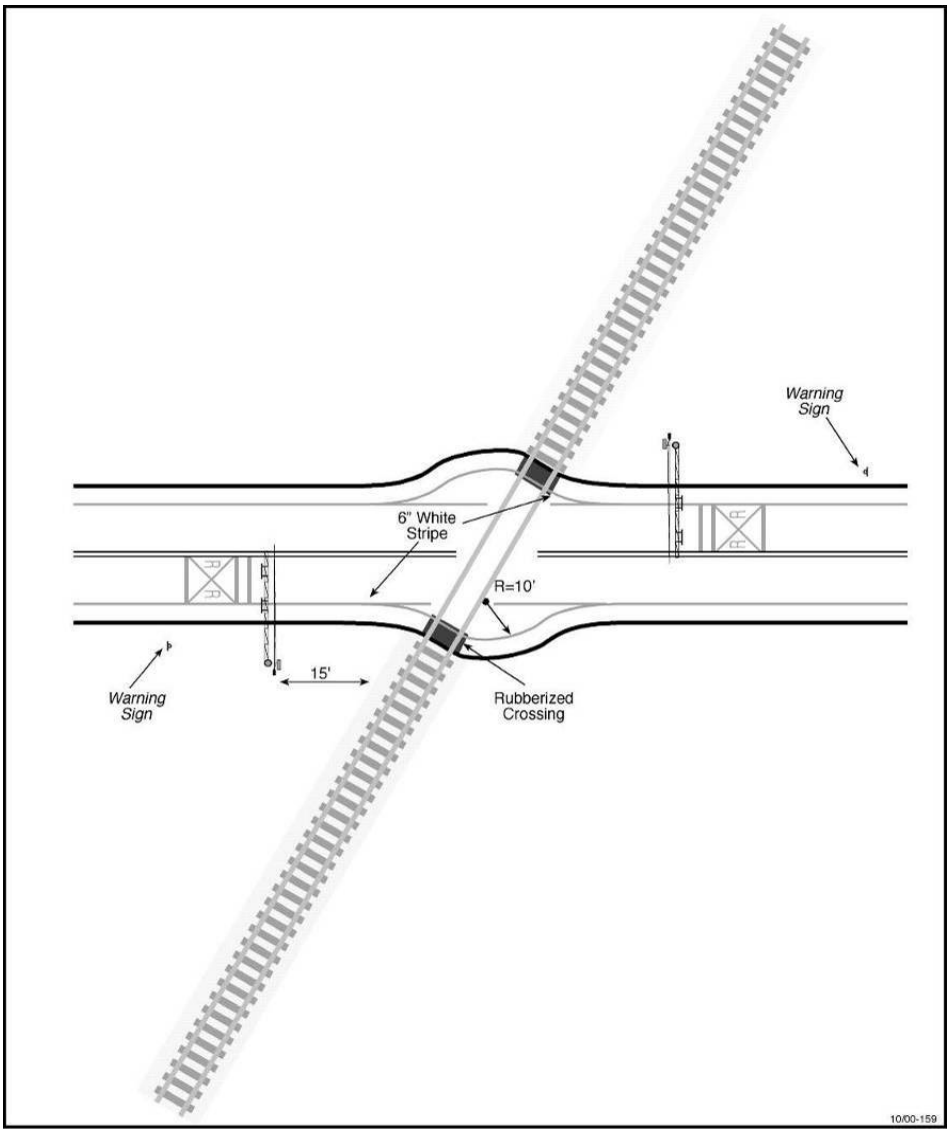


Figure 2.15: Bike Lanes Crossing at Railroad Tracks

2.6.3. Class III Bikeway Design

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 can be shared with either motorists on roadways or pedestrians on a sidewalk (not advisable) and is 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. Although it is not a requirement, a wide outside traffic lane (14 feet) is typically preferable to enable cars to safely pass bicyclists without crossing the centerline. Caltrans Chapter 1000 provides details regarding the design requirements for placement and spacing of bicycle route signage.

2.6.4. On-Street Regulatory & Warning Bike Signs

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. Signage should be installed on existing signposts if possible, reducing visual clutter along the path or roadway.

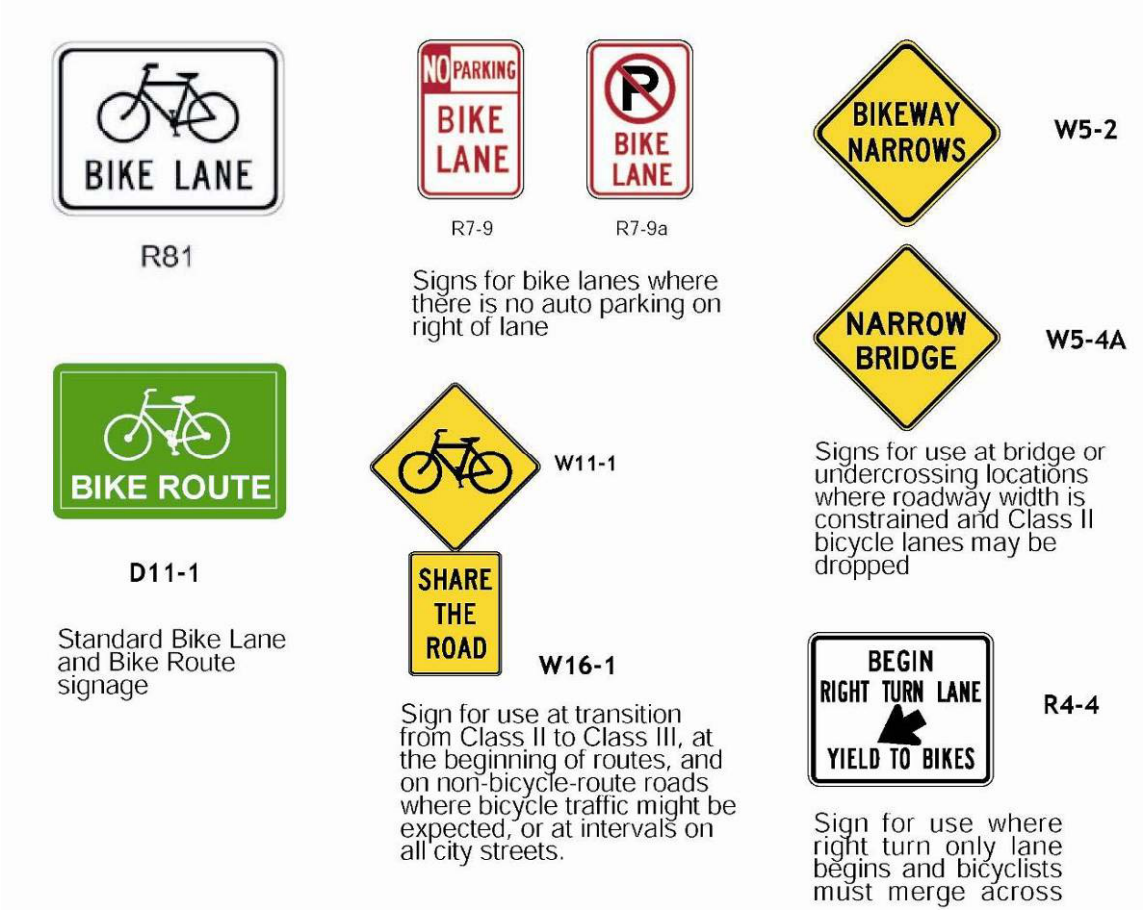


Figure 2.16: Bikeway Signs

2.6.5. Innovative Bikeway Treatments

Bicycle Boulevards

Bicycle Boulevards have been implemented in numerous locations including Berkeley, Davis, and Pasadena, California. A Bicycle Boulevard, also known as bicycle priority road, is a roadway that allows all types of vehicles, but which has been modified to enhance bicycle safety and security. Roadways are designed to be places where cars and bicycles can equally share right-of-way. Bicycle Boulevards tend to be residential streets with lower traffic volumes, typically between 3000 to 5000 average daily vehicles, but can include secondary commercial streets.

Figure 2.18: Bicycle Boulevard Lane Configuration shows the typical design features of bicycle boulevards, these include:

- Traffic calming devices such as traffic circles and curb bulb outs
- Bicycle destination signage
- Pavement stencils indicating status as a Bicycle Boulevard
- Crossing improvements at major arterials such as traffic signals with bicycle-detection, four-way stops and high-visibility crosswalks
- Bicycle-friendly signal preemption at high-volume signalized intersections.
- Stop signs on streets crossing the Bicycle Boulevard

Bicycle Boulevards can be designed to accommodate the particular needs of the residents and businesses along the routes, and may be as simple as pavement markings with wayfinding signs or as complex as streets with traffic diverters and bicycle signals. Many good candidates for Bicycle Boulevards may benefit most from signage and public education. Substantial capital improvements may not be necessary.

To further identify a street as a preferred bicycle route, lower volume roadways may be modified to function as a through street for bicycles, while maintaining only local access for automobiles. Traffic calming devices can lower traffic speeds and through trips, limiting conflicts between motorists and bicyclists and providing priority to through bicycle movement.

Figure 2.17: Bicycle Boulevard Signage in Berkeley, CA

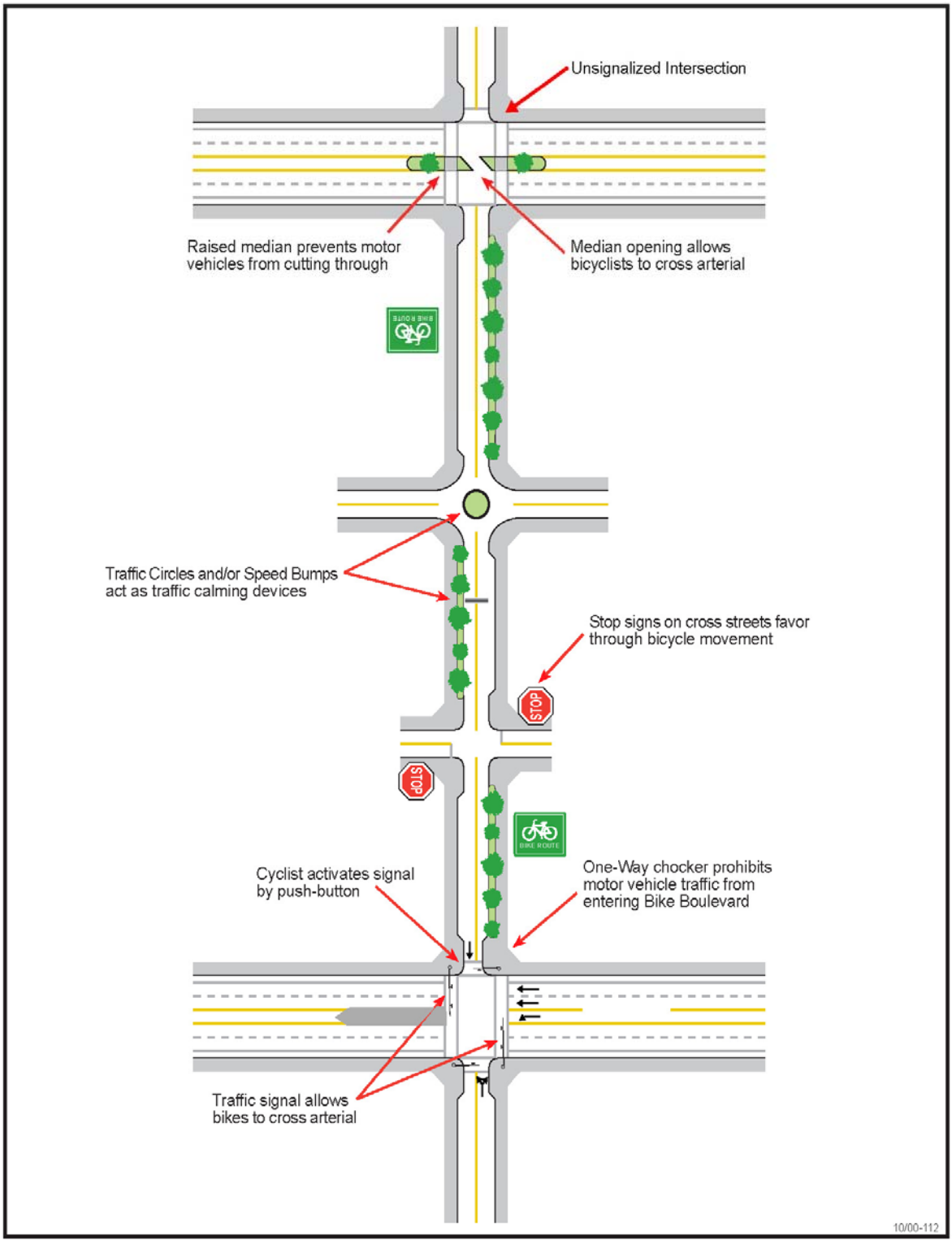


Figure 2.18: Bicycle Boulevard Lane Configuration

Shared Roadway Bicycle Marking

Recently, Shared Lane Marking stencils have been introduced for use in California as an additional treatment for Class III facilities. 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.

Figure 2.19: Shared Lane Marking Placement and Shared Roadway Bicycle Marking illustrates recommended placement of the stencil in the roadway and the "Chevron" marking design recommended by Caltrans. Caltrans adopted the following pavement markings for official use in 2005 as part of the California MUTCD.

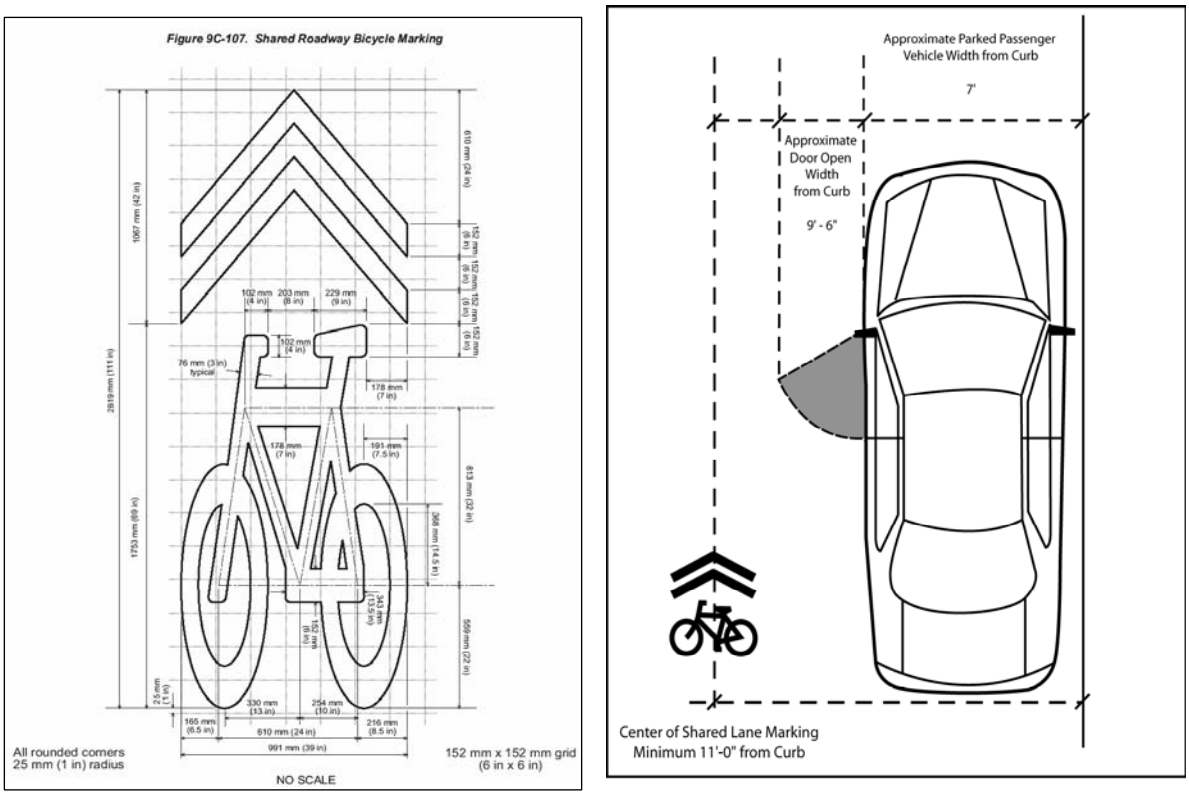


Figure 2.19: Shared Lane Marking Placement and Shared Roadway Bicycle Marking

2.6.6. Bike Route Signage

In addition to wayfinding signs, bike route network signage that uses the CAMUTCD standard for should be used by local jurisdictions. Route numbering for these signs should be coordinated with neighboring

jurisdictions where bikeways cross borders. Most commonly, they show the route number and the corresponding direction.

For bike route signs, CAMUTCD requires a green background and white lettering. The top portion of the sign is customizable for the city or region where it located. For example, the City of San Francisco shows the Golden Gate Bridge on its bike route signs shows an example from San Francisco.

Figure 2.20: Bicycle Route Number Marker

Multi-Use Path Signs

Local jurisdictions should work together to create a sign system for the multi-use path network. It is an expanding network that could link with many destinations countywide. Signs could show destinations as well as proper traffic control.

These signs could be coordinated with other on-street bicycle route signage. This system should encourage use of trails for recreational as well as functional bicycling trip-purposes. Helping bicyclists of all ages reach destinations easily.

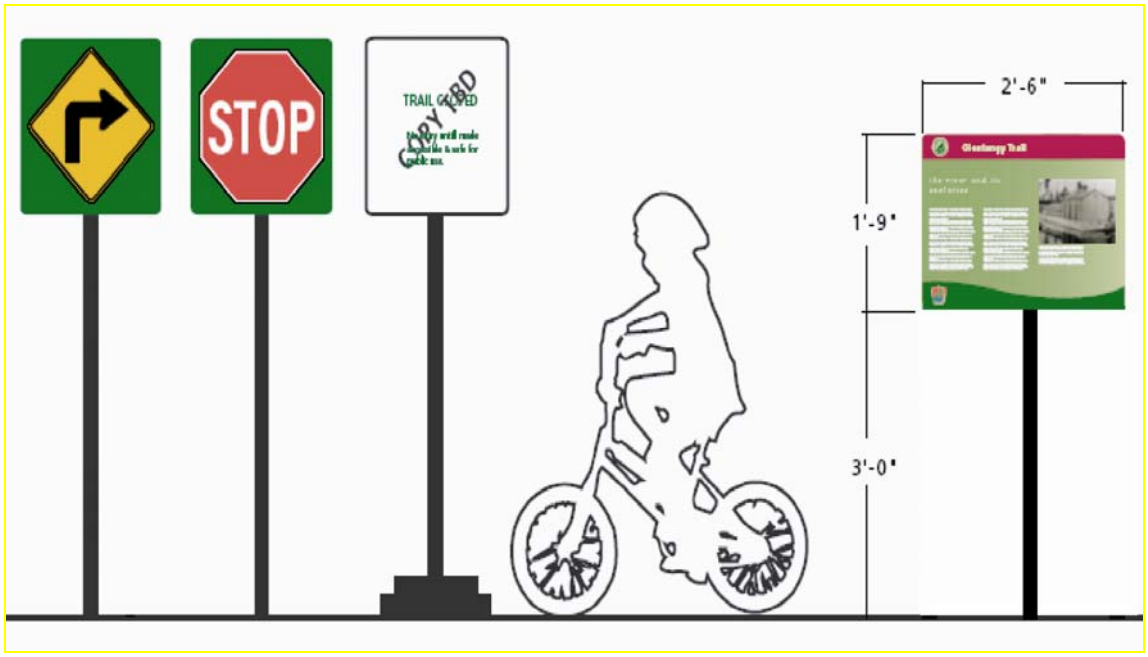


Figure 2.21: Multi-Use Path Signs

Wrong-Way Signs

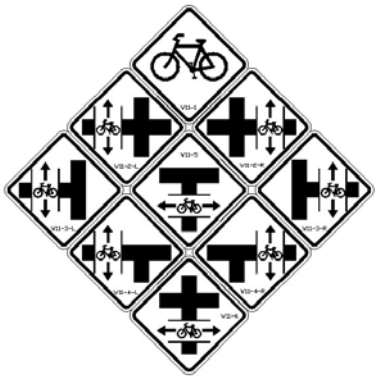
The local jurisdictions may want to consider additional signage on bikeways with high levels of wrong-way riding. The City of Sunnyvale, places wrong way riding signs on the back of bike lane signs to help prevent bicyclists using bicycle lanes in the wrong direction, riding against traffic.

Wrong-Way Sign in Sunnyvale

Parallel Path Warning Signage

When paths are located parallel and adjacent to roadways, vehicles turning into and out of streets and driveways must cross the path. Conflicts between bicyclists and pedestrians and turning motorists are common at these types of intersections. Turning motor vehicles do not expect to see bicyclists or pedestrians coming in the opposite direction of traffic.

Starting in the early 1990's, the City of Denver, Colorado began using experimental warning signage at its parallel paths. The signage is modified from the standard MUTCD railroad warning signage.



An example of Denver's parallel path warning signage

Experimental signage, similar to the Denver parallel path warning signs, could help alert motorists to the presence of bicyclists and pedestrians on parallel paths.

An example of Deser's parallel path warning signage in context

Figure 2.22 Bikeway Signage

2.6.7. Bicycle Parking

As more bikeways are constructed and bicycle usage grows, the need for bike parking will increase. Short-term parking at shopping centers and similar land uses can support bicycling as well as long-term bicycle parking at transit stations and work sites.

Short Term Bicycle Parking

Short term bicycle parking facilities are best used to accommodate visitors, customers, messengers and others expected to depart within two hours. Bicycle racks provide support for the bicycle but do not have locking mechanisms. Racks are relatively low-cost devices that typically hold between two and eight bicycles, allow bicyclists to securely lock their frames and wheels, are secured to the ground, and are located in highly visible areas. They are usually located at schools, commercial locations, and activity centers such as parks, libraries, retail locations, and civic centers. See **Figure 2.24: Recommended Short-Term Bicycle Parking Facilities**.

Bicycle racks should be installed with the following guidelines in mind:

- The rack element (part of the rack that supports the bike) should keep the bike upright, supporting the frame in two places and allowing one or both wheels to be secured.
- Install 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 elsewhere. A row of inverted "U" racks should be installed with 15 inches minimum between racks.
- Empty racks should not pose a tripping hazard for visually impaired pedestrians. Position racks out of the walkway's clear zone.

When possible, racks should be in a covered area protected from the elements. Long-term parking should always be protected.

Generally, 'U' type racks bolted into the sidewalk are preferred and should be located intermittently or in front of key destinations. Bicycle racks should be installed to meet ADA standards and not block pedestrian through traffic.

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

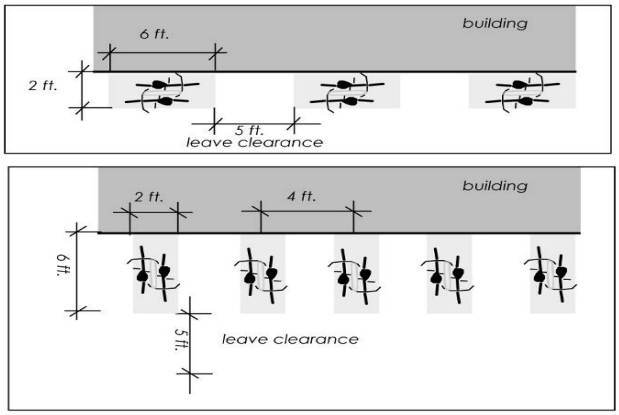


Figure 2.23: Recommended bicycle parking spacing dimensions

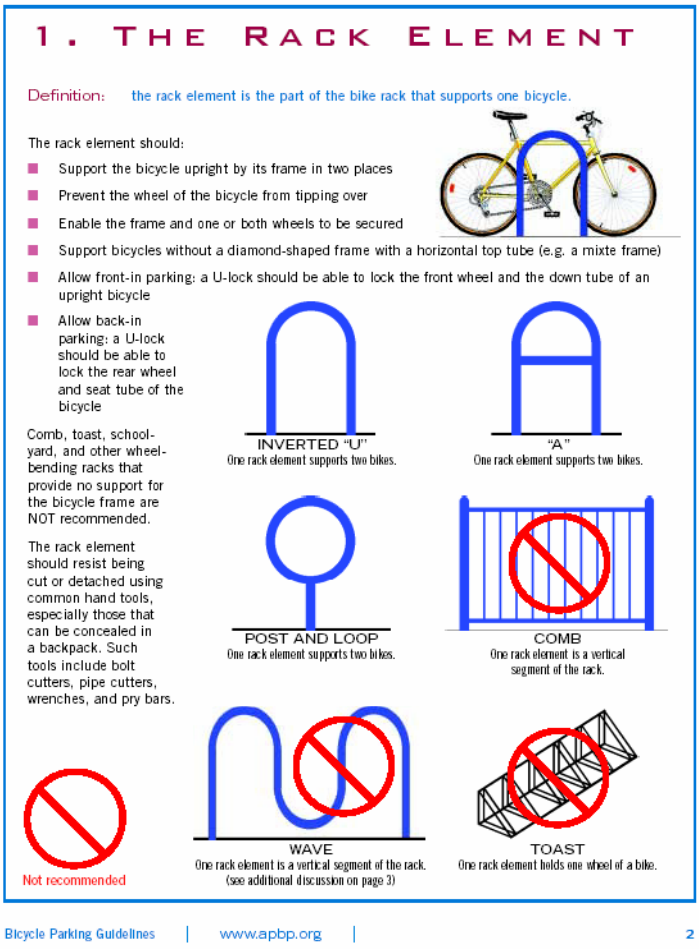


Figure 2.24: Recommended Short-Term Bicycle Parking Facilities

Possible alternatives to the inverted-U bike rack include the simple post-and-ring style (left), or a custom artistic rack (middle) or the abs Mct rack (right) . All styles allow the bicycle to be secured by the frame with a U-lock.

Figure 2.25: Alternative Bicycle Racks

Long Term Bicycle Parking

For long-term parking, the local jurisdictions may want to consider bicycle lockers. Bicyclists are usually more comfortable storing bicycles in lockers for long periods because they offer increased security and protection from natural elements. Although they may be more expensive to install, they can make the difference for commuters deciding whether or not to bicycle.

Lockers can be controlled with traditional key systems or through more elaborate subscription systems. Subscription locker programs, like e-lockers, or park-by-phone systems allow even more flexibility within locker use. Instead of restricting access for each patron to a single locker, subscribers can gain access to all lockers within a system, controlled by magnetic access cards, or caller ID. These programs typically have fewer administrative costs because they simplify or eliminate key management and locker assignment.

Long-term bicycle parking facilities accommodate employees, students, residents, commuters, and others expected to park more than two hours. These parking facilities should be provided in a secure, weather-protected manner and location.

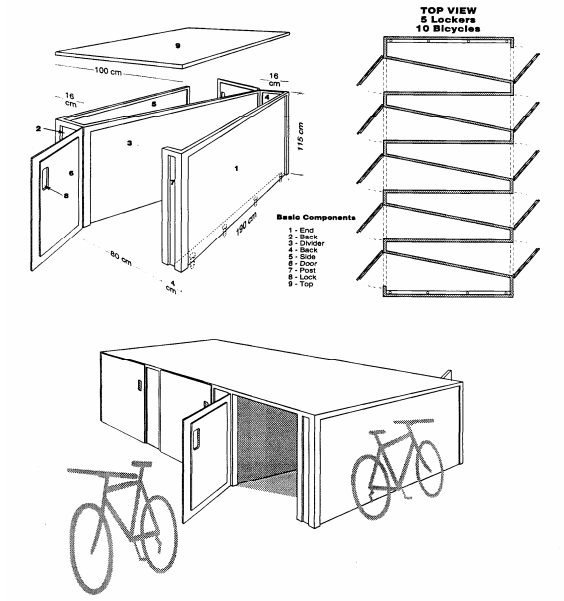


Figure 2.26: Bicycle Lockers at a Transit Station

Innovative High Volume Bicycle Parking

In many locations, individual U-racks located on the sidewalk can be sufficient to meet bicycle parking demand. Where bicycle parking demand is higher, more formal structures and larger facilities need to be provided. Several options for high-volume bicycle parking are outlined below.

On-Street Bike Parking Corral

A relatively inexpensive solution to providing high-volume bicycle parking is to convert one or two on-street motor vehicle parking spaces into on-street bicycle parking. Bike racks are installed in the street and protected from motor vehicles with removable curbs and bollards. These Bike Parking Corrals move bicycles off the sidewalks, and leave space for sidewalk café tables or pedestrians. Bicycle parking does not block sightlines like motor vehicles do, so it may be possible to locate bicycle parking in no-parking zones near intersections and crosswalks.

Photo: Bill Stiles

Figure 2.27: Bike Corral

Bike Oasis

In 2008, the City of Portland, Oregon began installation of several "Bike Oases" in commercial districts. These signature bicycle parking facilities are installed on curb extensions and consist of attractive covered bike parking and an information panel. Portland's Bike Oases provide parking space for ten bikes. Bike and walking maps are installed on the information panel.

Bike Oasis installed in Portlnd, OR near NE 43rd and Hancock

Figure 2.28: Bike Oasis

2.6.8. Programmatic Design Guidelines

Bicycle Commuter Centers

Bicycle Commuting Centers (BCC) are a type of mass storage facility for bicycles. They are sometimes known as BikeStations. BikeStation is a non profit organization that operates Bicycle Commuting Centers. Bicycle Commuting Centers vary in size and structure, but typically provide secure, monitored storage space for bicycles and commuting equipment. Some facilities integrate bicycle storage with repair and maintenance services operated by hired staff.

Figure 2.29: Bicycle Commuter Center

Denver BikeStation

Typically, BCCs provide free parking during business hours on weekdays. Other centers include enhanced services that come with membership. In exchange for a monthly fee, BCC members have unlimited access to the parking facilities and may receive discounts on other services provide at the facility. BCCs may also feature showers/locker room space, equipment for sale and refreshments. These facilities tend to be located in a highly visible space so as to attract patronage and also promote bicycle commuting in general.

Bike Sharing

Bike sharing is an innovative approach to urban mobility. Combining the convenience and flexibility of a private vehicle with the accessibility and reliability of public mass transit. Public bicycles are available on demand - fast and easy access for any trip, without the hassles presented by parking a private car or waiting on a transit timetable. When used in combination with other transportation systems, a shared bike program can reduce the travel time between transit stop and office and easily overcome the distance between residence and shopping center. The flexibility and freedom presented by a public bicycle.

Benefits of Bike Sharing Programs

- Fast, flexible and convenient personal transportation for the urban environment.
- A relatively safe and worry free introduction to cycling for people wishing to change their commute mode.
- Introduces a low cost, low commitment transportation alternative that enables and encourages multi-modal commutes when combined with mass transit.
- Quiet, clean use of urban space when substituted for car parking.

Velib- Bike Sharing Program in France

Figure 2.30: Bike Sharing Programs

CHAPTER 3. Bikeway Information by Jurisdiction

A summary of the existing bikeways, related facilities, and programs under the jurisdiction of Orange County cities, the County, and the State of California are provided below. Bikeways information provided in this chapter partially satisfies requirements for state Bicycle Transportation Account (BTA) funding eligibility. As required in the Streets and Highways Code Section 891.2, this section provides the following existing conditions and plans for each jurisdiction:

- Land use and settlement patterns
- Population
- Estimated number of bicycle commuters
- Collisions involving bicyclists
- End-of-trip facilities
- End-of-trip facilities are available to bicyclists at the end of their commutes. Important end-of-trip facilities include storage such as bicycle parking and lockers, as well as showers and places to change clothes.
- Multi-modal facilities
- Multi-modal facilities allow bicyclists to connect to other modes of travel. Multi-modal facilities include park-and-ride locations and public transportation with facilities that allow for bicycles on board.
- Descriptions of bicycle safety and education programs
- Descriptions of past expenditures for bicycle facilities
- Existence of Bicycle Transportation Plan
- Bikeways

Population figures for each city are the most recent estimates from the US Census Bureau that come from 2006 or 2007. The estimated numbers of bicycle commuters for each city is extrapolated from a number of studies and the U.S. Census 2000. Total estimated bicycle commuters include bike-to-work, transit, school, college and utilitarian bicycle commuters; it does not include recreational trips. See appendices for description of number extrapolation.

3.1. Aliso Viejo

Aliso Viejo is well-known as a strong and lively community designed to meet the growing needs of individuals, families, professionals and enterprising businesses. It is a balanced community with opportunities for housing, jobs, future-planned multi-modal transportation and recreation. An abundance of parks and trails, cultural and recreational activities and youth sports programs further enhance the quality of life for a community with a vision to ensure long-term viability.

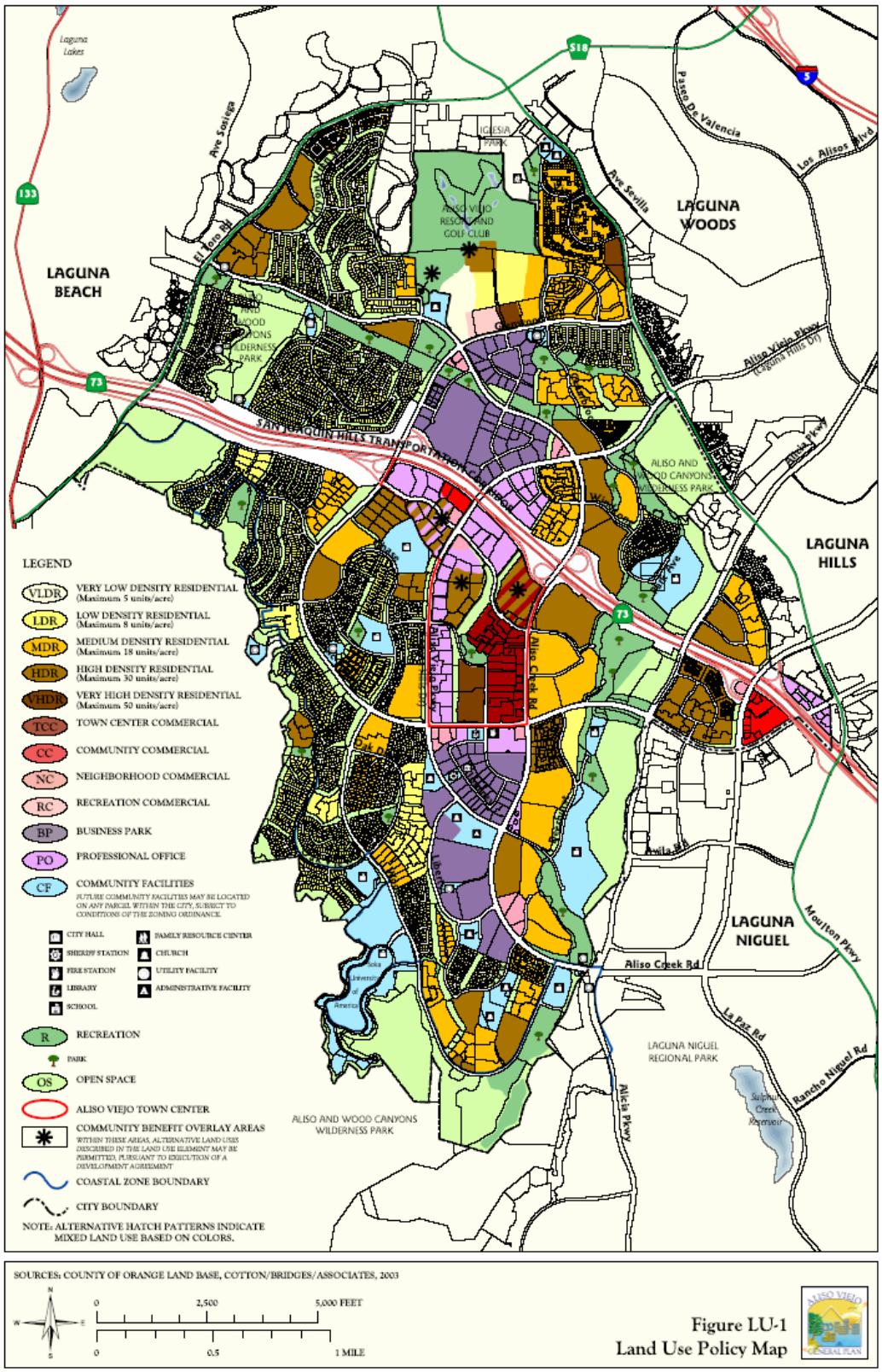
Population

40,166

Estimated Number of Bicycle Commuters

Estimated Bicycle Commuters	Number
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	273
Estimated Adjusted Mode Share	0.9%
Estimated Current Bicycle Trips	
Total Daily Bicycle Trips	546
Reduced Vehicle Trips per Weekday	351
Reduced Vehicle Miles per Weekday	1,100
Future Potential Bicycle Commuters	
Future number of new bicycle commuters	171
Total Future Daily Bicycle Commuters	444
Future Total Daily Bicycle Trips	888
Future Reduced Vehicle Trips per Weekday	648
Future Reduced Vehicle Miles per Weekday	2,981
Future Reduced Vehicle Miles per Year	789,984
Future Air Quality Benefits	
Reduced HC (metric tons/year)	2
Reduced CO (metric tons/year)	16
Reduced NOX (metric tons/year)	1
Reduced CO2 (metric tons/year)	84,029
Emissions rates from EPA report 420-F-00-013 "Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks." 2000.	

Map 3.1 Aliso Viejo Land Use



Collisions Involving Bicyclists

Parameter	Collision Rate
Total # of Bicycle Collisions for 5 Years	22
Average # of Bicycle Collisions Per Year	4.4
Average Bicycle Collision Rate per 1000/year[1]	0.11
Index (relative to statewide average of 0.32 /1000)[2]	0.32

Notes:
1. Rate is calculated using SWITRS collision data and population figures provided by the U.S. Census Bureau.
2. The Index is based on a ratio of the local collision rate and the statewide collision rate. An index less than one (1.0) indicates that the local accident rate is lower than the statewide average.

End of Trip Facilities

Information on existing and proposed end-of-trip facilities is not available.

Multimodal Connectivity

Mode	Location	Facility Type
OCTA Buses	City-wide	Bicycle racks on buses

Safety & Education Programs

The City of Aliso Viejo does not currently provide bicycle-related safety and education programs.

Expenditures

Information on past bikeway facility expenditures is not available.

Bicycle Transportation Plan

The city of Aliso Viejo does not have an adopted Bicycle Transportation Plan.

Bikeways

Aliso Viejo Existing Bikeways

Street / Path	From	To	Class	Mileage
Existing Bikeway Information Not Provided				

Aliso Viejo Proposed Bikeways

Street/Path	From	To	Class	Mileage
Westwing	Canyon Wren	Aliso Creek Rd	Class II	0.38
Aliso Creek Rd.	Aliso Viejo Pkwy.	Pacific Park Dr.	Class II	1.26
Canyon Wren Ln.	Westwing	El Toro Rd.	Class II	0.56
			TOTAL	2.2 miles

Aliso Viejo Proposed Bikeway Cost Estimates

Facility	Miles	Unit Cost (per mile)	Total
Class II	2.20	$280,000	$616,000
		Total	$616,000

3.2. Anaheim

With a population of 328,014 Anaheim is the second largest city in Orange County. It is also home to several tourist destinations, most notably the two Anaheim resort theme parks. The area surrounding the parks has been developed primarily with the tourist in mind. Anaheim is also home to the Anaheim Stadium and Arrowhead Pond sporting and entertainment centers. The western portion of the City is older and well established with a developed grid network of arterial streets. The eastern portion of the City, called Anaheim Hills, is relatively newer and is largely comprised of suburban subdivisions of single- and multi-family housing. Anaheim is also home to several industrial and commercial centers, including those located along Orangethorpe and La Palma Avenues.

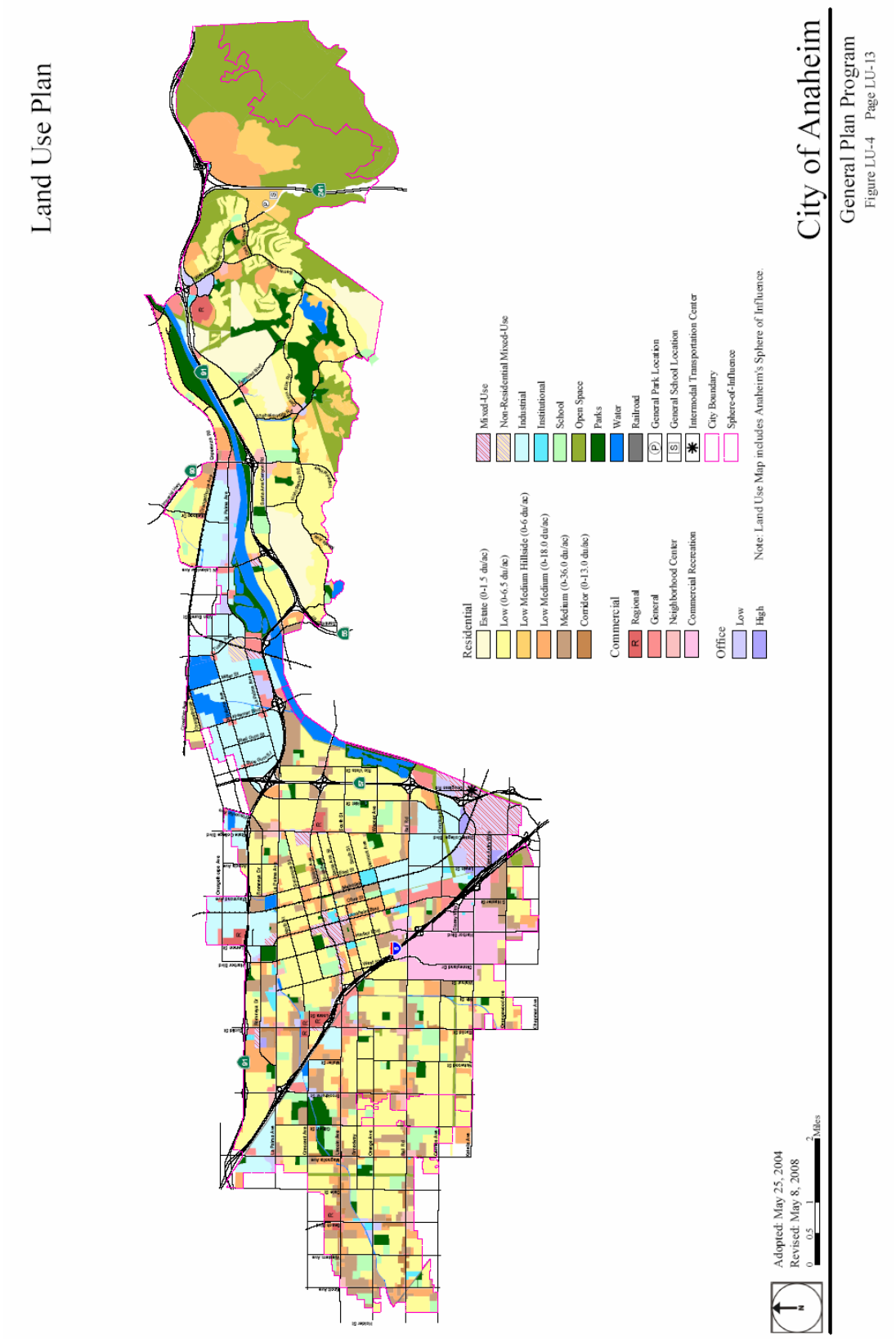
Population

328,014

Estimated Number of Bicycle Commuters

Estimated Bicycle Commuters	Number
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	4,138
Estimated Adjusted Mode Share	2.0%
Estimated Current Bicycle Trips	
Total Daily Bicycle Trips	8,276
Reduced Vehicle Trips per Weekday	5,551
Reduced Vehicle Miles per Weekday	20,203
Future Potential Bicycle Commuters	
Future number of new bicycle commuters	834
Total Future Daily Bicycle Commuters	4,972
Future Total Daily Bicycle Trips	9,944
Future Reduced Vehicle Trips per Weekday	7,259
Future Reduced Vehicle Miles per Weekday	33,391
Future Reduced Vehicle Miles per Year	8,848,636
Future Air Quality Benefits	
Reduced HC (metric tons/year)	24
Reduced CO (metric tons/year)	179
Reduced NOX (metric tons/year)	12
Reduced CO2 (metric tons/year)	941,212
Emissions rates from EPA report 420-F-00-013 "Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks." 2000.	

Map 3.2 Anaheim Land Use



Collisions Involving Bicyclists

Parameter	Collision Rate
Total # of Bicycle Collisions for 5 Years	523
Average # of Bicycle Collisions Per Year	104.6
Average Bicycle Collision Rate per 1000/year[1]	0.31
Index (relative to statewide average of 0.32 /1000)[2]	0.96

Notes:
1. Rate is calculated using SWITRS collision data and population figures provided by the U.S. Census Bureau.
2. The Index is based on a ratio of the local collision rate and the statewide collision rate. An index less than one (1.0) indicates that the local accident rate is lower than the statewide average.

End-of-Trip Facilities

Location	Type
200 S. Anaheim Blvd.	Bicycle Lockers
201 Anaheim Blvd.	Bicycle Lockers and Showers
235 E. Center St.	Bicycle Lockers

Multimodal Connectivity

Mode	Location	Facility Type
OCTA Buses	City-wide	Bicycle racks on buses
Metrolink/Amtrak/Rideshare/Bus	Anaheim Station 2150 E Katella Ave	Bicycle racks(6)/lockers(9) Bicycle racks on trains and buses
Metrolink/Rideshare/Bus	Anaheim Canyon Station 1039 N Pacific Center Dr	Bicycle racks(6)/lockers(15) Bicycle racks on trains and buses
Rideshare	Camelot Golf land 3200 Carpenter Ave	
Rideshare	State College Church of Christ 311 N State College Blvd	

Safety and Education Programs

The City of Anaheim has existing bicycle safety and education programs.

Expenditures

Facility	Improvement	From	To	Cost
Loara St.	Striped Class II	Crescent Ave	Wilshire Ave	$ 29,204
Crescent Ave.	Striped Class II	Euclid Ave	Loara St	
Wilshire Ave.	Striped Class II	Loara St	Lincoln	
Frontera St.	Striped Class II	Rio Vista St	Glassell	$ 14,023
Rio Vista St	Striped Class II	Frontera St	Lincoln	
Miller St	Striped Class II	La Palma	Orangethorpe	$ 27,013

Bicycle Transportation Plan

The city of Anaheim has an adopted Bicycle Master Plan as part of its General Plan.

Bikeways

Anaheim Existing Bikeways

Street/Path	From	To	Class	Mileage
Carbon Creek	Gilbert St.	Crescent Ave	Class I	0.50
Santa Ana River	Orange city limit	Yorba Linda city limit	Class I	10.50
Anaheim Hills Rd.	Santa Ana Canyon Rd.	Nohl Ranch Rd.	Class II	0.75
Brookhurst St.	Lincoln Ave.	Ball Rd.	Class II	1.00
Cerritos Ave.	Buena Park city limit	Stanton city limit	Class II	0.25
Crescent Ave.	Euclid St.	Loara St.	Class II	0.25
Euclid Ave.	Lincoln Ave.	Ball Rd.	Class II	1.00
Frontera St.	Rio Vista St.	Glassell St.	Class II	1.00
	Nohl Ranch Rd.	Orange city limit	Class II	0.75
Kellogg Dr.	Yorba Linda city limit	Orangethorpe Ave.	Class II	0.75
Lakeview Ave.	La Palma Ave.	Santa Ana River	Class II	0.25
Loara St.	Crescent Ave.	Wilshire Ave.	Class II	0.25
Miller St.	Orangethorpe Ave.	La Palma Ave.	Class II	1.00
Ninth Street.	Orangewood Ave.	Garden Grove city limit	Class II	0.25
Oak Canyon Dr.	Serrano Ave.	Weir Canyon Rd.	Class II	0.50
Orangewood Ave.	Harbor Blvd.	Mountain View Ave.	Class II	0.75
Rio Vista St.	Frontera St.	Wagner Ave.	Class II	0.75
Riverdale Ave.	Orange city limit	Lakeview Ave.	Class II	1.25
Santa Ana Canyon Rd	Orange city limit	Weir Canyon Rd.	Class II	6.00
Sunkist St..	Wagner Ave.	Cerritos Ave.	Class II	1.00
Weir Canyon Rd.	Santa Ana Canyon Rd.	Blue Sky Ln.	Class II	1.75
Wilshire Ave.	Loara St.	Lincoln Ave.	Class II	0.50
Orangethorpe Ave.	State College Blvd.	Placentia Ave.	Class III	0.50
Orangethorpe Ave.	Miller St.	Placentia city limit	Class III	0.25
Western Ave.	Buena Park city limit	Del Monte Dr.	Class III	0.50
			TOTAL	32.2 miles

Proposed Regional Priority Bikeways

Street/Path	From	To	Class	Mileage
Olive / Disney Path	Olive St.	Disney Way	Class I	2.00
UP RR	Broadway	County/City Border	Class I	2.92
Katella Ave.	Barclay Dr.	Howell Ave.	Class II	4.64
La Palma Ave.	La Reina St.	Jefferson St.	Class II	8.34

Anaheim Proposed Bikeways

Street/Path	From	To	Class	Mileage
Academy Av Path	Dale Ave	Beach Blvd.	Class I	0.59
Magnolia Pathway	Lola Ave.	Crescent Ave.	Class I	1.64

Street/Path	From	To	Class	Mileage
OCTA Metrolink RR	Orange City Limit	West of the 57	Class I	0.30
Dupont Path	Orange Wood Ave	Rampart St.	Class I	0.44
Path 3	OCTA RR	Western Ave.	Class I	0.82
Sycamore / La Palma Connector	Sycamore	La Palma Ave.	Class I	0.12
UP RR Spur Path	UPRR Path	Walnut St.	Class I	0.47
Vermont / Wagner Connector	Vermont Ave.	Wagner Ave.	Class I	0.18
9th St.	Broadway	Orange Wood Ave.	Class II	1.01
Anaheim Blvd.	La Palma Ave.	Sycamore Ave.	Class II	0.53
Ball Rd section 1	Buena Park City Limit	Gilbert St.	Class II	2.74
Ball Rd section 2	County/City Border	Walnut St.	Class II	2.02
Broadway	Magnolia Path	Gilbert St.	Class II	1.93
Brookhurst St Section 1	Riverside Fwy.	Lincoln Ave.	Class II	1.51
Brookhurst St Section 2	Ball Rd.	Katella Ave	Class II	1.01
Canyon Creek Rd.	Serrano Ave.	Sunset Ridge Rd.	Class II	0.57
Sunset Ridge Rd.	Canyon Creek Rd.	Rossano Way	Class II	0.91
Cerritos Ave.	Magnolia Path	Sylvan st.	Class II	0.15
Citron St.	Santa Ana St.	Vermont Ave.	Class II	0.57
Vermont Ave.	Citron St.	Wayside St.	Class II	1.66
Crescent Ave.	Brookhurst St.	Loara St.	Class II	1.34
Loara St.	Crescent Ave.	Wilshire Ave.	Class II	0.29
Wilshire Ave.	Loara St.	Lincoln Ave.	Class II	0.26
Crone Ave.	UPRR	Walnut St.	Class II	0.24
Douglass Rd.	UPRR	Katella Ave.	Class II	0.42
East St.	La Palma Ave.	Ball Rd.	Class II	2.08
Fairmount Blvd.	Santa Ana Canyon Rd.	Canyon Rim Road	Class II	1.07
Canyon Rim Road	Fairmount Blvd.	Nohl Ranch Road	Class II	1.16
Nohl Ranch Rd.	Anaheim Hills Rd.	Serrano Ave.	Class II	1.56
Frontera St.	La Palma Ave.	Glassel St.	Class II	1.21
Gilbert St.	Tiger Woods Way	Broadway	Class II	0.57
Glassell St.	Frontera St.	Orange City Limit	Class II	0.04
Greda Dr.	Deana St.	Pinney Dr.	Class II	0.44
Pinney Dr.	Greda	Nohl Ranch Road	Class II	0.53
Grove St.	Mira Loma Ave.	La Palma Ave.	Class II	0.67
Gypsum Spur	Weir Canyon Rd.	Gypsum Canyon Rd.	Class II	1.05
Gypsum Canyon	Riverside Fwy.	Gypsum Spur	Class II	0.38
Knott Ave.	Lincoln Ave	Ball Rd	Class II	1.44
Lakeview Ave.	Orchard Dr.	Santa Ana Canyon Rd.	Class II	1.43
Lincoln Ave Section 1	Knott Ave.	La Reina St.	Class II	1.78
Lincoln Ave Section 2	Rio Vista St.	Orange City Limit	Class II	0.51
Magnolia Ave.	Kennely Ln.	Cerritos Ave	Class II	0.33
Miller St.	Orangethorpe Ave.	La Plama Ave.	Class II	0.99
Mira Loma Ave.	La Palma Ave.	Van Buren St.	Class II	3.20
Stage Coach Rd.	Nohl Ranch Rd.	Hickamore Ln.	Class II	0.46
Camino Grande	Hickamore Ln.	Nohl Ranch Road	Class II	1.05
Oak Canyon Dr.	Weir Canyon Rd.	End of Oak Canyon	Class II	0.41
Olive St.	Santa Ana St.	Vermont Ave.	Class II	0.56
Orange Av.	Buena Park City Limit	Parkview St.	Class II	0.98

Street/Path	From	To	Class	Mileage
Orangethorpe Ave. Segment 1	Kraemer Blvd.	Placentia City Limit	Class II	0.78
Orangethorpe Ave. Segment 2	Lakeview Ave.	Imperial Hwy.	Class II	1.66
Orangewood Ave. Segment 1	Euclid St.	Janette Ln.	Class II	0.76
Orangewood Ave. Segment 2	West St.	Harbor Blvd.	Class II	0.50
Orangewood Ave. Segment 3	Mountain View Ave.	Dupont Dr.	Class II	1.02
Royal Oak Rd.	Santa Ana Canyon Rd.	Nohl Ranch Road	Class II	0.52
Santa Ana St.	East St.	Walnut St.	Class II	1.63
Serrano Ave.	Weir Canyon Rd.	Orange City Limit	Class II	2.98
South St.	Peregrin St.	Rio Vista St.	Class II	0.65
Sunkist St.	La Palma Ave.	Wagner Ave	Class II	1.51
Wagner Ave.	State College Blvd.	Rio Vista St.	Class II	1.02
Rio Vista St.	Wagner Ave.	La Palma Ave.	Class II	1.48
Walnut St.	Santa Ana St.	Ball Rd.	Class II	0.65
West St.	Santa Ana St.	La Palma Ave.	Class II	1.37
Western Ave.	Northern City Limit	Southern City limit	Class II	1.51
Westmont Dr.	Loara St.	West St.	Class II	0.49
Lincoln Ave.	Manchester Ave.	Wilshire Ave.	Class II	0.15
Manchester Ave.	Lincoln Ave.	Santa Ana St.	Class II	0.43
			TOTAL	149.14miles

Anaheim Proposed Bikeway Cost Estimates

Facility	Miles	Unit Cost (per mile)	Total
Class I	9.48	$1,500,000	$14,220,000
Class II	73.15	$280,000	$20,482,000
		Total	$34,702,000

3.3. Brea

Located in the foothills of North Orange County, Brea is a thriving city of over 40,000 residents. Destination shopping and restaurants abound. An award winning school district and a diverse business mix makes Brea the place to live, work and play.

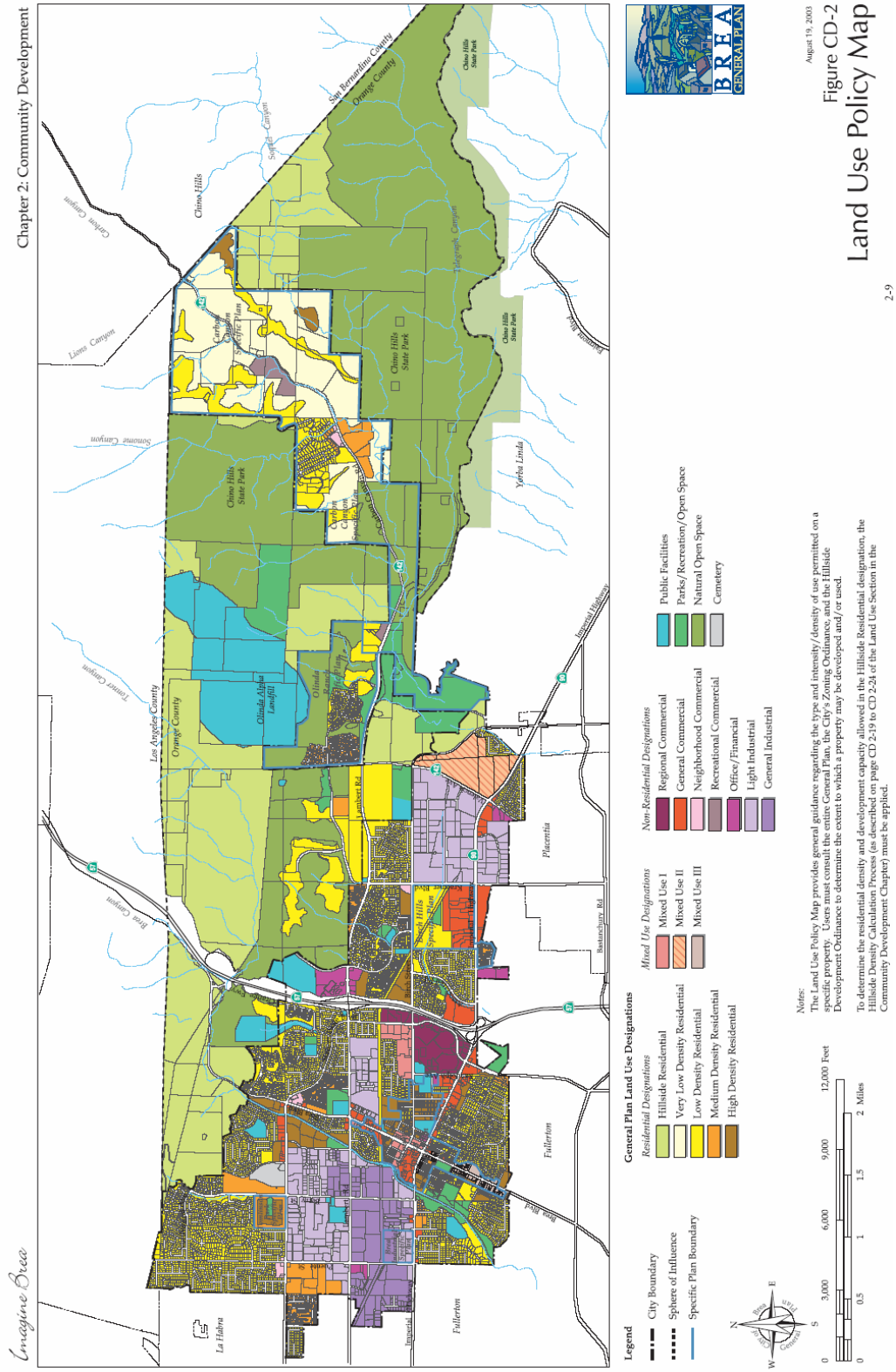
Population

40,081

Estimated Number of Bicycle Commuters

Estimated Bicycle Commuters	Number
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	300
Estimated Adjusted Mode Share	1.2%
Estimated Current Bicycle Trips	
Total Daily Bicycle Trips	599
Reduced Vehicle Trips per Weekday	394
Reduced Vehicle Miles per Weekday	1,340
Future Potential Bicycle Commuters	
Future number of new bicycle commuters	231
Total Future Daily Bicycle Commuters	530
Future Total Daily Bicycle Trips	1,060
Future Reduced Vehicle Trips per Weekday	774
Future Reduced Vehicle Miles per Weekday	3,561
Future Reduced Vehicle Miles per Year	943,643
Future Air Quality Benefits	
Reduced HC (metric tons/year)	3
Reduced CO (metric tons/year)	19
Reduced NOX (metric tons/year)	1
Reduced CO2 (metric tons/year)	100,373
Emissions rates from EPA report 420-F-00-013 "Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks." 2000.	

Map 3.3 Brea Land Use



Collisions Involving Bicyclists

Parameter	Collision Rate
Total # of Bicycle Collisions for 5 Years	68
Average # of Bicycle Collisions Per Year	13.6
Average Bicycle Collision Rate per 1000/year[1]	0.35
Index (relative to statewide average of 0.32 /1000)[2]	1.08

Notes:
1. Rate is calculated using SWITRS collision data and population figures provided by the U.S. Census Bureau.
2. The Index is based on a ratio of the local collision rate and the statewide collision rate. An index greater than one (1.0) indicates that the local accident rate is higher than the statewide average.

End-of-Trip Facilities

Location	Type
Brea Mall	Bicycle racks

The city's Circulation Plan requires the provision of secure bicycle parking as part of all future non-single family residential development.

Multimodal Facilities

Mode	Location	Facility Type
OCTA Buses	City-wide	Bicycle racks on buses
Rideshare	Brea Park-and-Ride 1000 E Lambert Ave	Bicycle racks(7)

The Brea General Plan outlines a need to encourage daily bicycle use, specifically in providing bicycle-to-transit links. Four main components are identified for bicycle-transit integration: allowing bicycles on transit; offering bicycle parking at transit locations; improving bikeways to transit; and encouraging use of bicycle and transit programs. Implementation of the city's Circulation Plan requires identifying bicycle and pedestrian projects within the Capital Improvement Projects and through development fees that help to complete or enhance connections to bus stops.

Safety and Education Programs

Active	Yes
# Of Years Conducted	6
# Of Times a Year Conducted	All year long
Administered by	Police Department
Location	Schools
Program, Curriculum, and Activities	S.A.F.E. Program (Skills and Assets for Excellence) with specific bicycle safety and education lesson and workbook; bicycle rodeos; safety fairs
Other Bicycle Safety Support Programs	Bicycle registration and free bicycle helmets, special events
Total # of Children Reached	Approximately 4,000 per year
Age of Children Reached	Grades K-8
Other Program Notes	Police Department has bike patrols

Expenditures

Facility	Improvement	From	To	Cost
City-wide	Maintenance			$19,407

Bicycle Transportation Plan

Bicycle planning is discussed in the City of Brea's General Plan.

Bikeways

Brea Existing Bikeways

Street/Path	From	To	Class	Mileage
Carbon Creek Bike way	Carbon Canyon Rd.	Rose Dr.	Class I	1.3
E. La Habra Blvd.	Vallejo St.	N. Palm St.	Class II	.2
W. Central Ave.	N. Palm St.	N. Brea Blvd.	Class II	1.7
State College Blvd.	N. Brea Blvd.	Lark Ellen Dr.	Class II	2.4
E. Birch St.	S. State College Blvd	Valencia Ave.	Class II	2.1
Rose Dr.	Valencia Ave.	Vesuvius Dr.	Class II	.6
Associated Rd.	E. Birch St.	E. Imperial Hwy	Class II	.5
Elm St.	Arovista Park	S. State College Blvd	Class III	1.0

Regional Priority Proposed Bikeways

Street/Path	From	To	Class	Mileage
UP RR	Palm St.	Valencia Ave.	Class I	4.50
Birch St.	Mercury Ln.	State College Blvd	Class II	1.18

Brea Proposed Bikeways

Street/Path	From	To	Class	Mileage
Tonner Canyon Rd. Valencia Path	Valencia Ave.	Tonner Canyon Rd.	Class I	0.15
Wildcat Way to Valencia Ave. Path	Wildcat Way	Valencia Ave.	Class I	1.42
Carbon Canyon Rd.	Valencia Ave.	Los Angeles County Limit	Class I	4.35
Imperial Hwy.	Saturn St.	Placentia City Limit	Class I	0.75
Path 1	Imperial Hwy	Path 2	Class I	3.24
Path 2 Segment 1	Rose Dr.	County/City Border	Class I	0.15
Path 2 Segment 2	County/City Border	Carbon Canyon Rd	Class I	1.31
Path 3	Puente St	City Limit	Class I	2.43
Puente St.	Path 3	Northwood Ave.	Class I	2.47
Valencia Ave.	Imperial Hwy	County/City Border	Class I	0.80

Street/Path	From	To	Class	Mileage
Valencia Ave.	Tonner Canyon Rd.	Carbon Canyon Rd.	Class I	1.38
Brea Creek Flood Control Channel	UP RR	Arovista Park Parking Lot	Class I	1.50
Associated Rd -Wildcat Way	Birch St.	Wildcat Way to Valencia Ave. Path	Class II	1.20
Berry St.	Northwood Ave.	Imperial Hwy	Class II	1.75
Kraemer Blvd.	Placentia City Limit	Wildcat Way-Valencia Ave. Path	Class II	1.67
Lambert Rd.	La Habra City Limit	County/City Border	Class II	3.79
Northwood Ave.	Puente St.	Berry St.	Class II	0.57
Palm St.	Fullerton City Limit	La Habra City Limit	Class II	0.24
Rose Dr.	Venus Dr.	Blake Rd.	Class II	0.09
Saturn St.	Path 1	Imperial Hwy.	Class II	0.24
Soquel Canyon Rd.	Southern County/City Border	Eastern County/City Border	Class II	0.93
Brea Blvd.	Fullerton City Limit	City/County Border	Class III	2.24
Whittier Ave.	La Habra City Limit	Puente St.	Class III	0.25
			TOTAL	70.24 miles

Brea Proposed Bikeway Cost Estimates

Facility	Miles	Unit Cost (per mile)	Total
Class I	24.45	$1,500,000	$36,675,000
Class II	11.66	$280,000	$3,264,800
Class III	2.45	$21,000	$51,450
		Total	$39,991,250

3.4. Buena Park

The City of Buena Park is also a well-established community within Orange County. Buena Park is host to many tourist destinations, including Knott's Berry Farm and Medieval Times. The City contains a developed network of older, grid arterial streets that typically do not provide enough space to accommodate bicycle lanes. Some of the arterials that serve many of the City's destinations include Beach Boulevard and La Palma and Orangethorpe Avenues. A regional shopping center is located at the intersection of Beach Boulevard and La Palma Avenue.

Population

82,452

Estimated Number of Bicycle Commuters

Estimated Bicycle Commuters	Number
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	1,033
Estimated Adjusted Mode Share	2.1%
Estimated Current Bicycle Trips	
Total Daily Bicycle Trips	2,066
Reduced Vehicle Trips per Weekday	1,390
Reduced Vehicle Miles per Weekday	5,105
Future Potential Bicycle Commuters	
Future number of new bicycle commuters	241
Total Future Daily Bicycle Commuters	1,274
Future Total Daily Bicycle Trips	2,547
Future Reduced Vehicle Trips per Weekday	1,859
Future Reduced Vehicle Miles per Weekday	8,553
Future Reduced Vehicle Miles per Year	2,266,542
Future Air Quality Benefits	
Reduced HC (metric tons/year)	6
Reduced CO (metric tons/year)	46
Reduced NOX (metric tons/year)	3
Reduced CO2 (metric tons/year)	241,088
Emissions rates from EPA report 420-F-00-013 "Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks." 2000.	

Map 3.4 Buena Park Land Use

Collisions Involving Bicyclists

Parameter	Collision Rate
Total # of Bicycle Collisions for 5 Years	164
Average # of Bicycle Collisions Per Year	32.8
Average Bicycle Collision Rate per 1000/year[1]	0.40
Index (relative to statewide average of 0.32 /1000)[2]	1.25

Notes:
1. Rate is calculated using SWITRS collision data and population figures provided by the U.S. Census Bureau.
2. The Index is based on a ratio of the local collision rate and the statewide collision rate. An index greater than one (1.0) indicates that the local accident rate is higher than the statewide average.

End-of-Trip Facilities

Information on existing and proposed end-of-trip facilities is not available.

Multimodal Facilities

Mode	Location	Facility Type
OCTA Buses	City-wide	Bicycle racks on buses
Metrolink/Rideshare/Bus	Buena Park Metrolink Station 8400 Lakeknoll Dr	Parking, Bicycle racks Bicycle racks on trains and buses

Safety and Education Programs

The City of Buena Park does not currently provide bicycle-related safety and education programs.

Expenditures

Information on past bikeway facility expenditures is not available.

Bicycle Transportation Plan

The City of Buena Park does not have a Bicycle Transportation Plan.

Bikeways

The City of Buena Park does not have any existing bikeways.

Regional Priority Proposed Bikeways

Street/Path	From	To	Class	Mileage
N Magnolia Ave.	La Palma Ave.	Crescent Ave.	Class I	0.50
Knott Ave.	Artesia Blvd.	Lincoln Ave.	Class II	2.86

Buena Park Proposed Bikeways

Street/Path	From	To	Class	Mileage
Holder St.	Lincoln Ave.	Arroyo Dr.	Class I	0.40
Path 1	Knott Ave.	Burlington Ave.	Class I	1.41
Path 2	Holder St.	City Limit	Class I	0.26
Artesia Ave.	Dale St.	City Limit	Class II	0.07
Ball Rd.	Holder St.	City Limit	Class II	0.23
Commonwealth Ave.	West of Beach Blvd.	Dale St.	Class II	0.84

Street/Path	From	To	Class	Mileage
La Palma Ave.	Valley View St.	Dale St.	Class II	2.53
Lincoln Ave.	City Limit	Knott Ave.	Class II	1.04
Malvern Ave.	Beach Blvd.	Meadowbrook Wy.	Class II	1.34
Orangethorpe Ave.	Valley View St.	Dale St.	Class II	2.51
Valley View St.	Caballero Blvd.	Thelma Ave.	Class II	1.79
Western Ave.	Artesia Blvd.	Anaheim City Limit	Class II	2.61
Whitaker Ste.	Dale St.	Fullerton City Limit	Class II	0.16
			TOTAL	37.21 miles

Buena Park Proposed Bikeway Cost Estimates

Facility	Miles	Unit Cost (per mile)	Total
Class I	2.57	$1,500,000	$3,855,000
Class II	15.98	$280,000	$4,474,400
		Total	$8,329,400

3.5. Costa Mesa

The City of Costa Mesa is one of Orange County's leading cultural and business centers. Located 37 miles southeast of Los Angeles, 88 miles north of San Diego and 475 miles south of San Francisco, Costa Mesa encompasses a total of 16 square miles with its southernmost border only 1 mile from the Pacific Ocean. The current population of approximately 113,440 has grown from 16,840 at the time of incorporation in 1953. Since that time, it has evolved from a semi-rural farming community to a city with its local economy primarily based upon retail commercial business and action sports industries such as surfing, skateboarding, and snowboarding. A general law city, Costa Mesa has a council-manager form of government and staff of approximately 580 full-time employees.

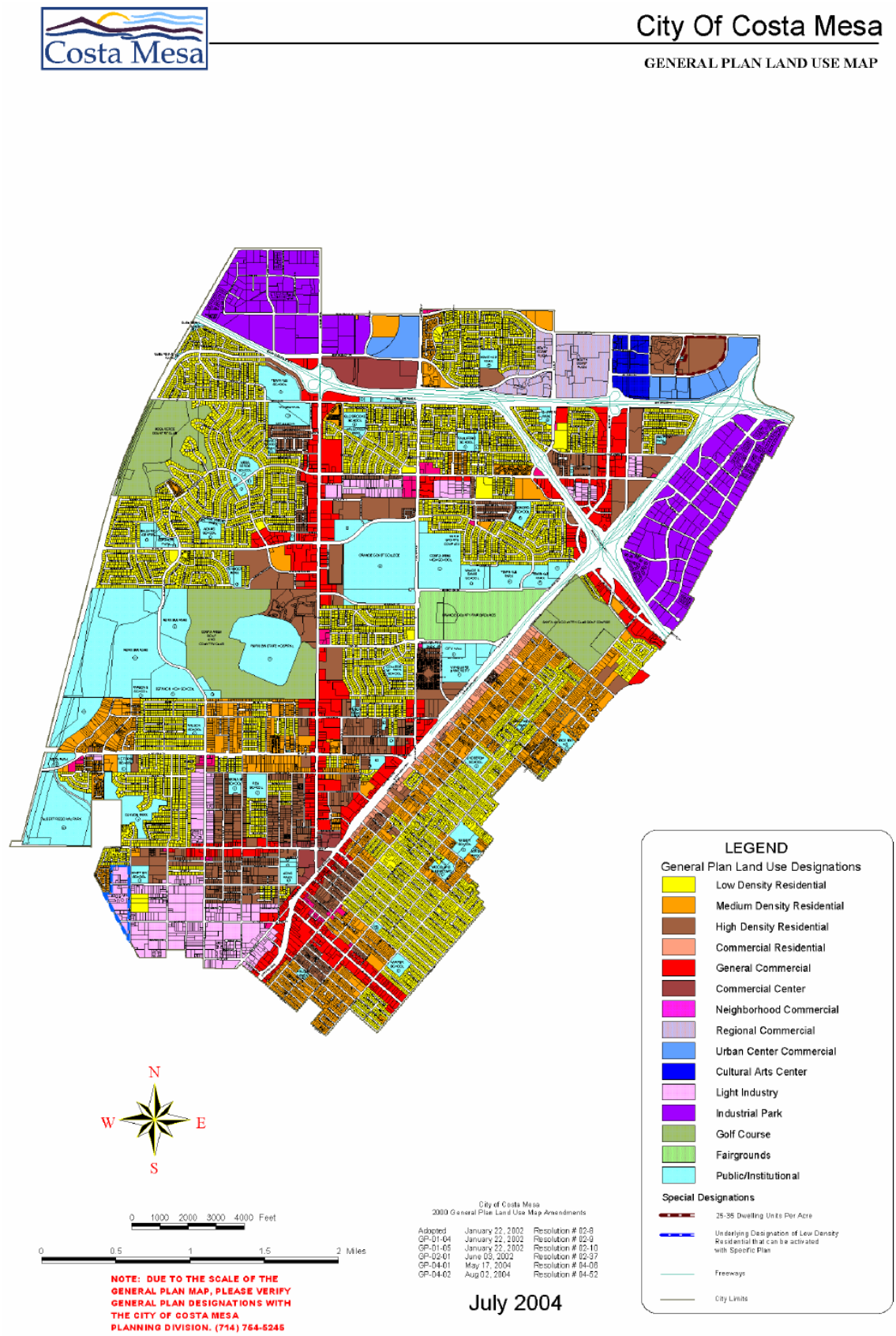
Population

113,440

Estimated Number of Bicycle Commuters

Estimated Bicycle Commuters	Number
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	1,971
Estimated Adjusted Mode Share	2.6%
Estimated Current Bicycle Trips	
Total Daily Bicycle Trips	3,943
Reduced Vehicle Trips per Weekday	2,754
Reduced Vehicle Miles per Weekday	11,313
Future Potential Bicycle Commuters	
Future number of new bicycle commuters	173
Total Future Daily Bicycle Commuters	2,144
Future Total Daily Bicycle Trips	4,289
Future Reduced Vehicle Trips per Weekday	3,131
Future Reduced Vehicle Miles per Weekday	14,401
Future Reduced Vehicle Miles per Year	3,816,353
Future Air Quality Benefits	
Reduced HC (metric tons/year)	23
Reduced CO (metric tons/year)	77
Reduced NOX (metric tons/year)	5
Reduced CO2 (metric tons/year)	405,938
Emissions rates from EPA report 420-F-00-013 "Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks." 2000.	

Map 3.5 Costa Mesa Land Use



Collisions Involving Bicyclists

Parameter	Collision Rate
Total # of Bicycle Collisions for 5 Years	389
Average # of Bicycle Collisions Per Year	77.8
Average Bicycle Collision Rate per 1000/year[1]	0.70
Index (relative to statewide average of 0.32 /1000)[2]	2.16

Notes:
1. Rate is calculated using SWITRS collision data and population figures provided by the U.S. Census Bureau.
2. The Index is based on a ratio of the local collision rate and the statewide collision rate. An index greater than one (1.0) indicates that the local accident rate is higher than the statewide average.

End-of-Trip Facilities

Information on existing and proposed end-of-trip facilities is not available.

Multimodal Facilities

Mode	Location	Facility Type
OCTA Buses	City-wide	Bicycle racks on buses
Rideshare	South Coast Plaza Sunflower Ave/Bear St	

Safety and Education Programs

Active	Yes
# Of Years Conducted	
# Of Times a Year Conducted	
Administered by	Police Department
Location	
Program, Curriculum, and Activities	Distributes Cycle Safety Bike Rider's Guide
Other Bicycle Safety Support Programs	
Total # of Children Reached	
Age of Children Reached	
Other Program Notes	

Expenditures

Information on past bikeway facility expenditures is not available.

Bicycle Transportation Plan

Bicycle planning can be found in Costa Mesa's General Plan.

Bikeways

Costa Mesa Existing Bikeways

Street/Path	From	To	Class	Mileage
Santa Ana River Path	Southern City	MacArthur Ave.	Class I	*
Upper Newport Bay Path	Irvine Ave.	Del Mar Ave.	Class I	*
Sakloka Dr.	Anton Blvd.	Sunflower Ave.	Class I	*
MacArthur Ave.	Santa Ana River	Harbor Blvd.	Class I	*
Santa Ana River Path-Sun flower Ave.	Santa Ana River	Sunflower Ave.	Class I	*
Santa Ana River Path-Gisler Ave.	Santa Ana River	Gisler Ave.	Class I	*
Canyon-Victoria Path	Canyon Dr.	Placentia Ave.	Class I	*
Costa Mesa Golf and Country Club	Placentia Ave	Merrimac Wy.	Class I	*
Fairview State Hospital Easement	Mesa Verde Dr.	Harbor Blvd	Class I	*
Mesa Verde Dr.	Adams Ave.	Golf Course Dr.	Class I	*
Fairview Park Bicycle Path	Santa Ana River	Fairview Park	Class I	*
Fair Dr.	Fairview Rd.	Arlington Ave.	Class I	*
Anton Blvd.	Ave. of the Arts	Sunflower Ave.	Class I	*
Sunflower Ave.	Harbor Blvd.	Fairview Rd.	Class	*
Sunflower Ave.	Park Center Dr.	Eastern City Limit	Class	*
South Coast Dr.	Hyland Ave.	Bear St.	Class	*
California St.	Santa Ana River	Gisler Ave.	Class	*
Gisler Ave.	Washington Ave.	Harbor Blvd.	Class	*
Baker St.	Mesa Verde Dr.	Royal Palm Dr.	Class	*
Baker St.	Coolidge Ave.	Bristol St.	Class	*
Paularino Ave.	Bristol St.	Red Hill Ave.	Class	*
Red Hill Ave.	Corona Del Mar	San Diego Fwy.	Class	*
Adams Ave.	Santa Ana River	Harbor Blvd.	Class	*
Merrimac Wy.	Harbor Blvd	Fairview Rd.	Class	*
Arlington Ave.	Fairview Rd.	Costa Mesa Fwy.	Class	*
Fair Dr.	Harbor Blvd.	Costa Mesa Fwy.	Class	*
Victoria St.	Santa Ana River	Canyon Dr.	Class	*
Wilson St.	Placentia Ave.	Pomona Ave.	Class	*
Victoria St.	Placentia Ave.	Costa Mesa Fwy.	Class	*
Hamilton St.	Placentia Ave.	Harbor Blvd.	Class	*
Santa Ana Ave.	Broadway St.	23rd St.	Class	*
Irvine Ave.	15th St.	22nd St.	Class	*
Irvine Ave.	Orchard Dr.	Bristol St.	Class	*
Placentia Ave.	Adams Ave.	Southern City Limit	Class	*
Mesa Verde Dr.	Adams Ave	Adams Ave (Loop)	Class	*
Hyland Ave.	MacArthur Ave.	South Coast Dr.	Class	*
Susan Rd.	Sunflower Ave.	South Coast Dr.	Class	*
Fairview Rd.	Sunflower Ave.	Costa Mesa Fwy.	Class	*
Mendoza Dr.	Coronado Dr.	Baker St.	Class	*
Bear St.	Paularino Ave.	Sunflower Ave.	Class	*
Paularino Ave.	Bear St.	Platte Dr.	Class	*
* Mileage information missing				

Regional Priority Proposed Bikeways

Street/Path	From	To	Class	Mileage
Santa Ana Ave.	23rd St.	Mesa Dr.	Class II	1.00

Costa Mesa Proposed Bikeways

Street/Path	From	To	Class	Mileage
Canyon Dr.	Victoria St.	N. or Nancy Ln.	Class I	0.44
Pacific Ave.	Las Arenas Wy.	North of Sea Breeze Dr.	Class I	0.43
Path 1	Canyon Dr.	Path 2	Class I	0.09
Path 2	Placentia Ave.	Pacific Ave.	Class I	0.58
Victoria Pl.	Las Arenas Wy.	Victoria St.	Class I	0.10
18th St.	Monrovia Ave.	Orange Ave.	Class II	1.18
22nd St.	Newport Blvd.	Santa Ana Ave.	Class II	0.50
Adams Ave.	Harbor Blvd.	Fairfax Rd.	Class II	0.72
American Ave	Victoria	Wilson St.	Class II	0.30
Baker St.	Royal Palm Dr.	College Ave.	Class II	0.31
Baker St.	Killbrooke Ln.	Coolidge Ave.	Class II	0.69
Baker St.	Bristol St.	Redhill Ave.	Class II	0.61
Baker St.	Baker St.	Paularino Ave.	Class II	0.23
Bristol St.	Sunflower Ave.	Anton Blvd.	Class II	0.28
Del mar	Newport Blvd.	Santa Ana Ave.	Class II	0.57
Flower St.	Irvine Ave.	Tustin Ave.	Class II	0.26
Gisler Ave.	Iowa Ave.	Washington Ave	Class II	0.23
Gisler Ave.	Harbor Blvd.	End of Street	Class II	0.52
MacArthur Blvd.	Santa Ana City Limit	Harbor Blvd.	Class II	0.58
Mesa Verde Dr.	Adams Ave.	Golf Course Dr.	Class II	0.13
19th St.	West of Monrovia Ave.	Monrovia Ave.	Class II	0.13
Monrovia Av.	19th St.	18th St.	Class II	0.25
Newport Blvd.	Industrial Wy.	Harbor Blvd.	Class II	0.82
Orange Ave.	Rochester st.	Flower St.	Class II	0.28
Path 3	19th St.	Along Southern City Limit	Class II	0.42
Santa Ana Ave.	Santa Ana City Limit	Bristol St.	Class II	0.12
Sunflower Ave.	Fairview St.	Bear St.	Class II	0.94
Superior Ave.	27th St	Superior-Newport connector	Class II	0.23
Superior/Newport Connector	Superior Ave.	Newport Blvd.	Class II	0.02
University Dr.	Santa Ana Ave.	Newport Beach City Limit	Class II	0.00
Vitoria St.	State Ave.	Placentia Ave.	Class II	0.51
Victoria Pl.	Victoria Pl	Newport Blvd.	Class II	0.12
Wilson St.	Harbor Blvd.	Fairview Rd.	Class II	0.66
College Ave.	Gisler Ave.	Village Wy.	Class III	0.48
Village Ave.	College Ave.	Pinecreek Dr.	Class III	0.13
Pine Creek Dr.	Village Ave.	Adams Ave.	Class III	0.18
El Camino Dr.	Fairview Rd.	Mendoza Dr.	Class III	0.40
Mendoza Dr.	Baker St.	El Camino Dr.	Class III	0.30
			TOTAL	29.37miles

Costa Mesa Proposed Bikeway Cost Estimates

Facility	Miles	Unit Cost (per mile)	Total
Class I	2.64	$1,500,000	$3,960,000
Class II	11.61	$280,000	$3,250,800
Class III	1.49	$21,000	$31,290
			$7,242,090

3.6. Cypress

Located in the northwest of Orange County, Cypress is host to the Los Alamitos Racetrack, Cypress College, and many other local destinations. The major arterials through the City along which many of these destinations are located include Valley View, Katella, and Lincoln Avenues, Moody Street, and Ball Road. The City of Cypress has an established grid network of arterial streets, and a developed network of bikeways.

Population

46,229

Estimated Number of Bicycle Commuters

Estimated Bicycle Commuters	Number
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	387
Estimated Adjusted Mode Share	1.2%
Estimated Current Bicycle Trips	
Total Daily Bicycle Trips	775
Reduced Vehicle Trips per Weekday	499
Reduced Vehicle Miles per Weekday	1,577
Future Potential Bicycle Commuters	
Future number of new bicycle commuters	213
Total Future Daily Bicycle Commuters	600
Future Total Daily Bicycle Trips	1,201
Future Reduced Vehicle Trips per Weekday	877
Future Reduced Vehicle Miles per Weekday	4,032
Future Reduced Vehicle Miles per Year	1,068,591
Future Air Quality Benefits	
Reduced HC (metric tons/year)	6
Reduced CO (metric tons/year)	22
Reduced NOX (metric tons/year)	1
Reduced CO2 (metric tons/year)	113,664
Emissions rates from EPA report 420-F-00-013 "Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks." 2000.	

Map 3.6 Cypress Land Use

Collisions Involving Bicyclists

Parameter	Collision Rate
Total # of Bicycle Collisions for 5 Years	92
Average # of Bicycle Collisions Per Year	18.4
Average Bicycle Collision Rate per 1000/year[1]	0.38
Index (relative to statewide average of 0.32 /1000)[2]	1.18

Notes:
1. Rate is calculated using SWITRS collision data and population figures provided by the U.S. Census Bureau.
2. The Index is based on a ratio of the local collision rate and the statewide collision rate. An index greater than one (1.0) indicates that the local accident rate is higher than the statewide average.

End-of-Trip Facilities

Information on existing and proposed end-of-trip facilities is not available.

Multimodal Facilities

Mode	Location	Facility Type
OCTA Buses	City-wide	Bicycle racks on buses

Safety and Education Programs

The City of Cypress does not currently provide bicycle-related safety and education programs.

Expenditures

Information on past bikeway facility expenditures is not available.

Bicycle Transportation Plan

Bicycle planning can be found in the City of Cypress General Plan.

Bikeways

Cypress Existing Bikeways

Street/Path	From	To	Class	Mileage
Crescent Ave.	Acacia Dr.	Denni St.	*	*
Crescent Ave.	Denni St.	Summer	*	*
Crescent Ave.	Summer Pl.	Moody St.	*	*
Bloomfield	Lincoln Ave.	Cerritos	*	*
Denni St.	Lincoln Ave.	Ball Rd.	*	*
Denni St.	Ball Rd.	Marion	*	*
Denni St.	Marion Ave.	Cerritos	*	*
Moody St.	Crescent	Ball Rd.	*	*
Moody St.	Ball Rd.	Marion	*	*
Moody St.	Marion Ave.	Cerritos	*	*
Walker St.	Lincoln Ave.	Cerritos	*	*
Walker St.	R.R.	Katella	*	*
Valley View	Orange Ave.	Cerritos	*	*
Valley View	Cerritos	Border	*	*
Holder St.	Lincoln Ave.	Ball Rd.	*	*
Knott St.	Cerritos	Railroad	*	*

Orange Ave.	Bloomfield	Walker St.	*	*
Orange Ave.	Valley View	Holder St.	*	*
Ball Rd.	Bloomfield	Holder St.	*	*
Cerritos Ave.	Bloomfield	Walker St.	*	*
Cerritos Ave.	Walker St.	Camden	*	*
Cerritos Ave.	Camden Dr.	Valley	*	*
Cerritos Ave.	Valley View	Knott St.	*	*
Katella Ave.	Walker St.	Valley	*	*
Orangewood	Valley View	Knott St.	*	*
*Bikeway class and mileage unspecified				

Regional Priority Proposed Bikeways

Street/Path	From	To	Class	Mileage
Katella Ave.	Walker St.	Stanton City Limit	Class II	1.49

Cypress Proposed Bikeways

Street/Path	From	To	Class	Mileage
Path 1	Los Alamitos City Limit	Buena Park City Limit	Class I	2.56
Bloomfield St.	Lincoln Ave.	Los Alamitos City Limit	Class II	0.98
Cerritos Ave.	Lexington Dr.	Hester St.	Class II	1.65
Denni St.	Lincoln Ave.	Orange Ave.	Class II	0.97
Holder St.	Cerritos Ave.	Holder St. Path	Class II	1.05
Lexington Dr.	Cerritos Ave.	End of Street	Class II	0.34
Lincoln Ave.	Bloomfield St.	Buena Park City Limit	Class II	1.84
Orange Ave.	Walker St.	Holder St.	Class II	0.99
Orangewood Ave.	Valley View St.	Knott Ave.	Class II	1.00
Springdale St.	Orange Ave.	Jaluit St.	Class II	0.18
Valley View St.	Lincoln Ave.	Orange Ave.	Class II	0.50
Valley View St.	Cerritos Ave.	Buena Park City Limit	Class II	1.23
Walker St.	Cerritos Ave.	Katella Ave.	Class II	0.51
Walker St.	Crescent Ave.	Lincoln Ave.	Class III	0.50
			TOTAL	28.91miles

Cypress Proposed Bikeway Cost Estimates

Facility	Miles	Unit Cost (per mile)	Total
Class I	2.56	$1,500,000	$3,840,000
Class II	12.73	$280,000	$3,564,400
Class III	0.50	$21,000	$10,500
		Total	$7,414,900

3.7. Dana Point

Dana Point is characterized by nearly seven miles of prominent coastal bluffs and rolling hills along the Pacific Ocean. Most noteworthy of these bluffs is a unique promontory known as the "Headlands" which overlooks Dana Point Harbor, one of the most significant manmade alterations of the Orange County coastline.

Dana Point Harbor provides slips and mooring for over 2,500 boats along with over 50 specialty shops and restaurants. The Harbor attracts thousands of visitors annually for shopping, sport fishing, walking, bicycling, parasailing and a host of recreational activities. The Dana Point Harbor is also considered the gateway to Doheny State Park, one of California's most popular beach facilities. The 62-acre State Park offers camping, picnicking, swimming, surfing, bicycling, tide pool exploration and more.

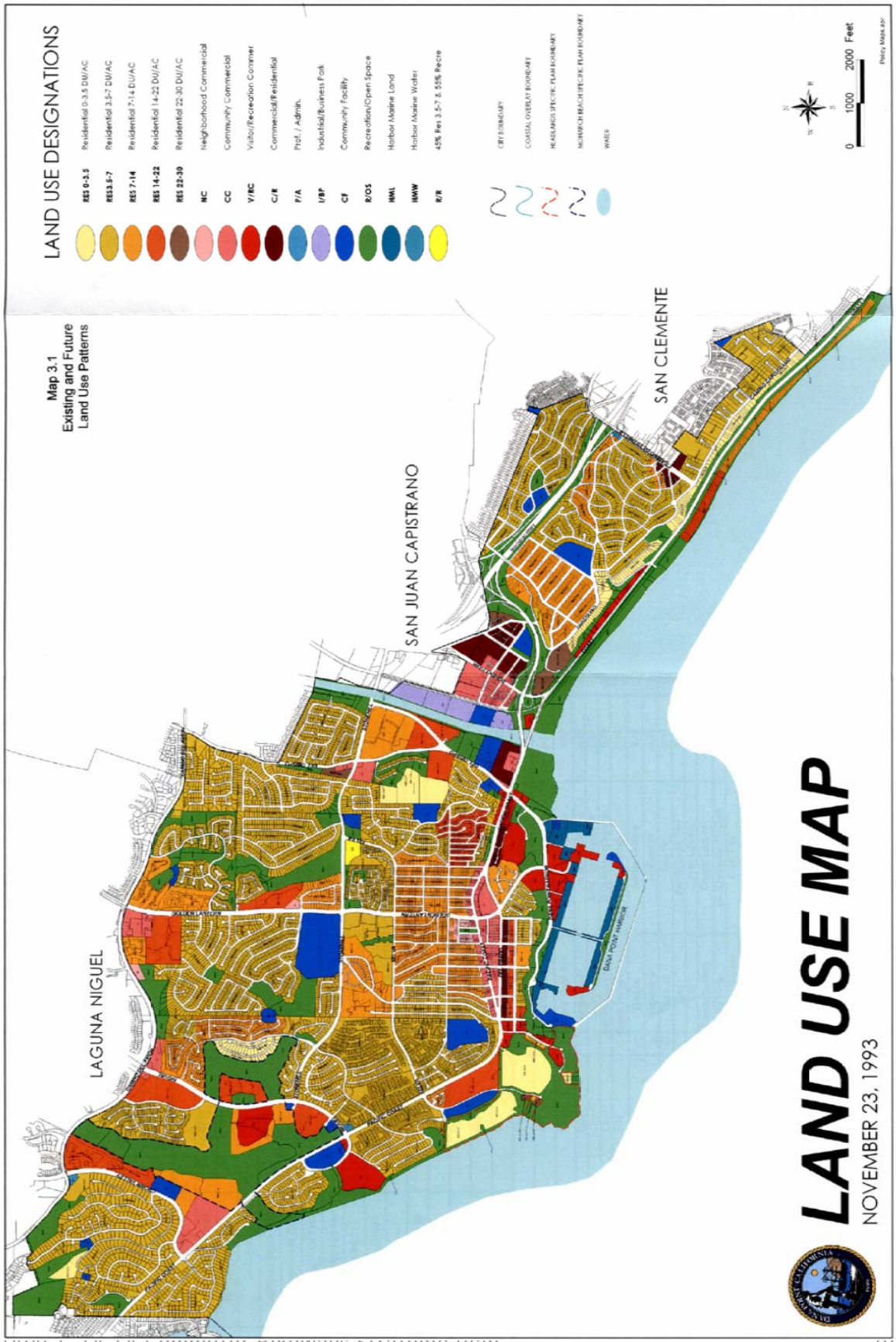
Population

35,945

Estimated Number of Bicycle Commuters

Estimated Bicycle Commuters	Number
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	268
Estimated Adjusted Mode Share	1.2%
Estimated Current Bicycle Trips	
Total Daily Bicycle Trips	536
Reduced Vehicle Trips per Weekday	358
Reduced Vehicle Miles per Weekday	1,288
Future Potential Bicycle Commuters	
Future number of new bicycle commuters	188
Total Future Daily Bicycle Commuters	456
Future Total Daily Bicycle Trips	913
Future Reduced Vehicle Trips per Weekday	666
Future Reduced Vehicle Miles per Weekday	3,065
Future Reduced Vehicle Miles per Year	812,295
Future Air Quality Benefits	
Reduced HC (metric tons/year)	5
Reduced CO (metric tons/year)	16
Reduced NOX (metric tons/year)	1
Reduced CO2 (metric tons/year)	86,402
Emissions rates from EPA report 420-F-00-013 "Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks." 2000.	

Map 3.7 Dana Point Land Use



Collisions Involving Bicyclists

Parameter	Collision Rate
Total # of Bicycle Collisions for 5 Years	38
Average # of Bicycle Collisions Per Year	7.6
Average Bicycle Collision Rate per 1000/year[1]	0.21
Index (relative to statewide average of 0.32 /1000)[2]	0.65

Notes:
1. Rate is calculated using SWITRS collision data and population figures provided by the U.S. Census Bureau.
2. The Index is based on a ratio of the local collision rate and the statewide collision rate. An index lower than one (1.0) indicates that the local accident rate is lower than the statewide average.

End-of-Trip Facilities

Dana Point currently does not have any bicycle parking facilities that have been identified. However, Section 9.35.080 in the City's code allows development projects with a minimum parking requirement of fifty or more parking stalls to install up to eight percent of the required stalls with bicycle stalls in a properly secured and located rack. Also, Section 9.13.040 requires mixed-use projects with residential units to provide each residential unit a minimum of 45 cubic feet of exterior storage space and a bicycle locker capable of securing two bicycles.

Multimodal Facilities

Mode	Location	Facility Type
OCTA Buses	City-wide	Bicycle racks on buses

Safety and Education Programs

Active	Yes
# Of Years Conducted	
# Of Times a Year Conducted	
Administered by	Police Department
Location	Schools
Program, Curriculum, and Activities	
Other Bicycle Safety Support Programs	
Total # of Children Reached	
Age of Children Reached	
Other Program Notes	Bike safety education available upon school request only; Police Department and volunteer program have bike patrol

Expenditures

Information on past bikeway facility expenditures is not available.

Bicycle Transportation Plan

Dana Point has a Bicycle and Pedestrian Trails Master Plan.

Bikeways

Dana Point Existing Bikeways

Street/Path	From	To	Class	Mileage
Coast Hwy.	Palisades Dr.	Camino Capistrano	Class I	*
Street of Blue Lantern	La Cresta Dr.	Pacific Coast Hwy.	Class II	*
Del Obispo St.	City Limit	Stonehill Dr.	Class II	*
Doheny Park Rd.	Quail Run	Pacific Coast Highway	Class I	*
Niguel Rd.	Camino Del Avion	Pacific Coast Highway	Class II	*
Pacific Coast Hwy.	Street of Copper Lantern	Northerly City Limit	Class II	*
Selva Rd.	Pacific Coast Hwy	Southerly City Limit	Class II	*
Selva Rd.	Pacific Coast Hwy.	Stonehill Dr.	Class II	*
Dana Point Harbor Dr.	Pacific Coast Hwy.	Street of Golden Lantern	Class II	*
Del Prado Ave.	Street of Blue Lantern	Street of Golden Lantern	Class II	*
Street of Golden	Dana Point Harbor Dr.	Stonehill Dr.	Class II	*
Acapulco Dr.	Street of Golden Lantern	Elisa Dr.	Class II	*
Camino Capistrano	Via Verde	Easterly City Limit	Class II	*
Del Obispo St.	Stonehill Dr.	Quail Run	Class II	*
Elisa Dr.	Acapulco Dr.	Santiago Dr.	Class	*
Elisa Dr.	Santiago Dr.	Acapulco Dr.	Class	*
Street of Golden	Stonehill Dr.	Camino Del Avion	Class	*
La Cresta Dr.	Chula Vista/Copper	Calle La Primavera/Copper	Class	*
Old Golden Lantern	Del Prado	El Camino Capistrano	Class	*
Palisades Dr.	Pacific Coast Hwy.	Camino Capistrano	Class	*
Santiago Dr.	Elisa Dr.	Taxco Dr.	Class	*
Coast Highway	Doheny Park Rd.	Palisades Dr.	N/A	*
Crown Valley Pkwy.	Pacific Coast Hwy.	Camino Del Avion	N/A	*
Del Prado Ave.	Street of Golden Lantern	Street of Copper Lantern	N/A	*
Pacific Coast Hwy.	San Juan Creek Bridge	Street of Copper Lantern	N/A	*
Stonehill Dr.	Niguel Rd.	Easterly City Limit	N/A	*
*Mileage unspecified				

Regional Priority Proposed Bikeways

Street/Path	From	To	Class	Mileage
Pacific Coast Hwy.	Monarch Bay Dr.	Street of the Blue Lantern	Class II	1.97
Pacific Coast Hwy.	Street of the Copper Lantern	Coast Hwy.	Class II	0.53
Stonehill Dr.	San Juan Capistrano City Limit	Niguel Rd.	Class II	2.13

Dana Point Proposed Bikeways

Street/Path	From	To	Class	Mileage
Margarita / Dana Strand Rd.	Scenic Rd.	Selva Rd.	Class I	0.34
OCTA Metrolink Path	PCH-Stonehill Connector	Palisades Dr.	Class I	0.81
PCH / Stone Connector	San Juan Capistrano City Limit	Coast Hwy.	Class I	1.04

Street/Path	From	To	Class	Mileage
PCH Path	Pacific Coast Hwy.	South of Via Subida	Class I	0.48
PCH Path SPUR	PCH Path	Stonehill Dr.	Class I	0.21
Camino Capistrano	San Juan Capistrano	Via Verde	Class II	0.56
Camino De Estrella	Camino Capistrano	San Clemente City Limit	Class II	0.13
Coast Hwy.	Pacific Coast Hwy.	Street of the Park Lantern	Class II	0.08
Del Prado Av.	Street of the Golden Lantern	Pacific Coast Hwy.	Class II	0.24
Niguel Rd.	Pacific Coast Hwy.	Laguna Niguel City Limits	Class II	1.05
Avenidas Las Palmas	Camino Capistrano	Camino De Estrella	Class III	0.71
Blue Lantern	La Cresta Dr.	Stonehill Dr.	Class III	0.58
Calle Velez	Via California	San Clemente City Limit	Class III	0.87
Camino El Molino	San Juan Capistrano City Limit	San Clemente City Limit	Class III	0.87
Coast Hwy.	Street of the Park Lantern	Palisades Dr.	Class III	1.09
Pacific Coast Hwy.	Cabrillo Wy	Monarch Bay Dr.	Class III	0.42
Copper Lantern	Selva Rd.	Pacific Coast Hwy.	Class III	0.42
Dana Point Harbor Dr.	Cove Rd.	End of Road	Class III	0.09
Doheny Park Rd.	Coast Hwy.	Camino Capistrano	Class III	0.61
La Cresta Dr.	Selva Rd.	End of Road	Class III	0.22
Scenic Dr / Cove Rd.	Marguerita Dr.	Dana Point Harbor Dr.	Class III	0.26
Via California	Camino Capistrano	Camino El Molino	Class III	0.60
Victoria Blvd.	Doheny Park Rd.	Pacific Coast Hwy.	Class III	0.31
Violet Lantern	Selva Rd.	Del Prado Ave.	Class III	0.50
			TOTAL	25.81miles

Dana Point Proposed Bikeway Cost Estimates

Facility	Miles	Unit Cost (per mile)	Total
Class I	2.88	$1,500,000	$4,320,000
Class II	6.69	$280,000	$1,873,200
Class III	7.55	$21,000	$158,550
		Total	$6,351,750

3.8. Fountain Valley

Located in the central portion of the County, Fountain Valley is a primarily a city of residential neighborhoods. Fountain Valley is home to Coastline College, Orange Coast Memorial Medical Center, and Mile Square Regional Park. The City's destinations are located along the grid of arterial streets, including Brookhurst and Euclid Streets, and Edinger, Warner, and Talbert Avenues.

Population

54,978

Estimated Number of Bicycle Commuters

Estimated Bicycle Commuters	Number
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	510
Estimated Adjusted Mode Share	1.4%
Estimated Current Bicycle Trips	
Total Daily Bicycle Trips	1,020
Reduced Vehicle Trips per Weekday	680
Reduced Vehicle Miles per Weekday	2,426
Future Potential Bicycle Commuters	
Future number of new bicycle commuters	270
Total Future Daily Bicycle Commuters	779
Future Total Daily Bicycle Trips	1,559
Future Reduced Vehicle Trips per Weekday	1,138
Future Reduced Vehicle Miles per Weekday	5,235
Future Reduced Vehicle Miles per Year	1,387,254
Future Air Quality Benefits	
Reduced HC (metric tons/year)	8
Reduced CO (metric tons/year)	28
Reduced NOX (metric tons/year)	2
Reduced CO2 (metric tons/year)	147,559
Emissions rates from EPA report 420-F-00-013 "Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks." 2000.	

Map 3.8 Fountain Valley Land Use

Collisions Involving Bicyclists

Parameter	Collision Rate
Total # of Bicycle Collisions for 5 Years	103
Average # of Bicycle Collisions Per Year	20.6
Average Bicycle Collision Rate per 1000/year[1]	0.36
Index (relative to statewide average of 0.32 /1000)[2]	1.13

Notes:
1. Rate is calculated using SWITRS collision data and population figures provided by the U.S. Census Bureau.
2. The Index is based on a ratio of the local collision rate and the statewide collision rate. An index greater than one (1.0) indicates that the local accident rate is higher than the statewide average.

End-of-Trip Facilities

Information on existing and proposed end-of-trip facilities is not available.

Multimodal Facilities

Mode	Location	Facility Type
OCTA Buses	City-wide	Bicycle racks on buses
Rideshare	King of Glory Lutheran Church - 10280 Slater Ave	
Rideshare	Mile Square Park - Euclid/Heil Ave	

Safety and Education Programs

The City of Fountain Valley does not have any bicycle safety and education programs.

Expenditures

Information on past bikeway facility expenditures is not available.

Bicycle Transportation Plan

Bicycle planning can be found in Fountain Valley's General Plan.

Bikeways

Fountain Valley Existing Bikeways

Street/Path	From	To	Class	Mileage
Mile Square Park Interior Path	Brookhurst St.	Mile Square Park Interior	Class I	*
Mile Square Park Perimeter	Ward St. Brookhurst	Las Flores St.	Class II	*
Newland St.	Garfield Ave.	Warner Ave.	Class II	*
Magnolia St.	Garfield Ave.	Slater Ave.	Class II	*
Bushard St.	Garfield Ave.	Northern City Limit	Class II	*
Ward St.	Garfield Ave.	Warner Ave.	Class II	*
Ward St.	Mile Square Park	Northern City Limit	Class II	*
Newhope St.	Slater Ave.	Northern City Limit	Class II	*
Edinger Ave.	Magnolia St.	Brookhurst St.	Class II	*
Heil Ave.	Magnolia St.	Brookhurst St.	Class II	*
~~Heil Ave.~~	~~Euclid St.~~	~~Newhope St.~~	~~Class II~~	*

Street/Path	From	To	Class	Mileage
Slater Ave.	Newland St.	Santa Ana River Path	Class II	*
Talbert Ave.	Newland St.	Bushard St.	Class II	*
Ellis Ave.	Newland St.	Ward St.	Class II	*
Garfield Ave.	Newland St.	Santa Ana River Path	Class II	*
* Mileage unspecified				

Fountain Valley Proposed Bikeways

Street/Path	From	To	Class	Mileage
Edinger Ave.	Brookhurst St.	Santa Ana City Limit	Class II	1.05
Edinger Ave.	Santa Ana City Limit	City Limit	Class II	0.72
Harbor Blvd.	Verbena Ct.	Edinger Ave.	Class II	0.32
Harbor Blvd.	Sylvan River	City Limit	Class II	0.35
Magnolia St.	Slater Ave.	Warner Ave.	Class II	0.49
Ward St.	Garden Grove City Limit	Margarita Ave.	Class III	0.02
			TOTAL	4.13miles

Fountain Valley Proposed Bikeway Cost Estimates

Facility	Miles	Unit Cost (per mile)	Total
Class II	2.93	$280,000	$820,400
Class III	0.02	$21,000	$420
		Total	$820,820

3.9. Fullerton

Located 22 miles southeast of metropolitan Los Angeles and in the center of North Orange County, Fullerton is a full-service city renowned for its unique mix of residential, commercial, industrial, educational, and cultural amenities. The result is a high quality of life for both residents and businesses alike. Fullerton is a community with a strong sense of tradition, one that treasures its historic past as it prepares to meet the challenges of its future.

Population

126,003

Estimated Number of Bicycle Commuters

Estimated Bicycle Commuters	**Number**
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	1,721
Estimated Adjusted Mode Share	2.0%
Estimated Current Bicycle Trips	
Total Daily Bicycle Trips	3,443
Reduced Vehicle Trips per Weekday	2,358
Reduced Vehicle Miles per Weekday	9,156
Future Potential Bicycle Commuters	
Future number of new bicycle commuters	589
Total Future Daily Bicycle Commuters	2,310
Future Total Daily Bicycle Trips	4,620
Future Reduced Vehicle Trips per Weekday	3,372
Future Reduced Vehicle Miles per Weekday	15,513
Future Reduced Vehicle Miles per Year	4,110,925
Future Air Quality Benefits	
Reduced HC (metric tons/year)	25
Reduced CO (metric tons/year)	83
Reduced NOX (metric tons/year)	6
Reduced CO2 (metric tons/year)	437,271
Emissions rates from EPA report 420-F-00-013 "Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks." 2000.	

Map 3.9 Fullerton Land Use

Collisions Involving Bicyclists

Parameter	Collision Rate
Total # of Bicycle Collisions for 5 Years	265
Average # of Bicycle Collisions Per Year	53
Average Bicycle Collision Rate per 1000/year[1]	0.40
Index (relative to statewide average of 0.32 /1000)[2]	1.22

Notes:
1. Rate is calculated using SWITRS collision data and population figures provided by the U.S. Census Bureau.
2. The Index is based on a ratio of the local collision rate and the statewide collision rate. An index greater than one (1.0) indicates that the local accident rate is higher than the statewide average.

End-of-Trip Facilities

In accordance with city Transportation Demand Management requirements, new developments are required to evaluate the need for additional storage facilities and the type and amount of bicycle parking/storage to be provided.

Multimodal Facilities

Mode	Location	Facility Type
OCTA Buses	City-wide	Bicycle racks on buses
Bus/Rideshare	Fullerton Park-and-Ride W Orangethorpe/Magnolia Ave	Bicycle racks on buses Bicycle racks (8)
Metrolink/Amtrak/Bus/Rideshare	Fullerton Station	Bicycle racks (8)/lockers (8) Bicycle racks on trains/buses

Safety and Education Programs

The City of Fullerton does not have any bicycle safety and education programs.

Expenditures

Information on past bikeway facility expenditures is unavailable.

Bicycle Transportation Plan

Fullerton's Bicycle Master Plan is part of the Circulation Element of its General Plan.

Fullerton Existing Bikeways

Street/Path	From	To	Class	Mileage
River Bike Path	N. State College Blvd.	Dorothy Ln.	Class I	*
Craig Regional Park bike way	Rolling Hills Dr.	Associated Rd.	Class I	*
N. Parks Rd.	Castlewood Dr.	Rosecrans Ave.	Class I	*
N. W. Campus Dr.	Yorba Linda Blvd.	N. State College Blvd.	Class I	*
S. W. Campus Dr.	N. State College Blvd.	Nutwood Ave.	Class I	*
W. Bastanchury Rd.	Hughes Dr.	W. Malvern Ave.	Class I	*
W. Malvern Ave.	N. Gilbert St.	W. Bastanchury Rd.	Class I	*
Acacia Ave.	Dorothy Ln.	Spring St.	Class II	*
Associated Rd.	E. Imperial Hwy.	Yorba Linda Blvd.	Class II	*
Brea Blvd.	Panorama Rd.	E. Bastanchury Rd.	Class II	*
Castlewood Dr.	N. Gilbert St.	N. Parks Rd.	Class II	*
Commonwealth Ave.	Nutwood Ave	N. State College Blvd.	Class II	*
E. Bastanchury Rd.	Associated Rd.	Cambridge Ave.	Class II	*
N. Berkeley Ave.	W. Valley View Dr.	E. Chapman Ave.	Class II	*
N. Harbor Blvd.	W. Valencia Mesa Dr.	W. Valley View Dr.	Class II	*
N. Harbor Blvd.	Las Palmas Dr.	Bastanchury Rd.	Class II	*
N. Parks Rd.	Peacock Ln.	W. Bastanchury Rd.	Class II	*
Rolling Hills Dr.	Puente St.	Hickory Pl.	Class II	*
Rolling Hills Dr.	Associated Rd.	Tri-City Park	Class II	*
Rosecrans Ave.	Sunny Ridge Dr.	N. Gilbert St.	Class II	*
S. Highland Ave.	W. Orangethorpe Ave.	W. Hill Ave.	Class II	*
S. Highland Ave.	W. Wilshire Ave.	W. Rosslynn Ave.	Class II	*
W. Orangethorpe Ave.	Magnolia Ave.	S. Basque Ave.	Class II	*
W. Orangethorpe Ave.	Jefferson Ave.	Ray Ave.	Class II	*
W. Pioneer Ave.	N. Gilbert St.	N. Parks Rd.	Class II	*
W. Valencia Mesa Dr.	W. Bastanchury Rd.	Sunny Crest Dr.	Class II	*
W. Valley View Dr.	N. Berkeley Ave.	N. Harbor Blvd.	Class II	*
W. Walnut Ave.	S. Richman Ave.	S. Highland Ave.	Class II	*
E. Orangethorpe Ave.	Raymond Ave.	S. Acacia Ave.	Class II	*
N. State College Blvd.	City Limit	Rolling Hills Dr.	Class II	*
Brea Blvd.	N. Harbor Blvd.	Panorama Rd.	Class III	*
Brea Blvd.	Evergreen Ave.	E. Bastanchury Rd.	Class III	*
Brookhurst Rd.	W. Valencia Dr.	W. Orangethorpe Ave.	Class III	*
Dorothy Ln.	Hornet Wy.	N. State College Blvd.	Class III	*
E. Commonwealth Ave.	N. Acacia Ave.	N. State College Blvd.	Class III	*
Hornet Wy.	Dorothy Ln.	N. Berkeley Ave.	Class III	*
Madison Ave.	N. Placentia Ave.	City Limit	Class III	*
N. Basque Ave.	W. Malvern Ave.	W. Chapman Ave.	Class III	*
N. Parks Rd.	Rosecrans Ave.	Peacock Ln.	Class III	*
N. Woods Ave.	W. Chapman Ave.	W. Wilshire Ave.	Class III	*
Nutwood Ave	Orange Fwy.	N. Placentia Ave.	Class III	*
Rosecrans Ave.	N. Gilbert St.	N. Parks Rd.	Class III	*
S. Richman Ave.	W. Walnut Ave.	Houston Ave.	Class III	*
Sunny Ridge Dr.	Rosecrans Ave.	W. Malvern Ave.	Class III	*
Valencia Dr.	Meade Ave.	S. Richman Ave.	Class III	*
Valencia Mesa Dr.	Sunny Crest Dr.	Youth Way	Class III	*
W. Chapman Ave.	N. Basque Ave.	N. Woods Ave.	Class III	*

Street/Path	From	To	Class	Mileage
W. Malvern Ave.	W. Bastanchury Rd.	Carhart Ave.	Class III	*
W. Pioneer Ave.	N. Sunny Ridge Dr.	S. Sunny Ridge Dr.	Class III	*
Walnut Ave.	S. Highland Ave.	S. Lemon St.	Class III	*
Wilshire Ave.	N. Woods Ave.	N. Acacia Ave.	Class III	*
E. Orangethorpe Ave.	S. Acacia Ave.	S. State College Blvd.	Class III	*
* mileage unspecified				

Regional Priority Proposed Bikeways

Street/Path	From	To	Class	Mileage
BNSF RR	Commonwealth Ave.	Metrolink RR	Class I	2.32
UP RR	BNSF RR	La Habra City Limit	Class I	4.83
Rosecrans / Euclid Path	Euclid St.	Rosecrans Ave.	Class II	2.31

Fullerton Proposed Bikeways

Street/Path	From	To	Class	Mileage
Madison Ave.	Placentia City Limit	Placentia Ave.	Class I	0.13
Bastancury Parkview Path	Bastanchury Dr.	Park View Dr.	Class I	1.20
Drainage Path	Raymond Ave.	State College Blvd.	Class I	0.97
Madison Continuation Path	End of Madison Ave.	CSUFullerton	Class I	0.41
Malvern Ave.	Gilbert St.	Buena Park City Limit	Class I	1.02
OCTA Metrolink RR	BNSF RR	Anaheim City Limit	Class I	0.43
Path 1	Bastanchury Dr.	Valencia Mesa Dr.	Class I	0.71
Puente St.	Juniper St.	Brea City Limit	Class I	0.06
Rolling Hills Bastanchury Path	Puente St.	Bastanchury Rd.	Class I	0.62
Rolling Hills Dr.	Hickory Pl.	Associated Rd.	Class I	0.29
Yorba Ranchito Path.	Rolling Hills Dr.	Craig Regional Park	Class I	0.28
Roberta Ave. / Page Ave.	Gilbert St.	Basque Ave.	Class II	1.09
Artesia Ave.	Dale Pl.	Gilbert St.	Class II	0.99
Basque Ave.	Malvern Ave.	Houston Ave.	Class II	1.44
Bastanchury Rd Segment 1	Harbor Blvd.	Associated Rd.	Class II	2.74
Bastanchury Rd Segment 2	Malvern Ave.	Parks Rd.	Class II	0.82
Bradford Ave.	Carlson Ln.	Yorba Linda Blvd.	Class II	0.37
Brea Blvd.	Harbor Blvd.	Panorama Rd.	Class II	0.85
Brea Blvd.	Bastanchury Dr.	Brea City Limit	Class II	0.59
Brookhurst Rd.	Commonwealth Ave.	Riverside Fwy.	Class II	1.10
Campus Dr.	Campus Dr.	E. Campus Dr.	Class II	0.19
Campus Path	Associated Rd.	E. Campus Dr.	Class II	0.26
Chapman Ave.	Basque Ave.	Woods Ave.	Class II	0.77
Chapman Ave.	Drake Ave.	Placentia Ave.	Class II	3.24
Commonwealth Ave.	Dale st.	State College Blvd.	Class II	5.50
CSUF Path	E. Campus Dr.	Campus Dr.	Class II	0.45
Dorothy Ln.	Long View Dr.	State College Blvd.	Class II	1.32
E Campus Dr.	Campus Dr.	Campus Path	Class II	0.38
Euclid St.	Riverside Fwy.	Country Hills Dr.	Class II	4.08
Gilbert St.	Castlewood Dr.	Commonwealth Ave.	Class II	2.94
Harbor Blvd.	Bastanchury Dr.	Valencia Mesa Dr.	Class II	0.15
Highland Ave. Segment 1	Malvern Ave.	Wilshire Ave.	Class II	0.22

Street/Path	From	To	Class	Mileage
Highland Ave. Segment 2	Rosslynn ave.	Hill Ave.	Class II	0.19
Highland Ave. Segment 3	Orangethorpe Ave.	Baker Ave.	Class II	0.17
Magnolia Ave.	Commonwealth Ave.	Anaheim City Limit	Class II	1.09
Malvern Ave.	Sunny Ridge Dr.	Basque Ave.	Class II	1.08
Orangethorpe Ave. Segment 1	Buena Park City Limit	Magnolia Ave.	Class II	0.51
Orangethorpe Ave. Segment 2	Basque Ave.	Jefferson Ave.	Class II	0.63
Orangethorpe Ave. Segment 3	Ray Ave.	Lemon St.	Class II	0.62
Orangethorpe Ave. Segment 4	Acacia Ave.	Placentia Ave.	Class II	0.84
Parks Rd.	Castlewood Dr.	UPRR	Class II	1.09
Parks Rd. Path	Castlewood Dr.	La Habra City Limit	Class II	0.47
Pioneer Ave.	Sunny Ridge Dr.	Sunny Ridge Dr.	Class II	0.24
Placentia Ave.	Palm Dr.	Ruby Dr.	Class II	0.89
Richman Ave.	Walnut Ave.	Valencia Dr.	Class II	0.13
Rosecrans Segment 1	LA County Limit	Sunny Ridge Dr.	Class II	0.88
Rosecrans Segment 2	Euclid St.	Gilbert St.	Class II	1.30
Rosslynn Ave.	Pomona Ave.	Lemon st.	Class II	0.12
State College Blvd.	Orangethorpe Ave.	Rolling Hills Dr.	Class II	3.07
Sunny Ridge Dr.	Pioneer Ave.	Rosecrans Ave.	Class II	0.55
Sunny Ridge Dr.	Pioneer Ave.	Malvern Ave.	Class II	0.62
Valencia Dr.	Highland Ave.	Meade Ave.	Class II	3.09
Valencia Mesa Dr.	Sunny Crest Dr.	Youth Way	Class II	0.24
Yorba Linda Blvd.	Campus Dr.	Bradford Ave.	Class II	1.15
Acacia Ave.	Melody Ln.	Dorothy Ln.	Class III	0.10
Baker Ave.	Pacific Dr.	Highland Ave.	Class III	1.62
Barbara Blvd.	Brea Blvd.	Melville Dr.	Class III	0.19
Berkeley Ave.	Commonwealth Ave.	Chapman Ave.	Class III	0.25
Cherry Ave.	Pine Ave.	Cedar Dr.	Class III	0.25
Gilbert St.	Castlewood Dr.	La Habra City Limit	Class III	0.36
Gilbert St.	Riverside Fwy.	Commonwealth Ave.	Class III	1.08
Harbor Blvd.	Berkeley Ave.	Union Ave.	Class III	0.12
Hermosa Dr.	Lakeview Dr.	Puente St.	Class III	1.26
Hill Ave. Segment 1	Lee Ave.	Euclid St.	Class III	0.36
Hill Ave. Segment 2	Highland Ave.	Harbor Blvd.	Class III	0.25
KNEPP Ave.	Roosevelt Ave.	Highland Ave.	Class III	0.71
Laguna Rd.	Euclid St.	Valencia Mesa Dr.	Class III	1.09
Lakeview Dr.	Hermosa Dr.	Codo St.	Class III	1.10
Las Palmas Dr.	Lakeview Dr.	Puente St.	Class III	1.17
Lee Ave.	South Gate	Hill Ave.	Class III	0.06
Lemont St.	Wilshire Ave.	Riverside Fwy.	Class III	1.24
Longview Dr.	Dorothy Ln.	Brea Blvd.	Class III	0.82
Madison Ave.	Placentia Ave.	End of Madison Ave.	Class III	0.14
Malden Ave.	Union Ave.	Malvern Ave.	Class III	0.15
Malvern Ave.	Malden Ave.	Woods Ave.	Class III	0.64
Marion Blvd.	Barbara Blvd.	Avalon Dr.	Class III	0.20
Melody Ln.	Acacia Ave.	Melody Ln. Path	Class III	0.12
Melville Dr.	Marion Blvd.	Avalon Dr.	Class III	0.21
Olive Ave.	Magnolia Ave.	Pine Dr.	Class III	0.53
Pomona Ave. Segment 1	Walnut Ave.	Rosslyn Ave.	Class III	0.32

Street/Path	From	To	Class	Mileage
Park View Dr.	Helen Dr.	Marion Blvd.	Class III	0.04
Pine Dr.	Olive Ave.	Cherry Ave.	Class III	0.05
Pioneer Ave.	Sunny Ridge Dr.	Gilbert St.	Class III	0.30
Puente St.	Bastanchury Dr.	Juniper St.	Class III	0.60
Richman Ave.	Sunny Crest Dr.	Commonwealth Ave.	Class III	1.29
Roosevelt Ave.	Knepp Ave.	Southgate Ave	Class III	0.05
Santa Fe Ave.	Pomona Ave.	Lemon st.	Class III	0.13
Southgate Ave.	Cedar Ave.	Lee Ave.	Class III	0.93
Sunny Crest Dr.	Valencia Mesa Dr.	Valley View Dr.	Class III	0.65
Valley View Blvd.	Sunny Crest Dr.	West of Brea Blvd.	Class III	0.08
Union Ave.	Harbor Blvd.	Pomona Ave.	Class III	0.27
Pomona Ave. Segment 2	Union Ave.	Santa Fe Ave.	Class III	0.58
Walnut Ave.	Richman Ave.	Highland Ave.	Class III	0.25
Woods Ave.	Malvern Ave.	Chapman Ave.	Class III	0.06
			TOTAL	155.1miles

Fullerton Proposed Bikeway Cost Estimates

Facility	Miles	Unit Cost (per mile)	Total
Class I	13.27	$1,500,000	$19,905,000
Class II	50.77	$280,000	$14,215,600
Class III	19.62	$21,000	$412,020
		Total	$34,532,620

3.10. Garden Grove

Garden Grove is a vibrantly progressive and growing city located just south of Los Angeles in Orange County, California. Garden Grove's motto, "The City of Youth and Ambition," accurately reflects this culturally diverse community of over 170,000 people. Garden Grove is home to four annual cultural festivals that celebrate the Vietnamese, Korean, Arabic, and American heritage. Garden Grove's Strawberry Festival, nearing 50 years old, is the largest community-based Memorial Day event in the western United States.

Population

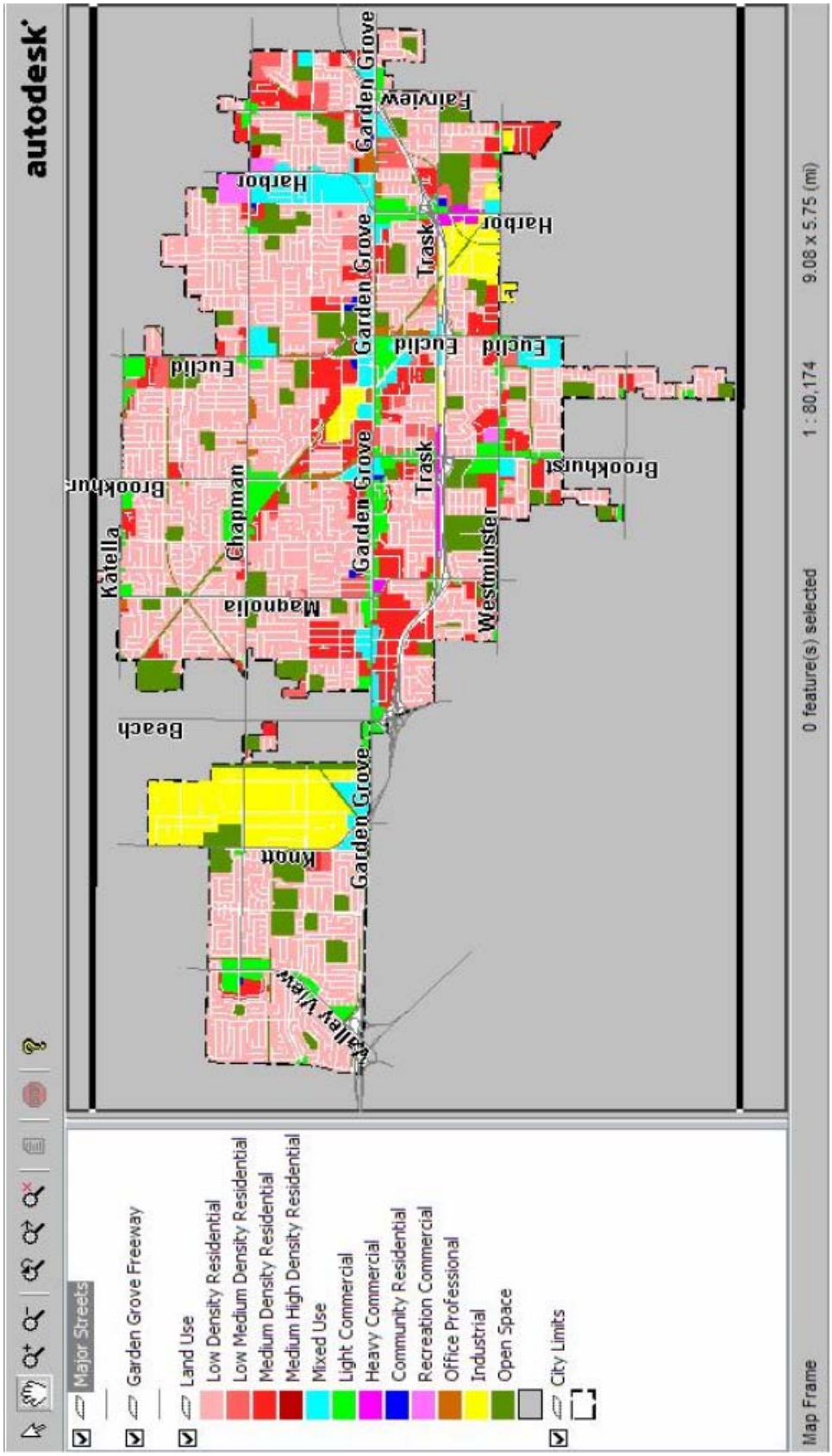
166,296

Estimated Number of Bicycle Commuters

Estimated Bicycle Commuters	Number
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	1,589
Estimated Adjusted Mode Share	1.5%
Estimated Current Bicycle Trips	
Total Daily Bicycle Trips	3,179
Reduced Vehicle Trips per Weekday	2,077
Reduced Vehicle Miles per Weekday	6,916
Future Potential Bicycle Commuters	
Future number of new bicycle commuters	442
Total Future Daily Bicycle Commuters	2,031
Future Total Daily Bicycle Trips	4,063
Future Reduced Vehicle Trips per Weekday	2,966
Future Reduced Vehicle Miles per Weekday	13,642
Future Reduced Vehicle Miles per Year	3,615,097
Future Air Quality Benefits	
Reduced HC (metric tons/year)	22
Reduced CO (metric tons/year)	73
Reduced NOX (metric tons/year)	5
Reduced CO2 (metric tons/year)	384,531

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

Map 3.10 Garden Grove Land Use



Collisions Involving Bicyclists

Parameter	Collision Rate
Total # of Bicycle Collisions for 5 Years	332
Average # of Bicycle Collisions Per Year	66.4
Average Bicycle Collision Rate per 1000/year[1]	0.40
Index (relative to statewide average of 0.32 /1000)[2]	1.22

Notes:
1. Rate is calculated using SWITRS collision data and population figures provided by the U.S. Census Bureau.
2. The Index is based on a ratio of the local collision rate and the statewide collision rate. An index greater than one (1.0) indicates that the local accident rate is higher than the statewide average.

End-of-Trip Facilities

Location	Type
Garden Grove City Hall - 11222 Acacia Pkwy	Bicycle racks (8)

Multimodal Facilities

Mode	Location	Facility Type
OCTA Buses	City-wide	Bicycle racks on buses
Rideshare	Church of the Nazarene 13411 Euclid St	

Safety and Education Programs

Active	Yes
# Of Years Conducted	
# Of Times a Year Conducted	
Administered by	Police Department
Location	
Program, Curriculum, and Activities	Bicycle Safety and Education workbooks, tips handouts, bicycle rodeos
Other Bicycle Safety Support Programs	
Total # of Children Reached	
Age of Children Reached	
Other Program Notes	

Expenditures

Information on past bicycle facility expenditures is not available.

Bicycle Transportation Plan

Garden Grove's Bicycle Master Plan is part of its General Plan.

Bikeways

Garden Grove Existing Bikeways

Street/Path	From	To	Class	Mileage
Lampson Ave.	Bolsa Chica	Lewis St.	Class II	*
Ninth St.	Orangewood	Chapman	Class II	*
Trask Ave.	Brookhurst	Fairview	Class II	*
Ward St.	Edinger Ave.	Hazard	Class II	*
Brookhurst St.	Katella Ave.	Hazard	Class III	*
Chapman Ave.	Valley View	Lewis St.	Class III	*
Orangewood	Dale St.	Gilbert St.	Class III	*
*	*	*	Class III	*
*	*	*	Class III	*
* Location of bikeway and mileage unknown				

Regional Priority Proposed Bikeways

Street/Path	From	To	Class	Mileage
Euclid St.	Orangewood Ave.	Westminster Ave.	Class II	6.14
Westminster Ave.	Bushard St.	Brock Ln.	Class II	3.22

Garden Grove Proposed Bikeways

Street/Path	From	To	Class	Mileage
Path 1	Barclay Dr.	Briarwood St.	Class I	1.50
Trask/ Westminster Path	Trask Ave.	Westminster Ave.	Class I	0.50
UP RR	Chapman Ave.	Garden Grove Blvd.	Class I	1.01
9th St.	Acacia Pkwy.	Garden Grove Blvd.	Class II	1.00
Bowen St.	Westminster Ave.	Morningside Dr.	Class II	0.22
Morningside Dr.	Bowen St.	Ward St.	Class II	0.06
17th St.	Westminster Blvd.	Santa Ana City Limit	Class II	0.03
Brookhurst St. Segment 1	Katella Ave.	Chapman Ave.	Class II	0.99
Brookhurst St. Segment 2	Trask Ave.	Hazard Ave.	Class II	1.00
Chapman Ave. Segment 1	Magnolia St.	Loraleen St.	Class II	0.24
Chapman Ave. Segment 2	West St.	9th St.	Class II	0.50
Garden Grove Blvd.	9th St.	New Hope St.	Class II	0.18
Harbor Blvd.	Chapman Ave.	Westminster Ave.	Class II	2.17
Katella Ave.	Dale Ave.	Magnolia St.	Class II	1.01
Knott Ave.	Garden Grove Fwy.	Stanton City Limit	Class II	1.82
Lampson Ave.	Merrill St.	Haster St.	Class II	0.96
Magnolia St.	Katella Ave.	Westminster City Limit	Class II	3.08
Mc Fadden Ave.	Ward St.	End of McFadden Ave.	Class II	0.12
Newland St.	Garden Grove Blvd.	Westminster Ave.	Class II	1.00
Orangewood Ave. Segment 1	Knott Ave.	Western Ave.	Class II	0.54
Orangewood Ave. Segment 2	Stanton City Limit	Mossler St.	Class II	0.09
Orangewood Ave. Segment 3	Dale St.	Euclid St.	Class II	2.50
Orangewood Ave. Segment 4	Jacalene Ln.	Anaheim City Limit	Class II	0.63
Trask Ave.	Wilson St.	Brookhurst St.	Class II	1.66
Valley View St.	Santa Catalina Ave.	Garden Grove Blvd.	Class II	1.46
Western Ave.	Simmons Pl.	Garden Grove Blvd.	Class II	1.25

Street/Path	From	To	Class	Mileage
Western Ave.	Simmons Pl.	Garden Grove Blvd.	Class II	1.25
Bushard St.	Westminster Ave.	Westminster City Limit	Class III	0.25
Century Blvd.	Garden Grove Blvd.	Taft St.	Class III	0.23
Dale St.	Katella Ave.	Garden Grove Blvd.	Class III	2.02
Gilbert St.	Katella Ave.	Trask Ave.	Class III	2.51
Hazard Ave.	Ward St.	Westminster City Limit	Class III	0.88
Nelson St.	Chapman Ave.	Garden Grove Blvd.	Class III	1.00
Springdale St.	Santa Catalina Ave.	Westminster City Limit	Class III	1.23
Stanford Ave. Segment 1	Nelson St.	Main St.	Class III	0.25
Stanford Ave. Segment 2	Euclid St.	9th St.	Class III	0.36
Main St.	Stanford Ave.	Euclid St.	Class III	0.13
Taft St.	Century Blvd.	Westminster Ave.	Class III	0.85
Ward St.	Hazard Ave.	Margarita Ave.	Class III	1.38
West St.	Orangewood Ave.	Garden Grove Blvd.	Class III	1.50
			TOTAL	88.59miles

Garden Grove Proposed Bikeway Cost Estimates

Facility	Miles	Unit Cost (per mile)	Total
Class I	3.01	$1,500,000	$4,515,000
Class II	33.12	$280,000	$9,273,600
Class III	12.59	$21,000	$264,390
		Total	$14,052,990

3.11. Huntington Beach

The dynamic coastal City of Huntington Beach, with its sunny Mediterranean climate and idyllic setting, is home to more than 202,250 residents. Internationally known as "Surf City," Huntington Beach boasts eight miles of scenic, accessible beachfront, the largest stretch of uninterrupted beachfront on the West Coast. Tourism remains a vital part of the economy, as over 11 million visitors flock to the city during the summer, on weekends and for special events.

Population

202,250

Estimated Number of Bicycle Commuters

Estimated Bicycle Commuters	Number
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	2,079
Estimated Adjusted Mode Share	1.6%
Estimated Current Bicycle Trips	
Total Daily Bicycle Trips	4,159
Reduced Vehicle Trips per Weekday	2,826
Reduced Vehicle Miles per Weekday	10,725
Future Potential Bicycle Commuters	
Future number of new bicycle commuters	854
Total Future Daily Bicycle Commuters	2,933
Future Total Daily Bicycle Trips	5,866
Future Reduced Vehicle Trips per Weekday	4,282
Future Reduced Vehicle Miles per Weekday	19,699
Future Reduced Vehicle Miles per Year	5,220,329
Future Air Quality Benefits	
Reduced HC (metric tons/year)	14
Reduced CO (metric tons/year)	105
Reduced NOX (metric tons/year)	7
Reduced CO2 (metric tons/year)	555,276
Emissions rates from EPA report 420-F-00-013 "Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks." 2000.	

Map 3.11 Huntington Beach Land Use


General Plan
City of Huntington Beach
PACIFIC
OCEAN
OS-CR
P(RL)
P(I)
General Plan Designations
Residential
Residential Low Density
Residential Medium Density
Residential Medium High Density
Residential High Density
Commercial
Commercial Regional
Commercial Visitor
Commercial General
Commercial Neighborhood
Commercial Office
Industrial
Industrial
Mixed Use
Mixed Use
Mixed Use Horizontal
Mixed Use Vertical
Open Space
Conservation
Commercial Recreation
Park
Shore
Water Recreation
Public
Public
School, Hospital, Church
Right of Ways & Bridges
Overlay Suffixes
Auto District Overlay
Design Overlay
Historical Overlay
Mixed Use Overlay (Mixed Use Density)
Pedestrian Overlay
Residential Mobile Home Park Overlay
Specific Plan Overlay
Commercial, Industrial, and Mixed Use Density Schedule
Density Code
Permitted Density
Information Services Department

Collisions Involving Bicyclists

Parameter	Collision Rate
Total # of Bicycle Collisions for 5 Years	573
Average # of Bicycle Collisions Per Year	114.6
Average Bicycle Collision Rate per 1000/year[1]	0.58
Index (relative to statewide average of 0.32 /1000)[2]	1.80

Notes:
1. Rate is calculated using SWITRS collision data and population figures provided by the U.S. Census Bureau.
2. The Index is based on a ratio of the local collision rate and the statewide collision rate. An index greater than one (1.0) indicates that the local accident rate is higher than the statewide average.

End-of-Trip Facilities

Information on existing and proposed end-of-trip facilities is not available.

Multimodal Facilities

Mode	Location	Facility Type
OCTA Buses	City-wide	Bicycle racks on buses
Bus/Rideshare	Goldenwest Transportation Ctr 7301 Center St	Bicycle racks(5) Bicycle racks on buses

Safety and Education Programs

The status of Huntington Beach's bicycle safety and education programs is unknown.

Expenditures

Information on past bicycle facility expenditures is not available.

Bicycle Transportation Plan

The City of Huntington Beach does not have an adopted Bicycle Transportation Plan.

Bikeways

Huntington Beach Existing Bikeways

Street/Path	From	To	Class	Mileage
Beach front	*	*	Class I	*
Edinger Ave.	*	*	Class II	*
Slater Ave.	*	*	Class II	*
Garfield Ave.	*	*	Class II	*
Lake Ave.	*	*	Class II	*
Hamilton	*	*	Class II	*
Edwards St.	*	*	Class II	*
Gothard St.	*	*	Class II	*
Newland St.	*	*	Class II	*
Bushard St.	*	*	Class II	*
*Boundaries and mileage unknown				

Huntington Beach Proposed Bikeways

Street/Path	From	To	Class	Mileage
Pacific Coast Hwy Segment 1	County Limit	8th St.	Class II	4.61
Pacific Coast Hwy Segment 2	Huntington St.	County Limit	Class II	2.63

Huntington Beach Proposed Bikeways

Street/Path	From	To	Class	Mileage
Hamilton Path	Newland St.	Beach Blvd.	Class I	0.50
UPRR Path	Macfadden Ave.	Main St.	Class I	3.47
3rd St.	Walnut Ave.	Pacific Cost Hwy.	Class II	0.08
Adams Ave.	Beach Blvd.	Ranger Ln.	Class II	2.27
Bolsa Chica St. Segment 1	Westminster City Limit	Bolsa Ave.	Class II	0.40
Bolsa Chica St. Segment 2	Warner Ave.	Los Patos Ave.	Class II	0.25
Edinger Ave. Segment 1	Graham St.	Springdale St.	Class II	0.50
Edinger Ave. Segment 2	Gothard St.	Newland St.	Class II	1.14
Goldenwest St.	Warner Ave.	Betty Dr.	Class II	0.27
Magnolia St.	Warner Ave.	San Diego Fwy.	Class II	0.29
Mc Fadden Ave.	UPRR	Westminster City Limit	Class II	0.26
Talbert Ave. Segment 1	Springdale St.	Ivory Crest Ln.	Class II	0.20
Talbert Ave. Segment 2	Goldenwest St.	Gothard St.	Class II	0.40
Springdale St. Segment 1	Edinger Ave.	Heil Ave.	Class III	0.49
Springdale St. Segment 2	Talbert Ave.	City Limit	Class III	0.27
Varsity Dr.	Talbert Ave.	Edwards St.	Class III	0.33
			TOTAL	36.25miles

Huntington Beach Proposed Facility Cost Estimates

Facility	Miles	Unit Cost (per mile)	Total
Class I	3.97	$1,500,000	$5,955,000
Class II	13.30	$280,000	$3,724,000
Class III	1.09	$21,000	$22,890
		Total	$9,701,890

3.12. Irvine

Irvine is one of the nation's largest planned urban communities and encompasses more than 55 square miles. Irvine has grown into a community boasting state-of-the-art transportation programs and systems, an enterprising business environment, stellar educational institutions and a team-like lifestyle.

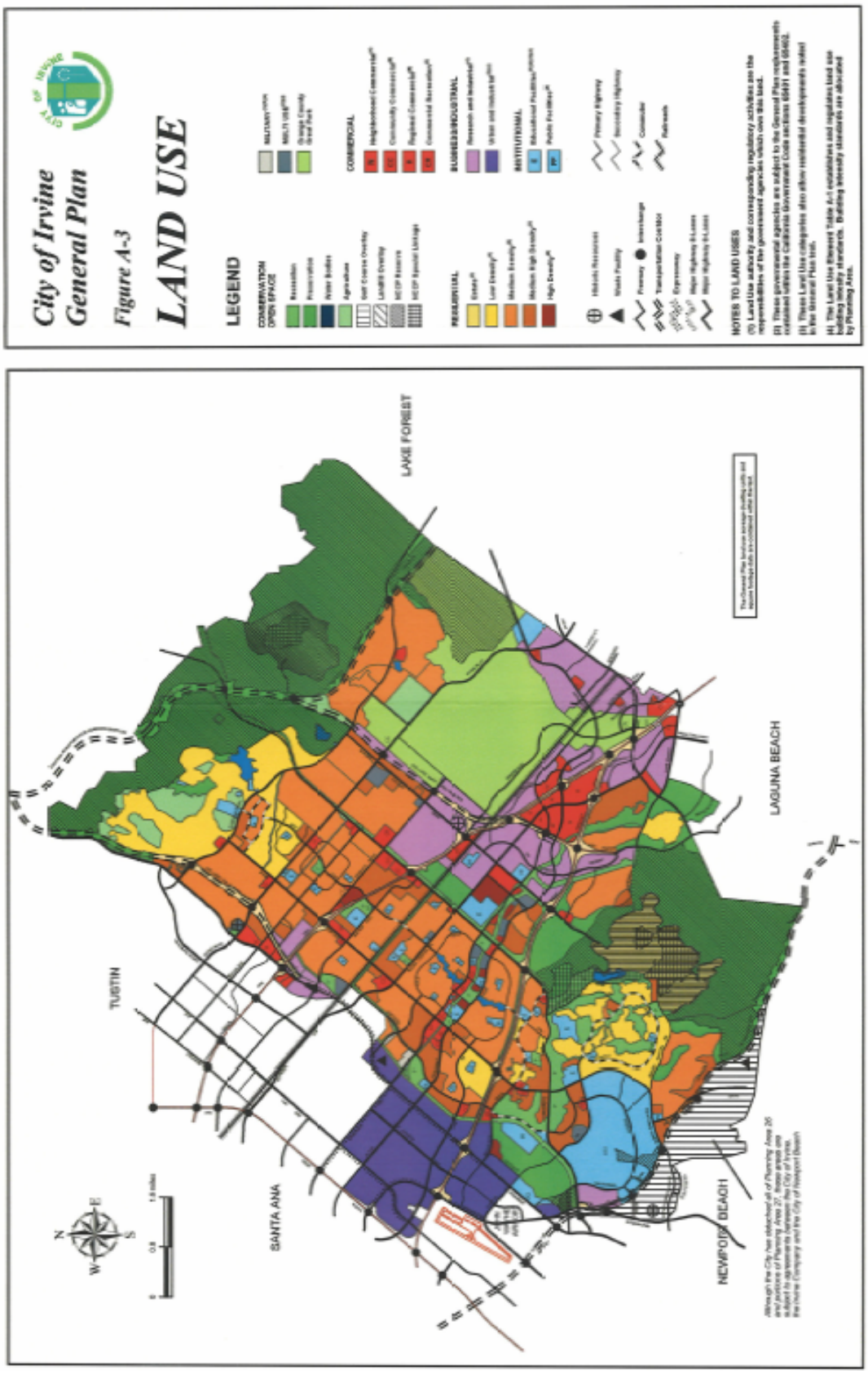
Population

193,956

Estimated Number of Bicycle Commuters

Estimated Bicycle Commuters	Number
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	2,317
Estimated Adjusted Mode Share	2.2%
Estimated Current Bicycle Trips	
Total Daily Bicycle Trips	4,635
Reduced Vehicle Trips per Weekday	3,216
Reduced Vehicle Miles per Weekday	12,972
Future Potential Bicycle Commuters	
Future number of new bicycle commuters	638
Total Future Daily Bicycle Commuters	2,956
Future Total Daily Bicycle Trips	5,911
Future Reduced Vehicle Trips per Weekday	4,315
Future Reduced Vehicle Miles per Weekday	19,850
Future Reduced Vehicle Miles per Year	5,260,274
Future Air Quality Benefits	
Reduced HC (metric tons/year)	31
Reduced CO (metric tons/year)	106
Reduced NOX (metric tons/year)	7
Reduced CO2 (metric tons/year)	559,525
Emissions rates from EPA report 420-F-00-013 "Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks." 2000.	

Map 3.12 Irvine Land Use



Collisions Involving Bicyclists

Parameter	Collision Rate
Total # of Bicycle Collisions for 5 Years	197
Average # of Bicycle Collisions Per Year	39.4
Average Bicycle Collision Rate per 1000/year[1]	0.21
Index (relative to statewide average of 0.32 /1000)[2]	1.30

Notes:
1. Rate is calculated using SWITRS collision data and population figures provided by the U.S. Census Bureau.
2. The Index is based on a ratio of the local collision rate and the statewide collision rate. An index greater than one (1.0) indicates that the local accident rate is higher than the statewide average.

End-of-Trip Facilities

Bicycle parking can be found throughout Irvine as a result of zoning ordinance Sec. 4-3-7, which requires many commercial, office, and community developments to provide bicycle parking.

Multimodal Facilities

Mode	Location	Facility Type
OCTA Buses	City-wide	Bicycle racks on buses
Metrolink/Amtrak/Rideshare/Bus	Irvine Station	Bicycle racks(12)/lockers(54) Bicycle racks on trains and buses
Rideshare	Jeffery Park-and-Ride I-5/Jeffrey Rd	
Rideshare	Light of Christ Lutheran 18182 Culver Dr	
Rideshare	University Park-and-Ride SR-73/University Dr	

Safety and Education Programs

Active	Yes
# Of Years Conducted	5
# Of Times a Year Conducted	All year long
Administered by	Police Department
Location	Schools
Program, Curriculum, and Activities	Assembly, D.A.R.E. program, bicycle rodeos
Other Bicycle Safety Support Programs	Bicycle registration
Total # of Children Reached	On average, 250 students at bicycle rodeos
Age of Children Reached	Elementary and middle school students
Other Program Notes	Programs provided as requested; City website has bicycle education and safety tips

Expenditures

The City of Irvine estimates its annual cost for parking lot and off-street trail rehabilitation as $193,000. Information about past bicycle facilities expenditures is unknown.

Bicycle Transportation Plan

The City of Irvine has a Bicycle Transportation Plan.

Bikeways

Irvine Existing Bikeways

Street	From	To	Class	Mileage
Barranca Trail (BT)	Sand Canyon Trail / Sand Canyon Avenue	SR-133	Class I	*
Bonita Canyon Trail (BC)	Campus Drive	Shady Canyon Trail / Shady Canyon Drive	Class I	1.1
Culver Dr. Path	Campus Dr.	Sand Canyon Dr.	Class I	1.20
Freeway Trail (FT)	San Diego Creek Trial / San Diego Creek	Jeffrey Open Space Trail / Jeffrey Road	Class I	*
Harvard Trail (HT)	San Diego Creek Trail / Barranca Parkway	Walnut Trail / Railroad Tracks	Class I	*
Hicks Canyon Trail (HC)	Peters Canyon Trail / SR-261	Portola Trail / Portola Parkway	Class I	*
Jeffrey Open Space Trail Northern Portion (JT)	Trabuco Road	Irvine Blvd	Class I	*
Jeffrey Open Space Trail Southern Portion (JT)	Quail Hill Trail / I-405	Barranca Parkway	Class I	*
Peters Canyon Trail (PC)	Walnut Trail / Railroad Tracks	Portola Trail / Portola Parkway	Class I	*
Portola Trail (PT)	Peters Canyon Trail / SR-261	SR-133	Class I	*
Quail Hill Trail (QH)	University Trail	Shady Canyon Trail / Quail Hill Trailhead	Class I	1.0
San Diego Creek Trail (SD)	Southern City Limits / SR-73	Pacifica	Class I	*
San Diego Frwy. Path S	Shady Canyon Circle	Existing San Diego Fwy. Path South	Class I	0.95
Sand Canyon Trail (SC)	Alton Parkway	Portola Trail / Portola Parkway	Class I	3.6
Shady Canyon Trail (SH)	Bonita Canyon Trial	Quail Hill Trail	Class I	3.6
Turtle Rock Trail (TR)	University Drive	Shady Canyon Trail / Shady Canyon Drive	Class I	2.8
University Trail (UT)	San Diego Creek Trail / University Drive	Quail Hill Trial / Jeffrey Open Space Trail Southern Portion	Class I	*
Venta Spur Trail (VS)	Peters Canyon Trail / SR-261	SR-133	Class I	*
Walnut Trail (WT)	Peters Canyon Trail / Jamboree Road	Sand Canyon Trail / Sand Canyon Avenue	Class I	3.5
West Irvine Trail (WI)	Western City Limits / Jamboree Road	Bryan Avenue / SR-261	Class I	*
Woodbridge Trail (WB)	Michelson Drive	Yale Loop	Class I	*
Jamboree Rd.	*	Irvine Park Pl.	Class II	*
Portola Pkwy	City boundary	Jeffrey Rd.	Class II	*
Yale Ave.	Portola Pkwy	Yale Loop	Class II	*
Yale Ave.	South end of Yale Loop	Dead end	Class II	*
Yale Ave.	Michelson Dr.	University Dr.	Class II	*

Street	From	To	Class	Mileage
Culver Dr.	Portola Pkwy	Campus Dr.	Class II	*
Hicks Canyon Dr.	Yale Ave.	Park Pl.	Class II	*
Jeffrey Dr.	Irvine Blvd.	405 Freeway	Class II	*
University Dr.	405 Freeway	City boundary	Class II	*
Bryan Ave.	City boundary	Jeffrey Rd.	Class II	*
Northwood	N/A	N/A	Class II	*
Southwood	N/A	N/A	Class II	*
Eastwood	N/A	N/A	Class II	*
Westwood	N/A	N/A	Class II	*
Park Pl.	Hicks Canyon Dr.	Yale Ave.	Class II	*
Irvine Blvd.	West city boundary	East city boundary	Class II	*
El Camino Real	*	Dead end	Class II	*
El Camino Real N.	Bryan Ave.	El Camino Real	Class II	*
Trabuco Rd.	Culver Dr.	Jeffrey Rd.	Class II	*
Monroe	Trabuco Rd.	Roosevelt	Class II	*
Roosevelt	Monroe Rd.	Jeffrey Rd.	Class II	*
Walnut Ave.	City boundary	Dead end	Class II	*
Deerfield Ave.	Harvard Ave.	Yale Ave.	Class II	*
Irvine Center Dr.	West city boundary	East city boundary	Class II	*
Harvard Ave.	Walnut Ave.	Culver Dr.	Class II	*
Paseo Westpark	Harvard Ave.	Dead end	Class II	*
Jamboree Rd.	Barranca Pkwy	Main St.	Class II	*
Von Karman Ave.	Barranca Pkwy	Michelson Dr.	Class II	*
Red Hill Ave.	North city boundary	South city boundary	Class II	*
Barranca Pkwy	West city boundary	Alton Pkwy	Class II	*
Alton Pkwy	West city boundary	Muirlands Blvd.	Class II	*
Main St.	West city boundary	Jamboree Rd.	Class II	*
Main St.	* Creek	Culver Dr.	Class II	*
Warner Ave.	*	W. Yale Loop	Class II	*
Hearthstone	Deerfield Ave.	Paseo Westpark	Class II	*
Lake Rd.	Barranca Pkwy	Alton Pkwy	Class II	*
Creek Rd.	Barranca Pkwy	Alton Pkwy	Class II	*
Michelson Dr.	Dupont Dr.	Jeffrey Rd.	Class II	*
Carlson Ave.	Michelson Dr.	Campus Dr.	Class II	*
Campus Dr.	Jamboree Rd.	Turtle Rock Dr.	Class II	*
Mesa Rd.	University Dr.	Dead end	Class II	*
Peltason Dr.	Mesa Rd.	Campus Dr.	Class II	*
Peltason Dr.	Campus Dr.	Pereira Dr.	Class II	*
Berkeley	Harvard Ave.	Campus Dr.	Class II	*
Bridge Rd.	Harvard Ave.	Campus Dr.	Class II	*
Bison Ave.	Peltason Dr.	South city boundary	Class II	*
Academy Way	Peltason Dr.	Dead end	Class II	*
Los Trancos Dr.	Peltason Dr.	California Ave.	Class II	*
California Ave.	Los Trancos Dr.	Campus Dr.	Class II	*
Anteater Dr.	Peltason Dr.	Bonita Canyon Dr.	Class II	*
Bonita Canyon Dr.	Shady Canyon Dr.	South city boundary	Class II	*
Newport Coast Dr.	Bonita Canyon Dr.	East city boundary	Class II	*
Gabrielino Dr.	Peltason Dr.	California Ave.	Class II	*

Street	From	To	Class	Mileage
Vista Bonita	Gabrielino Dr.	Los Trancos Dr.	Class II	*
Turtle Ridge	Bonita Canyon Dr.	Newport Coast Dr.	Class II	*
Summit Park Dr.	Turtle Ridge	End of medians	Class II	*
Arroyo Dr.	California Ave.	Dead end	Class II	*
Shady Canyon Dr.	Sunnyhill	Bonita Canyon Dr.	Class II	*
Turtle Rock Dr.	N/A	N/A	Class II	*
Starcrest	Turtle Rock Dr.	Hillcrest	Class II	*
Ridgeline Dr.	University Dr.	Hillcrest	Class II	*
Bake Pkwy	North city boundary	Irvine Center Dr.	Class II	*
Lake Forest Dr.	Lake Center Dr.	Santa Vittoria Dr.	Class II	*
Research Dr.	Irvine Center Dr.	Lake Forest Dr.	Class II	*
Scientific Way	Research Dr.	Lake Forest Dr.	Class II	*
Rockfield Blvd.	Dead end	Lake Forest Dr.	Class II	*
Muirlands Blvd.	Alton Pkwy	East city boundary	Class II	*
Jeronimo Rd.	Alton Pkwy	East city boundary	Class II	*
Toledo Way	Alton Pkwy	East city boundary	Class II	*
Technology Dr.	Dead end	Alton Pkwy	Class II	*
Ada	Barranca Pkwy	Alton Pkwy	Class II	*
Valley Oak Dr.	Irvine Center Dr.	Alton Pkwy	Class II	*
Sand Canyon Ave.	Laguna Canyon Rd.	Alton Pkwy	Class II	*
Sand Canyon Ave.	405 Fwy	Quail Hill Pkwy	Class II	*
Quail Hill Pkwy	Sand Canyon Ave.	Laguna Canyon Rd.	Class II	*
Knollcrest	Quail Hill Pkwy	Quail Hill Pkwy	Class II	*
Laguna Canyon Rd.	Sand Canyon Ave.	Laguna Fwy	Class II	*
Waterworks Wy	Sand Canyon Ave.	Discovery	Class II	*
Discovery	Irvine Center Dr.	Barranca Pkwy	Class II	*
Jenner	Alton Pkwy	Dead end	Class II	*
Pasteur	Laguna Canyon Rd.	Dead end	Class II	*
Banting	Barranca Pkwy	Alton Pkwy	Class II	*
Pacifica	Barranca Pkwy	Alton Pkwy	Class II	*
Gateway Blvd.	Pacifica	Irvine Center Dr.	Class II	*
Meridian	Gateway Blvd.	Alton Pkwy	Class II	*
*‡	California Ave.	Culver Dr.	Class I	*
Around Aldrich Park ‡	N/A	N/A	Class I	*
E. Pereira Dr. ‡	*	*	Class I	*
Mesa Rd. ‡	W. Peltason Dr.	Aldrich Park	Class I	*
Palo Verde Rd. ‡	California Ave.	Aldrich Park	Class I	*
Physical Science Road ‡	Aldrich Park	E. Peltason Dr.	Class I	*
Laguna Canyon Rd.	North of Lake Forest Dr.	Southern City Limit	Class III	1.23

* Information not provided

‡ Maintained by The University of California, Irvine

Regional Priority Proposed Bikeways

Street/Path	From	To	Class	Mileage
Jeffrey Rd. Path	Trabuco Rd.	North of Alton Pkwy.	Class I	2.23
OCTA Metrolink Path‡	Sand Canyon Ave.	Great Park Southeastern Path	Class I	1.96

Irvine Proposed Bikeways

Street/Path	From	To	Class	Mileage
Eastern Mountain Path	Eastern City Limit	Hicks Canyon Haul Rd.	Class I	2.51
Great Park Northern Path‡	Irvine Blvd.	OCTA Metrolink Path	Class I	2.21
Jeffrey Rd. Path segment 1	Portola Pkwy	Irvine Blvd.	Class I	0.91
Modjeska / Portola Springs	Irvine Blvd.	Portola Pkwy.	Class I	0.90
Great Park Southern Path‡	OCTA Metrolink Path	Trabuco Rd.	Class I	1.88
Portola Hwy.	Hwy 241	Eastern Transportation Corridor	Class I	5.57
San Diego Frwy. Path N	Alton Pkwy.	Existing San Diego Fwy. Path North	Class I	0.96
Trabuco Rd. ‡	Sand Canyon Ave.	Great Park Loop	Class I	0.93
Un-named Trail	Jeffery Trail/ I-5 NB Off-Ramp	D Street	Class I	*
Bonita Canyon Trail	Shady Canyon Trail Shady Canyon Dr.	Western City Limit	Class I	*
University Trail	San Diego Creek Trail / Campus Dr.	Ridgeline Dr.	Class I	*
Peters Canyon Trail	San Diego Creek Trail / Barranca Parkway	Walnut Trail / Railroad Tracks	Class I	*
C St. ‡	Irvine Blvd.	Marine Wy.	Class II	1.81
Campus Dr.	Macarthur Blvd.	Jamboree Rd.	Class II	0.69
Great Park Southern Access Road‡	Perimeter Rd.	Great Park Loop	Class II	0.32
Great Park Loop‡	N/A	N/A	Class II	3.79
Jeffrey Rd.	Hicks Canyon Haul Rd.	Portola Pkwy.	Class II	0.05
L St. ‡	Perimeter Blvd.	Great Park Loop	Class II	0.18
M St. ‡	Great Park Loop	Irvine Blvd.	Class II	0.49
Main St.	Jamboree Rd.	South of Union St.	Class II	0.25
Marine Way‡	Sand Canyon Ave.	Bake Pkwy	Class II	3.71
Sand Canyon Ave. Segment 1	San Diego Fwy.	Alton Pkwy.	Class II	0.23
Sand Canyon Ave. Segment 2	I-5 NB On-Ramp	Trabuco Rd.	Class II	2.88
U St. ‡	Great Park Loop	Irvine Blvd.	Class II	0.35
Von Karman Ave.	Campus Dr.	Michelson Dr.	Class II	0.57

* Information not provided ‡ Proposed bikeways related to the Great Park

Irvine Proposed Bikeway Cost Estimates

Facility	Miles	Unit Cost (per mile)	Total
Class I	20.60	$1,500,000	$30,900,000
Class II	15.32	$280,000	$4,289,600
		Total	$35,189,600

3.13. La Habra

Located at Orange County's northernmost corner, La Habra is 7.3 square miles with a population of 61,789 and approximately 21,000 households. A quiet residential community, it is conveniently located within an hour's drive of many beaches, mountain, and desert recreation areas.

La Habra also offers a distinctive and well-rounded program of civic, recreational, social and cultural services to its residents, including 20 parks, a Children's Museum, Community Theater, Tennis Center, and diverse Community Center. Community services include senior citizen programs, recreation classes, youth and adult sports programs, facility rentals, and an active volunteer program.

Population

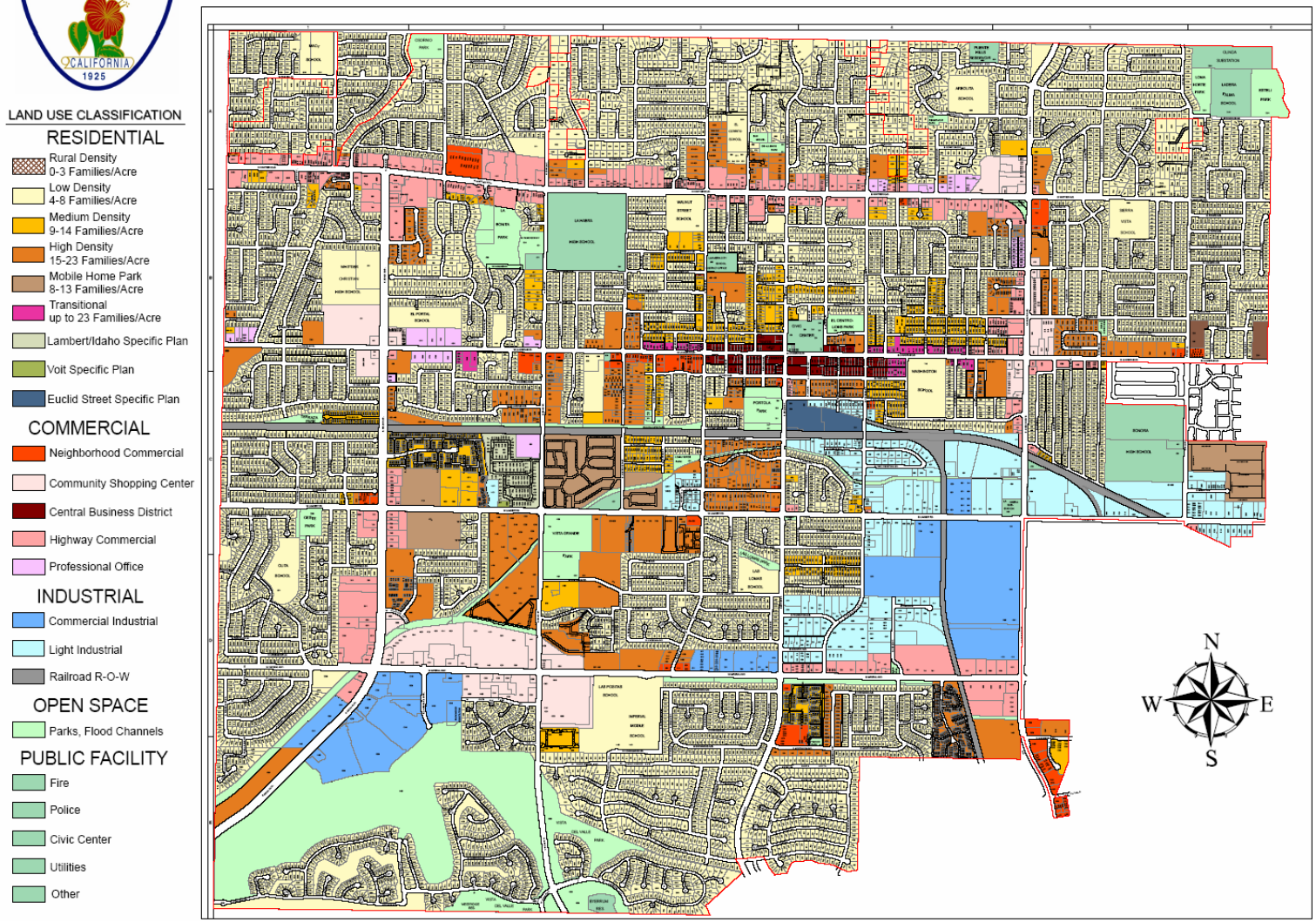
61,789

Estimated Number of Bicycle Commuters

Estimated Bicycle Commuters	Number
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	549
Estimated Adjusted Mode Share	1.5%
Estimated Current Bicycle Trips	
Total Daily Bicycle Trips	1,098
Reduced Vehicle Trips per Weekday	712
Reduced Vehicle Miles per Weekday	2,301
Future Potential Bicycle Commuters	
Future number of new bicycle commuters	246
Total Future Daily Bicycle Commuters	795
Future Total Daily Bicycle Trips	1,589
Future Reduced Vehicle Trips per Weekday	1,160
Future Reduced Vehicle Miles per Weekday	5,337
Future Reduced Vehicle Miles per Year	1,414,363
Future Air Quality Benefits	
Reduced HC (metric tons/year)	8
Reduced CO (metric tons/year)	29
Reduced NOX (metric tons/year)	2
Reduced CO2 (metric tons/year)	150,443
Emissions rates from EPA report 420-F-00-013 "Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks." 2000.	

Map 3.13 La Habra Land Use

OFFICIAL GENERAL PLAN 2020



Collisions Involving Bicyclists

Parameter	Collision Rate
Total # of Bicycle Collisions for 5 Years	129
Average # of Bicycle Collisions Per Year	25.8
Average Bicycle Collision Rate per 1000/year[1]	0.43
Index (relative to statewide average of 0.32 /1000)[2]	1.33

Notes:
1. Rate is calculated using SWITRS collision data and population figures provided by the U.S. Census Bureau.
2. The Index is based on a ratio of the local collision rate and the statewide collision rate. An index greater than one (1.0) indicates that the local accident rate is higher than the statewide average.

End-of-Trip Facilities

Developments are subject to Facility Standards outlined in city ordinance §18.82.050, which require one of two options for end-of-trip facilities. Option A requires bicycle parking and locker facilities in a secure location for employee or tenant bicycle commuters, plus a minimum of two shower facilities. Option B requires secure, adequate and convenient storage for bicycles, and a shower and locker room facility for employees of each sex per building of 100,000 or more gross square feet.

Multimodal Facilities

Mode	Location	Facility Type
OCTA Buses	City-wide	Bicycle racks on buses

Safety and Education Programs

The City of La Habra does not have bicycle safety and education programs.

Expenditures

Facility	Improvement	From	To	Cost
City-wide	Maintenance			$5,000

Bicycle Transportation Plan

The City of La Habra does not have a Bicycle Transportation Plan.

Bikeways

La Habra Existing Bikeways

Street	From	To	Class	Mileage
UPRR	S. Idaho St.	S. Walnut St.	Class I	*
Lambert Rd.	S. Beach Blvd.	S. Cypress St.	Class II	*
E. Whittier Ave.	N. Harbor Blvd.	N. Verona St.	Class II	*
N. Palm St.	E. Whittier Ave.	E. La Habra Blvd.	Class II	*
E. La Habra Blvd.	Palm St.	City Limit (City of Brea)	Class II	*
S. Idaho St.	W. Sandalwood Ave.	City Limit	Class II	*
S. Harbor Blvd.	E. Las Riendas Dr.	City Limit	Class II	*
W. Russell St.	N. Valley Home Ave.	N. Macy St.	Class III	*
N. Macy St.	City Limit (City of Whittier)	W. Wallace Ave.	Class III	*
W. Randall Ave.	N. Koopmans Wy.	N. Macy St.	Class III	*
N. Koopmans Wy.	W. Randall Ave.	W. Whittier Blvd.	Class III	*

Street	From	To	Class	Mileage
W. Whittier Blvd.	N. Koopmans Wy.	N. Rigsby St.	Class III	*
N. Rigsby St.	W. Whittier Blvd.	W. Gregory LN.	Class III	*
Gregory LN.	N. Rigsby St.	N. Beach Blvd.	Class III	*
N. Dexford Dr.	W. Gregory LN.	W. La Habra Blvd.	Class III	*
Berkley Ave.	N. Dexford Dr	Lime St.	Class III	*
Lime St.	Worth Ave.	Berkley Ave.	Class III	*
Morris Ave.	N. Dexford Dr.	Lime St.	Class III	*
Worth Ave.	N. Dexford Dr.	Lime St.	Class III	*
N. Beach Blvd.	Gregory LN.	W. El Portal Dr.	Class III	*
El Portal Dr.	N. Beach Blvd.	W. La Habra Blvd.	Class III	*
Granada Dr.	Granada Ct.	El Portal Dr.	Class III	*
W. Lambert Rd.	City Limit (Whittier)	S. Beach Blvd.	Class III	*
Idaho St.	W. Whittier Blvd.	W. Sandelwood Ave.	Class III	*
W. Sandelwood Ave.	S. Idaho St.	S. Patwood Dr.	Class III	*
S. Patwood Dr.	Gwynwood Ave.	W. Sandelwood Ave.	Class III	*
Gwynwood Ave.	S. Patwood Dr.	E. Montwood Ave.	Class III	*
E. Montwood Ave.	S. Euclid St.	S. Lakeview Ave.	Class III	*
S. Lakeview Ave.	E. Montwood Ave.	City Limit	Class III	*
S. Euclid St.	W. Parkwood Ave.	E. Montwood Ave.	Class III	*
W. Parkwood Ave.	S. Schoolwood Dr.	S. Euclid St.	Class III	*
Schoolwood Dr.	W. Parkwood Ave.	W. Sandelwood Ave.	Class III	*
Las Lomas Dr.	S. Idaho St.	Encinitas St.	Class III	*
Encinitas St.	Las Lomas Dr.	Keene Dr.	Class III	*
Keene Dr.	Encinitas St.	S. Euclid St.	Class III	*
Lorella Ave.	Colleen St.	S. Idaho St.	Class III	*
Highlander Ave.	N. Idaho St.	N. Walnut St.	Class III	*
Greenwood Ave.	N. Hazel St.	N. Orange St.	Class III	*
N. Orange St.	E. Greenwood Ave.	E. Erna Ave.	Class III	*
N. Lois St.	W. Greenwood Ave.	W. Florence Ave.	Class III	*
Florence Ave.	N. Lois St.	Lemon St.	Class III	*
Lemon St.	E. Florence Ave.	E. Erna Ave.	Class III	*
E. Erna Ave.	Lemon St.	N. McPherson St.	Class III	*
N. McPherson St.	E. Stearns Ave.	E. La Habra Blvd	Class III	*
E. Stearns Ave.	N. McPherson St.	N. Palm St.	Class III	*
Palm St.	E. Stearns Ave.	E. Lambert Rd	Class III	*
E. Lambert Rd	S. Cypress St.	S. Palm St.	Class III	*
First Ave.	Hillcrest St.	S. McPherson St.	Class III	*
N. Fonda St.	E. Whittier Ave.	E. Stearns Ave.	Class III	*
E. Whittier Ave.	N. Verona St.	City Limit (City of Brea)	Class III	*
W. Loma Verde Ave.	S. Walnut St.	Portola Ave.	Class III	*
* Mileage not provided				

Regional Priority Proposed Bikeways

Street/Path	From	To	Class	Mileage
UPRR Bikeway	Western City Limit	Palm St.	Class I	3.00
La Habra Blvd.	Valley Home Ave.	Vallejo St.	Class II	2.77

La Habra Proposed Bikeways

Street/Path	From	To	Class	Mileage
Coyote Creek Bikeway	Imperial Hwy.	Western City Limit	Class I	0.71
Imperial Hwy. Path	Beach Blvd.	Harbor Blvd.	Class I	2.02
Beach Blvd.	Gregory Ln.	Imperial Hwy	Class II	1.33
Idaho St.	Whittier Blvd.	Imperial Hwy.	Class II	1.53
Lambert Rd.	Cypress St.	Palm st.	Class II	1.00
Palm St.	Whittier Blvd.	Lambert Rd.	Class II	1.00
Whittier Blvd.	Palm St.	Eastern City Limit	Class II	0.22
			TOTAL	12.58

La Habra Proposed Bikeway Cost Estimates

Facility	Miles	Unit Cost (per mile)	Total
Class I	5.73	$1,500,000	$8,595,000
Class II	7.85	$280,000	$2,198,000
		Total	$10,793,000

3.14. La Palma

La Palma is a well balanced city which prides itself on a responsive municipal government and a strong sense of community. The City's small town character allows residents to live in quiet and friendly neighborhoods. With one of the lowest crime rates in Orange County, La Palma is a place where residents can rest easy and enjoy hometown living

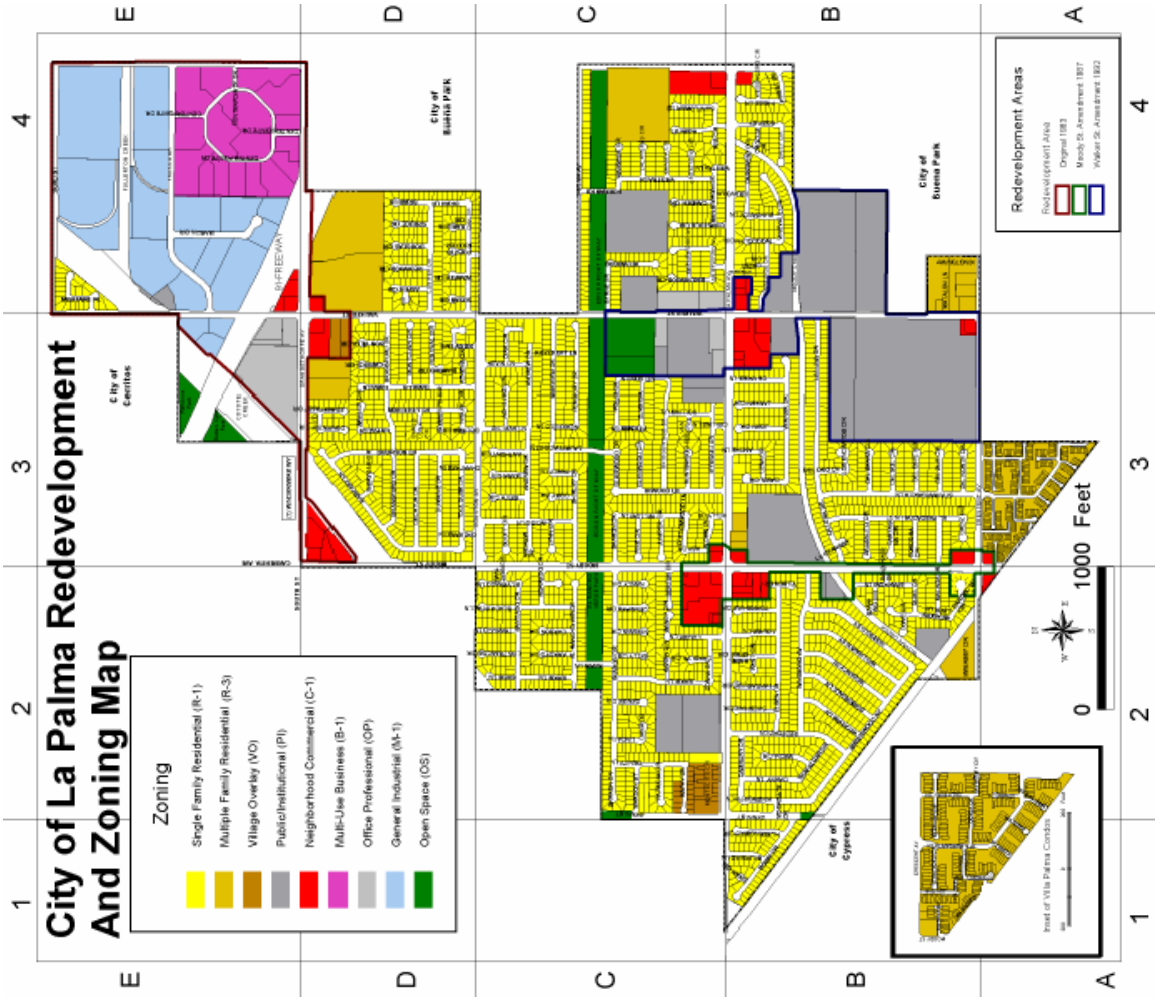
Population

15,776

Estimated Number of Bicycle Commuters

Estimated Bicycle Commuters	Number
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	132
Estimated Adjusted Mode Share	1.3%
Estimated Current Bicycle Trips	
Total Daily Bicycle Trips	264
Reduced Vehicle Trips per Weekday	175
Reduced Vehicle Miles per Weekday	620
Future Potential Bicycle Commuters	
Future number of new bicycle commuters	51
Total Future Daily Bicycle Commuters	183
Future Total Daily Bicycle Trips	367
Future Reduced Vehicle Trips per Weekday	268
Future Reduced Vehicle Miles per Weekday	1,231
Future Reduced Vehicle Miles per Year	326,280
Future Air Quality Benefits	
Reduced HC (metric tons/year)	2
Reduced CO (metric tons/year)	7
Reduced NOX (metric tons/year)	0
Reduced CO2 (metric tons/year)	34,706
Emissions rates from EPA report 420-F-00-013 "Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks." 2000.	

Map 3.14 La Palma Land Use



Collisions Involving Bicyclists

Parameter	Collision Rate
Total # of Bicycle Collisions for 5 Years	29
Average # of Bicycle Collisions Per Year	5.8
Average Bicycle Collision Rate per 1000/year[1]	0.36
Index (relative to statewide average of 0.32 /1000)[2]	1.12

Notes:
1. Rate is calculated using SWITRS collision data and population figures provided by the U.S. Census Bureau.
2. The Index is based on a ratio of the local collision rate and the statewide collision rate. An index greater than one (1.0) indicates that the local accident rate is higher than the statewide average.

End-of-Trip Facilities

As part of La Palma's Transportation Demand Management requirements, some development projects may be required to provide bicycle parking and shower and locker facilities.

Multimodal Facilities

Mode	Location	Facility Type
OCTA Buses	City-wide	Bicycle racks on buses

Safety and Education Programs

The City of La Palma does not have bicycle safety and education programs.

Expenditures

Information on past bicycle facility expenditures is not available.

Bicycle Transportation Plan

Bicycle planning can be found in La Palma's General Plan.

Bikeways

La Palma Existing Bikeways

Street/Path	From	To	Class	Mileage
Coyote Creek Channel	Moody St.	Walker St.	Class I	0.70 miles
La Palma Ave.	Coyote Creek	Valley View St.	Class II	1.70 miles
Crescent Ave.	West of Moody St.	East of Walker St.	Class II	0.80 miles
Moody St.	Orangethorpe Ave	Crescent Ave.	Class II	1.28 miles
Walker St.	Bransford Dr.	Crescent Ave.	Class II	1.20 miles
Valley View St.	Thelma Ave.	South of La Palma Ave.	Class II	0.50 miles
			TOTAL	5.93 miles

La Palma Proposed Bikeways

Street/Path	From	To	Class	Mileage
Orangethorpe Ave.	Western City Limit	Valley View St.	Class II	0.76
			TOTAL	0.76miles

La Palma Proposed Bikeway Cost Estimates

Facility	Miles	Unit Cost (per mile)	Total
Class II	0.76	$280,000	$212,800
		Total	$212,800

3.15. Laguna Beach

The City of Laguna Beach is well known as a unique beach community and artist's colony with seven miles of City beaches running along its nine square miles. The resident population enjoys the ambiance provided by the sandy beaches, canyons and coastal hills. During the summer, several million visitors are drawn to the resort environment for its picturesque beaches, art festivals and the Pageant of the Masters. Laguna's village scale shopping district, bluff top walkways and tram system create a pedestrian environment and scale which is unique in Southern California.

Population

24,161

Estimated Number of Bicycle Commuters

Estimated Bicycle Commuters	Number
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	203
Estimated Adjusted Mode Share	1.3%
Estimated Current Bicycle Trips	
Total Daily Bicycle Trips	405
Reduced Vehicle Trips per Weekday	278
Reduced Vehicle Miles per Weekday	1,086
Future Potential Bicycle Commuters	
Future number of new bicycle commuters	142
Total Future Daily Bicycle Commuters	345
Future Total Daily Bicycle Trips	689
Future Reduced Vehicle Trips per Weekday	503
Future Reduced Vehicle Miles per Weekday	2,315
Future Reduced Vehicle Miles per Year	613,548
Future Air Quality Benefits	
Reduced HC (metric tons/year)	4
Reduced CO (metric tons/year)	12
Reduced NOX (metric tons/year)	1
Reduced CO2 (metric tons/year)	65,262
Emissions rates from EPA report 420-F-00-013 "Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks." 2000.	

Map 3.15 Laguna Beach Land Use

Collisions Involving Bicyclists

Parameter	Collision Rate
Total # of Bicycle Collisions for 5 Years	51
Average # of Bicycle Collisions Per Year	10.2
Average Bicycle Collision Rate per 1000/year[1]	0.42
Index (relative to statewide average of 0.32 /1000)[2]	1.30

Notes:
1. Rate is calculated using SWITRS collision data and population figures provided by the U.S. Census Bureau.
2. The Index is based on a ratio of the local collision rate and the statewide collision rate. An index greater than one (1.0) indicates that the local accident rate is higher than the statewide average.

End-of-Trip Facilities

Information on existing and proposed end-of-trip facilities is not available.

Multimodal Facilities

Mode	Location	Facility Type
OCTA Buses	City-wide	Bicycle racks on buses

Safety and Education Programs

The status of Laguna Beach's bicycle safety and education programs is unknown.

Expenditures

Information on past bicycle facility expenditures is not available.

Bicycle Transportation Plan

Whether or not Laguna Beach has a Bicycle Transportation Plan is unknown.

Bikeways

Laguna Beach Existing Bikeways

Street	From	To	Class	Mileage
El Toro Rd	*	*	Class II	*
Laguna Canyon Rd.	*	*	Class III	*
Coast Highway	*	*	Class III	*
* Information not provided				

Regional Priority Proposed Bikeways

Street/Path	From	To	Class	Mileage
Pacific Coast Hwy.	City Limit (S El Moro Rdg.)	Broadway	II	4.83

Laguna Beach Proposed Bikeways

Street/Path	From	To	Class	Mileage
Aliso Canyon Rd.	Coast Line	SE City Limit	I	0.95
Broadway / Laguna Canyon Rd.	City Limit (E Laguna Canyon Rd.))	Coast Hwy	II	5.10
S SR-73 Exit 7	City Limit	E Laguna Canyon Rd.	I	0.01
			TOTAL	10.88miles

Laguna Beach Proposed Bikeway Cost Estimates

Facility	Miles	Unit Cost (per mile)	Total
Class I	0.96	$1,500,000	$1,440,000
Class II	9.93	$280,000	$2,780,400
		Total	$4,220,400

3.16. Laguna Hills

Laguna Hills is primarily composed of residential neighborhoods. The City's main destination is the Laguna Hills regional shopping center. Many portions of the City are suitable for equestrian uses, and these activities have been long established. Laguna Hills has several smaller shopping centers located along some of the arterial streets, including Moulton and Alicia Parkways, El Toro and La Paz Roads, Paseo de Valencia, and Lake Forest Drive.

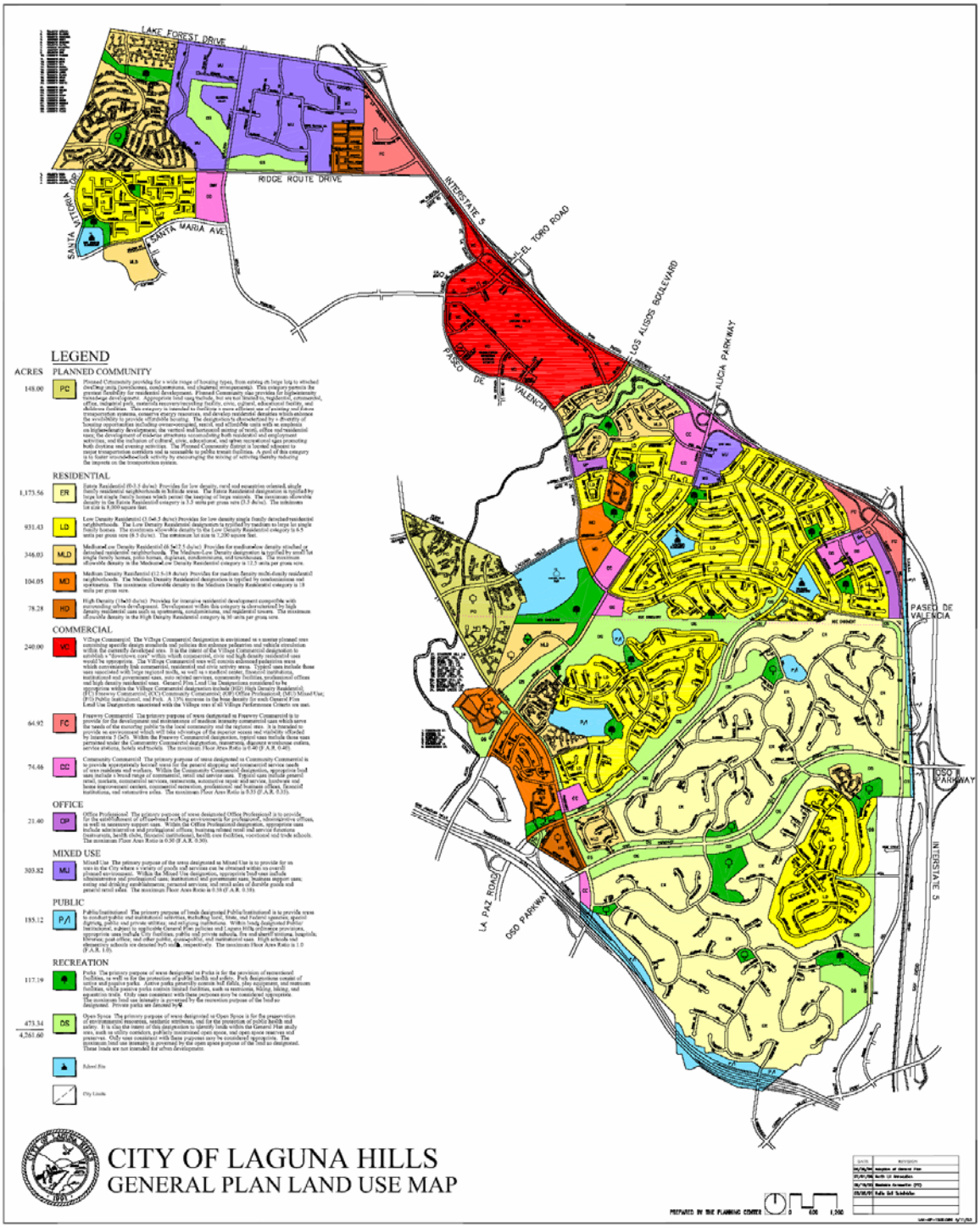
Population

32,156

Estimated Number of Bicycle Commuters

Estimated Bicycle Commuters	Number
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	247
Estimated Adjusted Mode Share	1.2%
Estimated Current Bicycle Trips	
Total Daily Bicycle Trips	494
Reduced Vehicle Trips per Weekday	319
Reduced Vehicle Miles per Weekday	1,012
Future Potential Bicycle Commuters	
Future number of new bicycle commuters	120
Total Future Daily Bicycle Commuters	367
Future Total Daily Bicycle Trips	734
Future Reduced Vehicle Trips per Weekday	536
Future Reduced Vehicle Miles per Weekday	2,464
Future Reduced Vehicle Miles per Year	652,905
Future Air Quality Benefits	
Reduced HC (metric tons/year)	4
Reduced CO (metric tons/year)	13
Reduced NOX (metric tons/year)	1
Reduced CO2 (metric tons/year)	69,448
Emissions rates from EPA report 420-F-00-013 "Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks." 2000.	

Map 3.16 Laguna Hills Land Use



Collisions Involving Bicyclists

Parameter	Collision Rate
Total # of Bicycle Collisions for 5 Years	40
Average # of Bicycle Collisions Per Year	8
Average Bicycle Collision Rate per 1000/year[1]	0.25
Index (relative to statewide average of 0.32 /1000)[2]	0.76

Notes:
1. Rate is calculated using SWITRS collision data and population figures provided by the U.S. Census Bureau.
2. The Index is based on a ratio of the local collision rate and the statewide collision rate. An index less than one (1.0) indicates that the local accident rate is lower than the statewide average.

End-of-Trip Facilities

Information on existing and proposed end-of-trip facilities is not available.

Multimodal Facilities

Mode	Location	Facility Type
OCTA Buses	City-wide	Bicycle racks on buses
Rideshare	Laguna Hills Mall 24155 Laguna Hills Mall	Bicycle racks
Rideshare/Bus	Laguna Hills Transportation Ctr Calle de Los Caballeros	Bicycle racks (8)

Safety and Education Programs

The City of Laguna Hills does not have bicycle safety and education programs.

Expenditures

Information on past bicycle facility expenditures is not available.

Bicycle Transportation Plan

The City of Laguna Hills does not have an adopted Bicycle Transportation Plan.

Bikeways

Laguna Hills Existing Bikeways

Street	From	To	Class	Mileage
Alicia Pkwy (n/s)	Paseo De Valencia	Moulton Pkwy	Class I	0.76
Oso Pkwy (w/b)	Cabot Rd.	Moulton Pkwy	Class I	1.71
Paseo De Valencia (sb)	Laguna Hills Dr	Alicia Pkwy	Class I	0.28
San Diego Fwy Path s/s	Alicia Pkwy.	North of Georgia Sue Dr.	Class I	0.33
J01 Bike trail (County of Orange	I-5 fwy	w/o Moulton Pkwy	Class I	1.8
Paseo De Valencia (nb)	Alicia Pkwy	El Toro Rd	Class II	1.50
Paseo De Valencia (sb)	El Toro Road	Alicia Pkwy	Class II	1.50
Paseo De Valencia	Alicia Pkwy	La Paz Rd.	Class II	0.91
Alicia Pkwy	Paseo de Valencia	Hon Ave	Class II	0.83

Laguna Hills Dr w/b	Paseo De Valencia	Moulton Pkwy	Class II	0.70
Laguna Hills Dr e/b	Moulton Pkwy	Paseo De Valencia	Class II	0.70
Oso Pkwy (e/b)	Moulton Pkwy	Cabot Rd	Class II	1.71
Oso Pkwy (w/b)	Cabot Rd	Moulton Pkwy	Class II	1.71
Moulton Pkwy (n/b)	City bdry near Glenwood Dr.	La Paz Rd	Class II	1.72
Moulton Pkwy (s/b)	City bdry near Glenwood Dr.	City bdry near Nellie Gail Rd	Class II	2.18
Moulton Pkwy	Lake Forest Dr.	Ridge Route Dr.	Class II	0.56
Los Alisos Blvd (e/b)	Paseo De Valencia	San Diego Fwy (City bdry)	Class II	0.43
Los Alisos Blvd (w/b)	San Diego Fwy (City bdry)	Paseo De Valencia	Class II	0.43
Lake Forest Dr (e/b)	Del Lago Dr	Santa Vittoria	Class II	0.76
Lake Forest Dr (w/b)	Santa Vittoria Dr	Del Lago Dr.	Class II	0.76
La Paz Rd e/b	Cabot Rd	I-73	Class II	2.37
La Paz Rd w/b	I-73	Cabot Rd	Class II	2.37
Cabot Rd.	La Paz Rd.	s/o Oso Pkwy	Class III	1.18
			TOTAL	27.2 Miles

Laguna Hills Proposed Bikeways

Street/Path	From	To	Class	Mileage
Cabot Rd	La Paz Rd.	Oso Pkwy.	Class II	1.19

Laguna Hills Proposed Bikeways

Street/Path	From	To	Class	Mileage
Alicia Pkwy	Hon Ave	Paseo De Valencia	Class II	0.83
Ridge Route Dr	Mill Creek	East of Sea Isle Rd.	Class II	0.68
Santa Vittoria Dr	Santa Maria Ave	Lake Forest Dr	Class II	1.27
Aliso Hills Dr	Alicia Pkwy	La Paz Rd	Class II	0.9
Alicia Pkwy	Moulton Pkwy.	Ramona St.	Class II	0.22
Moulton Pkwy	Ridge Route Dr.	Santa Maria Ave.	Class II	0.25
Moulton Pkwy (n/b)	Nellie Gail Rd	La Paz Rd	Class II	0.56
Avenida de La Carlota	Ridge Route Dr.	Los Alisos Blvd	Class III	1.44
Paseo De Valencia	La Paz Rd.	Cabot Rd.	Class II	0.59
El Toro Rd (w/b)	City bdry near Ave Carlota	Paseo De Valencia	Class III	0.34
El Toro Rd (e/b)	Paseo De Valencia	City bdry near Ave Carlota	Class III	0.34
			TOTAL	8.61

Laguna Hills Proposed Bikeway Cost Estimates

Facility	Miles	Unit Cost (per mile)	Total
Class II	6.49	$280,000	$1,817,200
Class III	2.12	$21,000	$44,520
		Total	$1,861,720

3.17. Laguna Niguel

Over one-third of Laguna Niguel is designated as open space. This significant amount of open space is one of the key features defining the character and urban form of the City. The City has two community parks, 23 neighborhood parks, three mini-parks, one dog park, two county regional parks, two small county parks and the new Laguna Niguel Skate & Soccer Park.

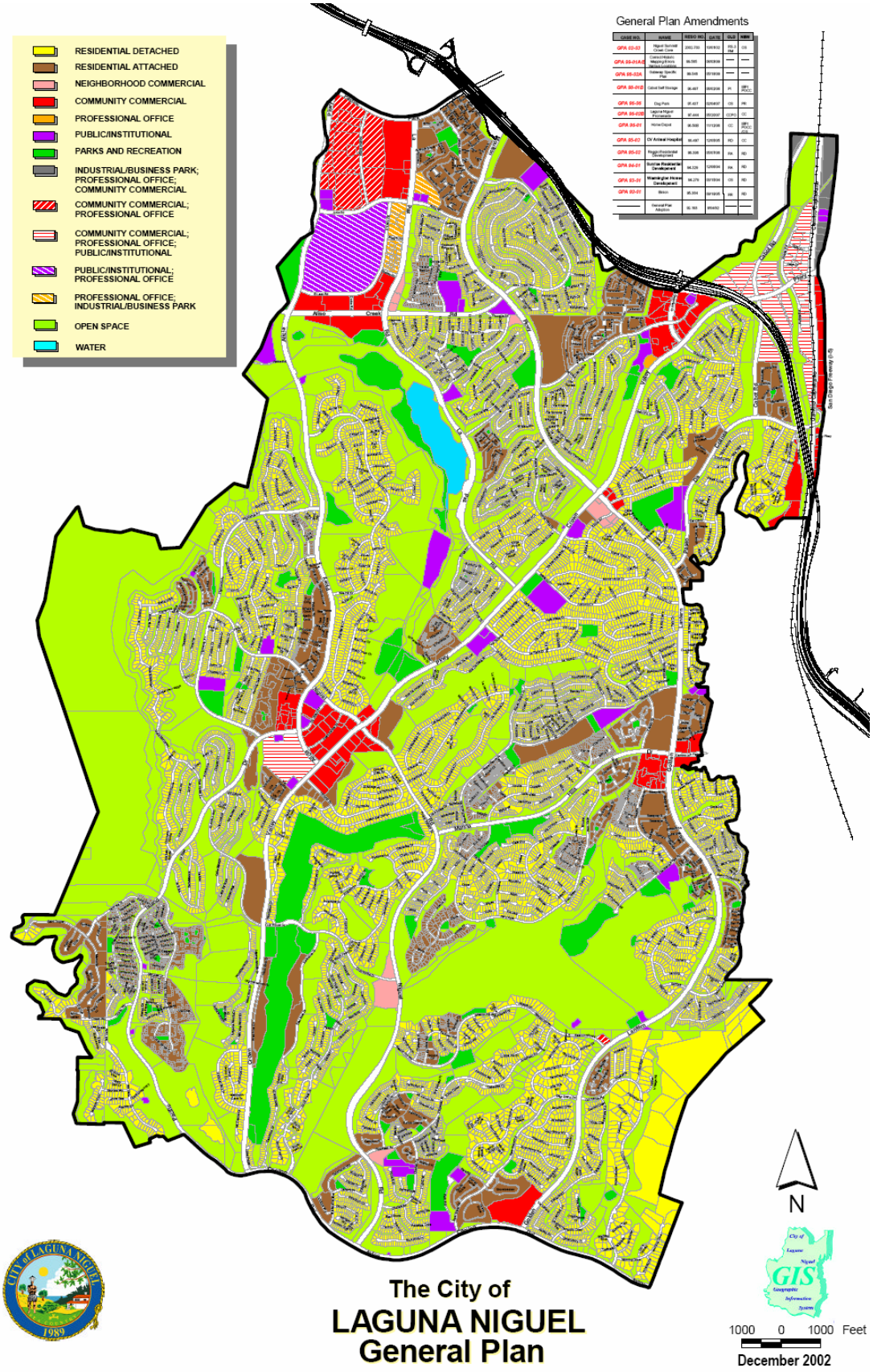
Population

64,177

Estimated Number of Bicycle Commuters

Estimated Bicycle Commuters	Number
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	440
Estimated Adjusted Mode Share	1.1%
Estimated Current Bicycle Trips	
Total Daily Bicycle Trips	880
Reduced Vehicle Trips per Weekday	558
Reduced Vehicle Miles per Weekday	1,649
Future Potential Bicycle Commuters	
Future number of new bicycle commuters	243
Total Future Daily Bicycle Commuters	683
Future Total Daily Bicycle Trips	1,366
Future Reduced Vehicle Trips per Weekday	997
Future Reduced Vehicle Miles per Weekday	4,588
Future Reduced Vehicle Miles per Year	1,215,743
Future Air Quality Benefits	
Reduced HC (metric tons/year)	7
Reduced CO (metric tons/year)	25
Reduced NOX (metric tons/year)	2
Reduced CO2 (metric tons/year)	129,316
Emissions rates from EPA report 420-F-00-013 "Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks." 2000.	

Map 3.17 Laguna Niguel Land Use



Collisions Involving Bicyclists

Parameter	Collision Rate
Total # of Bicycle Collisions for 5 Years	25
Average # of Bicycle Collisions Per Year	5
Average Bicycle Collision Rate per 1000/year[1]	0.08
Index (relative to statewide average of 0.32 /1000)[2]	0.24

Notes:
1. Rate is calculated using SWITRS collision data and population figures provided by the U.S. Census Bureau.
2. The Index is based on a ratio of the local collision rate and the statewide collision rate. An index less than one (1.0) indicates that the local accident rate is lower than the statewide average.

End-of-Trip Facilities

Information on existing and proposed end-of-trip facilities is not available.

Multimodal Facilities

Mode	Location	Facility Type
OCTA Buses	City-wide	Bicycle racks on buses
Metrolink/Amtrak/Rideshare/Bus	Laguna Niguel/Mission Viejo Metrolink Station	Bicycle lockers (20) Bicycle racks on trains and buses

Safety and Education Programs

Active	Yes
# Of Years Conducted	4
# Of Times a Year Conducted	5
Administered by	Police Department
Location	Schools and large parking lots
Program, Curriculum, and Activities	Presentation/assemblies, bicycle rodeos, Bicycle Handbook
Other Bicycle Safety Support Programs	Bicycle registration, free bicycle helmets, special events
Total # of Children Reached	300
Age of Children Reached	Grades K-6
Other Program Notes	

Expenditures

Information on past bicycle facility expenditures is not available.

Bicycle Transportation Plan

Bicycle facilities are addressed in the General Plan Circulation Element.

Bikeways

Laguna Niguel Existing Bikeways

Street	From	To	Class	Mileage
Sulfur Creek	*	*	Class I	*
Laguna Niguel Regional Park	*	*	Class I	*
Crown Valley Pkwy	*	*	Class I	*
Salt Creek Corridor Regional Park	*	*	Class I	*
Street of the Golden Lantern	*	*	Class II	*
Crown Valley Pkwy	*	*	Class II	*
Moulton Pkwy	*	*	Class II	*
Alicia Pkwy	*	*	Class II	*
La Paz Rd.	*	*	Class II	*
Niguel Rd.	*	*	Class II	*
Highlands Ave.	*	*	Class II	*
Pacific Island Dr.	*	*	Class II	*
Marina Hills Dr.	*	*	Class II	*
Camino del Avion	*	*	Class II	*
Niguel Rd	*	*	Class III	*
Camino del Avion	*	*	Class III	*
* Information not provided.				

Regional Priority Proposed Bikeways

Street/Path	From	To	Class	Mileage
Forbes Path	Mission Viejo City Limit	San Juan Capistrano City Limit	Class I	2.03

Laguna Niguel Proposed Bikeways

Street/Path	From	To	Class	Mileage
Chapparosa Park	Salt Creek Bikeway	Chapparosa Park Rd.	Class I	.33
Forbes Path	Mission Viejo City Limit	San Juan Capistrano City Limit	Class I	2.03
Niguel Rd.	Crown Valley Pkwy	S/O Marina Hills Tunnel	Class I	.65
Cabot Rd.	Crown Valley Pkwy	North of Crown Valley Pkwy	Class II	.18
Camino Del Avion	Crown Valley Pkwy.	Barkentine Blvd.	Class II	.35
Crown Valley Pkwy	Cabot Rd.	Mission Viejo City Limit (15)	Class II	.32
Niguel Rd.	Crown Valley Pkwy.	Los Arboles Dr.	Class II	.55
Camino Capistrano	Mission Viejo City Limit	San Juan Capistrano City Limit	Class III	1.88
			TOTAL	6.29 miles

Laguna Niguel Proposed Bikeway Cost Estimates

Facility	Miles	Unit Cost (per mile)	Total
Class I	3.01	$1,500,000	$4,515,000
Class II	1.40	$280,000	$392,000
Class III	1.88	$21,000	$39,480
		Total	$4,946,480

3.18. Laguna Woods

The City of Laguna Woods is located in the Saddleback Valley area of South Orange County, ten miles from the Pacific Ocean. Laguna Woods is both one of California's newest and oldest cities. Incorporated in 1999 as Orange County's 32nd city, the average age of Laguna Woods residents is 78. Ninety percent of the City's four square miles is contained within the senior citizen gated community of Leisure World. The balance of the City contains three additional senior residential communities and several thriving commercial centers.

Population

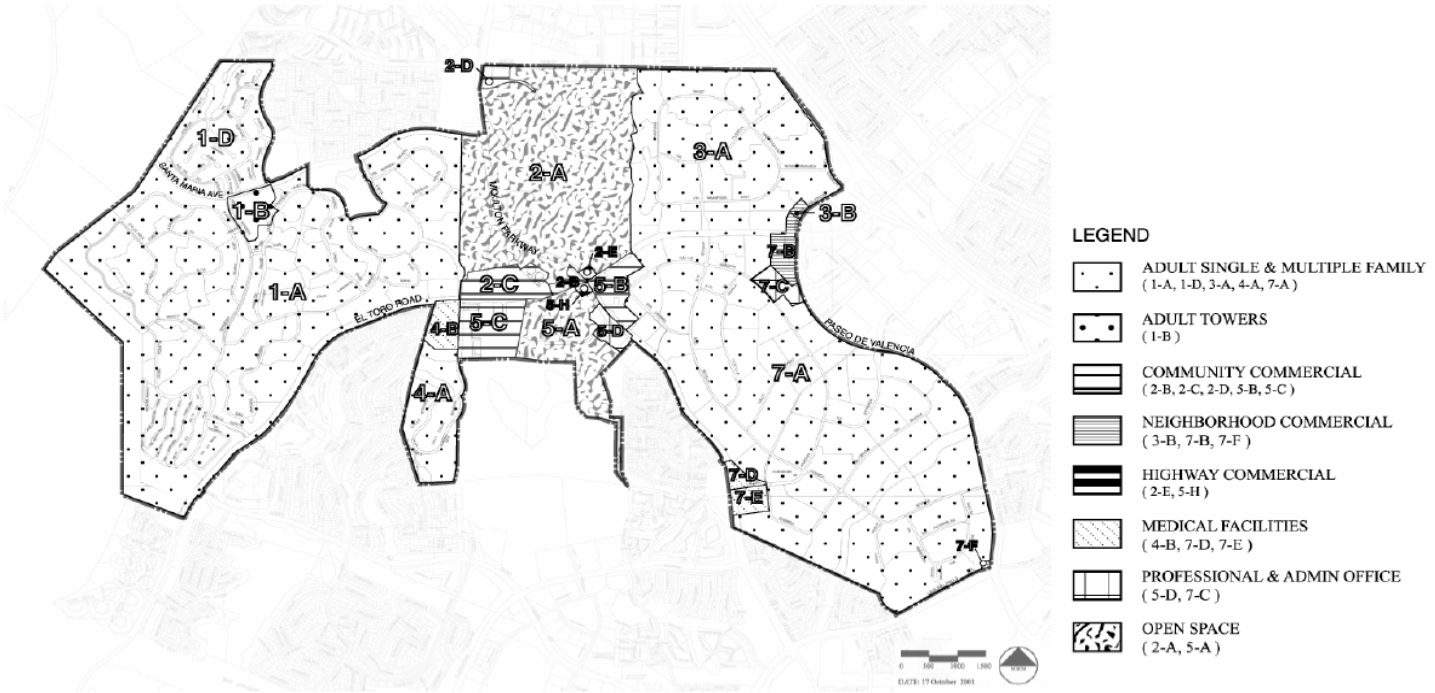
18,210

Estimated Number of Bicycle Commuters

Estimated Bicycle Commuters	Number
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	26
Estimated Adjusted Mode Share	1.2%
Estimated Current Bicycle Trips	
Total Daily Bicycle Trips	53
Reduced Vehicle Trips per Weekday	38
Reduced Vehicle Miles per Weekday	175
Future Potential Bicycle Commuters	
Future number of new bicycle commuters	27
Total Future Daily Bicycle Commuters	53
Future Total Daily Bicycle Trips	106
Future Reduced Vehicle Trips per Weekday	78
Future Reduced Vehicle Miles per Weekday	357
Future Reduced Vehicle Miles per Year	94,476
Future Air Quality Benefits	
Reduced HC (metric tons/year)	1
Reduced CO (metric tons/year)	2
Reduced NOX (metric tons/year)	0
Reduced CO2 (metric tons/year)	10,049
Emissions rates from EPA report 420-F-00-013 "Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks." 2000.	

LAND USE ELEMENT

Exhibit C: Planned Community Land Use Map



Map 3.18 Laguna Woods Land Use

Collisions Involving Bicyclists

Parameter	Collision Rate
Total # of Bicycle Collisions for 5 Years	4
Average # of Bicycle Collisions Per Year	0.8
Average Bicycle Collision Rate per 1000/year[1]	0.04
Index (relative to statewide average of 0.32 /1000)[2]	0.14

Notes:
1. Rate is calculated using SWITRS collision data and population figures provided by the U.S. Census Bureau.
2. The Index is based on a ratio of the local collision rate and the statewide collision rate. An index less than one (1.0) indicates that the local accident rate is lower than the statewide average.

End-of-Trip Facilities

Information on existing and proposed end-of-trip facilities is not available.

Multimodal Facilities

Mode	Location	Facility Type
OCTA Buses	City-wide	Bicycle racks on buses

Safety and Education Programs

The status of Laguna Woods' bicycle safety and education programs is unknown.

Expenditures

Information on past bicycle facility expenditures is not available.

Bicycle Transportation Plan

Bicycle facilities are addressed in the General Plan Circulation Element.

Bikeways

Laguna Woods Existing Bikeways

Street	From	To	Class	Mileage
El Toro Rd.	*	*	Class I	*
Laguna Hills Dr.	*	*	Class I	*
Paseo de Valencia	*	*	Class I	*
Ridge Route Dr.	*	*	Class II	*
El Toro Rd.	*	*	Class II	*
Moulton Pkwy	*	*	Class II	*
Paseo de Valencia	*	*	Class II	*
* Information not provided.				

Regional Priority Proposed Bikeways

Street/Path	From	To	Class	Mileage
El Toro Rd.	Moulton Pkwy.	Laguna Hills City Limit	Class II	0.74

Laguna Woods Proposed Bikeways

Street/Path	From	To	Class	Mileage
Valencia -Jasmine Creek	Laguna Hills City Limit	Laguna Hills City Limit (W Valencia)	Class I	0.73
Canyon Wren Ln.	El Toro Rd.	Aliso Viejo City Limit	Class II	0.02
El Toro Rd.	Moulton Pkwy.	Laguna Hills City Limit	Class II	0.74
Moulton Pkwy.	Laguna Hills City Limit	El Toro Rd.	Class II	0.67
Santa Maria Ave.	City Limit	Avenida Sosiega	Class III	0.28
			TOTAL	2.4 miles

Laguna Woods Proposed Bikeway Cost Estimates

Facility	Miles	Unit Cost (per mile)	Total
Class I	0.73	$1,500,000	$1,095,000
Class II	1.43	$280,000	$400,400
Class III	0.28	$21,000	$5,880
		Total	$1,501,280

3.19. Lake Forest

Lake Forest is primarily a city of residential neighborhoods. Adjacent to one of Irvine's large employment centers, Lake Forest is also developing an employment center of its own near the SR-241 Foothill Toll Road. Foothill Ranch Towne Center is located there in the northern part of the city, and other smaller shopping centers are located along some of the City's arterial roadways, including Lake Forest Drive, Bake and Portola Parkways, El Toro and Trabuco Roads, and Muirlands Boulevard. Currently, Lake Forest has a developed network of bikeways

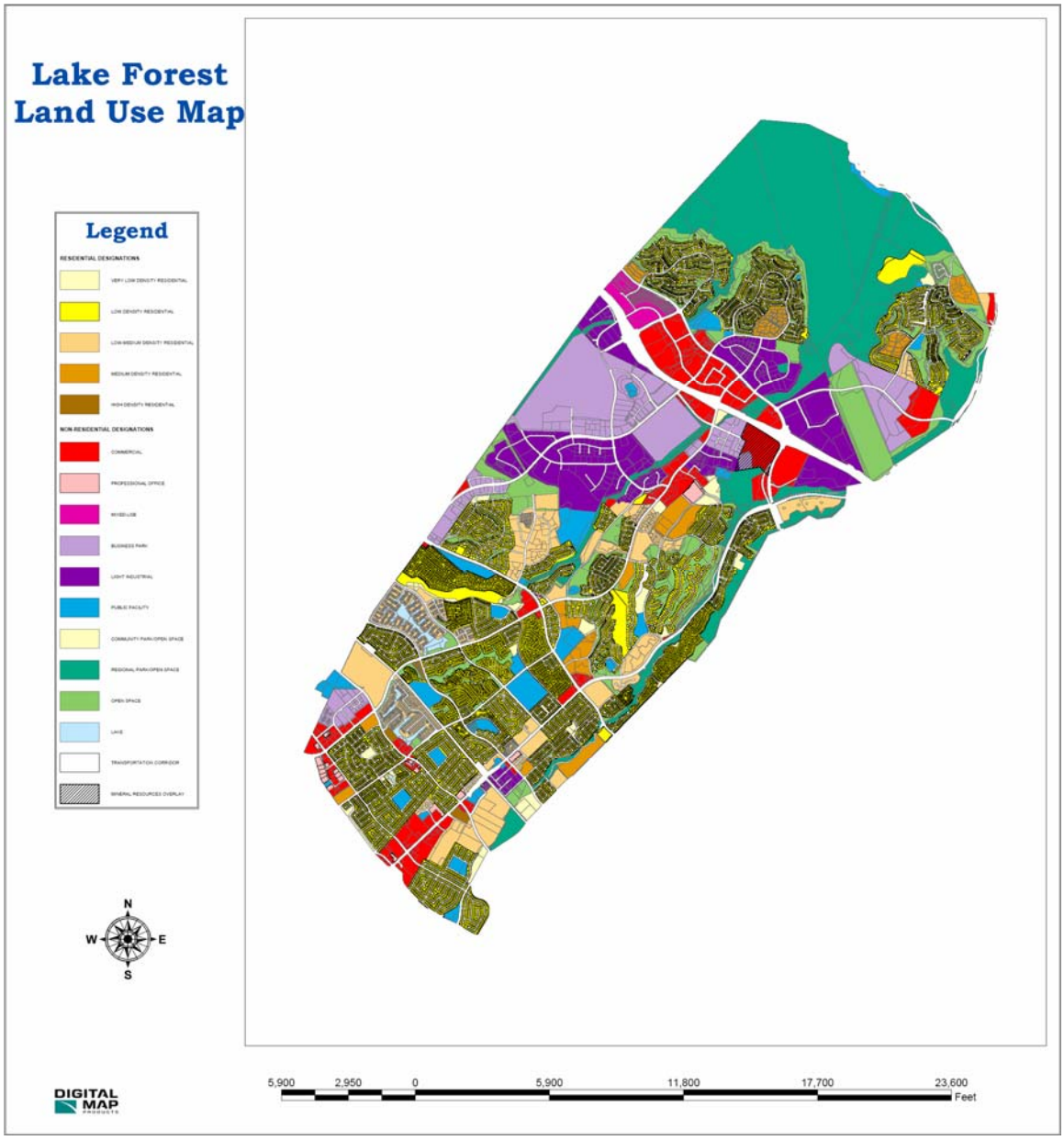
Population

76,323

Estimated Number of Bicycle Commuters

Estimated Bicycle Commuters	Number
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	621
Estimated Adjusted Mode Share	1.5%
Estimated Current Bicycle Trips	
Total Daily Bicycle Trips	1,242
Reduced Vehicle Trips per Weekday	826
Reduced Vehicle Miles per Weekday	2,918
Future Potential Bicycle Commuters	
Future number of new bicycle commuters	270
Total Future Daily Bicycle Commuters	891
Future Total Daily Bicycle Trips	1,783
Future Reduced Vehicle Trips per Weekday	1,301
Future Reduced Vehicle Miles per Weekday	5,986
Future Reduced Vehicle Miles per Year	1,586,368
Future Air Quality Benefits	
Reduced HC (metric tons/year)	9
Reduced CO (metric tons/year)	32
Reduced NOX (metric tons/year)	2
Reduced CO2 (metric tons/year)	168,739
Emissions rates from EPA report 420-F-00-013 "Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks." 2000.	

Map 3.19 Lake Forest Land Use



Collisions Involving Bicyclists

Parameter	Collision Rate
Total # of Bicycle Collisions for 5 Years	94
Average # of Bicycle Collisions Per Year	18.8
Average Bicycle Collision Rate per 1000/year[1]	0.24
Index (relative to statewide average of 0.32 /1000)[2]	0.75

Notes:
1. Rate is calculated using SWITRS collision data and population figures provided by the U.S. Census Bureau.
2. The Index is based on a ratio of the local collision rate and the statewide collision rate. An index less than one (1.0) indicates that the local accident rate is lower than the statewide average.

End-of-Trip Facilities

Information on existing and proposed end-of-trip facilities is not available.

Multimodal Facilities

Mode	Location	Facility Type
OCTA Buses	City-wide	Bicycle racks on buses
Rideshare	Saddleback Valley Community Church Saddleback Pkwy/Portola Pkwy	
Rideshare	Grace Community Church - 26052 Trabuco Rd	

Safety and Education Programs

Active	Yes
# Of Years Conducted	2
# Of Times a Year Conducted	All year long
Administered by	Police Department
Location	Schools, neighborhood watch groups
Program, Curriculum, and Activities	Assembly; DARE; bike rodeos; neighborhood watch meetings
Other Bicycle Safety Support Programs	
Total # of Children Reached	
Age of Children Reached	Grades K-8
Other Program Notes	

Expenditures

Information on past bikeway facility expenditures is not available.

Bicycle Transportation Plan

Bicycle facilities are discussed in the Lake Forest General Plan.

Bikeways

Lake Forest Existing Bikeways

Street	From	To	Class	Mileage
Aliso Creek	*	*	Class I	*
Borrego Canyon Wash	*	*	Class I	*
Bake Pkwy	*	*	Class II	*
Los Alisos Blvd.	*	*	Class II	*
Rockfield Blvd.	*	*	Class II	*
Muirlands Blvd.	*	*	Class II	*
Lake Forest Dr.	*	*	Class II	*
Ridge Route Dr.	*	*	Class II	*
Jeronimo Rd.	*	*	Class II	*
Trabuco Rd.	*	*	Class II	*
Toledo Way	*	*	Class II	*
Los Alisos Blvd.	*	*	Class III	*
Portola Pkwy	*	*	Class III	*
Lake Forest Dr.	*	*	Class III	*
* Information not provided.				

Regional Priority Proposed Bikeways

Street/Path	From	To	Class	Mileage
OCTA Metrolink RR	Irvine City Limit	El Toro Rd.	Class I	1.93

Lake Forest Proposed Bikeways

Street/Path	From	To	Class	Mileage
Borrego Tr. Continuation Path	Towne Center Dr.	Borrego Dr.	Class I	0.46
Santiago Canyon Rd.	City Limit	City Limit	Class I	0.87
Alton Pkwy.	Portola	Commercenter Dr.	Class II	1.61
Bake Pkwy.	Portola Hwy.	Calotte Wy.	Class II	0.71
Lake Forest Dr.	Muirland Blvd.	San Diego Frwy.	Class II	0.75
Live Oak Canyon Rd.	El Toro Rd.	City Limit	Class III	0.02
Los Alisos Blvd.	Muirlands Blvd.	Brussels Ave.	Class II	0.32
Rancho Pkwy. Continuation Path	Rancho Pkwy.	Portola Pkwy.	Class II	0.33
Rockfield Blvd.	Centre Dr.	Ridge Route Dr.	Class II	0.57
Toledo Wy.	Ridge Route Dr.	El Toro Rd.	Class II	0.46
I-5 N EXIT 91	El Toro Rd.	San Diego Frwy.	Class III	0.26
			TOTAL	8.29 miles

Lake Forest Proposed Bikeway Cost Estimates

Facility	Miles	Unit Cost (per mile)	Total
Class I	3.26	$1,500,000	$4,890,000
Class II	4.77	$280,000	$1,335,600
Class III	0.26	$21,000	$5,460
		Total	$6,231,060

3.20. Los Alamitos

Los Alamitos is a small city with a population of 12,150. The Armed Forces Reserve Air Station occupies a large portion of the City but has advanced both as a residential and business community. It is debt-free, with excellent recreational and park facilities, a top-notch police force and an enthusiastic Chamber of Commerce.

Population

12,150

Estimated Number of Bicycle Commuters

Estimated Bicycle Commuters	Number
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	121
Estimated Adjusted Mode Share	1.5%
Estimated Current Bicycle Trips	
Total Daily Bicycle Trips	242
Reduced Vehicle Trips per Weekday	162
Reduced Vehicle Miles per Weekday	590
Future Potential Bicycle Commuters	
Future number of new bicycle commuters	79
Total Future Daily Bicycle Commuters	200
Future Total Daily Bicycle Trips	401
Future Reduced Vehicle Trips per Weekday	293
Future Reduced Vehicle Miles per Weekday	1,346
Future Reduced Vehicle Miles per Year	356,587
Future Air Quality Benefits	
Reduced HC (metric tons/year)	2
Reduced CO (metric tons/year)	7
Reduced NOX (metric tons/year)	0
Reduced CO2 (metric tons/year)	37,929
Emissions rates from EPA report 420-F-00-013 "Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks." 2000.	

Map 3.20 Los Alamitos Land Use

Collisions Involving Bicyclists

Parameter	Collision Rate
Total # of Bicycle Collisions for 5 Years	36
Average # of Bicycle Collisions Per Year	7.2
Average Bicycle Collision Rate per 1000/year[1]	0.61
Index (relative to statewide average of 0.32 /1000)[2]	1.89

Notes:
1. Rate is calculated using SWITRS collision data and population figures provided by the U.S. Census Bureau.
2. The Index is based on a ratio of the local collision rate and the statewide collision rate. An index greater than one (1.0) indicates that the local accident rate is higher than the statewide average.

End-of-Trip Facilities

Information on existing and proposed end-of-trip facilities is not available.

Multimodal Facilities

Mode	Location	Facility Type
OCTA Buses	City-wide	Bicycle racks on buses
Rideshare	Federal Regional Lab 4655 Lampson Ave	

Safety and Education Programs

The status of Los Alamitos' bicycle safety and education programs is unknown.

Expenditures

Information on past bicycle facility expenditures is not available.

Bicycle Transportation Plan

The City of Los Alamitos does not have an adopted Bicycle Transportation Plan.

Bikeways

Los Alamitos Existing Bikeways

Street/Path	From	To	Class	Mileage
Catalina St.	*	*	Class I	*
Coyote Creek/San Gabriel River	*	*	Class I	*
Bloomfield Ave.	*	*	Class II	*
Lampson Ave.	*	*	Class II	*
Cerritos Ave.	*	*	Class III	*
Walnut Street	*	*	Class III	*
*Information not provided.				

Los Alamitos Proposed Bikeways

Street/Path	From	To	Class	Mileage
Path 1	Los Alamitos Blvd.	Bloomfield St.	Class I	0.51
Ball Rd.	City Limit (W Kaylor Ave.)	Cypress City Limit (Bloomfield St.)	Class II	0.24
Catalina St.	Oak St.	Los Alamitos Blvd.	Class II	0.23
Cerritos Ave.	Spring St.	Lexington Dr.	Class II	1.26
Los Alamitos Blvd.	City Limit (N Path 1)	Seal Beach City Limit (S Bradbury Rd.)	Class II	1.93
			TOTAL	4.16 miles

Los Alamitos Proposed Bikeway Cost Estimates

Facility	Miles	Unit Cost (per mile)	Total
Class I	0.51	$1,500,000	$765,000
Class II	3.66	$280,000	$1,024,800
		Total	$1,789,800

3.21. Mission Viejo

One of the largest South County cities, Mission Viejo is home to Saddleback College, Mission Viejo Regional Medical Center, and the Shops at Mission Viejo regional shopping center. Significant recreational amenities include Lake Mission Viejo and the adjacent O'Neill Regional Park, which is just outside the city limits to the east. Primarily a city comprised of residential neighborhoods, Mission Viejo's activity centers and key destinations are located along the City's well developed arterial network

Population

94,848

Estimated Number of Bicycle Commuters

Estimated Bicycle Commuters	Number
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	655
Estimated Adjusted Mode Share	1.0%
Estimated Current Bicycle Trips	
Total Daily Bicycle Trips	1,310
Reduced Vehicle Trips per Weekday	829
Reduced Vehicle Miles per Weekday	2,424
Future Potential Bicycle Commuters	
Future number of new bicycle commuters	382
Total Future Daily Bicycle Commuters	1,037
Future Total Daily Bicycle Trips	2,075
Future Reduced Vehicle Trips per Weekday	1,515
Future Reduced Vehicle Miles per Weekday	6,967
Future Reduced Vehicle Miles per Year	1,846,176
Future Air Quality Benefits	
Reduced HC (metric tons/year)	11
Reduced CO (metric tons/year)	37
Reduced NOX (metric tons/year)	2
Reduced CO2 (metric tons/year)	196,374
Emissions rates from EPA report 420-F-00-013 "Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks." 2000.	

Map 3.21 Mission Viejo Land Use

Collisions Involving Bicyclists

Parameter	Collision Rate
Total # of Bicycle Collisions for 5 Years	49
Average # of Bicycle Collisions Per Year	9.8
Average Bicycle Collision Rate per 1000/year[1]	0.10
Index (relative to statewide average of 0.32 /1000)[2]	0.32

Notes:
1. Rate is calculated using SWITRS collision data and population figures provided by the U.S. Census Bureau.
2. The Index is based on a ratio of the local collision rate and the statewide collision rate. An index less than one (1.0) indicates that the local accident rate is lower than the statewide average.

End-of-Trip Facilities

Information on existing and proposed end-of-trip facilities is not available.

Multimodal Facilities

Mode	Location	Facility Type
OCTA Buses	City-wide	Bicycle racks on buses
Metrolink/Amtrak/Rideshare/Bus	Laguna Niguel/Mission Viejo Metrolink Station	Parking lockers (20) Bicycle racks on trains and buses
Rideshare	Alicia Park-and-Ride 23682 Via Linda	
Rideshare	Mission Viejo Church of Christ 26558 Marguerite Pkwy	

Safety and Education Programs

Active	Yes
# Of Years Conducted	6
# Of Times a Year Conducted	3
Administered by	Orange County Sheriff's Department
Location	Schools, City Hall
Program, Curriculum, and Activities	Bike rodeos, bike safety seminars
Other Bicycle Safety Support Programs	
Total # of Children Reached	Approximately 300 per year
Age of Children Reached	6 to 12 years old
Other Program Notes	Childhood Watch/Traffic Smarts component are active parts of the program

Expenditures

Information on past bikeway facility expenditures is not available.

Bicycle Transportation Plan

Bicycle facilities are addressed in the General Plan Circulation Element.

Bikeways

Mission Viejo Existing Bikeways

Street	From	To	Class	Mileage
Aliso Creek	*	*	Class I	*
Los Alisos Blvd.	*	*	Class I	*
Entidad	*	*	Class I	*
Jeronimo Open Space	*	*	Class I	*
Oso Viejo Community Park	*	*	Class I	*
Cordova Park	*	*	Class I	*
Santa Margarita Pkwy	*	*	Class III	*
Crown Valley Pkwy	*	*	Class III	*
Marguerite Pkwy	*	*	Class III	*
Olympiad Rd.	*	*	Class III	*
Trabuco Rd.	*	*	Class III	*
La Paz Rd.	*	*	Class III	*
Los Alisos Blvd.	*	*	Class III	*
* Information not provided.				

Regional Priority Proposed Bikeways

Street/Path	From	To	Class	Mileage
Camino Capistrano	Oso Pkwy.	Laguna Niguel City Limit	Class I	0.82

Mission Viejo Proposed Bikeways

Street/Path	From	To	Class	Mileage
Path 1	Laguna Hills City Limit	Laguna Niguel City Limit	Class I	0.65
Path 2	City Limit (N Trabuco Canyon Rd.)	San Juan Capistrano City Limit	Class I	0.72
Alicia Pkwy.	N I-5 N EXIT 90	Laguna Hills City Limit (San Diego Frwy)	Class II	0.16
Avery Pkwy.	Laguna Niguel City Limit (I-5 S EXIT 85)	Marguerite Prwy.	Class II	0.16
Crown Valley Pkwy.	Medical Center Rd.	Laguna Niguel City Limit (E Camino Capistrano)	Class II	0.46
La Paz Rd.	Muirlands Blvd.	Laguna Hills City Limit (San Diego Frwy.)	Class II	0.11
Los Alisos Blvd.	OCTA Metrolink RR	Rockfield Blvd.	Class II	0.75
Olympiad Rd.	Marguerite Pkwy.	Melinda Rd.	Class II	0.40
Trabuco Rd.	Nuez	Los Alisos Blvd.	Class II	0.36
Crown Valley Pkwy.	Jardines	City Limit	Class III	0.03
			TOTAL	4.62 miles

Mission Viejo Proposed Bikeway Cost Estimates

Facility	Miles	Unit Cost (per mile)	Total
Class I	2.19	$1,500,000	$3,285,000
Class II	2.40	$280,000	$672,000
Class III	0.03	$21,000	$630
		Total	$3,957,630

3.22. Newport Beach

The City of Newport Beach is a popular upscale beach community. While popular for its miles of beaches and two fishing piers, the City is also home to a large bay and the Upper Newport Bay Ecological Reserve. The City has two large employment centers, the Fashion Island regional shopping center, and several small shopping districts, such as Balboa Island. Because of its geography, the City does not have an extensive arterial street network. The major arterials include Coast Highway, Newport and MacArthur Boulevards, and Jamboree Road.

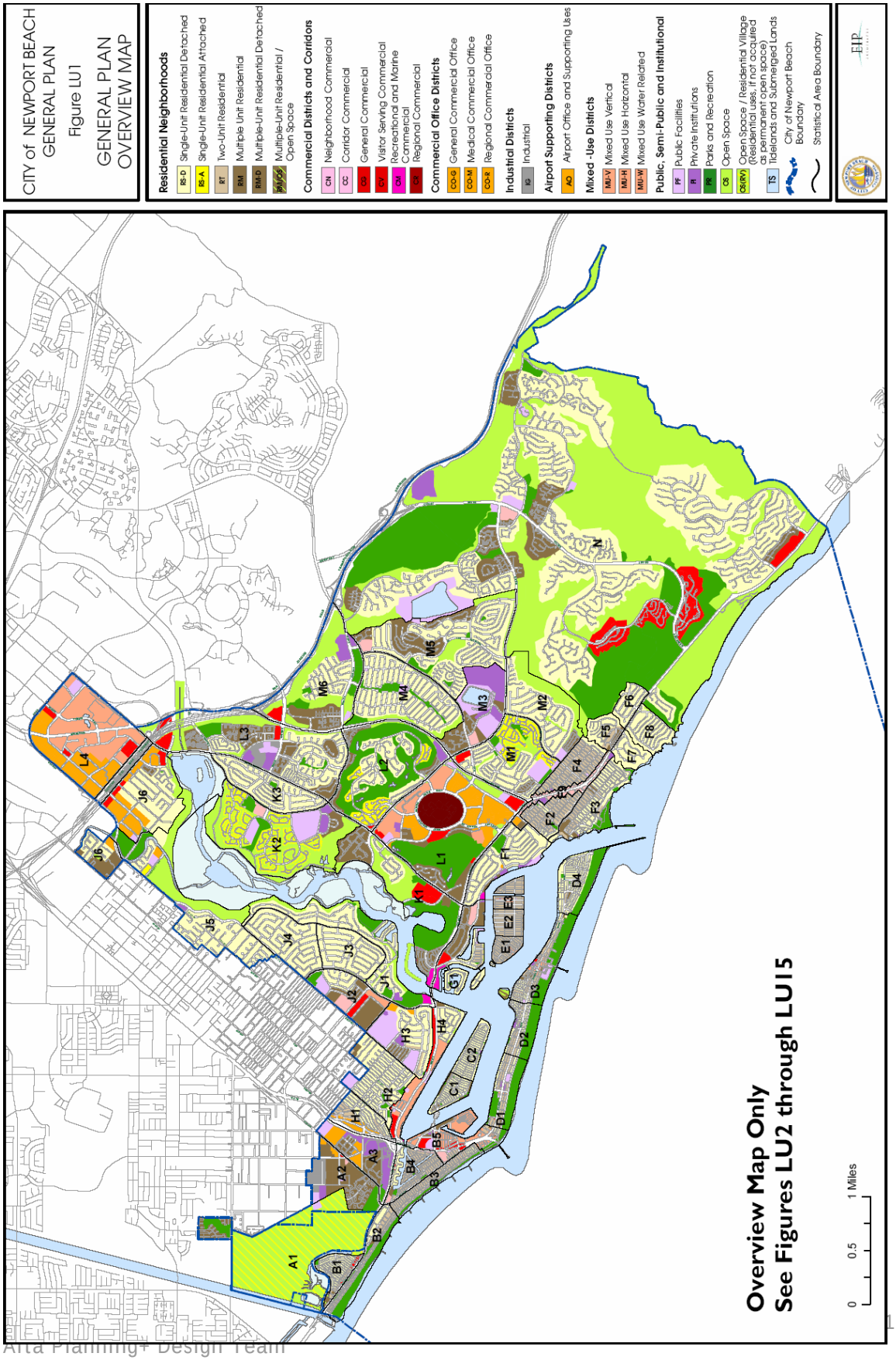
Population

84,218

Estimated Number of Bicycle Commuters

Estimated Bicycle Commuters	Number
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	689
Estimated Adjusted Mode Share	1.5%
Estimated Current Bicycle Trips	
Total Daily Bicycle Trips	1,377
Reduced Vehicle Trips per Weekday	949
Reduced Vehicle Miles per Weekday	3,751
Future Potential Bicycle Commuters	
Future number of new bicycle commuters	378
Total Future Daily Bicycle Commuters	1,067
Future Total Daily Bicycle Trips	2,133
Future Reduced Vehicle Trips per Weekday	1,557
Future Reduced Vehicle Miles per Weekday	7,163
Future Reduced Vehicle Miles per Year	1,898,146
Future Air Quality Benefits	
Reduced HC (metric tons/year)	11
Reduced CO (metric tons/year)	38
Reduced NOX (metric tons/year)	3
Reduced CO2 (metric tons/year)	201,902
Emissions rates from EPA report 420-F-00-013 "Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks." 2000.	

Map 3.22 Newport Beach Land Use



The City's Transportation Demand Management ordinance requires projects to reduce the number of peak-period vehicle trips by promoting and encouraging the use of alternative transportation modes, such as bicycling, by providing facilities that support alternate modes.

Collisions Involving Bicyclists

Parameter	Collision Rate
Total # of Bicycle Collisions for 5 Years	439
Average # of Bicycle Collisions Per Year	87.8
Average Bicycle Collision Rate per 1000/year[1]	1.09
Index (relative to statewide average of 0.32 /1000)[2]	3.35

Notes:
1. Rate is calculated using SWITRS collision data and population figures provided by the U.S. Census Bureau.
2. The Index is based on a ratio of the local collision rate and the statewide collision rate. An index greater than one (1.0) indicates that the local accident rate is higher than the statewide average.

End-of-Trip Facilities

Information on existing and proposed end-of-trip facilities is not available.

Multimodal Facilities

Mode	Location	Facility Type
OCTA Buses	City-wide	Bicycle racks on buses
Ferry	Balboa Island Ferry Agate Ave/Bayfront Edgewater Ave/Palm St	Bikes permitted on ferries
Rideshare/Bus	Newport Transportation Ctr 1550 Avocado Ave	Bicycle racks (6)

Safety and Education Programs

Active	Yes
# Of Years Conducted	
# Of Times a Year Conducted	4
Administered by	Police Department
Location	Schools
Program, Curriculum, and Activities	Bicycle Rodeos
Other Bicycle Safety Support Programs	Bicycle Registration
Total # of Children Reached	
Age of Children Reached	
Other Program Notes	Bike safety education available upon school request only

Expenditures

Information on past bicycle facility expenditures is not available.

Bicycle Transportation Plan

Bicycle planning can be found in Newport Beach's General Plan.

Bikeways

Newport Beach Existing Bikeways

Street/Path	From	To	Class	Miles
Balboa Beach Bike Path Section 1	36th St.	24th St.	Class I	*
Balboa Beach Bike Path Section 2	20th St.	F St.	Class I	*
Via Lido Bridgeway	Lafayette Ave.	Via Lido Soud	Class I	*
Newport Blvd	Short St.	Pacific Coast Hwy.	Class I	*
Central Ave-Pacific Coast Hwy	Via Lido	Riverside Ave	Class I	*
Superior Ave.	15th St.	Industrial Wy.	Class I	*
Lower Back Bay Cliff Paths	Dover Dr.	Castaways Park	Class I	*
Bayside Dr.	Pacific Coast Hwy.	Marine Ave	Class I	*
Newport Dunes Bike Route	Bayside Dr.	Back Bay Dr.	Class I	*
Avocado Ave.	Second Ave.	Kewamee Dr.	Class I	*
Bayside Dr.	Carnation Ave.	Marguerite Ave.	Class I	*
Fifth Ave.	Iris Ave.	Marguerite Ave.	Class I	*
Newport Center Dr.	Pacific Coast Hwy.	Newport Center Dr. E-W	Class I	*
Jamboree Rd.	Pacific Coast Hwy.	University Dr. Bike Path	Class I	*
Upper Back Bay Path	Santiago Dr.	Jamboree Rd.	Class I	*
West of 73 bike Path	Jamboree Rd.	Bison Ave.	Class I	*
MacArthur Blvd.	University Dr.	Bonita Canyon Rd.	Class I	*
Bison Ave.	MacArthur Blvd.	Camelback St.	Class I	*
Buffalo Hills Park Path	San Miguel Dr.	Ford Rd.	Class I	*
Spyglass Hill Rd.	San Miguel Dr.	San Joaquin Hills Rd.	Class I	*
San Joaquin Hills Rd.	Jamboree Rd.	Spyglass Hill Rd.	Class I	*
Santa Barbara Dr.	Jamboree Rd.	Newport Center Dr. W	Class I	*
Santa Cruz Dr.	San Joaquin Hills Rd.	Newport Center Dr. E-W	Class I	*
Santa Rosa Dr.	San Joaquin Hills Rd.	Newport Center Dr. E	Class I	*
Bristol St. North	Campus Dr.	Jamboree Rd.	Class I	*
MacArthur Blvd.	Campus Dr.	Jamboree Rd.	Class I	*
Jamboree Rd.	Bristol St.	Campus Dr.	Class I	*
Von Karman Ave.	Macarthur Blvd.	Campus Dr.	Class I	*
Campus Dr.	Von Karman Ave.	Jamboree Rd.	Class I	*
Seashore Dr.	Orange St.	32nd St.	Class II	*
Pacific Coast Hwy. (north side)	Highland St.	Superior Ave.	Class II	*
Balboa Blvd.	45th St.	26th St.	Class II	*
Newport Blvd. NB	*	Newport Blvd.	Class II	*
Newport Blvd. SB Ramps	*	*	Class II	*
Superior Ave.	Pacific Coast Hwy.	Placentia Ave.	Class II	*

Street/Path	From	To	Class	Miles
Placentia Ave.	Superior Ave.	16th St.	Class II	*
Riverside Ave.	Pacific Coast Hwy.	Cliff Dr.	Class II	*
Cliff Dr.	Riverside Ave.	Dover Dr.	Class II	*
Dover Dr.	Pacific Coast Hwy.	Irvine Ave.	Class II	*
16th St.	Irvine Ave.	Dover Dr.	Class II	*
Irvine Ave.	Cliff Dr.	Bristol St.	Class II	*
Campus Dr.	Bristol St.	Jamboree Rd.	Class II	*
Back Bay Dr.	Jamboree Rd.	Eastbluff Dr.	Class II	*
Eastbluff Dr.	Ford Rd.	University Dr.	Class II	*
Vista Del Sol	Eastbluff Dr.	Vista Del Oro	Class II	*
Mesa Dr.	Irvine Ave.	Birch St.	Class II	*
University Dr.	Jamboree Rd.	MacArthur Blvd.	Class II	*
La Vida St.	University Dr.	La Salud	Class II	*
La Salud	Marsala Dr.	Milano DR.	Class II	*
La Felicidad	Camelback St.	La Salud	Class II	*
Camelback St.	Bison Ave.	La Felicidad	Class II	*
Bison Ave.	MacArthur Blvd.	73 Freeway	Class II	*
MacArthur Ave.	Bison Ave.	Bonita Canyon Dr.	Class II	*
San Miguel Dr.	Ford Rd.	SpyGlass Hill Rd.	Class II	*
San Miguel Dr.	Newport Center Dr. E	Pacific View Dr.	Class II	*
Avocado Ave.	Pacific Coast Hwy.	Salt Air Dr.	Class II	*
Pacific Coast Hwy.	Newport Center Dr.	Avocado Ave.	Class II	*
Newport Center Dr. East	Newport Center Dr.	*	Class II	*
Newport Center Dr. West	Newport Center Dr.	Newport Center Dr.	Class II	*
Pacific View Dr.	San Miguel Dr.	West of Marguerite Ave.	Class II	*
Marguerite Ave.	Fifth Ave.	San Joaquin Hills Rd.	Class II	*
Fifth Ave.	Marguerite Ave.	Poppy Ave.	Class II	*
Bonita Canyon Dr.	MacArthur Blvd.	73 Freeway	Class II	*
San Joaquin Hills Rd.	Spyglass Hill Rd.	Newport Coast Dr.	Class II	*
Newport Coast Dr.	73 Freeway	Pacific Coast Hwy	Class II	*
Pacific Coast Hwy.	Seaward Rd.	Southern City Limit	Class II	*
Ocean Front Dr.	24th St.	20th St.	Class III	*
Newport Blvd	Pacific Coast Hwy	North of Hospital Rd.	Class III	*
Pacific Coast Hwy.	Riverside Ave.	Dover Dr.	Class III	*
El Paseo Dr.	Bayside Dr.	Malabar Dr.	Class III	*
Seadrift Dr.	Malabar Dr.	Evita Dr.	Class III	*
Kewamee Dr.	Seadrift Dr.	Avocado Ave.	Class III	*
Second Ave.	Avocado Ave.	Goldenrod Ave.	Class III	*
Goldenrod Ave.	Second Ave.	South of Harbor View	Class III	*
Ford Rd.	Western End	Prairie Rd.	Class III	*
Prairie Rd.	Ford Rd.	Bonita Canyon Dr.	Class III	*
Mesa View Dr.	Ford Rd.	Bonita Canyon Dr.	Class III	*
University Dr. Bike Path	Jamboree Rd.	East of 73 Freeway	Class I	*
South of PCH	Pelican Point Dr.	Eastern City Limit		*
Pacific Coast Hwy. (south side)	Western City Limit	Superior Ave.	Class I, II	*
Pacific Coast Hwy.	Superior Ave.	Newport Blvd.	Class I, II	*

Street/Path	From	To	Class	Miles
Pacific Coast Hwy.	Dover Dr.	Bayside Dr.	Class I, II	*
Pacific Coast Hwy (south side)	Bayside Dr.	Avocado Ave.	Class I, II	*
MacArthur Blvd.	Pacific Coast Hwy.	Ford Rd.	Class I, II	*
San Miguel Dr.	Pacific View Dr.	SpyGlass Hill Rd.	Class I, II	*
* Information not provided.				

Newport Beach Proposed Bikeways

Street/Path	From	To	Class	Mileage
Bayside Dr.	Carnation Ave.	Marguerite Ave.	Class I	0.47
Bison Ave.	Belcourt Dr.	Macarthur Blvd.	Class I	0.15
Bonita Canyon Dr./ MacArthur Blvd.	Macarthur Blvd.	Baonita Canyon Dr.	Class I	0.05
Jamboree Rd.	University Dr.	Eastbluff Dr.	Class I	1.19
Jamboree Rd.	Coast Hwy.	Bayside Dr.	Class I	0.17
Jamboree Rd.	Campus Dr.	Bristol St.	Class I	0.85
Jamboree Rd. / University Dr.	Jamboree Rd.	University Dr.	Class I	0.40
Jamboree Rd. / San Joaquin Hills Rd.	Jamboree Rd.	San Joaquin Hills Rd.	Class I	0.17
Kings Rd/ Dover Dr.	Kings Rd.	W Dover Dr.	Class I	0.69
MacArthur Blvd.	Campus Dr.	Jamboree Rd.	Class I	0.98
Newport Center Dr.	Newport Center Dr.	Coast Hwy.	Class I	0.41
22nd St. / Santiago Dr.	City Limit Costa Mesa	Irvine Ave.	Class II	0.38
2nd Ave.	Avocado Ave.	Heliotrope Ave.	Class II	0.40
Avocado Ave.	Kewamee Dr.	2nd Ave.	Class II	0.08
Balboa Blvd.	Coast Hwy.	Channel Pl.	Class II	0.63
Bay Ave.	221st St.	Buena Vista Blvd.	Class II	1.14
Bayside Dr.	Coast Hwy.	E Bayside Wy.	Class II	0.27
Bison Ave.	Jamboree Rd.	Belcourt Dr.	Class II	0.32
Bonita Canyon Dr.	San Joaquin Transportation Corridor	E Chambord	Class II	0.11
Bristol St.	Irvine Ave.	Jamboree Rd.	Class II	0.75
Coast Hwy.	Carnation Ave.	Poppy Ave.	Class II	1.26
El Paseo Dr.	Bayside Dr.	Malabar Dr.	Class II	0.11
Ford Rd.	Prairie Rd.	Hillside Dr.	Class II	0.06
Heliotrope Ave.	2nd Ave.	Coast Hwy.	Class II	0.05
Jamboree Rd.	Bristol St.	University Dr.	Class II	0.64
Kewamee Dr.	Seadrift Dr.	Avocado Ave.	Class II	0.23
Newport Blvd.	Lido	Mc Fadden Pl.	Class II	0.68
Newport Coast Dr.	San Joaquin Hills Transportation Corridor	Newport Coast Dr.	Class II	0.34
Newport Coast Dr. / Tesoro	Newport Coast Dr.	Tesoro	Class II	0.07
Coast Hwy.	Riverside Ave.	Dover Dr.	Class III	1.06
Newport Coast Dr. / Moon Shell	Tesoro	S Reef Point Dr.	Class III	2.67
			TOTAL	30.09 miles

Newport Beach Proposed Bikeway Cost Estimates

Facility	Miles	Unit Cost (per mile)	Total
Class I	5.53	$1,500,000	$8,295,000
Class II	7.52	$280,000	$2,105,600
Class III	3.73	$21,000	$78,330
		Total	$10,478,930

3.23. Orange

The City of Orange is situated in Central Orange County, approximately 32 miles southeast of Los Angeles. The City's land area is 27 square miles. The City's planning area is 38 square miles, with a "Sphere of Influence" area of 55 square miles. Included in the City's Sphere of Influence is 18,500 acres of undeveloped land owned by The Irvine Company.

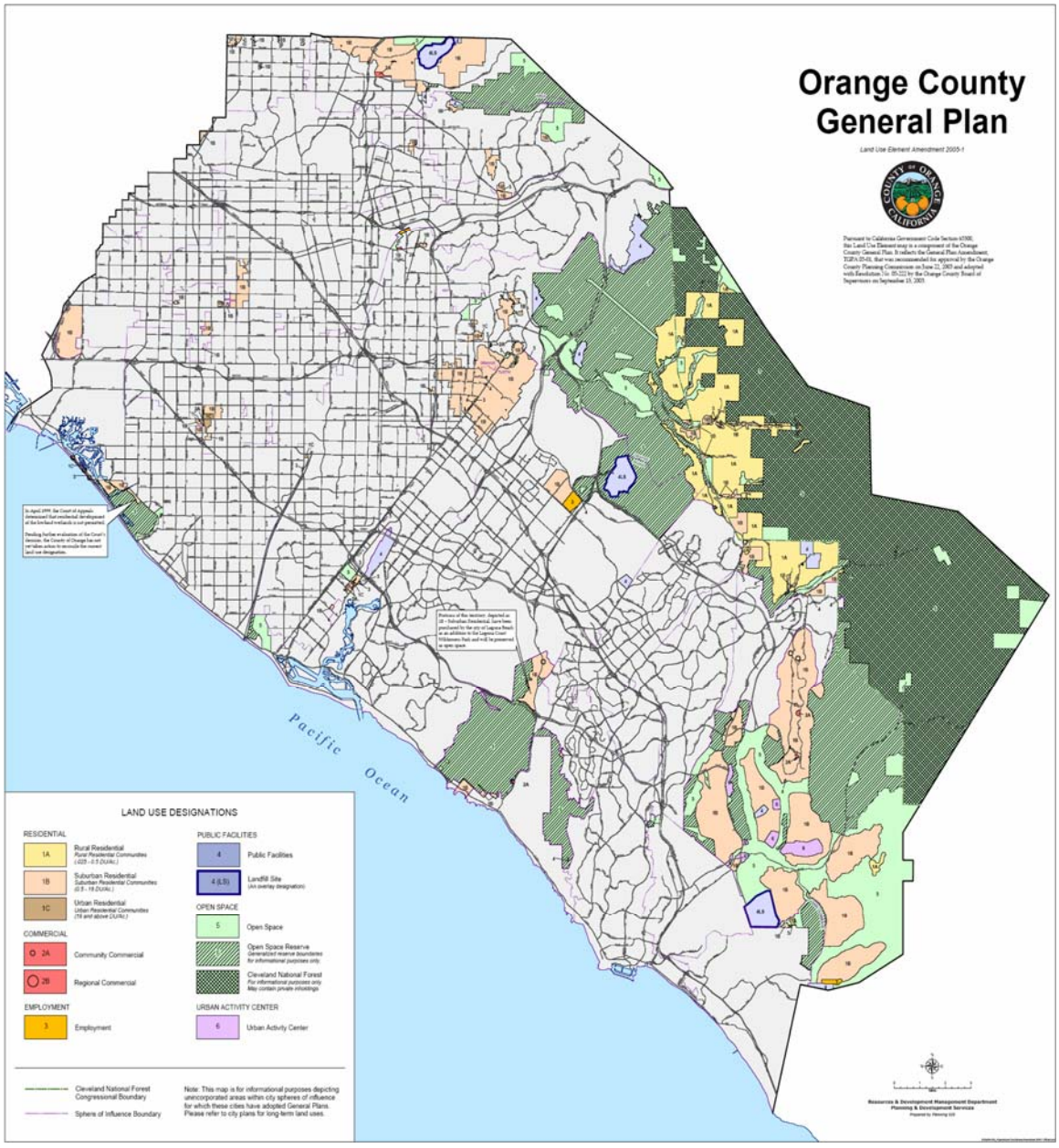
Population

138,640

Estimated Number of Bicycle Commuters

Estimated Bicycle Commuters	Number
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	1,563
Estimated Adjusted Mode Share	1.9%
Estimated Current Bicycle Trips	
Total Daily Bicycle Trips	3,126
Reduced Vehicle Trips per Weekday	2,110
Reduced Vehicle Miles per Weekday	7,834
Future Potential Bicycle Commuters	
Future number of new bicycle commuters	539
Total Future Daily Bicycle Commuters	2,102
Future Total Daily Bicycle Trips	4,204
Future Reduced Vehicle Trips per Weekday	3,069
Future Reduced Vehicle Miles per Weekday	14,118
Future Reduced Vehicle Miles per Year	3,741,387
Future Air Quality Benefits	
Reduced HC (metric tons/year)	22
Reduced CO (metric tons/year)	76
Reduced NOX (metric tons/year)	5
Reduced CO2 (metric tons/year)	397,964
Emissions rates from EPA report 420-F-00-013 "Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks." 2000.	

Map 3.23 Orange Land Use



Collisions Involving Bicyclists

Parameter	Collision Rate
Total # of Bicycle Collisions for 5 Years	300
Average # of Bicycle Collisions Per Year	60
Average Bicycle Collision Rate per 1000/year[1]	0.44
Index (relative to statewide average of 0.32 /1000)[2]	1.37

Notes:
1. Rate is calculated using SWITRS collision data and population figures provided by the U.S. Census Bureau.
2. The Index is based on a ratio of the local collision rate and the statewide collision rate. An index greater than one (1.0) indicates that the local accident rate is higher than the statewide average.

End-of-Trip Facilities

Location	Type
Eisenhower Park	Bicycle racks (x1)
El Camino Real Park	Bicycle racks (x5)
Fred Barrera Park	Bicycle racks (x1)
Grijalva Park	Bicycle racks (x1)
Hart Park	Bicycle racks (x4)
Killefer Park	Bicycle racks (x1)
McPherson Park	Bicycle racks (x6)
Olive Park	Bicycle racks (x1)
Pitcher Park	Bicycle racks (x1)
Santiago Hills Park	Bicycle racks (x3)
Serrano Park	Bicycle racks (x1)
Shaffer Park	Bicycle racks (x1)
The Depot Park	Bicycle racks
Veterans Memorial	Bicycle racks

Multimodal Facilities

Mode	Location	Facility Type
OCTA Buses	City-wide	Bicycle racks on buses
Metrolink/Amtrak/Rideshare/Bus	Orange Station 194 N Atchison St	Bicycle racks(6)/lockers(12) Bicycle racks on trains and buses
Rideshare	Lincoln Park-and-Ride Lincoln Ave/SR-55	

Safety and Education Programs

The City of Orange Traffic Department organizes a bicycle safety education program. However, the traffic department does not have the resources to regularly support the program.

For City employees, through the Trip Reduction Program, there is a $35 Bi-annual bike helmet reimbursement as well as an opportunity to win a bike through the annual Bike Loan-to-Own program.

Expenditures

Facility	Improvement	From	To	Cost
City-wide	Development/maintenance			$750,000

Bicycle Transportation Plan

Bicycle planning can be found in the City of Orange's General Plan.

Bikeways

Orange Existing Bikeways

Street/Path	From	To	Class	Mileage
Santa Ana River Path	Garden Grove Blvd.	Tustin Ave.	Class I	6.4
Jamboree Blvd.	Santiago Canyon	Canyon View Ave.	Class I	*
Santiago Creek Path Section 1	UPRR	Tustin St.	Class I	*
Santiago Creek Path Section 2	Walnut Ave.	Collins Ave.	Class I	*
Rancho Santiago Blvd.	Bond Ave.	Hewes St.	Class I	.53
Cannon St. Park Path	Cerritos Dr.	Avenida Palmar	Class I	*
Santiago Blvd.	Wanda Rd.	Collins Ave.	Class I	*
Wanda Rd.	Santiago Blvd.	Katella Ave.	Class	.19
Batavia St.	Nohl Ranch Rd.	Taft Ave.	Class	*
Glassell St.	Fletcher Ave.	Santa Ana River Path	Class	*
Cambridge St.	Meats Ave.	Santiago Creek Path	Class	3.22
Walnut Ave.	Shaffer St.	Handy St.	Class	*
Handy St.	UPRR	Walnut St.	Class	*
Meats Ave.	Tustin St.	Santiago Blvd	Class	*
Santiago Blvd.	Nohl Ranch Rd.	Villa Park Rd.	Class	3.74
Taft Ave.	Santiago Blvd.	Nichols Ave.	Class	*
Hewes St.	Villa Park Rd.	Rancho Santiago	Class	*
Cannon St.	Northern City Limit	Villa Park Rd.	Class	*
Collins Ave.	Handy St.	Bond Ave.	Class	*
Prospect Ave	Spring St.	Collins Ave.	Class	.66
Cannon St.	Chapman Ave	Cannon St. Park Path	Class	*
Canyon View Ave.	Newport Blvd.	Outrider St.	Class	.38
Santiago Canyon Rd.	Wanda Rd.	Jamboree Rd.	Class	1.80
Orange Park Blvd	Chapman Ave.	Santiago Canyon Rd.	Class	1.33
Chapman Ave./Santiago Canyon	Cannon St.	Eastern City Limit	Class	*
Jamboree Rd.	Irvine Regional Park	Southern City Limit	Class	1.89
Newport Blvd.	Santiago Canyon	Chapman Ave.	Class	.38
* Information not provided.				

Regional Priority Proposed Bikeways

Street/Path	From	To	Class	Mileage
Glassell St.	Fletcher St.	Katella Ave.	Class II	1.39
Glassell St.	La Veta Ave.	Santa Ana City Limit (SR-22 E Exit 16)	Class II	0.40
Glassell St.	Woodvale Ave.	Fletcher St.	Class II	0.12
Glassell St.	City Limit	N Riverdale Ave.	Class II	0.08
Walnut Ave.	Hewes St.	Rancho Santiago Blvd.	Class III	0.25
Walnut Ave.	Walnut Ave. _Tustin St.	Earlham St.	Class III	0.77

Orange Proposed Bikeways

Street/Path	From	To	Class	Mileage
Collins Ave. / Walnut Ave.	Collins Ave.	Walnuts Ave.	Class I	0.49
Glassell St. / Main St.	Glassell St.	W Main St.	Class I	1.87
Hewes St.	City Limit (Prospect Ave.)	City Limit (Julie Ave.)	Class I	1.24
Jamboree Rd.	Santiago Canyon Rd.	Canyon View Ave.	Class I	0.79
Main St. / Chapman Ave.	Main St.	Chapman Ave.	Class I	1.36
OCTA Metrolink RR / Batavia St.	OCTA Metrolink RR	W Batavia St.	Class I	1.49
Palmyra Ave. / Fairhaven Ave.	Palmyra Ave.	Fairhaven Ave.	Class I	1.24
Palmyra Ave. / James St.	Palmyra Ave.	James St.	Class I	0.23
Path 1	City Limit (S Santiago Blvd.)	City Limit (S Villa Park Access)	Class I	2.39
Path 2	Hewes St.	City Limit (W Orange Park Blvd.)	Class I	1.31
Shaffer St. / Nordig Pl.	Shaffer St.	N Nordgi Pl.	Class I	0.66
Tustin St.	Taft Ave.	Taft Ave.	Class I	0.11
UP RR / Arden Villa Dr.	W Main St.	Villa Park City Limit (W Sunkist Cir.)	Class I	2.53
Walnut Ave. / Tustin St.	W Walnut Ave.	W Tustin St.	Class I	1.43
Batavia St.	Chapman Ave.	La Veta Ave.	Class II	0.51
Cambridge St.	Lake Dr.	Santa Ana City Limit (S Fairway Dr.)	Class II	0.09
Cannon St.	Santiago Canyon Rd.	Patria Ct.	Class II	0.47
Canyon View Ave.	Chapman Ave.	Out rider St.	Class II	0.83
Canyon View Ave.	Newport Blvd.	Jamboree Rd.	Class II	0.78
Chapman Ave.	Hewes St.	Cannon St.	Class II	0.57
Collins Ave.	Handy St.	Wanda Rd.	Class II	0.29
Crawford Canyon Rd.	Chapman Ave.	City Limits	Class II	0.01
Escola	Meats Ave.	Cannon St.	Class II	1.11
Esplanade St.	La Veta Ave.	Fairhaven Ave.	Class II	1.37
Fairhaven Ave.	Costa Mesa Fwy.	Yorba St.	Class II	0.23
Fletcher St.	Batavia St.	Glassell St.	Class II	0.51
Garden Grove Blvd.	Lewis St.	Santa Ana City Limit	Class II	0.54

Street/Path	From	To	Class	Mileage
Hewes St.	City Limit (Pearl Ave.)	Fowler Ave.	Class II	0.75
Hewes St.	Walnut Ave.	City Limit (S Drew Wy.)	Class II	0.16
Katella Ave.	Handy St.	Wanda Rd.	Class II	0.29
La Veta Ave.	Batavia St.	Parker St.	Class II	0.12
La Veta Ave.	City Limit Santa Ana (Santa	Bedford Rd.	Class II	0.51
La Veta Ave. / Rock Creek Dr.	E Sedona Dr.	Esplanade St.	Class II	1.61
Lewis St.	Anaheim City Limit (N Tiller Ave.)	Garden Grove Blvd.	Class II	1.24
Lincoln Av / Nohl Ranch Rd.	City Limit (E Berkeley St.)	Anaheim City Limit (E Wyngate Rd.)	Class II	1.64
Main St.	Taft Ave.	Palm Ave.	Class II	1.67
Meats Ave.	Anaheim City Limit (W Westfield Ct.)	Villa Park City Limit (W Stone Pine Rd.)	Class II	1.04
Meats Ave.	Glassell St.	Villa Park City Limit (Santiago Blvd.)	Class II	1.57
Newport Blvd.	Chapman Ave.	City Limit (S Skylark Pl.)	Class II	0.91
Orangewood Ave. / Walnut Ave.	W Orange Frwy.	Shaffer St.	Class II	1.81
Parker St.	La Veta Ave.	Santa Ana City Limit (S Town And County Rd.)	Class II	0.38
Prospect St.	Spring St.	City Limit (Fairhaven Ave.)	Class II	1.23
Rancho Santiago Blvd.	Bond Ave.	City Limit (S Sycamore Ave.)	Class II	0.45
Rancho Santiago Blvd.	City Limit (Pearl Ave.)	Chapman Ave.	Class II	0.06
Santiago Blvd.	Anaheim City Limit (E Costa Mesa Frwy)	Lincoln Ave.	Class II	0.25
Serrano Ave.	Cannon St.	Anaheim City Limit Anaheim (E Kendra Dr.)	Class II	2.14
Spring St.	Walnut Ave.	City Limit (E Esplanade St.)	Class II	1.00
Spring St.	City Limit (Earlham St.)	City Limit (Hewes St.)	Class II	0.12
Taft Ave.	Main St.	Hart St.	Class II	2.64
Tustin Ave.	Santa Ana Canyon Rd.	Lincoln Ave.	Class II	0.58
Tustin Ave.	Fairhaven Ave.	City Limits Santa Ana	Class II	0.01
Walnut Ave.	Handy St.	Spring St. Bikeway	Class II	0.28
Almond Ave.	Feldner Rd.	Cambridge St.	Class III	1.50
Batavia St.	Palm Ave.	Chapman Ave.	Class III	0.25
Bedford Rd.	Palmyra Ave.	La Veta Ave.	Class III	0.25
Feldner Rd.	Almond Ave.	Palmyra Ave.	Class III	0.14
Glassell St.	Katella Ave.	Palm Ave.	Class III	1.21
Glassell St.	Almond Ave.	La Veta Ave.	Class III	0.38
Grand St.	Palm Ave.	Almond Ave.	Class III	0.37
Lemon St.	Palm Ave.	Almond Ave.	Class III	0.38

Street/Path	From	To	Class	Mileage
Lincoln St.	Walnut Ave.	Palm Ave.	Class III	0.25
Palm Ave.	Main St.	Lincoln St.	Class III	1.65
Palmyra Ave.	Feldner Rd.	Bedford Rd.	Class III	0.06
Palmyra Ave.	Costa Mesa Fwy.	Palmyra Ave. / Fairhaven Ave. Bikeway	Class III	0.47
			TOTAL	56.80

Orange Proposed Bikeway Cost Estimates

Facility	Miles	Unit Cost (per mile)	Total
Class I	17.14	$1,500,000	$25,710,000
Class II	31.76	$280,000	$8,892,800
Class III	7.93	$21,000	$166,530
		Total	$34,769,330

3.24. Placentia

Placentia is a fast-growing community with beautiful suburban homes, good schools, stately churches, and wholesome recreation. The climate and rich land attracted an ever-growing number of new residents.

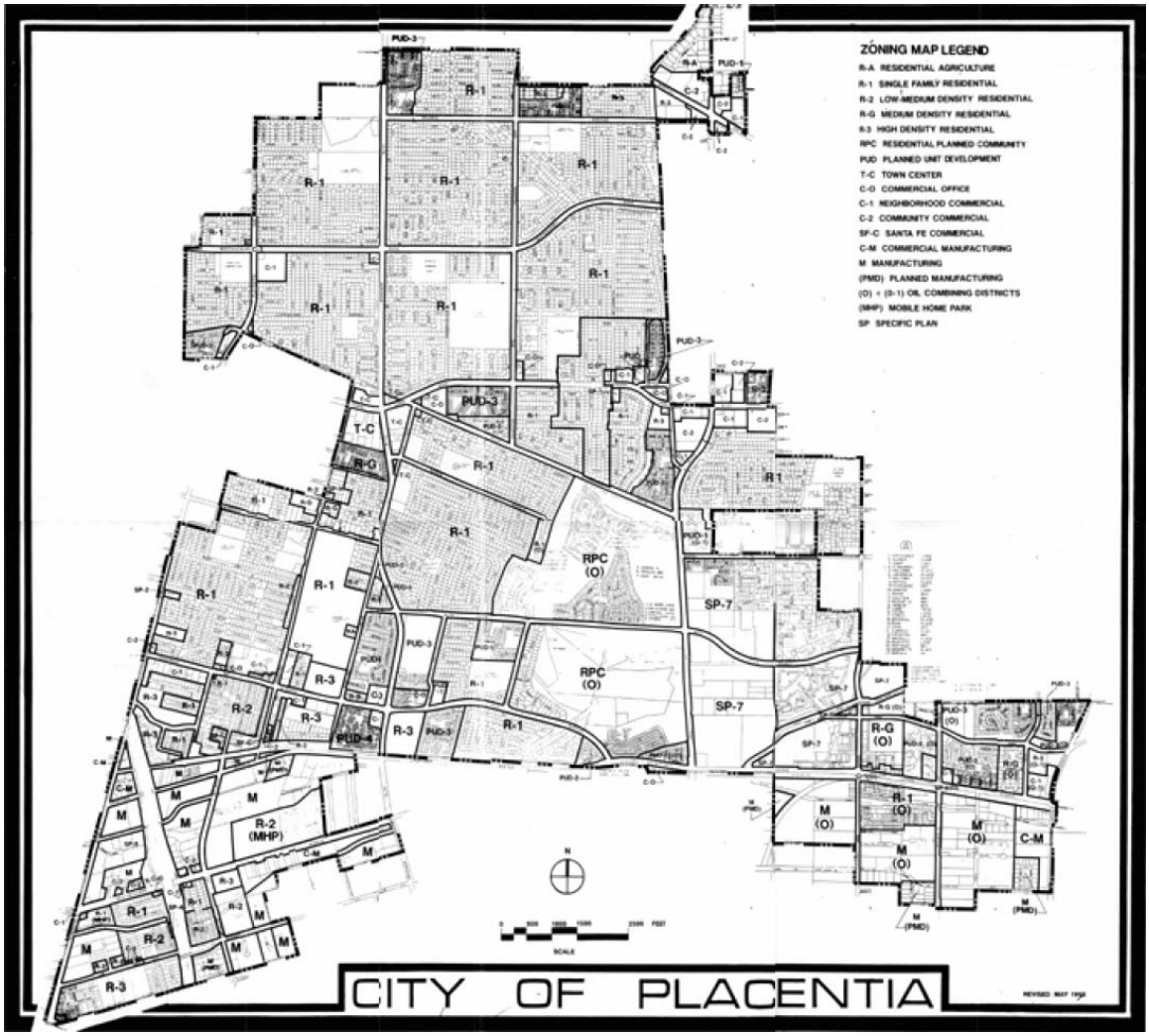
Population

52,450 (Source: City of Placentia, 2008)

Estimated Number of Bicycle Commuters

Estimated Bicycle Commuters	Number
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	512
Estimated Adjusted Mode Share	1.6%
Estimated Current Bicycle Trips	
Total Daily Bicycle Trips	1,024
Reduced Vehicle Trips per Weekday	684
Reduced Vehicle Miles per Weekday	2,454
Future Potential Bicycle Commuters	
Future number of new bicycle commuters	220
Total Future Daily Bicycle Commuters	732
Future Total Daily Bicycle Trips	1,464
Future Reduced Vehicle Trips per Weekday	1,068
Future Reduced Vehicle Miles per Weekday	4,915
Future Reduced Vehicle Miles per Year	1,302,392
Future Air Quality Benefits	
Reduced HC (metric tons/year)	8
Reduced CO (metric tons/year)	26
Reduced NOX (metric tons/year)	2
Reduced CO2 (metric tons/year)	138,533
Emissions rates from EPA report 420-F-00-013 "Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks." 2000.	

Map 3.24 Placentia Land Use



Collisions Involving Bicyclists

Parameter	Collision Rate
Total # of Bicycle Collisions for 5 Years	82
Average # of Bicycle Collisions Per Year	16.4
Average Bicycle Collision Rate per 1000/year[1]	0.33
Index (relative to statewide average of 0.32 /1000)[2]	1.02

Notes:
1. Rate is calculated using SWITRS collision data and population figures provided by the U.S. Census Bureau.
2. The Index is based on a ratio of the local collision rate and the statewide collision rate. An index greater than one (1.0) indicates that the local accident rate is higher than the statewide average.

End-of-Trip Facilities

Information on existing and proposed end-of-trip facilities is not available.

Multimodal Facilities

Mode	Location	Facility Type
OCTA Buses	City-wide	Bicycle racks on buses

Safety and Education Programs

The City of Placentia does not have bicycle safety and education programs.

Expenditures

Information on past bicycle facility expenditures is not available.

Bicycle Transportation Plan

Bicycle facility planning is documented in the Placentia Bike Path map.

Bikeways

Placentia Existing Bikeways

Street/Path	From	To	Class	Mileage
Tri-City Park Path	N/A	N/A	Class I	.86 miles
Golden Ave.	Kraemer Blvd.	Placentia City Limit	Class II	1.00 miles
Bastanchury Rd.	Western City Limit	Eastern City Limit	Class II	1.80 miles
Kraemer Blvd.	Northern City Limit	Yorba Linda Blvd.	Class II	1.10 miles
Valencia Ave.	Northern City Limit	Palm Dr	Class II	1.30 miles
Palm Ave.	Yorba Linda Blvd.	Rose Dr	Class II	1.10 miles
Primrose Ave.	Placentia Ave.	Twilight St.	Class III	.20 miles
Angelina Dr.	Palm Dr.	Kraemer Blvd.	Class III	.40 miles
Twilight St.	Primrose Ave.	Ruby Dr.	Class III	.30 miles
Ruby Dr.	Twilight St.	Bradford Ave	Class III	.50 miles
Bradford Ave.	Ruby Dr.	Madison Ave.	Class III	.20 miles
Chapman Ave.	Placentia Ave.	Kraemer Blvd.	Class III	1.00 miles
Bradford Ave.	Chapman Ave.	Crowther Ave.	Class III	.30 miles

Street/Path	From	To	Class	Mileage
Melrose St.	Crowther Ave.	La Jolla St.	Class III	.60 miles
			TOTAL	10.66 miles

Regional Priority Proposed Bikeways

Street/Path	From	To	Class	Mileage
Orangethorpe Ave.	Chapman Ave.	Anaheim City Limits (W Lakeview Ave.)	Class II	2.92

Placentia Proposed Bikeways

Street/Path	From	To	Class	Mileage
Placentia Ave. / Kraemer Blvd.	Anaheim City Limit (W Placentia Ave.)	Anaheim City Limit (Kraemer Blvd.)	Class I	1.09
Bradford Ave.	Carlson Ln.	Center St.	Class II	0.87
Chapman Ave.	Fullerton City Limit (W Placentia Ave.)	Orangethorpe Ave.	Class II	1.87
Kraemer Blvd.	La Brea City Limit	Golden Ave.	Class II	1.43
Melrose St.	Crowther Ave.	Orangethorpe Ave.	Class II	0.38
Richfield Rd.	Orangethorpe Ave.	Las Brisas Pl.	Class II	0.39
Rose Dr.	Yorba Linda City Limit (S Yorba Linda Blvd)	Palm Dr.	Class II	0.44
Rose Dr.	Alta Vista Dr.	Oranthorpe Ave.	Class II	0.53
Rose Dr.	Imperial Hwy.	Yorba Linda City Limit	Class II	0.07
Yorba Linda Blvd.	Fullerton City Limit (Bradford Av)	City Limit (E Kilts Ave.)	Class II	0.82
Yorba Linda Blvd.	City Limit (W Mac Cormack Ln.)	Yorba Linda City Limit (W Linda Vista Wy.)	Class II	0.27
Yorba Linda Blvd.	Yorba Linda City Limit (E Rose Dr)	Yorba Linda City Limit (W Prospect Av)	Class II	0.20
Buena Vista Ave.	Petry Dr.	Jefferson St.	Class III	0.11
Jefferson St.	Yorba Linda City Limit (N Zion Av)	Yorba Linda City Limit (N Carlsbad Av)	Class III	0.19
Madison Ave.	Bradford Ave.	Kraemer Blvd.	Class III	0.26
Richfield Rd.	Yorba Linda City Limit (S Mariposa Av)	Orchard Dr.	Class III	0.09
			TOTAL	11.94miles

Placentia Proposed Bikeway Cost Estimates

Facility	Miles	Unit Cost (per mile)	Total
Class I	1.09	$1,500,000	$1,635,000
Class II	10.19	$280,000	$2,853,200
Class III	0.65	$21,000	$13,650
		Total	$4,501,850

3.25. Rancho Santa Margarita

Rancho Santa Margarita has one employment center and many newer housing developments. Rancho Santa Margarita has experienced rapid development over the past fifteen years, primarily in the residential market. The City contains portions of O'Neill Regional Park, which runs along Trabuco Canyon through the City.

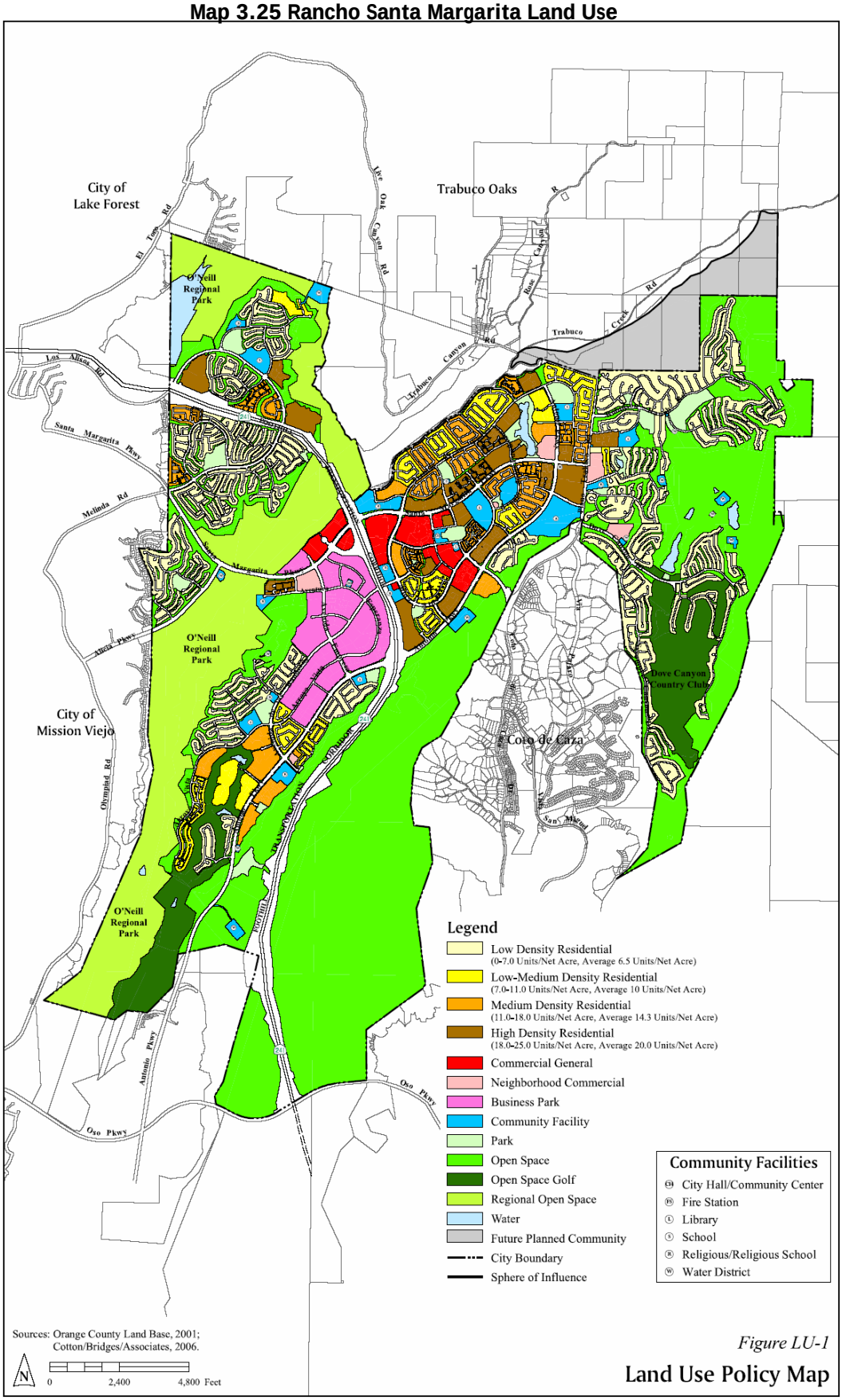
Population

50,618

Estimated Number of Bicycle Commuters

Estimated Bicycle Commuters	Number
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	356
Estimated Adjusted Mode Share	1.0%
Estimated Current Bicycle Trips	
Total Daily Bicycle Trips	712
Reduced Vehicle Trips per Weekday	438
Reduced Vehicle Miles per Weekday	1,124
Future Potential Bicycle Commuters	
Future number of new bicycle commuters	179
Total Future Daily Bicycle Commuters	535
Future Total Daily Bicycle Trips	1,069
Future Reduced Vehicle Trips per Weekday	781
Future Reduced Vehicle Miles per Weekday	3,591
Future Reduced Vehicle Miles per Year	951,555
Future Air Quality Benefits	
Reduced HC (metric tons/year)	3
Reduced CO (metric tons/year)	19
Reduced NOX (metric tons/year)	1
Reduced CO2 (metric tons/year)	101,215
Emissions rates from EPA report 420-F-00-013 "Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks." 2000.	

Map 3.25 Rancho Santa Margarita Land Use



Collisions Involving Bicyclists

Parameter	Collision Rate
Total # of Bicycle Collisions for 5 Years	19
Average # of Bicycle Collisions Per Year	3.8
Average Bicycle Collision Rate per 1000/year[1]	0.08
Index (relative to statewide average of 0.32 /1000)[2]	0.23

Notes:
1. Rate is calculated using SWITRS collision data and population figures provided by the U.S. Census Bureau.
2. The Index is based on a ratio of the local collision rate and the statewide collision rate. An index less than one (1.0) indicates that the local accident rate is lower than the statewide average.

End-of-Trip Facilities

Information on existing and proposed end-of-trip facilities is not available.

Multimodal Facilities

Mode	Location	Facility Type
OCTA Buses	City-wide	Bicycle racks on buses

Safety and Education Programs

The City of Rancho Santa Margarita does not have bicycle safety and education programs.

Expenditures

Information on past bicycle facility expenditures is not available.

Bicycle Transportation Plan

Bicycle facilities are addressed in the General Plan Circulation Element.

Bikeways

Rancho Santa Margarita Existing Bikeways

Street	From	To	Class	Mileage
Santa Margarita Pkwy	*	*	Class I	*
Trabuco Canyon	*	*	Class I	*
Santa Margarita Pkwy	*	*	Class II	*
Alicia Pkwy	*	*	Class II	*
Antonio Pkwy	*	*	Class II	*
Oso Pkwy	*	*	Class II	*
Avenida Empresa	*	*	Class II	*
* Information not provided.				

Rancho Santa Margarita Proposed Bikeways

Street/Path	From	To	Class	Mileage
Foothill Transportation Corridor / Santa Margarita Pkwy.	E Foothill Transportation Corridor	S Santa Margarita Pkwy.	Class I	1.07
Trabuco Canyon Rd.	W. Paraiso	City Limit (N Tijeras Canyon Rd.)	Class I	1.83
Antonio Pkwy. / Rosa Canyon Rd.	City Limit (S Trabuco Canyon Rd.)	Santa Margarita Pkwy.	Class II	0.67
			TOTAL	3.57miles

Rancho Santa Margarita Proposed Bikeway Cost Estimates

Facility	Miles	Unit Cost (per mile)	Total
Class I	2.90	$1,500,000	$4,350,000
Class III	0.67	$21,000	$14,070
		Total	$4,364,070

3.26. San Clemente

San Clemente is the southernmost city in Orange County. The City is home to miles of beaches, which are popular in the summer months. Many of the City's coastal neighborhoods are older, and many of the inland areas are newer, with recent new housing construction and construction planned in the future. Some of San Clemente's destinations are located along the arterial streets, including El Camino Real, Avenida Pico, and Camino de Los Mares.

Population

61,050

Estimated Number of Bicycle Commuters

Estimated Bicycle Commuters	Number
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	377
Estimated Adjusted Mode Share	1.2%
Estimated Current Bicycle Trips	
Total Daily Bicycle Trips	755
Reduced Vehicle Trips per Weekday	487
Reduced Vehicle Miles per Weekday	1,552
Future Potential Bicycle Commuters	
Future number of new bicycle commuters	307
Total Future Daily Bicycle Commuters	684
Future Total Daily Bicycle Trips	1,368
Future Reduced Vehicle Trips per Weekday	999
Future Reduced Vehicle Miles per Weekday	4,595
Future Reduced Vehicle Miles per Year	1,217,680
Future Air Quality Benefits	
Reduced HC (metric tons/year)	7
Reduced CO (metric tons/year)	25
Reduced NOX (metric tons/year)	2
Reduced CO2 (metric tons/year)	129,522
Emissions rates from EPA report 420-F-00-013 "Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks." 2000.	

Map 3.26 San Clemente Land Use

Collisions Involving Bicyclists

Parameter	Collision Rate
Total # of Bicycle Collisions for 5 Years	63
Average # of Bicycle Collisions Per Year	12.6
Average Bicycle Collision Rate per 1000/year[1]	0.20
Index (relative to statewide average of 0.32 /1000)[2]	0.63

Notes:
1. Rate is calculated using SWITRS collision data and population figures provided by the U.S. Census Bureau.
2. The Index is based on a ratio of the local collision rate and the statewide collision rate. An index less than one (1.0) indicates that the local accident rate is lower than the statewide average.

End-of-Trip Facilities

Location	Type
Ole Hanson Beach Club	Bicycle racks Showers
La Pata/Vista Hermosa Park	Bicycle racks Showers Lockers
Municipal Parks	Bicycle racks

Multimodal Facilities

Mode	Location	Facility Type
OCTA Buses	City-wide	Bicycle racks on buses
Metrolink/Rideshare/Bus	San Clemente Station 1850 Avenida Estacion	Bicycle racks on trains and buses
Metrolink/Amtrak	San Clemente Pier Station 615 Avenida Victoria	Bicycle racks on trains

Safety and Education Programs

Active	Yes
# Of Years Conducted	
# Of Times a Year Conducted	Varies based on funding and time.
Administered by	Sheriff's Department
Location	Schools
Program, Curriculum, and Activities	Assemblies; bicycle rodeos; free helmets; Curriculum: proper hand signals, equipment, lane and traffic sign obedience, proper bike condition, information packets
Other Bicycle Safety Support Programs	
Total # of Children Reached	Varies from year to year
Age of Children Reached	Elementary school students
Other Program Notes	

Expenditures

Information on past bikeway expenditures is not available.

Bicycle Transportation Plan

Bicycle planning can be found in San Clemente's General Plan.

Bikeways

San Clemente Existing Bikeways

Street	From	To	Class	Mileage
Camino de Los Mares	Portico del Norte	Calle Nuevo	Class I	*
Camino del Rio	Camino de Los Mares	Avenida La Pata	Class I	*
Avenida Talega	City border	Avenida Vista Hermosa	Class I	*
Avenida Vista Hermosa	Camino Vera Cruz*	Avenida Pico	Class I	*
Avenida La Pata	City border	Avenida Pico	Class I	*
Avenida Pico	Calle del Cerro	City border	Class I	*
Camino de los Mares	Camino del Rio	Avenida Vaquero	Class II	*
Avenida Pico	Avenida La Pata	Calle del Cerro	Class II	*
Avenida Vaquero	Camino de Los Mares	Camino Capistrano	Class II	*
Avenida Vista Hermosa	*	*	Class II	*
Pacific Coast Highway/El Camino Real	Northwest of Camino Capistrano	Avenida Pico	Class II	*
Avenida del Presidente	Avenida Valencia	Avenida de Las Palmeras	Class II	*
Avenida La Pata	Avenida Pico	Calle Extremo	Class II	*
Camino Vera Cruz	Camino de Los Mares	Avenida Vista Hermosa	Class II	*
Avenida Pico	Calle de Los Molinos	El Camino Real	Class III	*
Calle Puente/Ola Vista *	*	*	Class III	*
* Information not provided.				

Regional Priority Proposed Bikeways

Street/Path	From	To	Class	Mileage
Avenida Vista Hermosa	Avenida La Pata	Avenida Pico	Class I	1.01

San Clemente Proposed Bikeways

Street/Path	From	To	Class	Mileage
Avenida La Pata	Camino Del Rio	Calle Saluda	Class I	0.15
Avenida Pico	E Camino La pedriza	W Foothill Transportation Corr	Class I	0.14
Avenida La Pata / Camino Del Rio	Avenida La Pata	Camino Del Rio	Class I	0.71
Avenida Capistrano	Avenida Vaquero	Coast Hwy.	Class II	0.12
Camino Del Rio	E Camino Forestal	Avenida La Pata	Class II	0.27
El Camino Real	Avenida Pico	Avenida del Presidente	Class II	2.70

Street/Path	From	To	Class	Mileage
Camino de Estrella / Camino de los Mares	Avenida Vista Hermosa	Avenida Vaquero	Class II	1.22
Avenida del Mar / Avenida Victoria / Avenida Madrid	Calle Seville	S Ola Vista	Class II	0.71
Camino de los Mares / Las Ramblas	Las Ramblas	Camino de los Mares	Class II	0.36
Ola Vista	Avenida Madrid	Avenida Gaviota	Class II	0.45
Avenida Palizada	Avenida Miramar	Calle Seville	Class II	0.13
Path 1	City Limit	S Talega Rd	Class II	0.14
Path 2	City Limit	Talega Rd	Class II	0.27
Avenida Pico	Avenida Navarro	El Camino Real	Class II	0.62
Calle Puente	Avenida Pelayo	Avenida Palizada	Class II	0.48
Calle Sarmentoso	Camino Del Rio	Camino Vera Cruz	Class II	0.84
Calle Seville	Avenida Palizada	Avenida del Mar	Class II	0.10
Talega Rd.	N Calle Portofino	Avenida Vista Hermosa	Class II	0.34
Avenida Valencia	El Camino Real	Avenida del Presidente	Class II	0.06
Camino Vera Cruz	Calle Aquamarina	Avenida Pico	Class II	0.58
Camino Vera Cruz / Vista	Carretera	Vista Hermosa	Class II	0.65
Avenida Acapulco	Avenida San Pablo	Avenida Adobe	Class III	0.10
Avenida Adobe	Avenida Acapulco	Calle Bahia	Class III	0.22
Calle Amanecer	Avenida Pico	Calle Cordillera	Class III	0.38
Calle Bahia	Avenida Adobe	Avenida Santa Margarita	Class III	0.36
Calle Cordillera	Calle Amanecer	N Calle Sol	Class III	0.41
Camino El Molino	San Juan Capistrano City Limit	Dana Point City Limit	Class III	0.01
Camino El Molino	Dana Point City	N Camino de Estrella	Class III	0.02
Calle Frontera	Corte Calamar	Avenida Pico	Class III	1.03
Ola Vista	Avenida Magdalena	Avenida Calafia	Class III	0.32
Avenida Pico	Avenida Presidio	Avenida Navarro	Class III	0.53
Avenida San Pablo	Avenida Acapulco	El Camino Real	Class III	1.11
Avenida Santa Margarita	Calle Bahia	Avenida San Luis Rey	Class III	0.42
Avenida Vista Hermosa	Calle Frontera	Camino Verra Cruz / Avenida Vista Hermosa Bikeway	Class III	0.21
Avenida Vista Hermosa	I-5 S Exit 77	Avenida Pico	Class III	0.67
Avenida Vista Hermosa / El Camino Real	Avenida Vista Hermosa	El Camino Real	Class III	0.90
			TOTAL	18.75miles

San Clemente Proposed Bikeway Cost Estimates

Facility	Miles	Unit Cost (per mile)	Total
Class I	2.01	$1,500,000	$3,015,000
Class II	10.04	$280,000	$2,811,200
Class III	6.69	$21,000	$140,490
		Total	$5,966,690

3.27. San Juan Capistrano

San Juan Capistrano is an older established community in South County. The City is most famous for its Mission located in the downtown area of the City. The downtown area is popular with residents and visitors alike featuring a quaint restaurant and shopping district. Development in San Juan Capistrano has occurred less rapidly over the past two decades as in the rest of the South County region. Most of its development has been residential with some commercial located in the downtown area.

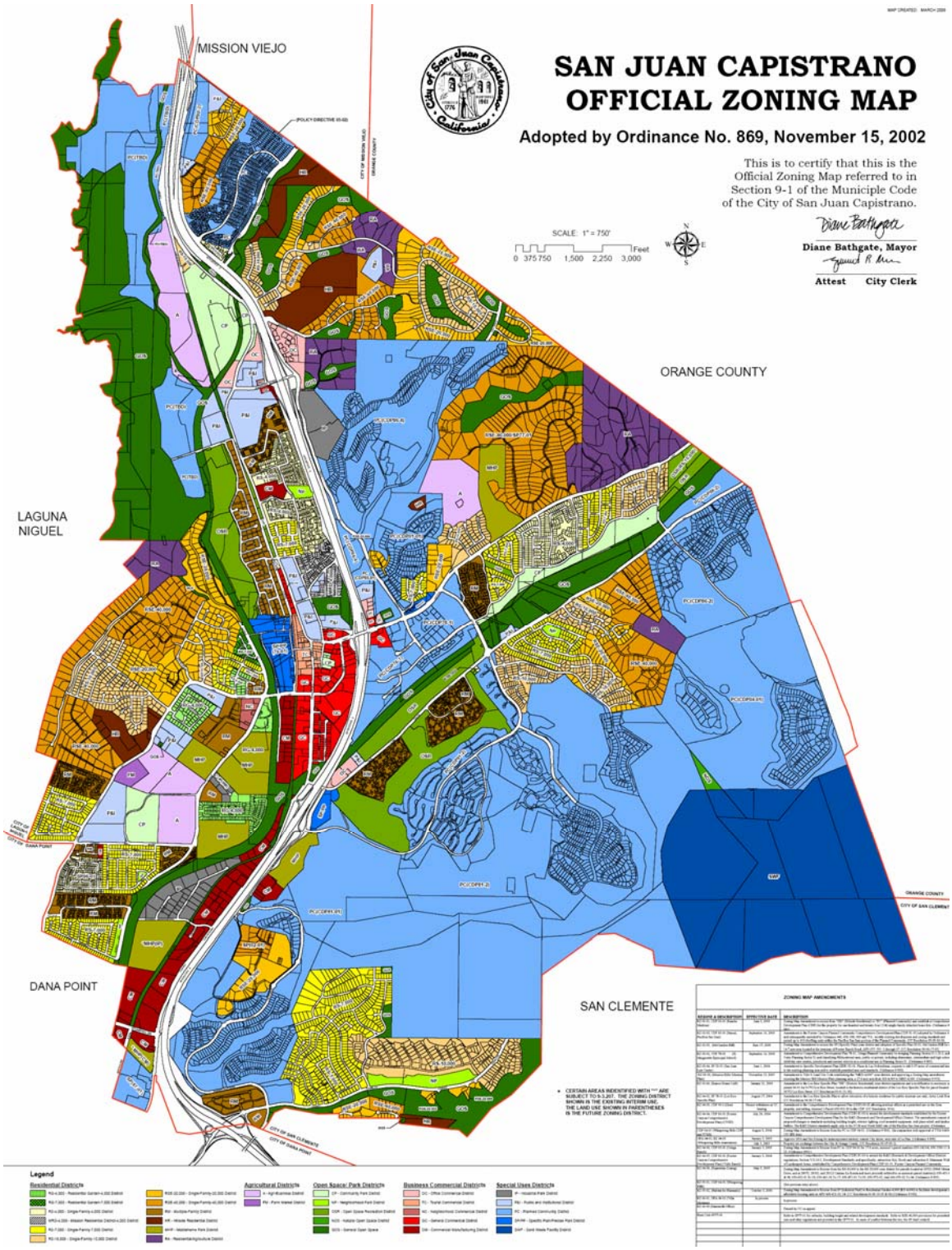
Population

34,839

Estimated Number of Bicycle Commuters

Estimated Bicycle Commuters	Number
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	288
Estimated Adjusted Mode Share	1.4%
Estimated Current Bicycle Trips	
Total Daily Bicycle Trips	577
Reduced Vehicle Trips per Weekday	372
Reduced Vehicle Miles per Weekday	1,178
Future Potential Bicycle Commuters	
Future number of new bicycle commuters	158
Total Future Daily Bicycle Commuters	446
Future Total Daily Bicycle Trips	892
Future Reduced Vehicle Trips per Weekday	651
Future Reduced Vehicle Miles per Weekday	2,995
Future Reduced Vehicle Miles per Year	793,682
Future Air Quality Benefits	
Reduced HC (metric tons/year)	5
Reduced CO (metric tons/year)	16
Reduced NOX (metric tons/year)	1
Reduced CO2 (metric tons/year)	84,422
Emissions rates from EPA report 420-F-00-013 "Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks." 2000.	

Map 3.27 San Juan Capistrano Land Use



Collisions Involving Bicyclists

Parameter	Collision Rate
Total # of Bicycle Collisions for 5 Years	39
Average # of Bicycle Collisions Per Year	7.8
Average Bicycle Collision Rate per 1000/year[1]	0.22
Index (relative to statewide average of 0.32 /1000)[2]	0.69

Notes:
1. Rate is calculated using SWITRS collision data and population figures provided by the U.S. Census Bureau.
2. The Index is based on a ratio of the local collision rate and the statewide collision rate. An index lower than one (1.0) indicates that the local accident rate is lower than the statewide average.

End-of-Trip Facilities

Location	Type
San Juan Capistrano Community Center and Sports Park	Not provided by City

Multimodal Facilities

Mode	Location	Facility Type
OCTA Buses	City-wide	Bicycle racks on buses
Rideshare	Junipero Serra North Lot Junipero Serra Rd/I-5	
Rideshare	Junipero Serra South Lot Junipero Serra Rd/I-5	
Metrolink/Amtrak/Rideshare/Bus	San Juan Capistrano Station 26701 Verdugo St	Bicycle racks on trains and buses

Safety and Education Programs

Active	Yes
# Of Years Conducted	
# Of Times a Year Conducted	
Administered by	Police Department
Location	Schools
Program, Curriculum, and Activities	Bicycle rodeos
Other Bicycle Safety Support Programs	Free bicycle helmets
Total # of Children Reached	
Age of Children Reached	
Other Program Notes	Not a regular program

Expenditures

Information on past bicycle facility expenditures is not available.

Bicycle Transportation Plan

San Juan Capistrano has bicycle plans that are not part of a Master or General Plan.

Bikeways

San Juan Capistrano Existing Bikeways

Street	From	To	Class	Mileage
Rancho Viejo Rd.	*	*	Class I	*
San Juan Creek Rd.	*	*	Class I	*
Camino del Avion	*	*	Class I	*
Camino Capistrano	*	*	Class I	*
San Juan Creek	*	*	Class I	*
Trabuco Creek	*	*	Class I	*
San Juan Creek Rd.	*	*	Class II	*
Del Obispo St.	*	*	Class II	*
Alipaz St.	*	*	Class II	*
Camino Capistrano	*	*	Class II	*
La Zanja St.	*	*	Class III	*
Avenida de La Vista	*	*	Class III	*
* Information not provided.				

Regional Priority Proposed Bikeways

Street/Path	From	To	Class	Mileage
Las Ramblas / PCH	San Clemente City Limit	San Diego Frwy.	Class II	2.00

San Juan Capistrano Proposed Bikeways

Street/Path	From	To	Class	Mileage
Forster Canyon Rd. / Via California	San Juan Creek Rd.	Camino Las Ramblas	Class I	2.58
La Novia Rd.	Forster Canyon Rd.	La Novia Ave.	Class I	0.13
Path 1	N San Juan Creek Rd.	City Limit (S Ortega Hwy)	Class I	0.29
Path 2	Mission Viejo City Limit	Path 4	Class I	1.46
Path 3	Laguna Niguel City Limit	Path 4	Class I	1.74
Path 4	N Oso Rd.	N Ramos St.	Class I	1.22
Vivente de Marlita / Camino Capistrano	Vivente de Marlita	Camino Capistrano	Class I	0.32
Camino del Avion	Parkside Wy.	E Alipaz St.	Class II	0.65
Camino Capistrano	Calle Lorenzo	San juan Creek Rd.	Class II	1.57
Del Obispo St.	Ortega Hwy.	Ramos St.	Class II	0.53
La Pata Ave. / Mares	La Pata Ave.	Mares	Class II	1.48
Ortega Hwy.	Capistrano	City Limit (W Horno Rd.)	Class II	2.16
Rancho Viejo Rd.	S Path 2	Calle Arroyo	Class II	2.07
San Juan Creek Rd.	La Novia Ave.	Paseo Christina	Class II	0.72
Stonehill Dr.	Dana Point City Limit	OCTA Metro Link RR	Class II	0.10
Camino Capistrano	Dana Point City Limit	Via Serra	Class III	0.10
Mares	San Clemente City Limit	San Clemente City Limit (N Portico Del Norte)	Class III	0.60
			TOTAL	19.71miles

San Juan Capistrano Proposed Bikeway Cost Estimates

Facility	Miles	Unit Cost (per mile)	Total
Class I	7.74	$1,500,000	$11,610,000
Class II	11.28	$280,000	$3,158,400
Class III	0.70	$21,000	$14,700
		Total	$14,783,100

3.28. Santa Ana

Santa Ana is the seat of County government and the largest city in Orange County. County government offices are located in the City's Civic Center downtown. The City is also home to Santa Ana College, the Santa Ana Zoo, and the Main Place and Bristol Marketplace shopping centers. The City is one of the oldest and established cities in Orange County. Most of the City's destinations and services are located along the arterial street network

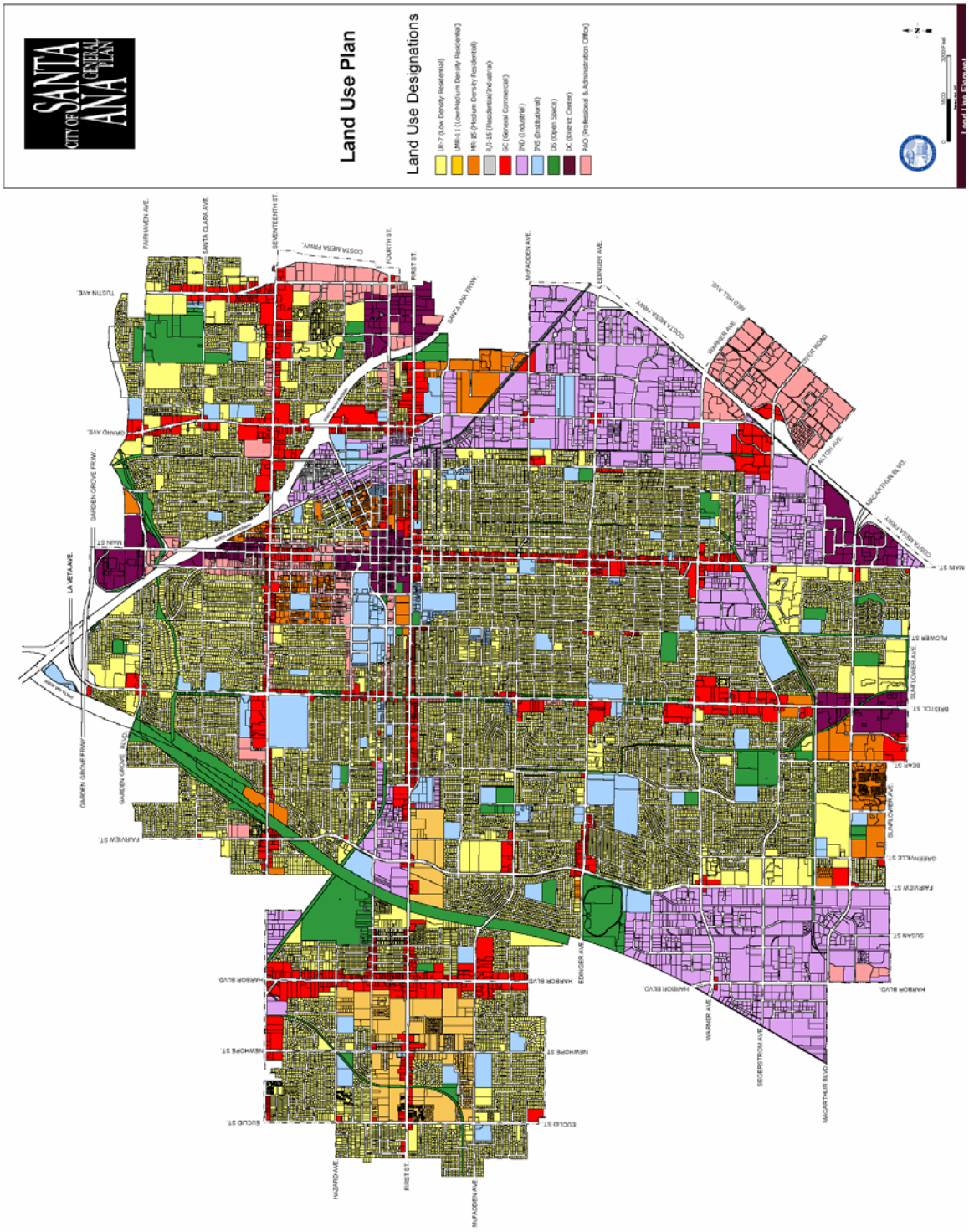
Population

337,977

Estimated Number of Bicycle Commuters

Estimated Bicycle Commuters	Number
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	4,317
Estimated Adjusted Mode Share	2.2%
Estimated Current Bicycle Trips	
Total Daily Bicycle Trips	8,634
Reduced Vehicle Trips per Weekday	5,734
Reduced Vehicle Miles per Weekday	20,204
Future Potential Bicycle Commuters	
Future number of new bicycle commuters	641
Total Future Daily Bicycle Commuters	4,958
Future Total Daily Bicycle Trips	9,917
Future Reduced Vehicle Trips per Weekday	7,239
Future Reduced Vehicle Miles per Weekday	33,300
Future Reduced Vehicle Miles per Year	8,824,570
Future Air Quality Benefits	
Reduced HC (metric tons/year)	53
Reduced CO (metric tons/year)	178
Reduced NOX (metric tons/year)	12
Reduced CO2 (metric tons/year)	938,652
Emissions rates from EPA report 420-F-00-013 "Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks." 2000.	

Map 3.28 Santa Ana Land Use



Collisions Involving Bicyclists

Parameter	Collision Rate
Total # of Bicycle Collisions for 5 Years	646
Average # of Bicycle Collisions Per Year	129.2
Average Bicycle Collision Rate per 1000/year[1]	0.38
Index (relative to statewide average of 0.32 /1000)[2]	1.16

Notes:
1. Rate is calculated using SWITRS collision data and population figures provided by the U.S. Census Bureau.
2. The Index is based on a ratio of the local collision rate and the statewide collision rate. An index greater than one (1.0) indicates that the local accident rate is higher than the statewide average.

End-of-Trip Facilities

Location	Type
Civic Center	Bicycle racks

The Downtown Public Urban Design Guidelines suggest that Bicycle racks be provided at key activity locations, attractions, and other points of interest.

Multimodal Facilities

Mode	Location	Facility Type
OCTA Buses	City-wide	Bicycle racks on buses
Metrolink/Amtrak/Rideshare/Bus	Santa Ana Station 1000 E Santa Ana Blvd	Bicycle racks(18)/lockers(5) Bicycle racks on trains and buses

Safety and Education Programs

Active	Yes
# Of Years Conducted	
# Of Times a Year Conducted	All year long
Administered by	Police Department
Location	Schools
Program, Curriculum, and Activities	Bicycle, Pedestrian, and Automobile Safety Program
Other Bicycle Safety Support Programs	
Total # of Children Reached	Approximately 34,000 per year
Age of Children Reached	
Other Program Notes	Not a regular program

Expenditures

Information on past bicycle facility expenditures is not available.

Bicycle Transportation Plan

Santa Ana has a Bicycle Master Plan as part of the Circulation Element in its General Plan.

Bikeways

Santa Ana Existing Bikeways

Street/Path	From	To	Class	Mileage
Santa Ana River Pathway	Edinger Ave.	Northern City Limit	Class I	*
Pacific Electric Rail Path	17th St.	Raitt St.	Class I	*
Santiago Creek Path	Memory Ln.	Northern City Limit	Class I	*
Eastern OCFCD-Raitt Pathway	Alton Pkwy.	Mc Fadden Ave.	Class I	*
Alton-Maple Pathway	Susan St.	Chestnut Ave.	Class I	*
5th-Chestnut Connector	5th St.	Chestnut Ave.	Class I	*
Flower St.	Warner Ave.	Main St.	Class I	*
Mac Arthur Blvd	Santa Ana River Path	Harbor Blvd.	Class I	*
Memory Ln.	East of Santa Ana River	Bristol St.	Class II	*
Westminster Ave.	Newhope St.	Tustin Ave.	Class II	*
First St.	New Hope St.	Santa Ana River Path	Class II	*
Civic Center Dr.	Western OCFCD	Pacific Electric Rail Path	Class II	*
4th St.	Raitt St.	Grand Ave.	Class II	*
Chestnut Ave.	Maple St.	5 Fwy	Class II	*
Mc Fadden Ave.	Western City Limit	Maple St.	Class II	*
Edinger Ave.	Santa Ana River Path	SR-55	Class II	*
Warner Ave	Western OCFCD	Eastern OCFCD	Class II	*
Warner Ave.	Flower St.	Maple St.	Class II	*
MacArthur Blvd.	Santa Ana River Path	Alton Pkwy.	Class II	*
Dyer Rd.	SR-55	Redhill Ave.	Class II	*
Sunflower Ave.	Harbor Blvd.	Susan ST.	Class II	*
Main St.	Bear St.	Bristol St.	Class II	*
Newhope St.	Southern City Limit	Westminster Ave.	Class II	*
Greenville St.	Warner Ave.	Edinger Ave.	Class II	*
Bristol St.	Main St.	Washington Blvd.	Class II	*
Bristol St.	Westminster Ave.	SR-22	Class II	*
Raitt St.	Mc Fadden Ave.	4th St.	Class II	*
Flower St.	Warner Ave.	Washington Blvd.	Class II	*
Grand Ave.	Dyer Rd.	SR-22	Class II	*
Tustin Ave.	Santa Ana Blvd.	Northern City Limit	Class II	*
* Information not provided.				

Regional Priority Proposed Bikeways

Street/Path	From	To	Class	Mileage
Mc Fadden Ave. / Sunflower Ave.	Mc Fadden Ave.	Sunflower Ave.	Class I	2.72
Birstol St. / La Veta Ave.	Orange City Limit (Santa Ana Fwy.)	Sunflower Ave.	Class II	5.88
Grand Ave.	Orange City Limit (S 22E exit 16)	Dyer Rd.	Class II	4.64
Westminster Ave.	Garden Grove City Limit (W Newhope St)	Garden Grove City Limit (W Clinton St)	Class II	1.36

Santa Ana Proposed Bikeways

Street/Path	From	To	Class	Mileage
Alton Ave. / Sunflower Ave.	Alton Ave.	Sunflower Ave.	Class I	0.77
Mc Fadden Ave./ Edinger Ave.	Mc Fadden Ave.	Edinger Ave.	Class I	0.50
Mc Fadden Ave. / Sunflower Ave.	Mc Fadden Ave.	Sunflower Ave.	Class I	2.72
OCTA Metrolink RR	Santa Ana Blvd.	S 4th St.	Class I	0.37
UP RR	S 4th St.	Chestnut Ave.	Class I	0.38
Westminster Ave. / Raitt St.	Westminster Ave.	Raitt St.	Class I	1.69
17th St.	Garden Grove City Limit (Buena St.)	City Limit (Deodar St.)	Class II	3.93
1st St.	Newhope St.	E Quiet Village St.	Class II	1.08
4th St.	OCTA Metrolink RR	Grand Ave.	Class II	0.21
4th St.	Broadway	Broadway	Class II	0.16
Broadway	Santa Ana Blvd. Bikeway	Santa Ana Blvd.	Class II	0.01
Central Ave.	Orange Ave.	Maple St.	Class II	0.05
Chestnut Ave.	Maple St.	Elk Ln.	Class II	1.14
Civic Center Dr.	Westminster Ave./ Raitt St.	Santiago St.	Class II	2.77
Dyer Rd.	Grand Ave.	Red Hill Ave.	Class II	0.59
Edinger Ave.	E Euclid St.	W Gate St.	Class II	0.58
Flower St.	Santa Ana Blvd.	Warner Ave.	Class II	2.20
Greenville St.	Edinger Ave.	Pomona St.	Class II	0.11
MacArthur Blvd.	Costa Mesa City Limit (E Harbor Blvd.)	Susan St.	Class II	0.38
Main St.	Macarthur Blvd.	Costa Mesa Fwy.	Class II	0.49
Mc Fadden Ave.	Garden Grove City Limit (W	Maple St.	Class II	4.75
Memory Ln.	Orange City Limit	Bristol St.	Class II	0.20
Newhope St.	Westminster Ave.	Mc Fadden Ave.	Class II	1.48
Orange Ave.	Central Ave.	UP RR	Class II	0.12
Memory Ln.	Lawson Wy.	Orange City Limit (S Parker St.)	Class II	0.24
Penn Wy.	17th St.	Washington Ave.	Class II	0.37
Raitt St.	Santa Ana Blvd.	Edinger Ave.	Class II	1.44
Santa Ana Blvd.	Raitt St.	Grand Ave.	Class II	2.48
Santiago St.	Washington Ave.	Santa Ana Blvd.	Class II	0.52

Street/Path	From	To	Class	Mileage
Sunflower Ave.	Costa Mesa City Limit (W Bear St.)	Costa Mesa City Limit (E Park Center Dr.)	Class II	0.49
Tustin Ave.	Orange City Limit (S Fairhaven Ave.)	S 4th St.	Class II	1.70
Warner Ave.	Flower St.	Maple St.	Class II	1.93
Edinger Ave.	City Limit (W Mohawk Dr.)	City Limit (W Newport Ave.)	Class III	4.65
			TOTAL	52.38miles

Santa Ana Proposed Bikeway Cost Estimates

Facility	Miles	Unit Cost (per mile)	Total
Class I	9.15	$1,500,000	$13,725,000
Class II	41.30	$280,000	$11,564,000
Class III	4.65	$21,000	$97,650
		Total	$25,386,650

3.29. Seal Beach

The City of Seal Beach is a Charter City located in Orange County, California. Seal Beach sits on the coast as the gateway to Orange County between the cities of Long Beach and Huntington Beach. Seal Beach has retained its quaint, small-town atmosphere. The 5,256-acre Seal Beach Naval Weapons Station, and the 920-acre Seal Beach National Wildlife Refuge, comprises 2/3 of the land within the 13.23 square-mile City.

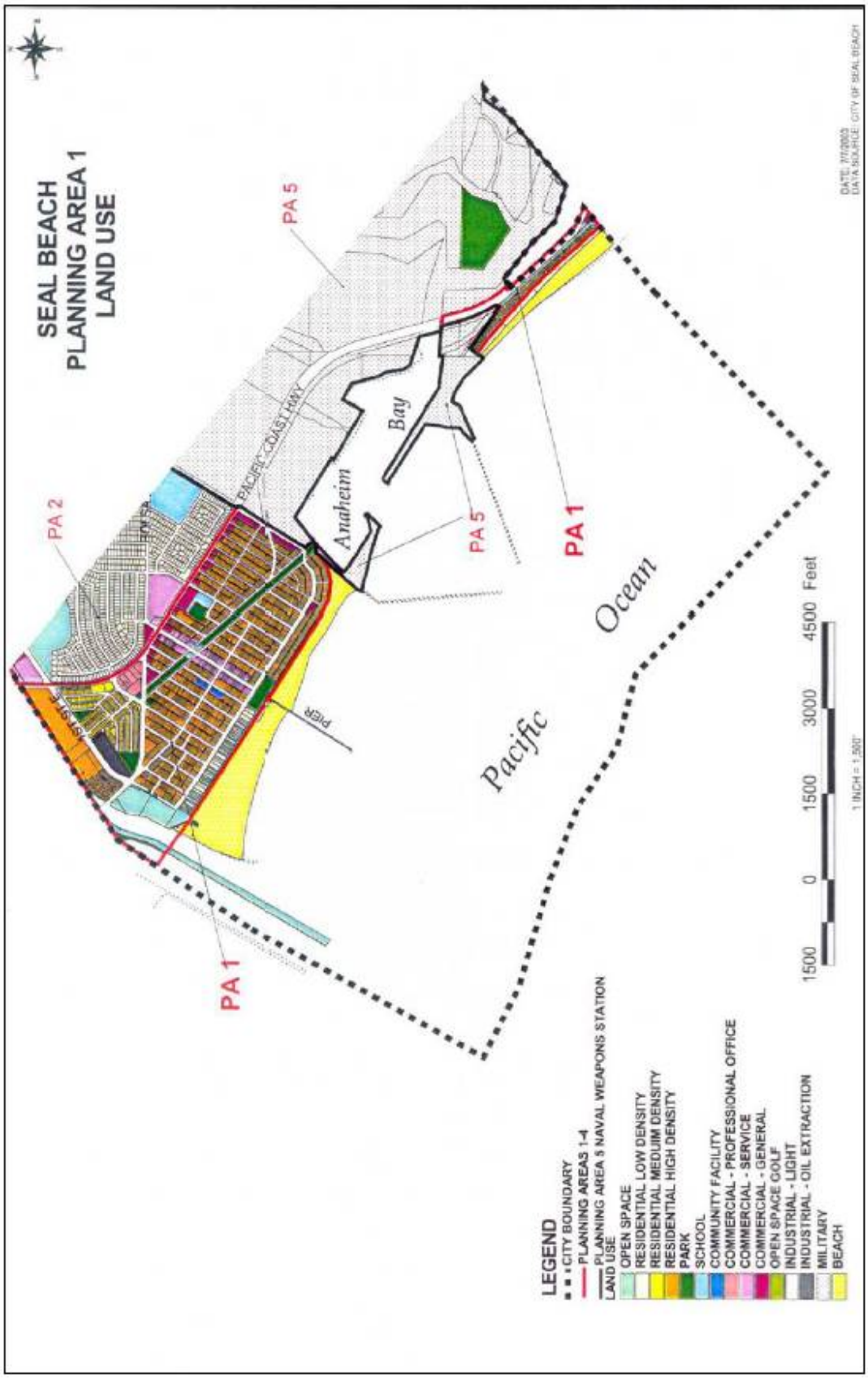
Population

24,098

Estimated Number of Bicycle Commuters

Estimated Bicycle Commuters	Number
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	207
Estimated Adjusted Mode Share	1.7%
Estimated Current Bicycle Trips	
Total Daily Bicycle Trips	415
Reduced Vehicle Trips per Weekday	286
Reduced Vehicle Miles per Weekday	1,134
Future Potential Bicycle Commuters	
Future number of new bicycle commuters	71
Total Future Daily Bicycle Commuters	279
Future Total Daily Bicycle Trips	557
Future Reduced Vehicle Trips per Weekday	407
Future Reduced Vehicle Miles per Weekday	1,871
Future Reduced Vehicle Miles per Year	495,907
Future Air Quality Benefits	
Reduced HC (metric tons/year)	3
Reduced CO (metric tons/year)	10
Reduced NOX (metric tons/year)	1
Reduced CO2 (metric tons/year)	52,749
Emissions rates from EPA report 420-F-00-013 "Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks." 2000.	

Map 3.29 Seal Beach Land Use



Collisions Involving Bicyclists

Parameter	Collision Rate
Total # of Bicycle Collisions for 5 Years	47
Average # of Bicycle Collisions Per Year	9.4
Average Bicycle Collision Rate per 1000/year[1]	0.38
Index (relative to statewide average of 0.32 /1000)[2]	1.17

Notes:
1. Rate is calculated using SWITRS collision data and population figures provided by the U.S. Census Bureau.
2. The Index is based on a ratio of the local collision rate and the statewide collision rate. An index greater than one (1.0) indicates that the local accident rate is higher than the statewide average.

End-of-Trip Facilities

Information on existing and proposed end-of-trip facilities is not available.

Multimodal Facilities

Mode	Location	Facility Type
OCTA Buses	City-wide	Bicycle racks on buses

Safety and Education Programs

The status of Seal Beach's bicycle safety and education programs is unknown.

Expenditures

Information on past bicycle facility expenditures is not available.

Bicycle Transportation Plan

The City of Seal Beach does not currently have an adopted Bicycle Transportation Plan.

Bikeways

Seal Beach Existing Bikeways

Street/Path	From	To	Class	Mileage
Santa Ana River Path	Seal Beach Coastline	Pacific Coast Hwy.	Class I	*
Santa Ana River Path	College Park Dr.	North City Limit	Class I	*
Beverly Manor-SR22 Path	Santa Ana River Path	Foxburg Rd.	Class I	*
Seal Beach Blvd.	Ocean Ave.	Pacific Coast Hwy	Class I	*
Marina Dr.	Western City Limit	7th St.	Class II	*
Electric Ave.	Marina Dr.	Seal Beach Blvd.	Class II	*
Seal Beach Blvd	Pacific Coast Hwy.	St. Cloud Dr.	Class II	*
Bolsa Ave.	Pacific Coast Hwy.	Seal Beach Blvd.	Class II	*
Westminster Blvd.	Western City Limit	Seal Beach Blvd.	Class II	*
Beverly Manor Dr.	Foxburg Rd.	Seal Beach Blvd.	Class II	*
Lampson Ave.	Basswood St.	Easter City Limit	Class II	*
Edinger Ave.	Sunset Aquatic Park	Bolsa Chica St.	Class II	*
Bolsa Chica St.	Edinger Ave.	Bolsa Ave.	Class II	*
Pacific Coast Hwy.	Western City Limit	Seal Beach Blvd	Class III	*
Westminster Blvd.	Seal Beach Blvd.	Easter City Limit	Class III	*
* Information not provided.				

Regional Priority Proposed Bikeways

Street/Path	From	To	Class	Mileage
Westminster Ave.	Seal Beach Blvd.	City Limit	Class II	1.98

Seal Beach Proposed Bikeways

Street/Path	From	To	Class	Mileage
Path 1	LA County Limit	Orange County Limit	Class I	1.04
Seal Beach Blvd.	Bradbury Rd.	Lampson Ave.	Class I	0.66
1st St.	Marina Dr.	Ocean Ave.	Class II	0.17
Lampson Ave.	Seal Beach Blvd.	Bachwood St.	Class II	0.64
Pacific Coast Hwy.	City Limit	Seal Beach Blvd.	Class II	1.00
Sunset Wy.	E Park Circle Dr.	Huntington Beach City Limit	Class II	0.10
			TOTAL	5.59miles

Seal Beach Proposed Bikeway Cost Estimates

Facility	Miles	Unit Cost (per mile)	Total
Class I	1.70	$1,500,000	$2,550,000
Class II	3.89	$280,000	$1,089,200
		Total	$3,639,200

3.30. Stanton

The City of Stanton is located in northwestern Orange County. Stanton is 3.1 square miles and residents enjoy a small town community feeling. The City's motto - Community Pride and Forward Vision identifies Stanton as a place where innovation and pride in the community are an important aspect of life in Stanton. Community excitement comes from revitalization of commercial and residential areas, and the attraction of major new developments created through an active redevelopment program. Stanton residents enjoy major retail opportunities, active civic volunteers and business-friendly City organizations. Residents benefit from a wide variety of programs provided by the City which include great parks, a family resource center, annual holiday events and programs which support taking pride in ownership.

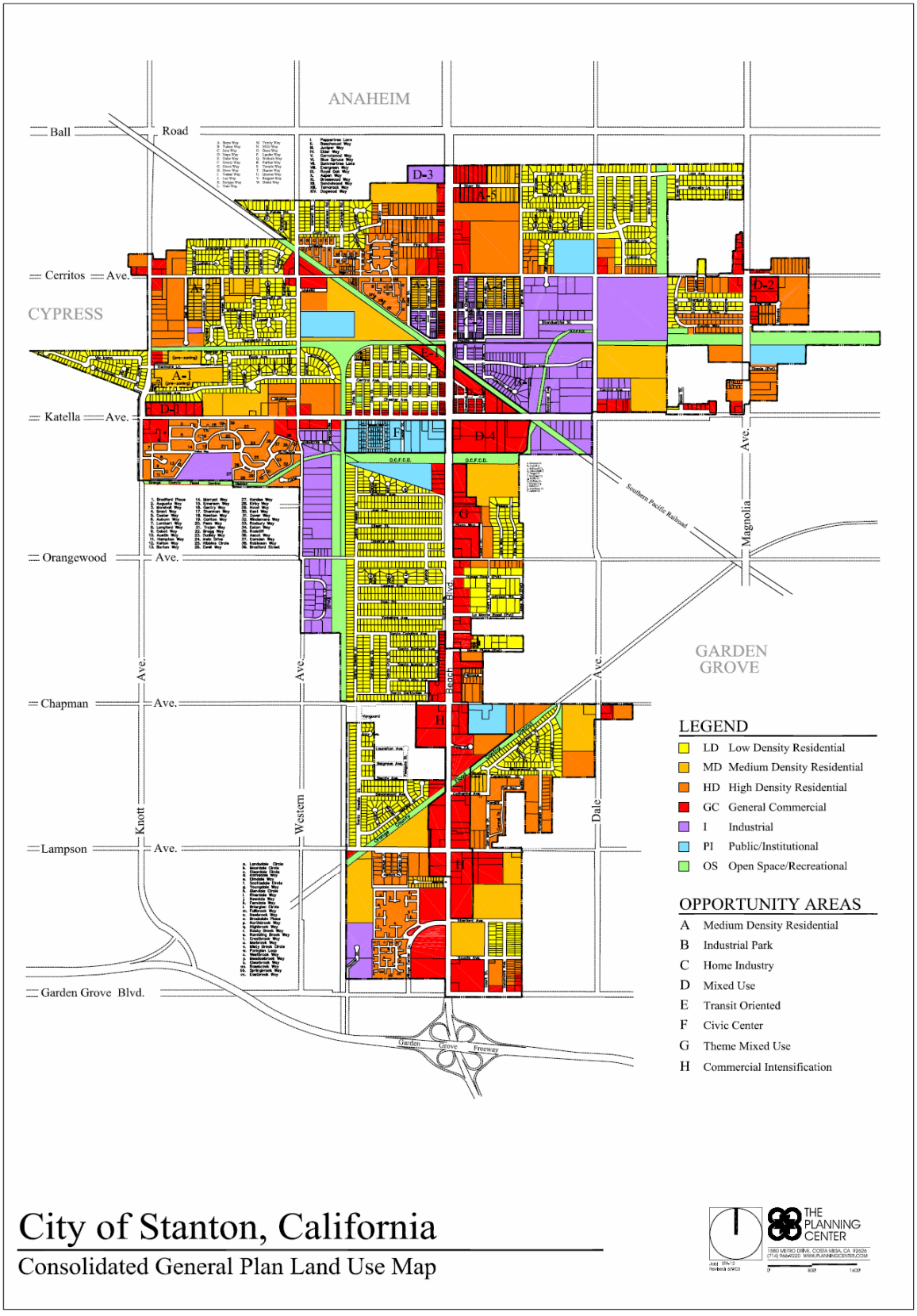
Population

39,276

Estimated Number of Bicycle Commuters

Estimated Bicycle Commuters	Number
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	598
Estimated Adjusted Mode Share	2.7%
Estimated Current Bicycle Trips	
Total Daily Bicycle Trips	1,196
Reduced Vehicle Trips per Weekday	817
Reduced Vehicle Miles per Weekday	3,151
Future Potential Bicycle Commuters	
Future number of new bicycle commuters	76
Total Future Daily Bicycle Commuters	674
Future Total Daily Bicycle Trips	1,349
Future Reduced Vehicle Trips per Weekday	985
Future Reduced Vehicle Miles per Weekday	4,529
Future Reduced Vehicle Miles per Year	1,200,242
Future Air Quality Benefits	
Reduced HC (metric tons/year)	7
Reduced CO (metric tons/year)	24
Reduced NOX (metric tons/year)	2
Reduced CO2 (metric tons/year)	127,667
Emissions rates from EPA report 420-F-00-013 "Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks." 2000.	

Map 3.30 Stanton Land Use



Collisions Involving Bicyclists

Parameter	Collision Rate
Total # of Bicycle Collisions for 5 Years	84
Average # of Bicycle Collisions Per Year	16.8
Average Bicycle Collision Rate per 1000/year[1]	0.44
Index (relative to statewide average of 0.32 /1000)[2]	1.36

Notes:
1. Rate is calculated using SWITRS collision data and population figures provided by the U.S. Census Bureau.
2. The Index is based on a ratio of the local collision rate and the statewide collision rate. An index greater than one (1.0) indicates that the local accident rate is higher than the statewide average.

End-of-Trip Facilities

The city ordinance for new development requires that bicycle parking and locker facilities be provided for employees or tenants who commute to the site by bicycle as part of the Transportation Demand Management Facility Standards. At least five bicycle parking locations are required for every one hundred employees, or fraction thereof, and a minimum of two shower facilities is required, one each for men and women.

Multimodal Facilities

Mode	Location	Facility Type
OCTA Buses	City-wide	Bicycle racks on buses

Safety and Education Programs

Active	Yes
# Of Years Conducted	1
# Of Times a Year Conducted	1
Administered by	Police Department
Location	Community Services Center
Program, Curriculum, and Activities	Bicycle rodeo
Other Bicycle Safety Support Programs	Free bicycle helmets
Total # of Children Reached	Approximately 200 per year
Age of Children Reached	
Other Program Notes	Not a regular program

Expenditures

Information on past bicycle facility expenditures is not available.

Bicycle Transportation Plan

Bicycle facilities are addressed in Stanton's General Plan.

Bikeways

Stanton Existing Bikeways

Street/Path	From	To	Class	Mileage
Knott Ave	Cerritos Ave	Jonathon Ave	Class II	*
Western Ave.	Seaboard Cir.	Cerritos Ave.	Class II	*
Chapman Ave.	UPRR	Santa Rosalia	Class II	*
Lampson Ave.	Beach Blvd.	Monroe Ave.	Class II	*
* Information not provided by City.				

Regional Priority Proposed Bikeways

Street/Path	From	To	Class	Mileage
Magnolia Ave.	Anaheim City Limit	UP RR	Class I	0.62
Katella Ave.	Cypress City Limit	Magnolia St.	Class II	1.94

Stanton Proposed Bikeways

Street/Path	From	To	Class	Mileage
OCTA RR	Anaheim City Limit	Dale St.	Class I	1.31
UP RR / Chapman Av	UP RR	Chapman Ave.	Class I	0.92
Cerritos Ave.	Knott Ave.	Anaheim City Limit	Class II	2.08
Dale Ave.	Lola Ave.	Katella Ave.	Class II	0.91
Knott Ave.	Anaheim City Limit	Garden Grove City Limit	Class II	0.80
Lampson Ave.	UP RR	San Marcos Dr.	Class II	0.49
Magnolia Ave.	Cerritos Ave.	Syracuse Ave.	Class II	0.42
Orangewood Ave.	Western Ave.	Jane Wy.	Class II	0.74
Dale Ave.	Chapman Ave.	Garden Grove City Limit	Class III	0.06
			TOTAL	10.29

Stanton Proposed Bikeway Cost Estimates

Facility	Miles	Unit Cost (per mile)	Total
Class I	2.85	$1,500,000	$4,275,000
Class II	7.38	$280,000	$2,066,400
Class III	0.06	$21,000	$1,260
		Total	$6,342,660

3.31. Tustin

Tustin is primarily an urban area. Historic old buildings, some dating back to the 1880s, are maintained in "Old Town" on Main Street and El Camino Real. The downtown area of the City is well established, but the eastern Tustin Ranch area has been developed primarily over the past decade. Tustin Marketplace in Tustin Ranch is a major regional shopping and entertainment destination in the County. The closed Tustin Marine Corps Air Station is currently being studied for redevelopment in the southern portion of Tustin.

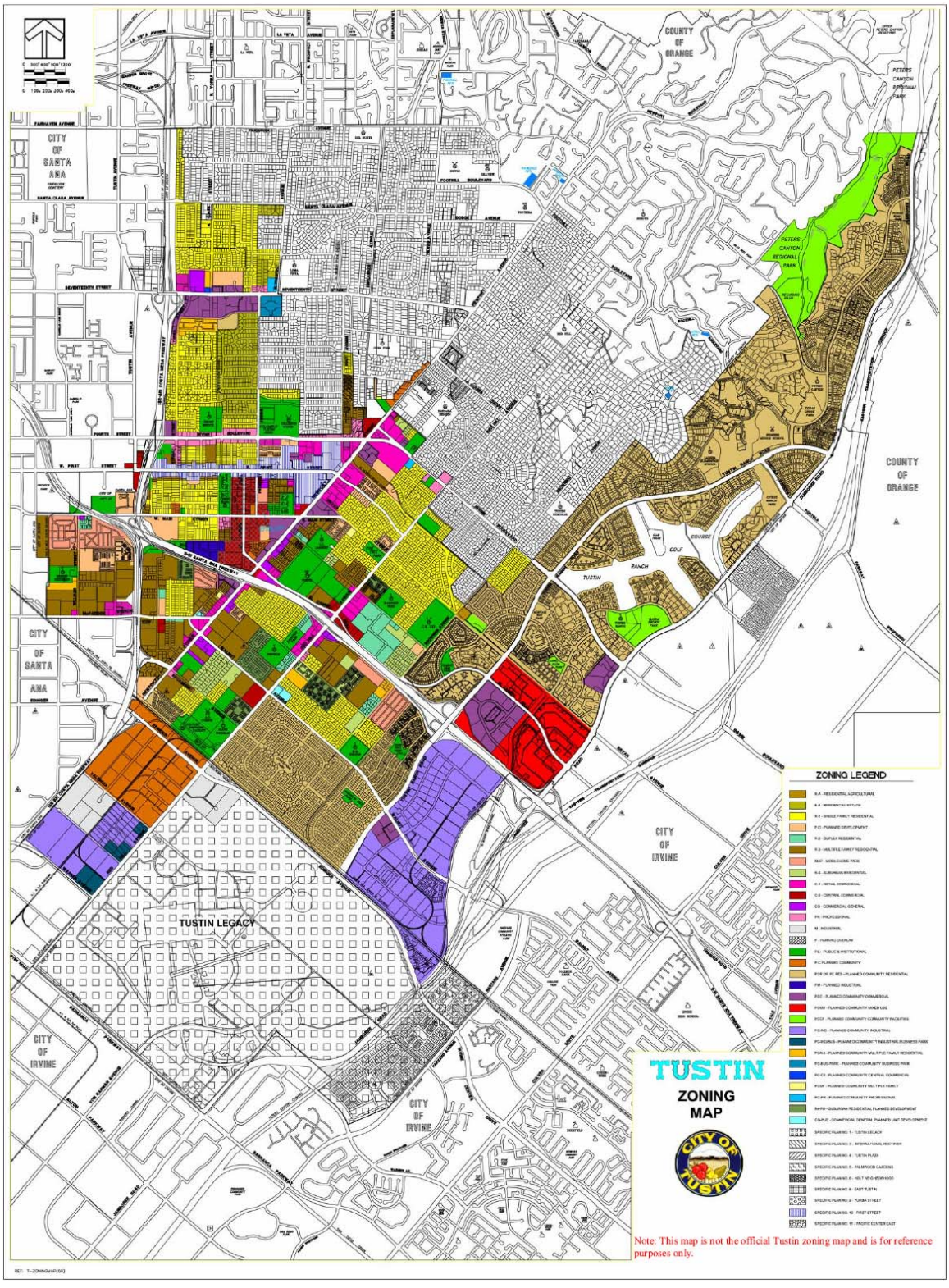
Population

67,504

Estimated Number of Bicycle Commuters

Estimated Bicycle Commuters	Number
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	667
Estimated Adjusted Mode Share	1.4%
Estimated Current Bicycle Trips	
Total Daily Bicycle Trips	1,335
Reduced Vehicle Trips per Weekday	884
Reduced Vehicle Miles per Weekday	3,077
Future Potential Bicycle Commuters	
Future number of new bicycle commuters	285
Total Future Daily Bicycle Commuters	952
Future Total Daily Bicycle Trips	1,904
Future Reduced Vehicle Trips per Weekday	1,390
Future Reduced Vehicle Miles per Weekday	6,393
Future Reduced Vehicle Miles per Year	1,694,273
Future Air Quality Benefits	
Reduced HC (metric tons/year)	10
Reduced CO (metric tons/year)	34
Reduced NOX (metric tons/year)	2
Reduced CO2 (metric tons/year)	180,216
Emissions rates from EPA report 420-F-00-013 "Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks." 2000.	

Map 3.31 Tustin Land Use



Collisions Involving Bicyclists

Parameter	Collision Rate
Total # of Bicycle Collisions for 5 Years	103
Average # of Bicycle Collisions Per Year	20.6
Average Bicycle Collision Rate per 1000/year[1]	0.30
Index (relative to statewide average of 0.32 /1000)[2]	0.91

Notes:
1. Rate is calculated using SWITRS collision data and population figures provided by the U.S. Census Bureau.
2. The Index is based on a ratio of the local collision rate and the statewide collision rate. An index less than one (1.0) indicates that the local accident rate is lower than the statewide average.

End-of-Trip Facilities

Information on existing and proposed end-of-trip facilities is not available.

Multimodal Facilities

Mode	Location	Facility Type
OCTA Buses	City-wide	Bicycle racks on buses
Metrolink/Rideshare/Bus	Tustin Metrolink Station 2975 Edinger Ave	Parking: racks (9) lockers (20). Bicycle racks on trains and buses

Safety and Education Programs

Active	Yes
# Of Years Conducted	25
# Of Times a Year Conducted	1
Administered by	Police Department
Location	Schools
Program, Curriculum, and Activities	Presentation/assembly at schools, bicycle safety coloring book
Other Bicycle Safety Support Programs	Bicycle registration and bicycle helmet replacements
Total # of Children Reached	Approximately 1,750 per year
Age of Children Reached	4th grade classes in all schools
Other Program Notes	The Police Department also funds adult crossing guards at a cost of over $400,000 per year

Expenditures

Information on past bicycle facility expenditures is not available.

Bicycle Transportation Plan

Tustin has a Master Bikeway Plan as part of the Circulation Element of its General Plan.

Bikeways

Tustin Existing Bikeways

Street/Path	From	To	Class	Milea
Newport Ave.	El Camino Real	Irvine Blvd.	Class I	0.90
Newport Ave.	Irvine Blvd.	Wass Street	Class II	0.22
Newport Ave.[1]	Wass Street	South of La Colina Drive	Class II	0.34
Irvine Blvd.[1]	Browning Ave.	East of Ranchwood Rd.	Class I	0.13
Irvine Blvd.	East of Ranchwood Rd.	Jamboree Rd.	Class II	0.77
Bryan Ave.	Red Hill Ave.	Jamboree Rd.	Class II	1.50
Jamboree Rd.	El Camino Real	Northern City Limit	Class II	4.13
Tustin Ranch Rd.	Walnut Ave.	Jamboree Rd.	Class II	3.36
Pioneer Way	Tustin Ranch Rd.	Pioneer Rd.	Class II	0.13
Pioneer Rd.	Pioneer Way	Jamboree Rd.	Class II	1.55
Patriot Way	Pioneer Rd.	Jamboree Rd.	Class II	0.15
Portola Pkwy.	Tustin Ranch Rd.	Jamboree Rd.	Class II	0.29
Robinson Dr.	Irvine Blvd.	Jamboree Rd.	Class II	0.56
Parkcenter Ln.	Bryan Ave.	Tustin Ranch Rd.	Class II	0.31
Walnut Ave.	Browning Ave.	Myford Ave.	Class II	0.95
Edinger Ave.	Newport Ave.	Harvard Ave.	Class II	2.50
Browning Ave.	Bryan Ave.	Red Mill Cir.	Class II	0.07
Browning Ave.[1]	Red Mill Cir.	Irvine Blvd.	Class II	0.43
Myford Rd.	El Camino Real	Bryan Ave.	Class I	0.15
El Camino Real	Tustin Ranch Rd.	Myford Ave.	Class I	0.32
Tustin Ranch Rd.	Barranca Pkwy.	Warner Ave.	Class II	0.71
Park Ave.	Tustin Ranch Rd.	Warner Ave.	Class I	0.63
Barranca Pkwy.[2]	Red Hill Ave.	Tustin Ranch Rd.	Class II	0.75
Barranca Pkwy.[3]	Tustin Ranch Rd.	Jamboree Rd.	Class I	0.49
Newport Ave.	Valencia Ave.	Edinger Ave.	Class II	0.45
Del Amo Ave.	Newport Ave.	Edinger Ave.	Class II	0.27
Harvard Ave.[2]	OCTA/SCRRA Railway	North of Columbus Grove Dr.	Class II	0.76
Red Hill Ave.	Nisson Rd.	El Camino Real	Class II	0.14
Red Hill Ave.	Parkway Loop	Edinger Ave.	Class II	0.15
Moffett Ave.	Peters Canyon Channel	Harvard Ave.	Class II	0.27
Como Channel Bikeway	Peters Canyon Channel	Harvard Ave.	Class I	0.22
Armstrong Ave.	Valencia Ave.	Warner Ave.	Class II	0.58
Warner Ave.	Tustin Ranch Rd.	Park Ave.	Class II	0.11
Kensington Park Dr.	Valencia Ave.	Edinger Ave.	Class II	0.28
Valencia Ave.	Red Hill Ave.	Kensington Park Dr.	Class II	0.88
Orange County Regional	Jamboree Rd. (s/o Champion	Peters Canyon Regional Park	Class I	1.93
			TOTAL	27.38

[1] Shared Jurisdiction - City of Tustin & County of Orange

[2] Shared Jurisdiction - City of Tustin & City of Irvine

[3] Northside of Barranca Pkwy.

Tustin Proposed Bikeways

Street/Path	From	To	Class	Mileage
Red Hill Ave.[3]	Barranca Pkwy.	Warner Ave.	Class II	0.51
Red Hill Ave.	Warner Ave.	Parkway Loop	Class II	0.78
Red Hill Ave.[4]	Edinger Ave.	Nisson Rd.	Class II	1.00
Red Hill Ave.	El Camino Real	First St.	Class II	0.57
Red Hill Ave.[4]	First St.	Melvin Way	Class II	0.78
Red Hill Ave.[1],[4]	Melvin Way	North of Irvine Blvd.	Class II	0.18

Tustin Proposed Bikeways

Street/Path	From	To	Class	Mileage
South Loop Rd.[4]	Armstrong Ave.	Tustin Ranch Rd.	Class I	0.48
Armstrong Ave.	Warner Ave.	Barranca Pkwy.	Class II	0.53
[1]7th St.	Prospect Ave.	N. Prospect Ave.	Class II	0.11
Prospect Ave.	17th St.	North of Arbolada Way	Class II	0.11
Prospect Ave.[1]	North of Arbolada Way	Sherbrook Dr.	Class II	0.40
Prospect Ave.	Sherbrook Dr.	First St.	Class II	0.45
First St.	Prospect Ave.	Red Hill Ave.	Class II	0.95
Barranca Pkwy.[2]	Red Hill Ave.	Tustin Ranch Rd.	Class I	0.75
Valencia Ave.	Newport Ave.	Red Hill Ave.	Class II	0.33
Newport Ave.[4]	Edinger Ave.	El Camino Real	Class II	1.09
Walnut Ave.[4]	Red Hill Ave.	Browning Ave.	Class II	0.50
Tustin Ranch Rd.	Warner Ave.	Walnut Ave.	Class II	1.41
Heritage Way	Tustin Ranch Rd.	Bryan Ave.	Class II	0.67
Parkcenter Ln.	El Camino Real	Bryan Ave.	Class II	0.38
Warner Ave.	Red Hill Ave.	Armstrong Ave.	Class II	0.35
Warner Ave.[4]	Armstrong Ave.	Tustin Ranch Rd.	Class II	0.55
East Connector[4]	North Loop Rd.	Edinger Ave.	Class II	0.27
Moffett Ave.[4]	North Loop Rd.	Peters Canyon Channel	Class II	0.37
North Loop Rd.[4]	Tustin Ranch Rd.	Warner Ave.	Class II	0.89
Valencia Ave.	Kensington Park Dr.	Tustin Ranch Rd.	Class II	0.16
Orange County Regional	OCTA/SCRRA Railway	Warner Ave.	Class I	1.02
			TOTAL	15.59

[1] Shared Jurisdiction - City of Tustin & County of Orange

[2] Shared Jurisdiction - City of Tustin & City of Irvine

[3] Northside of Barranca Pkwy.

[4] Potential Route

Tustin Proposed Bikeway Cost Estimates

Facility	Miles	Unit Cost (per mile)	Total
Class I	1.50	$1,500,000	$2,250,000
Class II	13.34	$280,000	$3,735,200

3.32. Villa Park

The City of Villa Park is in the center of Orange County. It has an area of 2.1 square miles, approximately 1,900 homes, and is almost 99% built out. With the exception of one shopping center, the City is zoned for single-family residences, most of which are on half-acre lots. The shopping center includes a grocery store, banks, a pharmacy with a postal substation, a variety of specialty shops and offices, the City Hall and community room, and a branch of the Orange County Public Library.

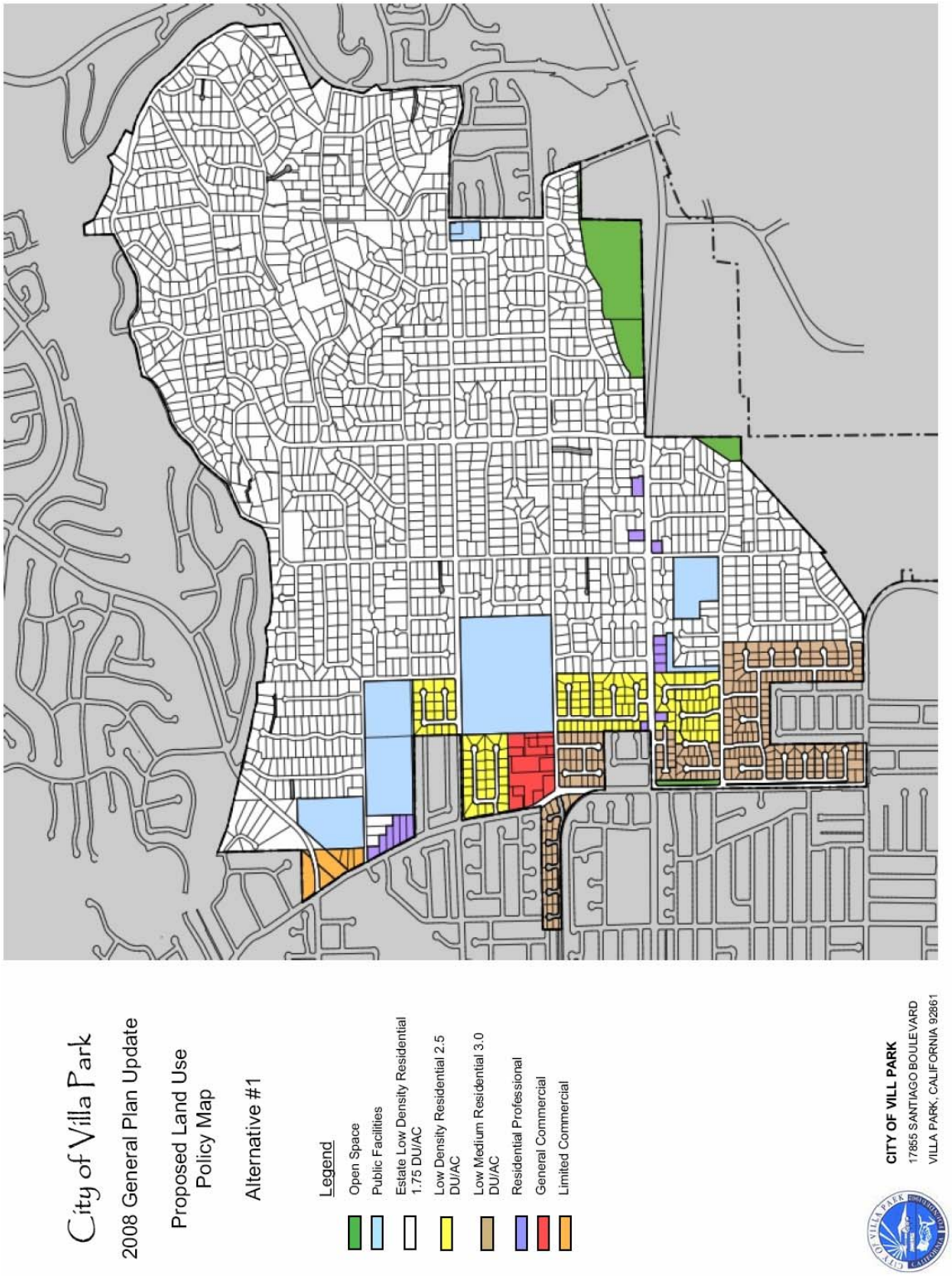
Population

6,500

Estimated Number of Bicycle Commuters

Estimated Bicycle Commuters	Number
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	53
Estimated Adjusted Mode Share	1.3%
Estimated Current Bicycle Trips	
Total Daily Bicycle Trips	106
Reduced Vehicle Trips per Weekday	68
Reduced Vehicle Miles per Weekday	217
Future Potential Bicycle Commuters	
Future number of new bicycle commuters	21
Total Future Daily Bicycle Commuters	74
Future Total Daily Bicycle Trips	148
Future Reduced Vehicle Trips per Weekday	108
Future Reduced Vehicle Miles per Weekday	497
Future Reduced Vehicle Miles per Year	131,716
Future Air Quality Benefits	
Reduced HC (metric tons/year)	1
Reduced CO (metric tons/year)	3
Reduced NOX (metric tons/year)	0
Reduced CO2 (metric tons/year)	14,010
Emissions rates from EPA report 420-F-00-013 "Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks." 2000.	

Map 3.32 Villa Park Land Use



Collisions Involving Bicyclists

Parameter	Collision Rate
Total # of Bicycle Collisions for 5 Years	8
Average # of Bicycle Collisions Per Year	1.6
Average Bicycle Collision Rate per 1000/year[1]	0.26
Index (relative to statewide average of 0.32 /1000)[2]	0.81

Notes:
1. Rate is calculated using SWITRS collision data and population figures provided by the U.S. Census Bureau.
2. The Index is based on a ratio of the local collision rate and the statewide collision rate. An index less than one (1.0) indicates that the local accident rate is lower than the statewide average.

End-of-Trip Facilities

Information on existing and proposed end-of-trip facilities is not available.

Multimodal Facilities

Mode	Location	Facility Type
OCTA Buses	City-wide	Bicycle racks on buses

Safety and Education Programs

Active	Yes
# Of Years Conducted	
# Of Times a Year Conducted	
Administered by	Orange County Sheriff's Department
Location	Villa Park Elementary School
Program, Curriculum, and Activities	Bicycle Rodeo
Other Bicycle Safety Support Programs	
Total # of Children Reached	
Age of Children Reached	
Other Program Notes	Not a regular program

Expenditures

Information on past bicycle facility expenditures is not available.

Bicycle Transportation Plan

The City does have a Bikeway Master Plan which is currently being updated within the City's comprehensive General Plan Update.

Bikeways

Villa Park Existing Bikeways

Street/Path	From	To	Class	Mileage
Villa Park Rd.	*	*	Class II	*
Taft Ave.	*	*	Class II	*
Lemon St.	*	*	Class II	*
*Information not provided.				

Villa Park Proposed Bikeways

Street/Path	From	To	Class	Mileage
Arden Villa Dr.	Orange City Limit	Santiago Blvd.	Class I	0.30
Santiago Creek Path Segment 1	City Limit (N Villa Park Rd.)	City Limit	Class I	0.26
Santiago Creek Path	City Limit	City Limit	Class I	0.07
Katella Ave.	Orange City Limit	Wanda Rd.	Class II	0.00
Meats Ave.	Stone Pine Rd.	Santiago Blvd.	Class II	0.34
Taft Ave.	Sycamore St.	Cannon St.	Class II	0.31
			TOTAL	1.28miles

Villa Park Proposed Bikeway Cost Estimates

Facility	Miles	Unit Cost (per mile)	Total
Class I	0.63	$1,500,000	$945,000
Class II	0.65	$280,000	$182,000
		Total	$1,127,000

3.33. Westminster

The early years of 2000 found continued growth and improvement in Westminster. Design and completion of two 8 million gallon state of the art water tanks at Hoover and Hazard Avenues assures an adequate water supply. In the Civic Center area, Sid Goldstein Memorial Park was dedicated. An important part of the park is the Vietnam War Memorial which is a tribute to all who served in that arena.

Population

89,520

Estimated Number of Bicycle Commuters

Estimated Bicycle Commuters	Number
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	925
Estimated Adjusted Mode Share	1.7%
Estimated Current Bicycle Trips	
Total Daily Bicycle Trips	1,850
Reduced Vehicle Trips per Weekday	1,239
Reduced Vehicle Miles per Weekday	4,481
Future Potential Bicycle Commuters	
Future number of new bicycle commuters	243
Total Future Daily Bicycle Commuters	1,168
Future Total Daily Bicycle Trips	2,337
Future Reduced Vehicle Trips per Weekday	1,706
Future Reduced Vehicle Miles per Weekday	7,848
Future Reduced Vehicle Miles per Year	2,079,591
Future Air Quality Benefits	
Reduced HC (metric tons/year)	12
Reduced CO (metric tons/year)	42
Reduced NOX (metric tons/year)	3
Reduced CO2 (metric tons/year)	221,202
Emissions rates from EPA report 420-F-00-013 "Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks." 2000.	

Map 3.33 Westminster Land Use

Collisions Involving Bicyclists

Parameter	Collision Rate
Total # of Bicycle Collisions for 5 Years	240
Average # of Bicycle Collisions Per Year	48
Average Bicycle Collision Rate per 1000/year[1]	0.53
Index (relative to statewide average of 0.32 /1000)[2]	1.65

Notes:
1. Rate is calculated using SWITRS collision data and population figures provided by the U.S. Census Bureau.
2. The Index is based on a ratio of the local collision rate and the statewide collision rate. An index greater than one (1.0) indicates that the local accident rate is higher than the statewide average.

End-of-Trip Facilities

Information on existing and proposed end-of-trip facilities is not available.

Multimodal Facilities

Mode	Location	Facility Type
OCTA Buses	City-wide	Bicycle racks on buses
Rideshare	United Methodist Church 8152 McFadden	

Safety and Education Programs

The City of Westminster does not have a bicycle safety and education program.

Expenditures

Facility	Improvement	From	To	Cost
Hoover Path	Implemented			$5,000- $10,000

Bicycle Transportation Plan

Westminster only has a map of existing bikeways.

Bikeways

Westminster Existing Bikeways

Street/Path	From	To	Class	Mileage
Rancho Rd.	Bolsa Chica St.	Westminster Ave.	Class I	*
Hoover Ave.	Wyoming St.	Bolsa Ave.	Class I	*
Edwards St.	Homer St.	Bolsa Ave.	Class II	*
Hoover Ave.	Garden Grove Blvd.	Wyoming St.	Class II	*
Bushard St.	Westminster Ave.	Edinger Ave.	Class II	*
McFadden Ave.	Goldenwest St.	Vermont St.	Class II	*
McFadden Ave.	Dalewood St.	Ward St.	Class II	*

Street/Path	From	To	Class	Mileage
Eddinger Ave.	Newland St.	Bushard St.	Class II	*
* Information not provided.				

Regional Priority Proposed Bikeways

Street/Path	From	To	Class	Mileage
Bolsa Chica Rd. / Valley View St.	Garden Grove City Limit	Westminster Ave.	Class II	1.09
Mc Fadden Ave.	Van Buren St.	Dalewood Ln.	Class II	1.83
Westminster Ave.	Seal Beach City Limit	Atlantis Wy.	Class II	4.59

Westminster Proposed Bikeways

Street/Path	From	To	Class	Mileage
Hoover St.	Garden Grove Blvd.	Wyoming St.	Class I	0.88
Magnolia St.	San Diego Frwy.	Huntington Beach City Limit	Class I	0.04
UP RR	Garden Grove City Limit	Garden Grove Blvd.	Class I	0.00
Bolsa Chica Rd.	Rancho Rd.	Huntington Beach City Limit	Class II	0.01
Edinger Ave.	City Limit Huntington	Newland St.	Class II	0.00
Edwards St.	Garden Grove Blvd.	Homer St.	Class II	1.24
Hazar Ave.	Goldenwest St.	Garden Grove City Limit	Class II	2.62
Heil Ave.	Galaxy Dr.	Magnolia St.	Class II	0.37
Newland St.	Westminster Blvd.	Hazard Ave.	Class II	1.85
Path 1	Bolsa Ave.	Huntington Beach City Limit	Class II	0.50
Path 2	Venus Dr.	Galaxy Dr.	Class II	0.01
Springdale St.	Garden Grove City Limit	Garden Grove Blvd.	Class II	0.01
Trask Ave.	Edward St.	Wilson St.	Class II	1.85
Ward St.	Halifax Ave.	Torrington Cir.	Class II	0.01
Western Ave.	Garden Grove City Limit	Garden Grove Blvd.	Class II	0.004
Bushard St.	Garden Grove City Limit	Jennrich Ave.	Class III	0.03
Ward St.	Bolsa Ave.	Halifax Ave.	Class III	0.10
Ward St.	Torrington Cir.	Garden Grove City Limit	Class III	0.04
			TOTAL	17.07miles

Westminster Proposed Bikeway Cost Estimates

Facility	Miles	Unit Cost (per mile)	Total
Class I	0.92	$1,500,000	$1,380,000
Class II	15.98	$280,000	$4,475,520
Class III	0.17	$21,000	$3,570
		Total	$5,859,090

3.34. Yorba Linda

The City of Yorba Linda has many newer neighborhoods and streets, especially in the eastern portion of the City. The downtown area is older and includes the Richard Nixon Presidential Library on Yorba Linda Boulevard. Some of the major arterial streets include Imperial Highway, Yorba Linda Boulevard, Esperanza Road, and Lakeview Avenue.

Population

58,918

Estimated Number of Bicycle Commuters

Estimated Bicycle Commuters	Number
Estimated Total Number of Bicycle Commuters and Utilitarian Riders	490
Estimated Adjusted Mode Share	1.2%
Estimated Current Bicycle Trips	
Total Daily Bicycle Trips	979
Reduced Vehicle Trips per Weekday	622
Reduced Vehicle Miles per Weekday	1,860
Future Potential Bicycle Commuters	
Future number of new bicycle commuters	245
Total Future Daily Bicycle Commuters	735
Future Total Daily Bicycle Trips	1,470
Future Reduced Vehicle Trips per Weekday	1,073
Future Reduced Vehicle Miles per Weekday	4,936
Future Reduced Vehicle Miles per Year	1,308,084
Future Air Quality Benefits	
Reduced HC (metric tons/year)	8
Reduced CO (metric tons/year)	26
Reduced NOX (metric tons/year)	2
Reduced CO2 (metric tons/year)	139,138
Emissions rates from EPA report 420-F-00-013 "Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks." 2000.	

Map 3.34 Yorba Linda Land Use

Collisions Involving Bicyclists

Parameter	Collision Rate
Total # of Bicycle Collisions for 5 Years	52
Average # of Bicycle Collisions Per Year	10.4
Average Bicycle Collision Rate per 1000/year[1]	0.16
Index (relative to statewide average of 0.32 /1000)[2]	0.49

Notes:
1. Rate is calculated using SWITRS collision data and population figures provided by the U.S. Census Bureau.
2. The Index is based on a ratio of the local collision rate and the statewide collision rate. An index greater than one (1.0) indicates that the local accident rate is higher than the statewide average.

End-of-Trip Facilities

The Bikeway Trails Component identifies provision of comprehensive bicycle parking at destinations and inter-modal locations as a key security recommendation.

Multimodal Facilities

Mode	Location	Facility Type
OCTA Buses	City-wide	Bicycle racks on buses

Safety and Education Programs

The City of Yorba Linda does not have bicycle safety and education programs.

Expenditures

Information on past bicycle facility expenditures is not available.

Bicycle Transportation Plan

Yorba Linda has a Riding, Hiking, and Bikeway Trails component that is part of its General Plan.

Bikeways

Yorba Linda Existing Bikeways

Street/Path	From	To	Class	Mileage
Bastanchury-Kellog Path Section 1	Bastanchury Rd	Imperial Hwy	Class I	*
Bastanchury-Kellog Path Section 2	Valley View Ave	East of Casa Loma Ave.	Class I	*
Bastanchury-Kellog Path Section 3	Imperial Hwy	Eureka Ave	Class I	*
Bastanchury-Kellog Path Section 4	Eureka Ave	Yorba Linda Blvd	Class I	*
Bastanchury-Kellog Path Section 5	Yorba Linda	Lakeview Ave	Class I	*
Bastanchury-Kellog Path Section 6	Lakeview Ave	Kellog Dr	Class I	*
Arroyo Cajon-Glenknoll Path	Arroyo Cajon Dr	Glenknoll Elementary	Class I	*
Kingsbriar Park-Imperial Hwy Path	Kingsbriar Park	Arroyo Cajon-Glenknoll	Class I	*
Fairmount Blvd-OC Bicycle Path	Esperanza Rd	OC Bicycle Path	Class I	*
Prado-Yorba Linda Blvd Path	Paseo Del Prado	Yorba Linda Blvd	Class I	*
Montana-Village Center Path	Vista Montana	Village Center Dr	Class I	*
Kingsbriar Path	Fairmount Blvd	Yorba Linda Blvd	Class I	*
Village Center-San Antonio Path	Village Center	San Antonio Rd	Class I	*
Fairmount Blvd	Yorba Linda	Esperanza Dr	Class	*
Yorba Linda Blvd	Fairmount Blvd	Esperanza Dr	Class	*
Esperanza Dr	Fairmount Blvd	Yorba Linda Blvd	Class	*
* Mileage unknown				

Regional Priority Proposed Bikeways

Street/Path	From	To	Class	Mileage
Bastanchury Rd.	Placentia City Limit	Village Center Dr.	Class	4.02

Yorba Linda Proposed Bikeways

Street/Path	From	To	Class	Mileage
Fairmont Blvd. /	Fairmont Blvd.	Brookmont Dr.	Class I	0.66
PATH 1 (Esperanza Rd. to La Palma Ave. connector)	Esperanza Rd.	La Palma Ave.	Class I	0.07
PATH 2	Still Pond Wy.	City Limit	Class I	0.82
PATH 3	City Limit	N Fairmont Blvd.	Class I	0.17
Avenida Rio Del Oro	Bastanchury Rd.	Yorba Linda Blvd.	Class I	0.58
Buena Vista Ave.	Jefferson St.	Van Buren St.	Class II	0.33
Esperanza Rd.	City Limit	Fairmont Blvd.	Class II	0.24
Fairmont Blvd.	Fairmont Blvd.	Esperanza Rd.	Class II	1.20
Gypsum Canyon Rd.	91 Ramp	Anaheim City Limit	Class II	0.09
Hidden Hills Rd.	Star Light Dr.	Path 1	Class II	0.52
Kellogg Dr.	City Limit	Alamo Ln.	Class II	0.72
La Palma Ave.	Anaheim City Limit	Camino De Bryant	Class II	2.61
Lakeview Ave.	Valley View Ave.	Anaheim City Limit	Class II	3.43
Paseo de las Palomas	Yorba Linda Blvd.	Fairmont Blvd	Class II	1.44
Richard M Nixon Pkwy.	S Acacia Hill Dr.	City Limit	Class II	0.15
Rose Dr.	N Placentia City Limit	S Placentia City Limit	Class II	1.04
Village Center Dr.	Fairmont Blvd.	Fairmont Blvd	Class II	2.62
Yorba Linda Blvd.	Placentia City Limit	Jefferson St	Class II	0.21
Yorba Ranch Rd.	Yorba Linda Blvd.	Esperanza Rd	Class II	1.19
Avenida Barcelona	N Avenida Granada	Esperanza Rd	Class III	0.08
Casa Loma Ave.	Bastanchury Rd.	S Imperial Hwy	Class	0.27
Fairmont Blvd. / San Antonio Rd.	Trentino Ln.	Yorba Linda Blvd	Class III	3.16
Jefferson St.	Placentia City Limit	Buena Vista Ave	Class	0.39
Via Lomas De Yorba	La Palma Ave.	La Palma Ave	Class	1.75
Mariposa Ave.	E Richfield Dr.	Candlelight Ln	Class	0.45
Mountain View Ave.	W Kellogg Dr.	City Limit	Class	0.01
Paseo Del Prado	N Calle Bella	Esperanza Rd.	Class	0.09
Sunmist Dr.	Mountain View Ave.	Arroyo Cajon Dr.	Class III	0.55
Paseo de Toronto	Avenida Del Tren	Camino De Bryant	Class III	0.99
Valley View Cir.	N/A	N/A	Class	1.41
Valley View / Richfield	Valley View Cir.	City Limit placentia S	Class	2.57
			TOTAL	33.83miles

Yorba Linda Proposed Bikeway Cost Estimates

Facility	Miles	Unit Cost (per mile)	Total
Class I	2.30	$1,500,000	$3,450,000
Class II	19.81	$280,000	$5,546,800
Class III	11.72	$21,000	$246,120
		Total	$9,242,920

3.35. Unincorporated County

Population

Not available.

Estimated Number of Bicycle Commuters

In 1988, The County of Orange published results to a survey of bicyclists on the Santa Ana River Bikeway. The survey indicated that about 500,000 bicyclists and pedestrians annually use the Santa Ana River Bikeway (a regional, Class I bikeway that traverses central Orange County). Along with the growing population of Orange County, this number has likely significantly increased.

Bicycle Accidents

Parameter	Collision Rate
Total # of Bicycle Collisions for 5 Years	104
Average # of Bicycle Collisions Per Year	20.8
Average Bicycle Collision Rate per 1000/year[1]	0.18
Index (relative to statewide average of 0.32 /1000)[2]	0.54

Notes:
1. Rate is calculated using SWITRS collision data and population figures provided by the U.S. Census Bureau.
2. The Index is based on a ratio of the local collision rate and the statewide collision rate. An index less than one (1.0) indicates that the local accident rate is lower than the statewide average.

End-of-Trip Facilities

County, regional, and wilderness parks typically provide bicycle parking.

Multimodal Facilities

Mode	Location	Facility Type
OCTA Buses	County-wide	Bicycle racks on buses

Safety and Education Programs

The County of Orange does not conduct bicycle-related safety and education programs.

Expenditures

Information on past bicycle facility expenditures is not available.

Bikeways

Unincorporated Orange County Existing Bikeways

Street/Path	From	To	Class	Mileage
Wintersburg	Slater Ave	Coastal Bikeway	Class I	*
Coastal	Sunset Beach	Seapoint Ave.	Class I	*
Bolsa Chica	Ellis Ave.	Coastal Bikeway	Class I	*
Mile Square	Perimeter of Mile Square Regional Park		Class I	*
Santa Ana	Along the entire Orange County Segment of River		Class I	*
Santiago	SR-22	Black Star Canyon Rd.	Class I	*
Peters	Irvine Regional Park	Peters Canyon Regional	Class I	*
San Diego	Santa Ana Ave/University Dr.	San Diego Creek	Class I	*
Upper	San Diego Creek Bikeway	Irvine Avenue	Class I	*
University	Harvard Ave	Ridgeline Dr.	Class I	*
San Joaquin	Newport Beach City Limit	Laguna Canyon Rd.	Class I	*
Aliso Creek	Moulton Pkwy.	Aliso Canyon Wilderness	Class I	*
Laguna	Alicia Parkway	South end of Park	Class I	*
Trabuco	Cleveland National Forest	Mission Viejo City Limit	Class I	*
San Juan	San Juan Capistrano City Limits	Lucas Canyon Rd.	Class I	*
Quail Hill	Jeffrey Sand Canyon Bike bridge over the	Sand Canyon Ave.	Class I	*
PCH	Along PCH, through Sunset Beach Community		Class II	*
Warner	Pacific Coast Hwy	Brightwater Ave.	Class II	*
Valencia	North of Lambert Road	Birch St./Rose Dr.	Class II	*
Carbon	Valencia Ave.	Carbon Canyon Regional	Class II	*
Portola	Irvine City Limit	Lake Forest City Limit	Class II	*
North	Newport Blvd.	Browning Ave.	Class II	*
Santiago	Orange City Limit	Live Oak Canyon Rd.	Class II	*
Live Oak	Santiago Canyon Bikeway	Trabuco Canyon Rd.	Class II	*
Oso Pkwy.	Mission Viejo City Limit	Coto De Caza Dr.	Class II	*
Antonio	Rancho Santa Margarita City Limit	Ortega Hwy.	Class II	*
* Information not provided.				

Unincorporated Orange County Proposed Bikeways

Street/Path	From	To	Class	Mileage
Aliso Woods Canyon Path	Laguna Beach City Limit	Laguna Niguel City Limit	Class I	3.59
Black Star Canyon	End of Black Star Canyon Rd.	Silverado Canyon Rd.	Class I	3.12
BNSF RR	Yorba Linda City Limit	Riverside County Limit	Class I	0.56
Brea Blvd. and Brea Canyon Rd.	Brea City Limit	Los Angeles County Limit	Class I	1.52
Eastern Transportation Corridor Path 2	Santiago Canyon Rd.	Peters Canyon Rd.	Class I	4.49
Eastern Transportation Corridor Path 1	Irvine Park Rd.	Hwy. 241	Class I	3.27
Esplanade Ave.	Fairhaven Ave.	Tustin City Limit	Class I	1.57
Foothill Corridor Path	Ortega Hwy.	Nieblas Rd.	Class I	5.63
Northwood Ave.	Berry St. Path	Canyon Country Rd.	Class I	1.14
Ortega / La Pata Spur	San Juan Capistrano	Ortega Ave.	Class I	0.85
Path 2	Brea City Limit	Brea City Limit	Class I	0.23
Portola Pkwy.	Hwy 241	Lake Forest city Limit	Class I	1.22
San Joaquin Corridor Path	Irvine City Limit	Laguna Beach City Limit	Class I	2.44
San Joaquin Hills Path	Irvine City Limit	Laguna Beach City Limit	Class I	1.20
Santiago Canyon Rd.	Orange City Limit	Live Oak Canyon Rd.	Class I	10.73
Santiago Creek Path (segments between Orange and Villa Park)	Orange City Limit	Villa Park City Limit	Class I	0.93
Silverado Canyon Rd.	Santiago Canyon Rd.	Black Star Canyon	Class I	0.18
Tonner Canyon Rd.	Brea Blvd.	Los Angeles County Limit	Class I	2.58
Tonner Canyon Rd. Spur	Tonner Canyon Rd.	Brea City Limit	Class I	0.92
Trabuco Canyon Rd. Path	Rancho Santa Margarita City Limit	Main Divide Rd.	Class I	8.91
Trabuco Canyon Rd. Path 2	Mission Viejo City Limit	Rancho Santa Margarita City Limit	Class I	4.19
UP RR	Brookhurst St.	Gilbert St.	Class I	0.50
Valencia Ave.	Lambert Rd.	Brea City Limit	Class I	0.24
Windy Ridge Path	Orange City Limit	East of Windy Ridge Rd.	Class I	1.59
Coast Hwy.	El Moro Canyon	Laguna Beach City Limit	Class II	0.74
Crawford Rd.	Chapman Ave.	Newport Ave.	Class II	1.12
Cristianitos Rd.	Ortega Hwy.	Wilson Camp Rd.	Class II	1.13
Edinger Ave.	Fountain Valley City Limit	Santa Ana City Limit	Class II	0.07
Esperanza Rd.	Richard Nixon Pkwy.	Yorba Linda City Limit	Class II	0.52
Fairhaven Ave.	Yorba St.	Hewes St.	Class II	1.25
Fairlynn Blvd.	Oakvale Dr.	Esperanza Rd.	Class II	0.25
Foothill Corridor Road	San Clemente City Limit	Cristianitos Rd.	Class II	0.62
Glassell St.	Anaheim City Limit	Orange City Limit	Class II	0.11
Hewes Segment 1	Bond Ave.	El Carmen Ave.	Class II	0.13
Hewes Segment 2	Spring St.	Pearl Ave.	Class II	0.19
Kellogg Dr.	Yorba Linda City Limit	Shadowhill Dr.	Class II	0.35
Avenida La Pata	Ortega Hwy.	San Celemente City Limit	Class II	3.19
Laguna Canyon Path 1	Irvine City Limit	Laguna Beach City Limit	Class II	1.32
Lambert Rd.	Brea City Limit	Valencia Ave.	Class II	0.44

Street/Path	From	To	Class	Mileage
Live Oak Canyon	El Toro Rd.	Trabuco Canyon Rd.	Class II	3.25
Newport Blvd.	Marcy Dr.	Orange City Limit	Class II	1.55
Oda Nursery	Ortega Hwy.	Foothill Corridor Path	Class II	0.23
Ortega Hwy.	San Clemente City Limit	Riverside County Limit	Class II	14.54
Pacific Coast Hwy.	Warner Ave.	Huntington Beach City Limit	Class II	0.31
Prospect Ave.	Fairhaven Ave.	El Camino Ln.	Class II	0.93
Rancho Santiago Blvd.	Avenida Palmar	Pearl Ave.	Class II	0.25
Red Hill Ave.	Melvin Way	Irvine Blvd.	Class II	0.16
Richard M Nixon Pkwy.	Esperanza Rd.	Yorba Linda City Limit	Class II	0.25
Santa Ana Ave.	Mesa Dr.	Costa Mesa City Limit	Class II	0.39
Soquel Canyon Rd. Segment 1	Brea City Limit	Brea City Limit	Class II	1.04
Soquel Canyon Rd. Segment 2	Brea City Limit	Riverside County Limit	Class II	0.98
Spring St.	Orange City Limit	Earlham St.	Class II	0.00
Trabuco Canyon Rd.	Live Oak Canyon Rd.	Antonio Pkwy.	Class II	1.41
Tustin Ave.	Santa Ana City Limit	Santa Ana City Limit	Class II	0.12
University Dr.	Santa Ana Ave.	Irvine Ave.	Class II	0.24
Wilson Camp Rd.	San Clemente City Limit	Cristianitos Rd.	Class II	1.30
Yorba Linda Blvd.	Kilt Ave.	Placentia City Limit	Class II	0.18
Crown Valley Pkwy.	Mission Viejo City Limit	Antonio Pkwy.	Class III	1.49
Dodge Ave.	Esplanade Ave.	Hewes St.	Class III	0.32
La Colina Dr.	Newport Ave.	Ranchwood Rd.	Class III	1.13
Laguna Canyon Path 2	Laguna Canyon Path 1	Laguna Woods City Limit	Class III	0.45
Mountain View Ave.	Kello Dr.	Sunmist Dr.	Class III	0.15
Newport Inlet Path	Coast Hwy.	Newport Beach City Limit	Class III	0.78
Santa Clara Ave.	Prospect Ave.	Esplanade Ave.	Class III	0.52
			TOTAL	197.90miles

Unincorporated Orange County Proposed Bikeway Cost Estimates

Facility	Miles	Unit Cost (per mile)	Total
Class I	61.6	$500,000	$30,800,000.0
Class II	38.56	$50,000	$1,928,000.0
Class III	4.84	$10,000	$48,400.0
		Total	$32,776,400.0

Map 3.35 Unincorporated County Land Use

3.36. Caltrans

Caltrans has completed draft plans for the following state routes: 1, 39, 72, 74, 90, and 142. State Route (SR) 1, locally known as Pacific Coast Highway, is an official state bicycle route with Class II and Class III bicycle facilities and is well used* by cyclists for commuter and recreational trips.

State Routes 39, 72, 74, and 142 have no designated bicycle facilities but are sometimes used by cyclists on weekends. These routes are opportune areas for bicycle facilities because they are located in close proximity to other bicycle facilities, recreational areas, neighborhoods, and job centers.

State Route 90 has a Class I bike path adjacent to it that exists between Yorba Linda Boulevard and Orangethorpe Avenue.

Existing bikeways on the state routes are reported in this section as well as in the existing conditions sections of jurisdictions that contain the state routes.

State Existing Bicycle Routes (Caltrans)

Street	From	To	Class	Mileage
SR 90 (adjacent to)	Orangethorpe Ave.	Yorba Linda Blvd.	Class I	*
SR 1	Copper Lantern	Blue Lantern	Class II	*
SR 1	Reef Point Dr.	Seward Rd.	Class II	*
SR 1	Avocado Ave.	Dover Dr.	Class II	*
SR 1	I-55 Off Ramp	61st St.	Class II	*
SR 1	Mid-block between Huntington St. and 1st St.	7th Street	Class II	*
SR 1	Superior Ave.	Orange St.	Class II	*
SR 1	Anderson St.	Seal Beach Blvd.	Class II	*
SR 1	Main St.	LA/OC boundary	Class II	*
SR 1	Nordina St.	Beach Blvd.	Class III	*
SR 1	Orange St.	Newland St.	Class III	*
* Mileage not provided by Caltrans				

Appendices

A-1 Surveys
A-2 Survey Results
A-3 User Estimation Method
A-4 Orange County Existing & Proposed Bikeways
A-5 Destination Demand Maps
A-6 Presentation Boards
A-7 Caltrans Deputy Directive 64
A-8 USDOT: Accommodating Bicycle and Pedestrian TravelA-1 Surveys

A-1: Survey

Orange County Transportation Authority
Bicycle Survey

1. Why do you bike? (check all that apply)

*** Please mail surveys to**
453 S Spring St, Suite 804
Los Angeles CA 9003

Contact Jennifer Allen or Greg Nord at:
jenniferallen@altaplanning.com
gnord@octa.net

- □ For exercise/ health reasons
- □ For pleasure
- □ For shopping/errands
- □ To get to work
- □ To get to school
- □ To get to transit
- □ I don't bike
- □ Other please specify) _____

2. How many days per week do you ride?

□ 0 □ 1 □ 2 □ 3 □ 4 □ 5 □ 6 □ 7

3. What is your zip code? _____

4. What is the average distance of your rides (one-way)?

- □ Under 2 miles
- □ 3-5 miles
- □ 6-10 miles
- □ 11-24 miles
- □ 25 miles and above

5. Where are your favorite places or routes to bike? Please be specific.

_____

_____

6. What prevents you from biking more often? (Check all that apply)

- □ Destinations are too far away
- □ Too many cars / cars drive too fast
- □ Drivers don't share the road
- □ I travel with small children
- □ No bike paths, lanes or bike routes
- □ I have to carry things
- □ Not enough time
- □ Insufficient lighting
- □ Bikeways/roads in poor condition
- □ Weather
- □ Other (please specify)

  _____
  _____

7. Where are the most difficult places for you to bike and why? Where would you ride if you could and what prevents you from riding there?

_____

_____

8. Please rank your preference for bicycle facilities, on a scale of 1 to 4 (1 being most preferred and 4 being least preferred)

	1 Most preferred	2	3	4 Least Preferred
Off-street paved bike paths	☐	☐	☐	☐
On-street bike lanes	☐	☐	☐	☐
Bike routes	☐	☐	☐	☐
Unpaved trails or dirt paths	☐	☐	☐	☐

9. Would the following improvements influence you to bike more often? (Please rate each improvement by likelihood of influencing you to bike more often)

	Very Likely	Likely	Somewhat Likely	Not Very Likely	Unlikely	No	Not Sure
More Bike Lanes (Separate Lanes for bikes) on Major Streets	☐	☐	☐	☐	☐	☐	☐
More Bike Routes	☐	☐	☐	☐	☐	☐	☐
More Paved (off-street) Bike Paths	☐	☐	☐	☐	☐	☐	☐
Increased Maintenance (sweeping/repairs to bike lanes, routes, paths, and landscape trimming, etc.)	☐	☐	☐	☐	☐	☐	☐
Widen Outside/Curb Lanes on Major Streets (easier to share lanes with cars)	☐	☐	☐	☐	☐	☐	☐
More On-Road Bike Signage	☐	☐	☐	☐	☐	☐	☐
More Bicycle Parking	☐	☐	☐	☐	☐	☐	☐
Education or Promotional Programs for Drivers	☐	☐	☐	☐	☐	☐	☐
Education or Promotional Programs for Cyclists	☐	☐	☐	☐	☐	☐	☐

Other (please specify)

_____

A-2: Survey Results

Table A-2: Survey Question 1

Why do you bike? (check all that apply)

Answer Options	Response Percent	Response Count
For exercise/ health reasons	92%	1007
For pleasure	84%	918
For shopping/errands	38%	421
To get to work	54%	587
To get to school	11%	115
To get to transit	15%	165
I don't bike	1%	9
Other (please specify)	6%	66
	answered question	1094
	skipped question	3

Table A-3: Survey Question 2

How many days per week do you ride?

Answer Options	Response Percent	Response Count
0 days per week	1%	14
1 day per week	8%	88
2 days per week	14%	153
3 days per week	24%	261
4 days per week	20%	214
5 days per week	18%	196
6 days per week	7%	74
7 days per week	8%	88
	answered question	1088
	skipped question	9

Table A-4: Survey Question 4

What is the average distance of your rides? (one-way)

Answer Options	Response Percent	Response Count
Under 2 miles	6%	67
3-5 miles	15%	165
6-10 miles	27%	294
11-24 miles	34%	366
25 miles and above	18%	195
	answered question	1087
	skipped question	10

Table A-5: Survey Question 6

What prevents you from biking more often? (check all that apply)

Answer Options	Response Percent	Response Count
Destinations are too far away	20%	216
Too many cars / cars drive too fast	53%	577
Drivers don't share the road	53%	571
I travel with small children	5%	58
No bike paths, lanes or bike routes	58%	623
I have to carry things	16%	170
Not enough time	26%	283
Insufficient lighting	11%	115
Bikeways/roads in poor condition	30%	320
Weather	10%	109
Other (please specify)	20%	221
	answered question	1081
	skipped question	16

Table A-6: Survey Question 8:

Please rank your preference for bicycle facilities, on a scale of 1 to 4 (1 being most preferred and 4 being least preferred)

Answer Options	1 Most Preferred	2	3	4 Least Preferred	Response Count
Off-street paved bike paths	**69%**	20%	8%	3%	1077
On-street bike lanes	32%	**41%**	16%	10%	1074
Bike routes	20%	27%	**33%**	20%	1066
Unpaved trails or dirt paths	21%	19%	17%	**43%**	1058
			answered question		1084
			skipped question		13

Table A-7: Survey Question 9

Would the following improvements influence you to bike more often? (Please rate each improvement by likelihood of influencing you to bike more often)

Answer Options	Very Likely	Likely	Somewhat Likely	Not Very Likely	Unlikely	No	Not Sure	Response Count
More Bike Lanes (Separate Lanes for bikes) on Major Streets	67%	19%	8%	3%	1%	2%	0%	1071
More Bike Routes	46%	22%	18%	8%	3%	3%	1%	1058
More Paved (off-street) Bike Paths	70%	13%	10%	3%	2%	1%	0%	1062
Increased Maintenance (sweeping/repairs to bike lanes, routes, paths, and landscape trimming, etc.)	41%	25%	22%	8%	2%	2%	1%	1055
Widen Outside/Curb Lanes on Major Streets (easier to share lanes with cars)	51%	25%	16%	4%	2%	2%	0%	1056
More On-Road Bike Signage	29%	18%	23%	17%	8%	4%	1%	1040
More Bicycle Parking	28%	17%	22%	17%	9%	6%	2%	1023
Education or Promotional Programs for Drivers	36%	18%	18%	13%	8%	5%	2%	1044
Education or Promotional Programs for Cyclists	27%	19%	19%	18%	10%	6%	2%	1035
						Other (please specify)		191
						answered question		1080
						skipped question		17

A-3: User Estimation Method

This section explains the method for estimating the current and potential number of bicycle commuters in Orange County municipalities. Census data, in combination with national commuting statistics from the 2001 National Household Travel Survey (NHTS) and EPA estimates of standard emissions rates for cars, give a rough projection of future bicycle ridership within Orange County, along with trip reduction and air quality benefits.

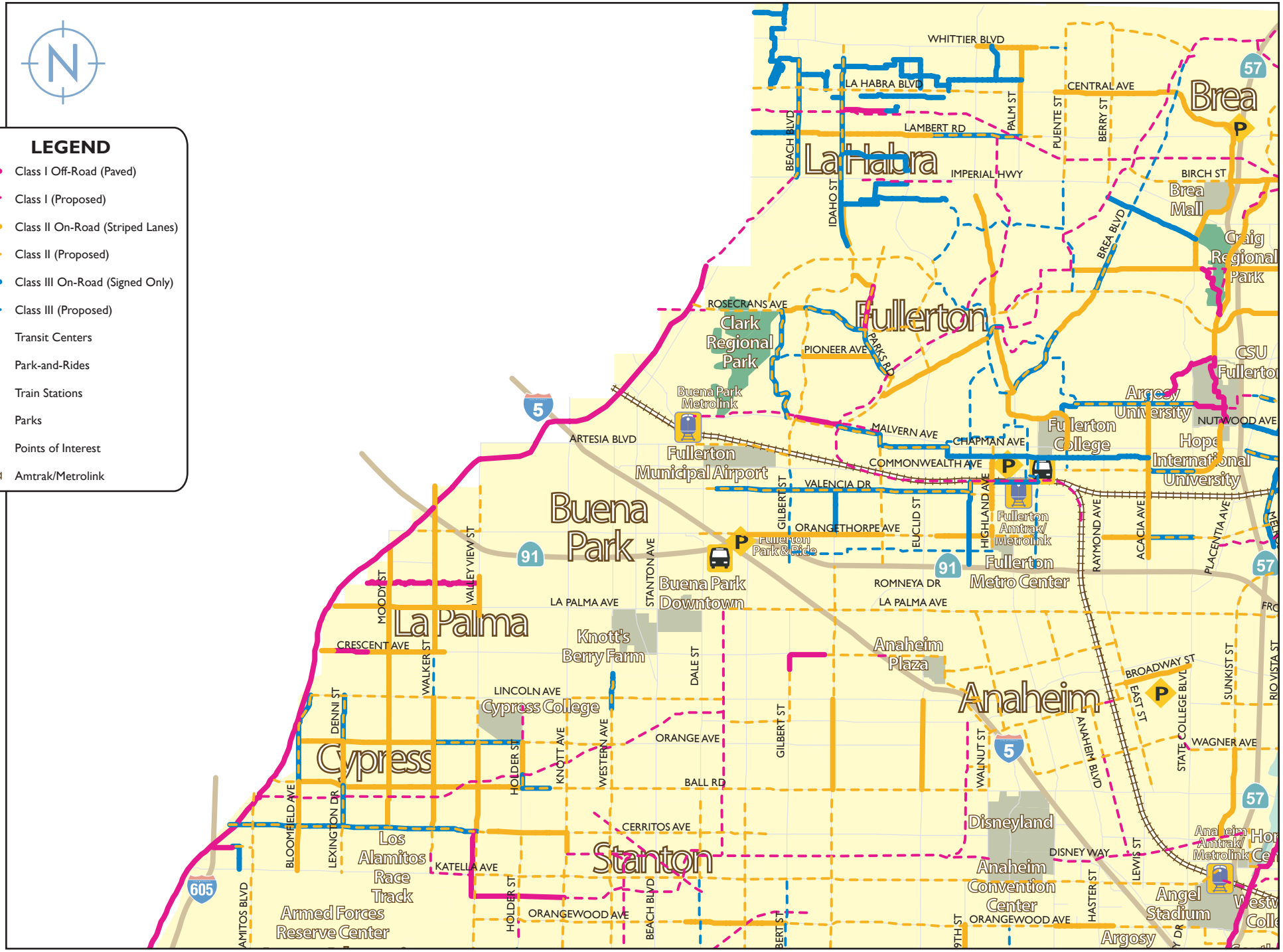
Calculations for each city in Orange County are included in this Plan to meet Caltrans Bicycle Transportation Account requirements (a) to provide "the estimated number of existing bicycle commuters in the Plan area and the estimated increase in the number of bicycle commuters resulting from implementation of the Plan."

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 approximately four miles, which would be equivalent to a 9-minute motor vehicle trip (traveling at about 30 mph).

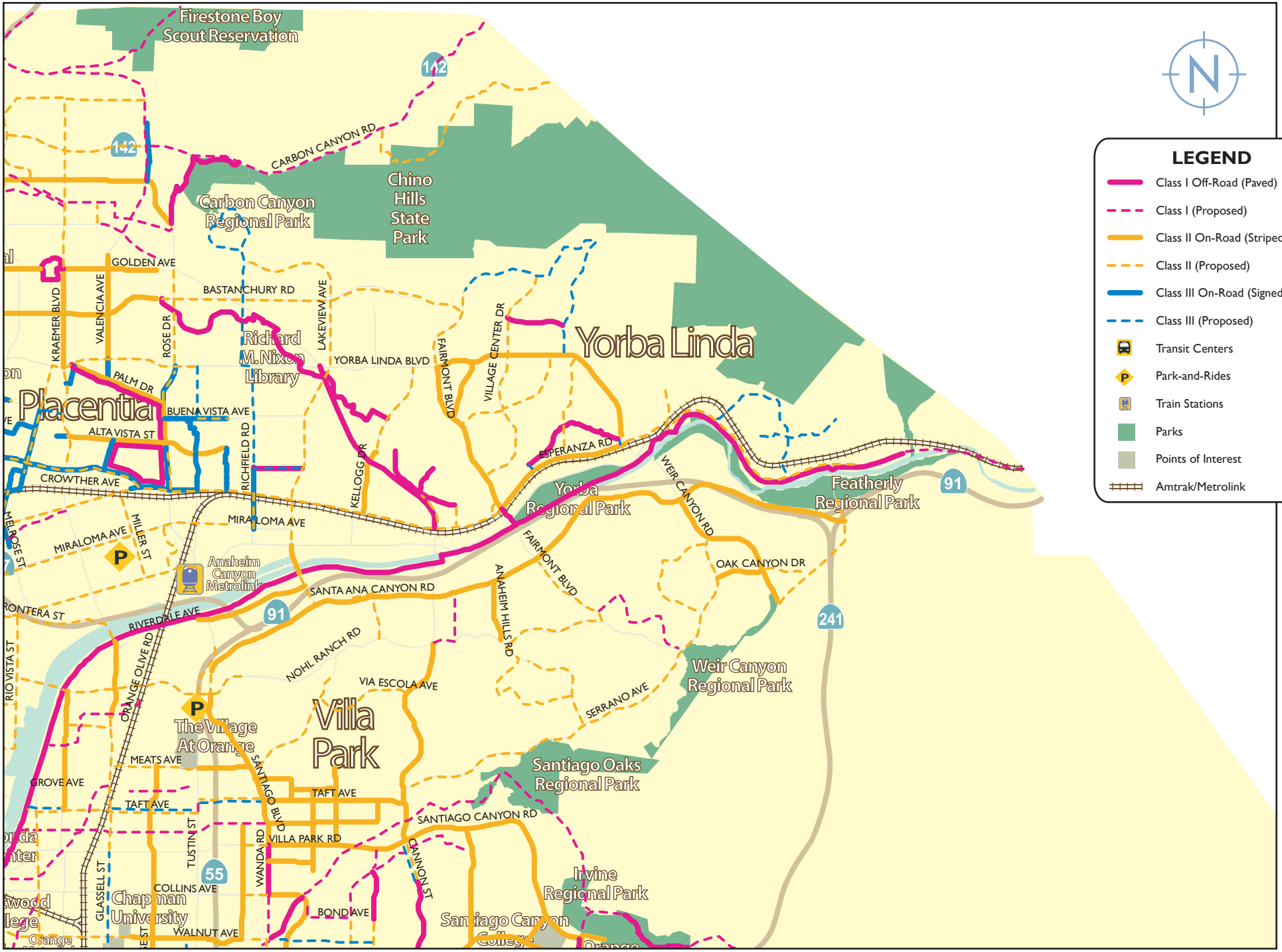
Using this data as a baseline allows assumptions to be made about prospective and current bicycle ridership in Orange County. Estimates are provided in each municipality's respective section in chapter 3 of this document.

A-4: Orange County Existing & Proposed Bikeway Maps

Orange County Bikeways Map / Section 1



Orange County Bikeways Map / Section 2



(to section 1)

(to section 4 + 5)

Orange County Bikeways Map / Section 3

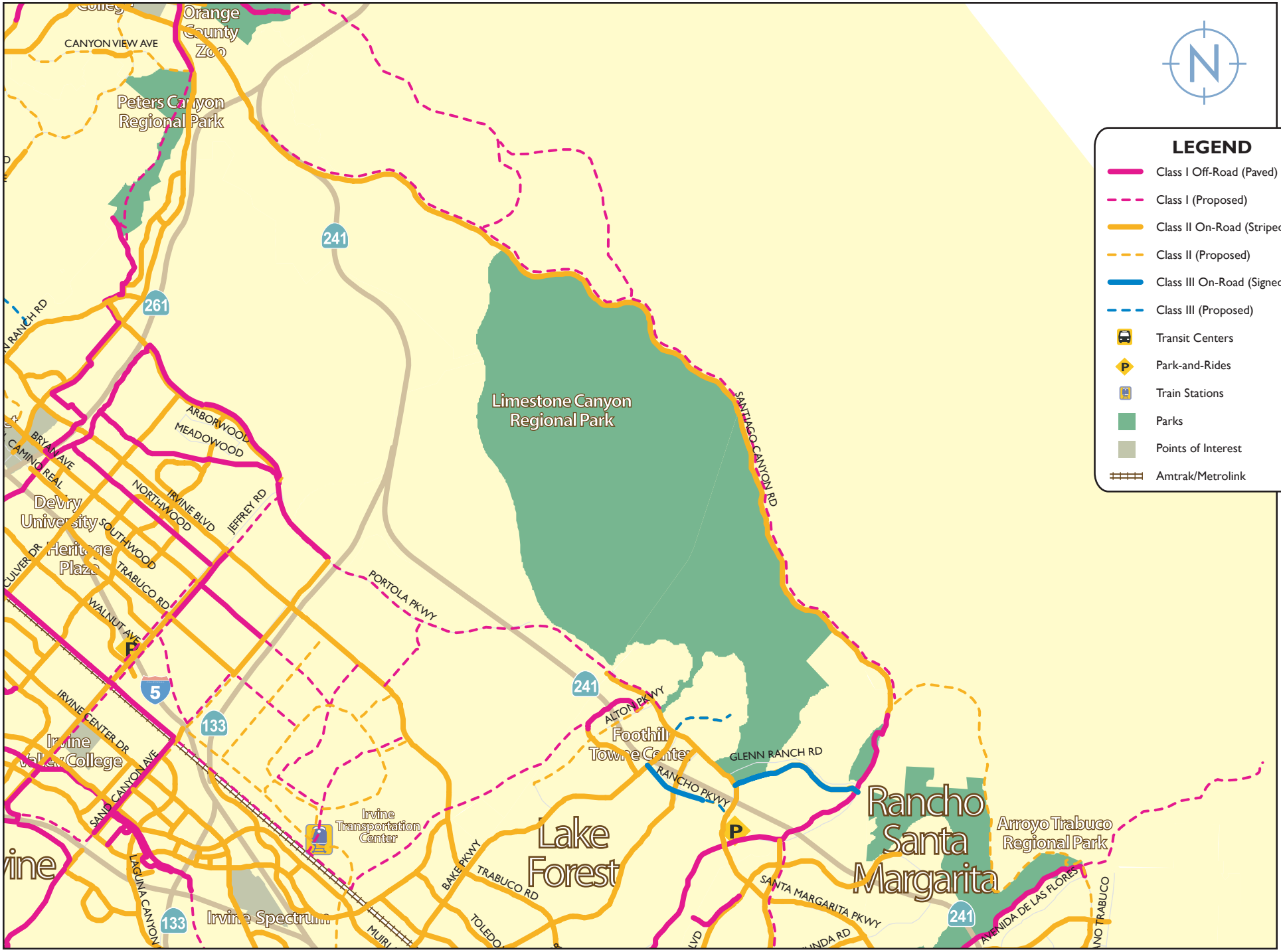
LEGEND

- Class I Off-Road (Paved)
- Class I (Proposed)
- Class II On-Road (Striped Lanes)
- Class II (Proposed)
- Class III On-Road (Signed Only)
- Class III (Proposed)
- Transit Centers
- Park-and-Rides
- Train Stations
- Parks
- Points of Interest
- Amtrak/Metrolink

Orange County Bikeways Map / Section 4

Orange County Bikeways Map / Section 5

(to section 2)

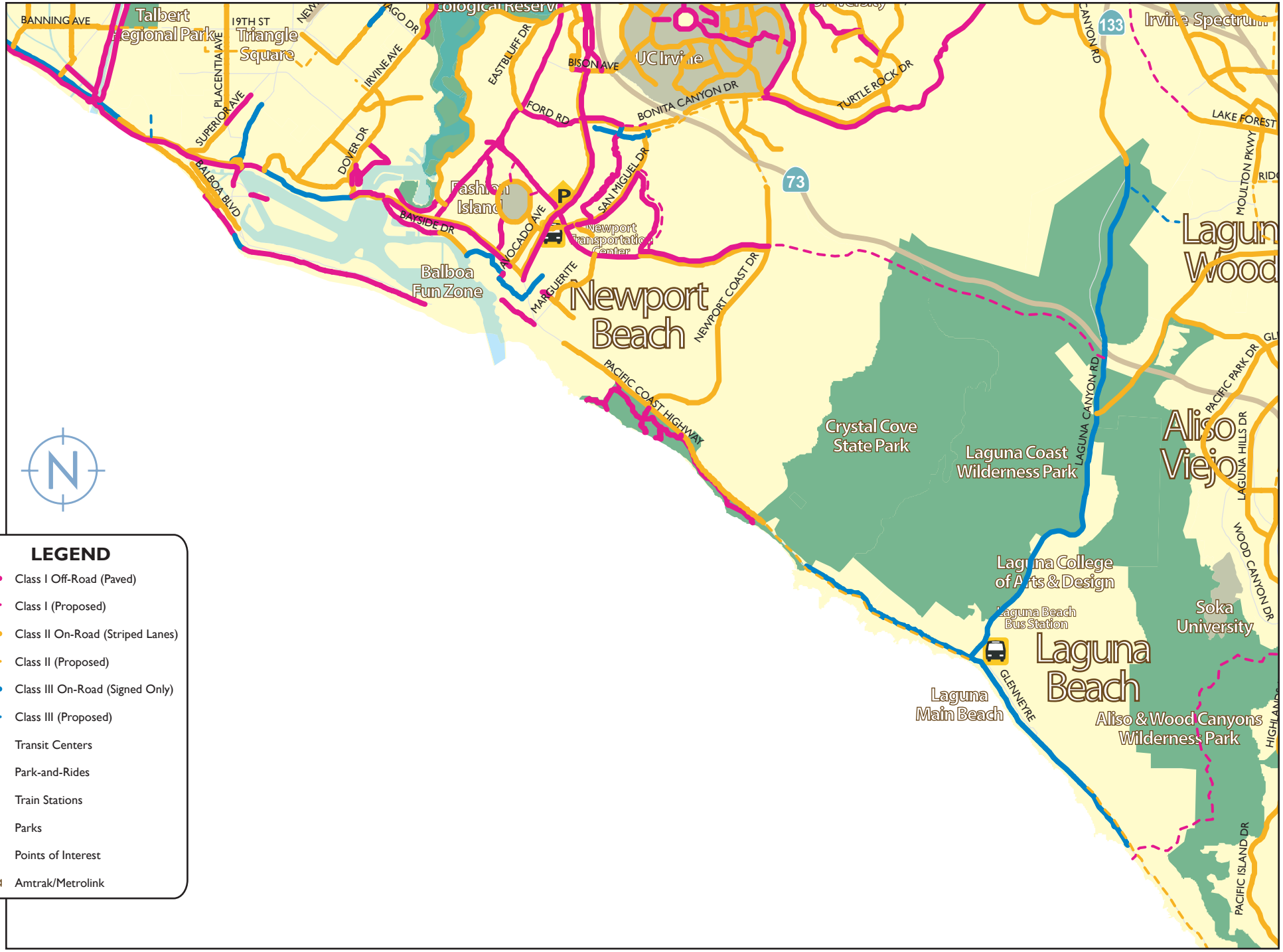


(to section 4)

(to section 7)

Orange County Bikeways Map / Section 6

(to section 3 + 4)



(to section 7)

LEGEND

- Class I Off-Road (Paved)
- Class I (Proposed)
- Class II On-Road (Striped Lanes)
- Class II (Proposed)
- Class III On-Road (Signed Only)
- Class III (Proposed)
- Transit Centers
- Park-and-Rides
- Train Stations
- Parks
- Points of Interest
- Amtrak/Metrolink

Orange County Bikeways Map / Section 7

(to section 5)

(to section 6)

(to section 8)

Orange County Bikeways Map / Section 8

(to section 7)

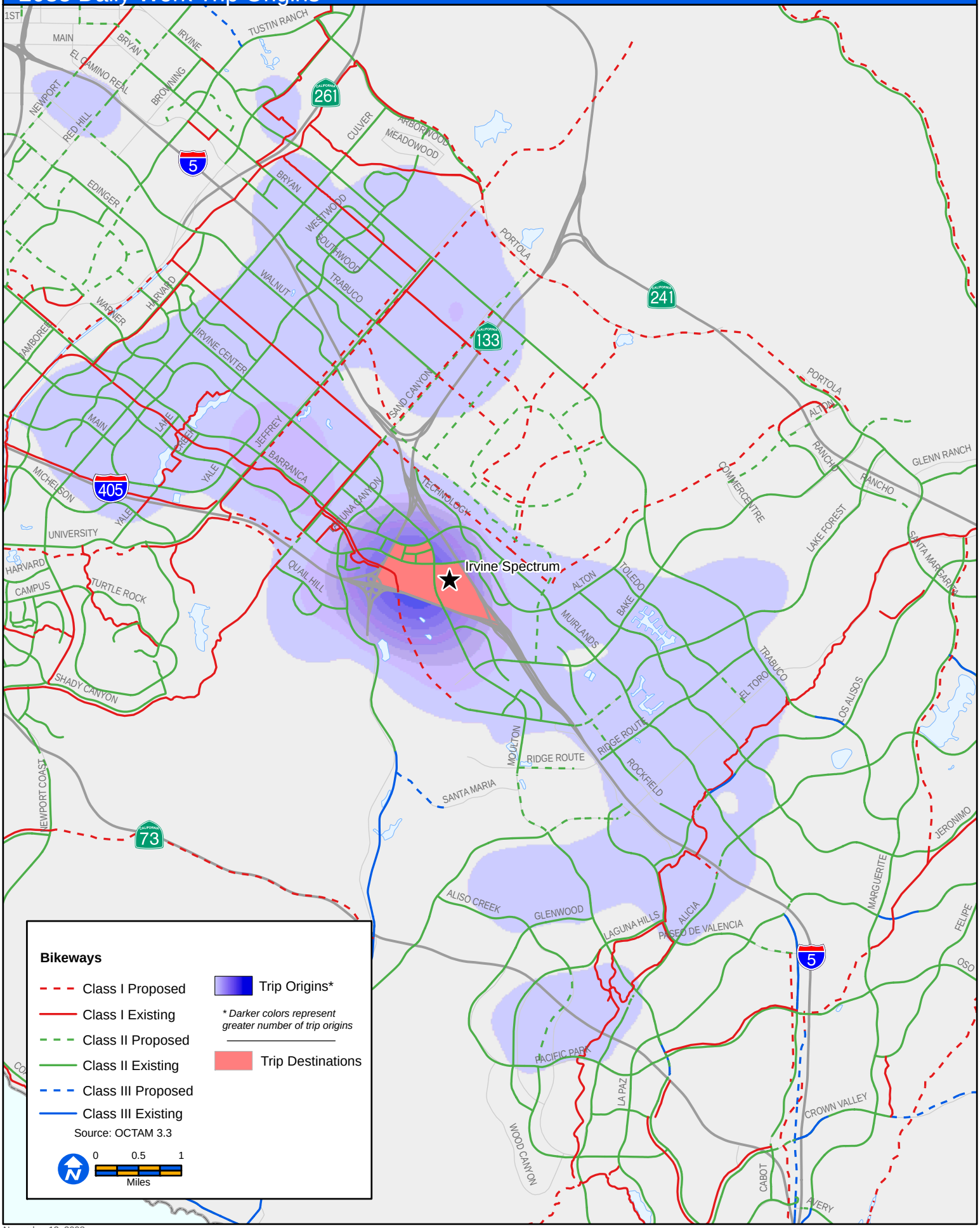
LEGEND

- Class I Off-Road (Paved)
- Class I (Proposed)
- Class II On-Road (Striped Lanes)
- Class II (Proposed)
- Class III On-Road (Signed Only)
- Class III (Proposed)
- Transit Centers
- Park-and-Rides
- Train Stations
- Parks
- Points of Interest
- Amtrak/Metrolink

A-5: Destination Demand Maps

Irvine Spectrum Area

2035 Daily Work Trip Origins



November 12, 2008

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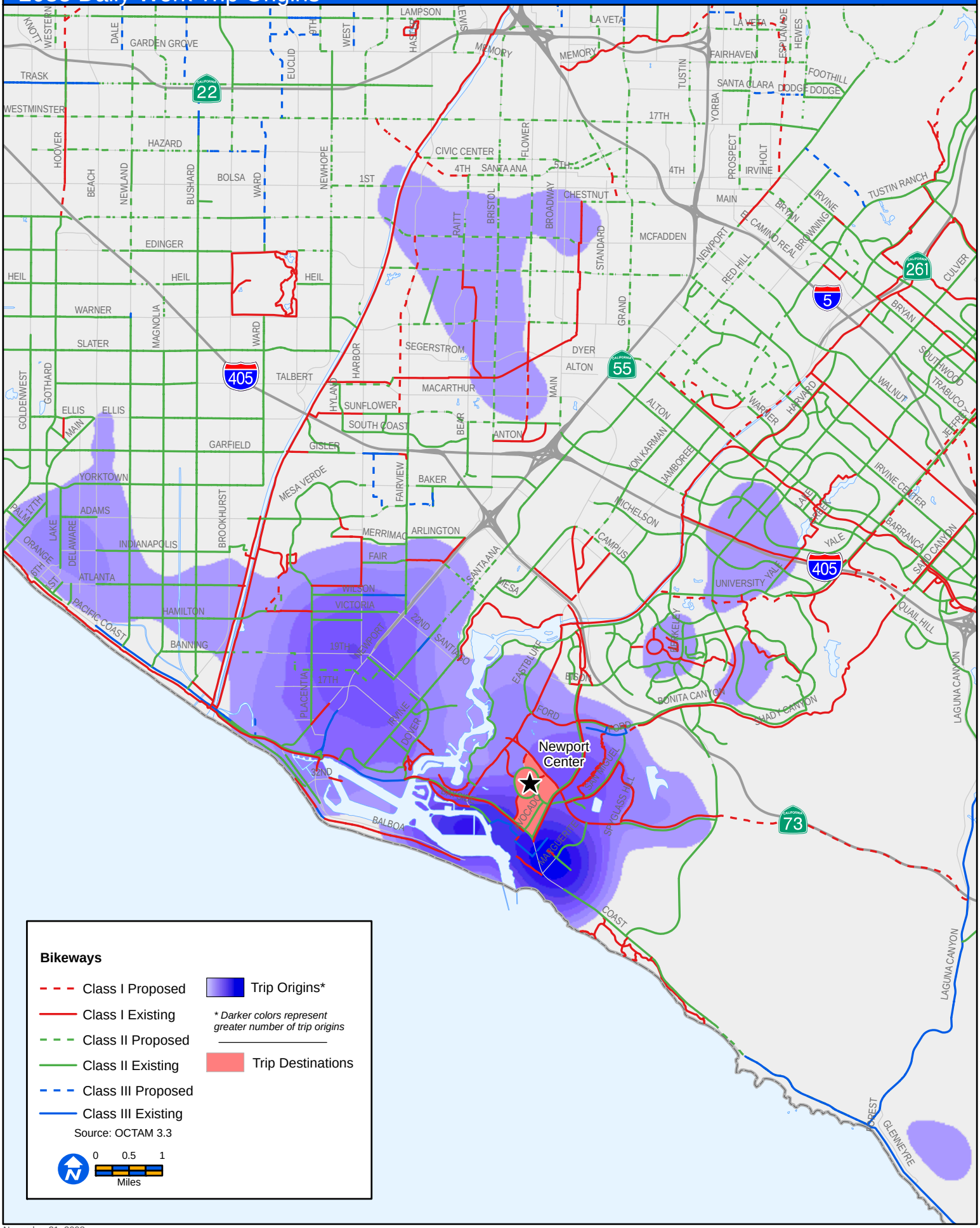
Newport Center

2035 Daily Work Trip Origins



November 21, 2008

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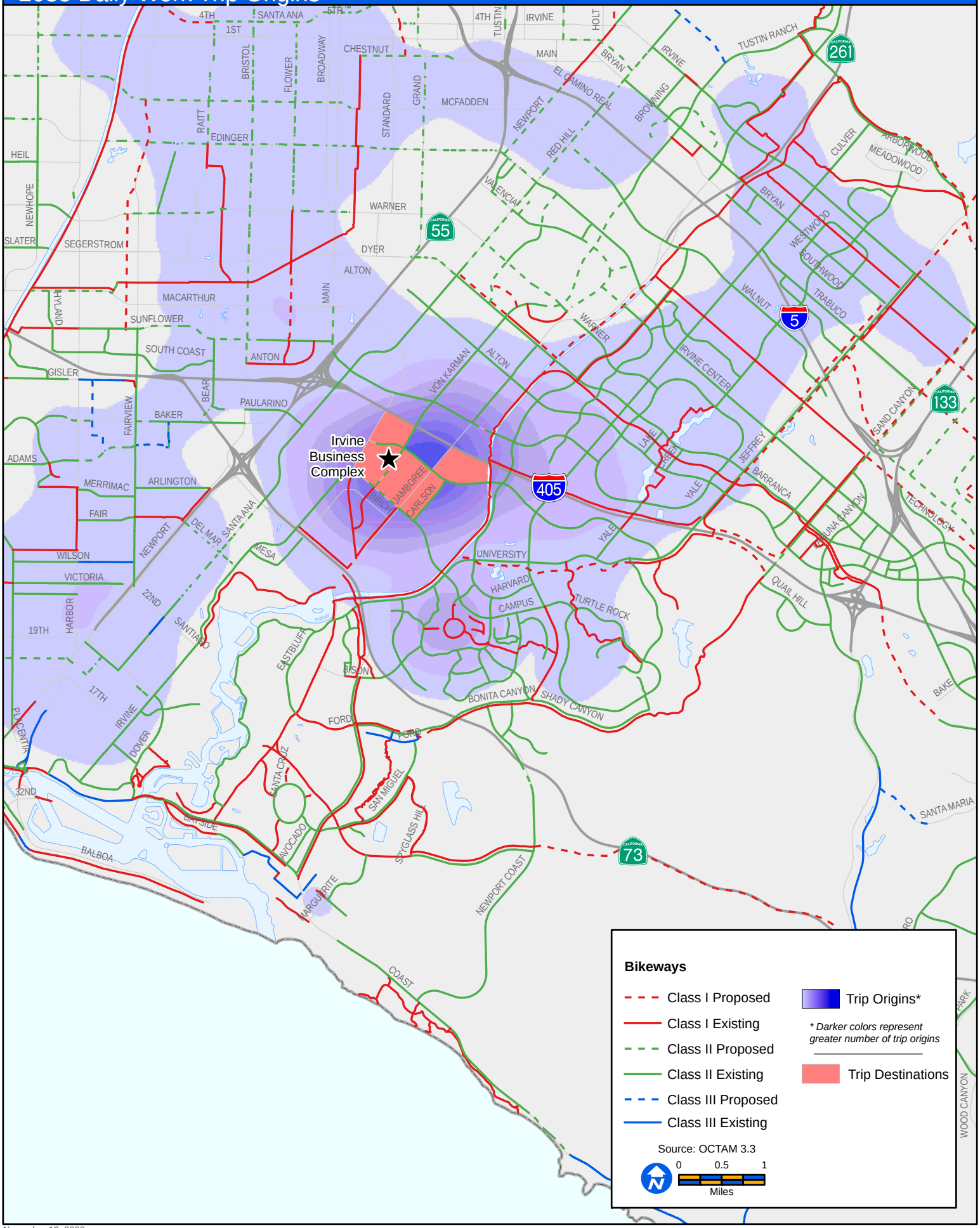
Irvine Business Complex

2035 Daily Work Trip Origins



November 12, 2008

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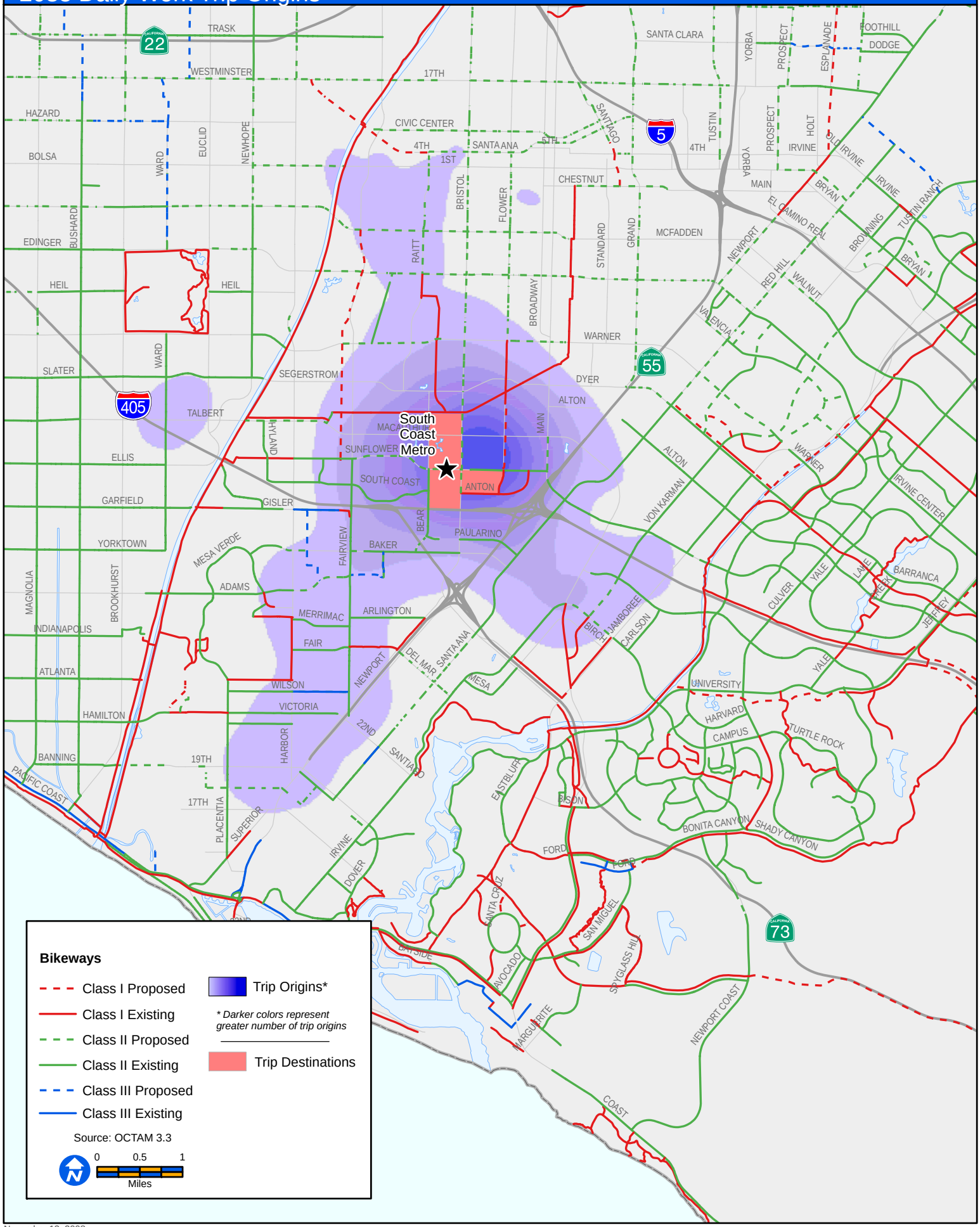
South Coast Metro Area

2035 Daily Work Trip Origins



November 12, 2008

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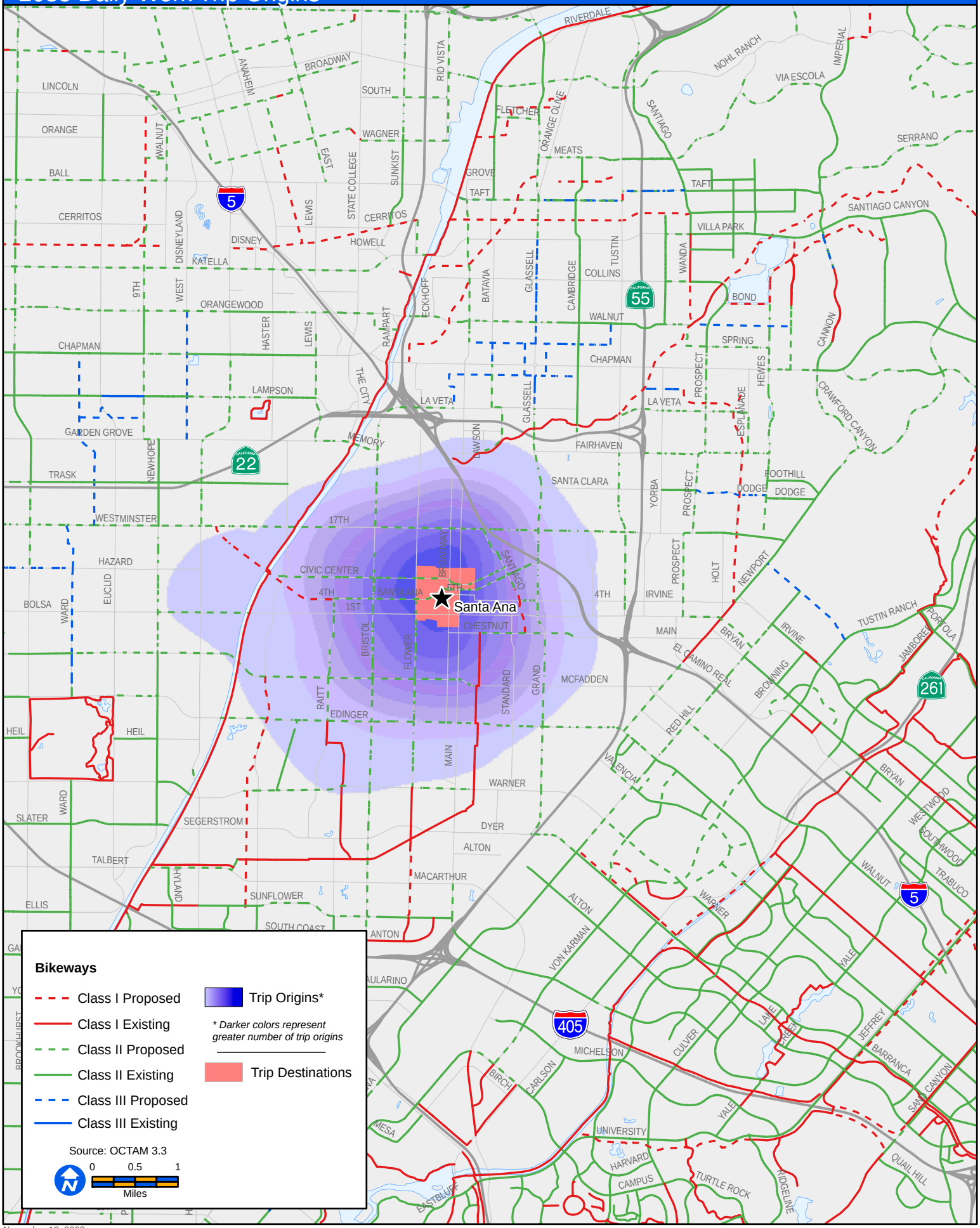
Downtown Santa Ana

2035 Daily Work Trip Origins



November 12, 2008

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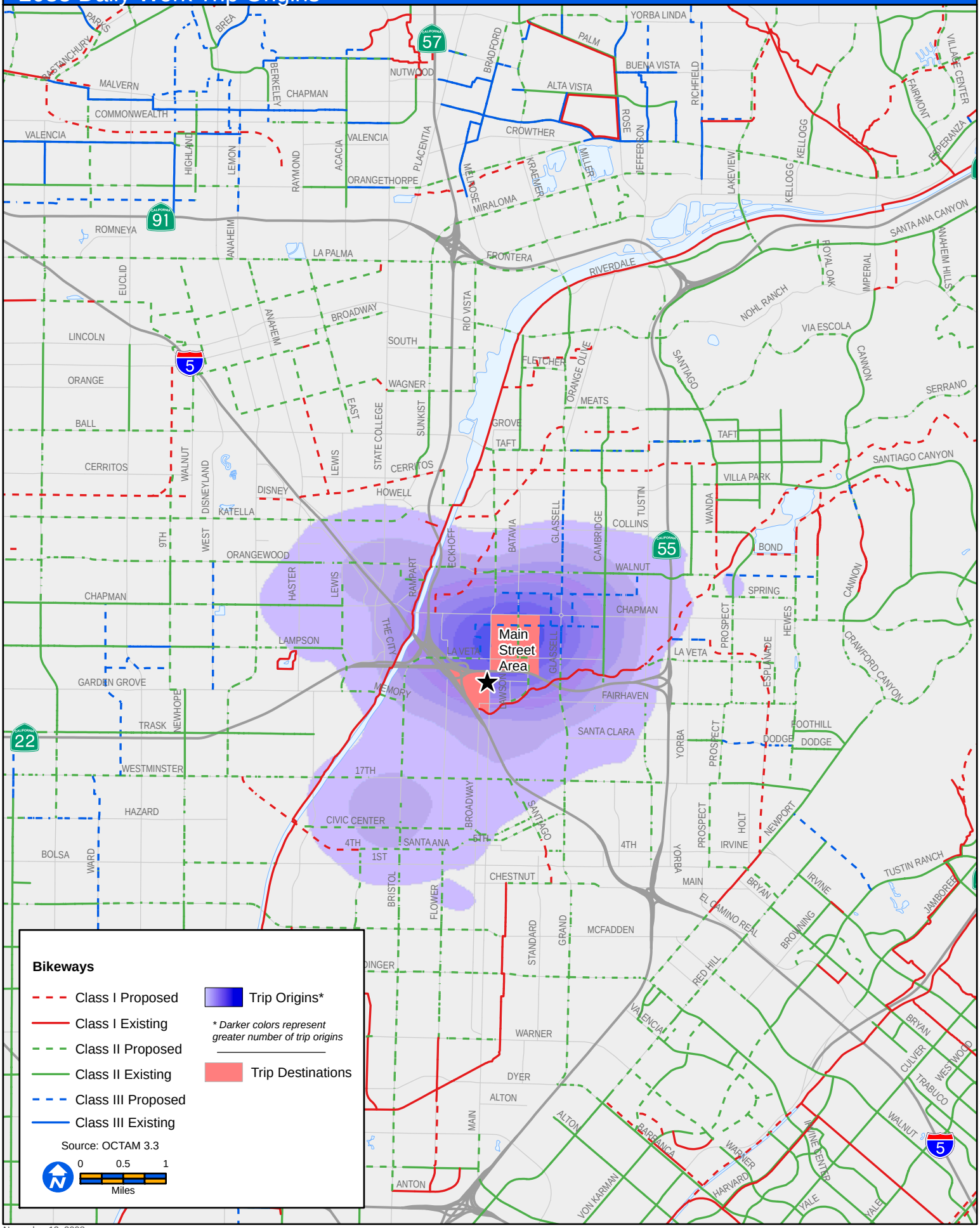
Main Street Area (Santa Ana / Orange)

2035 Daily Work Trip Origins



November 12, 2008

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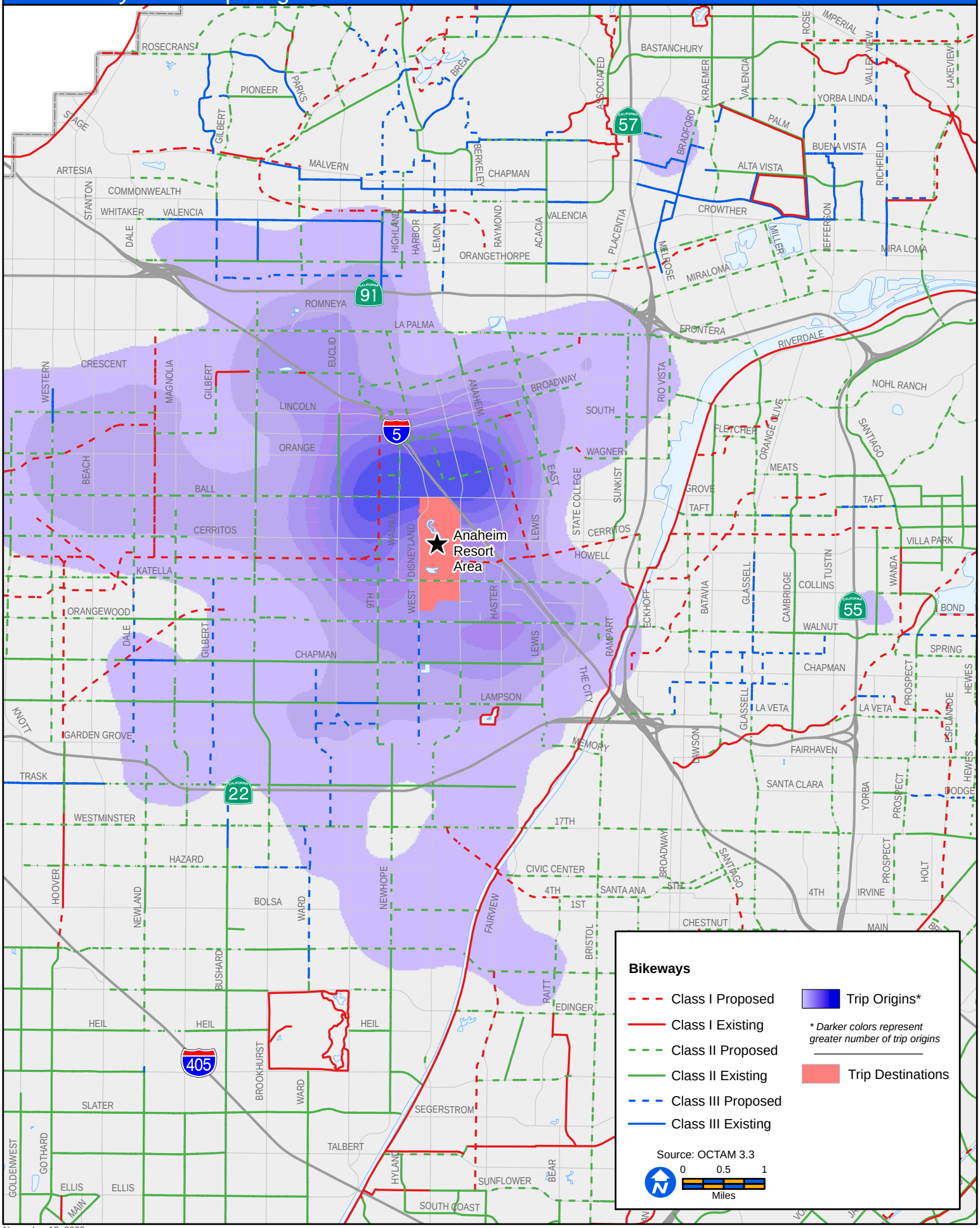
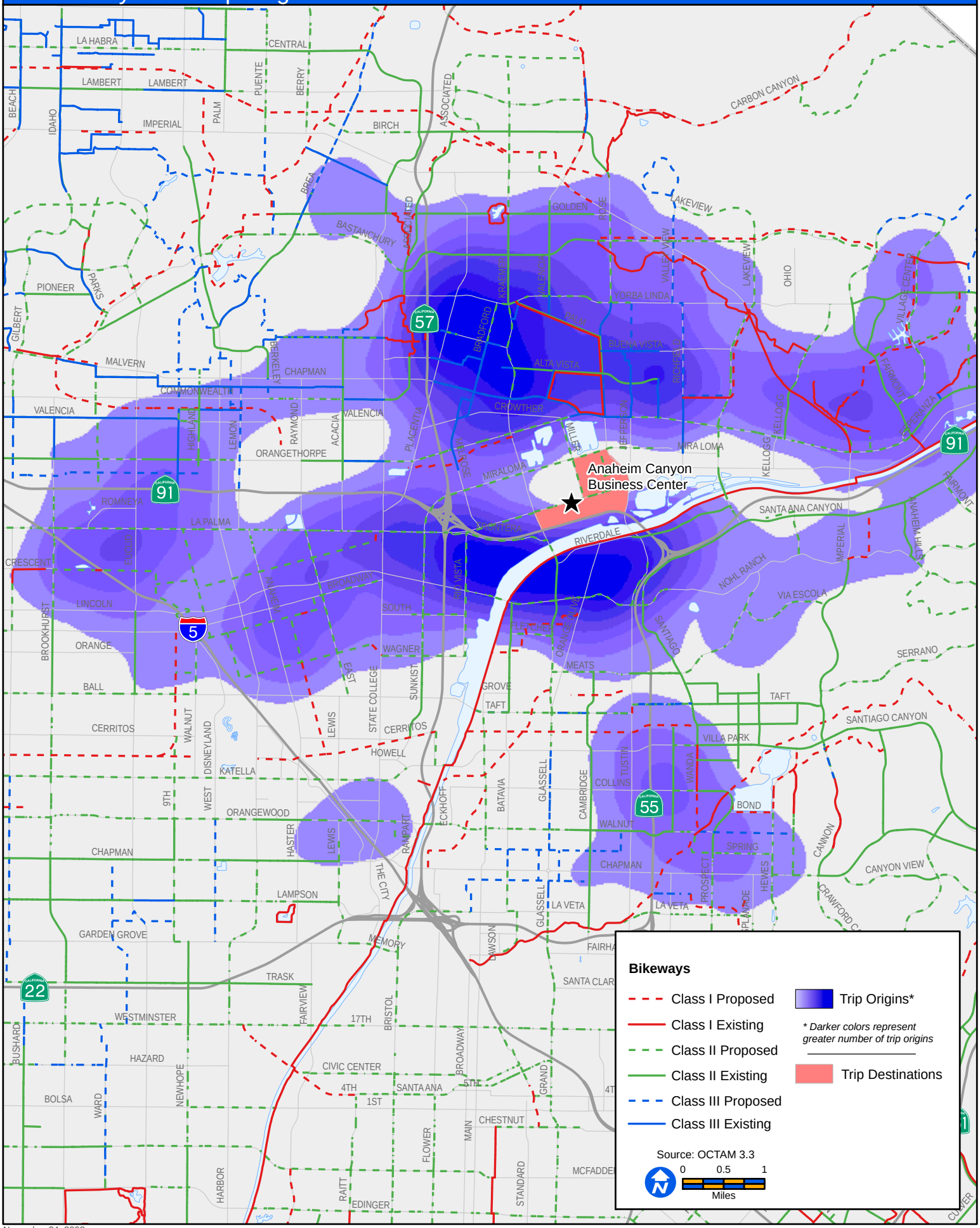
Anaheim Resort Area
2035 Daily Work Trip Origins



Anaheim Canyon Business Center

2035 Daily Work Trip Origins



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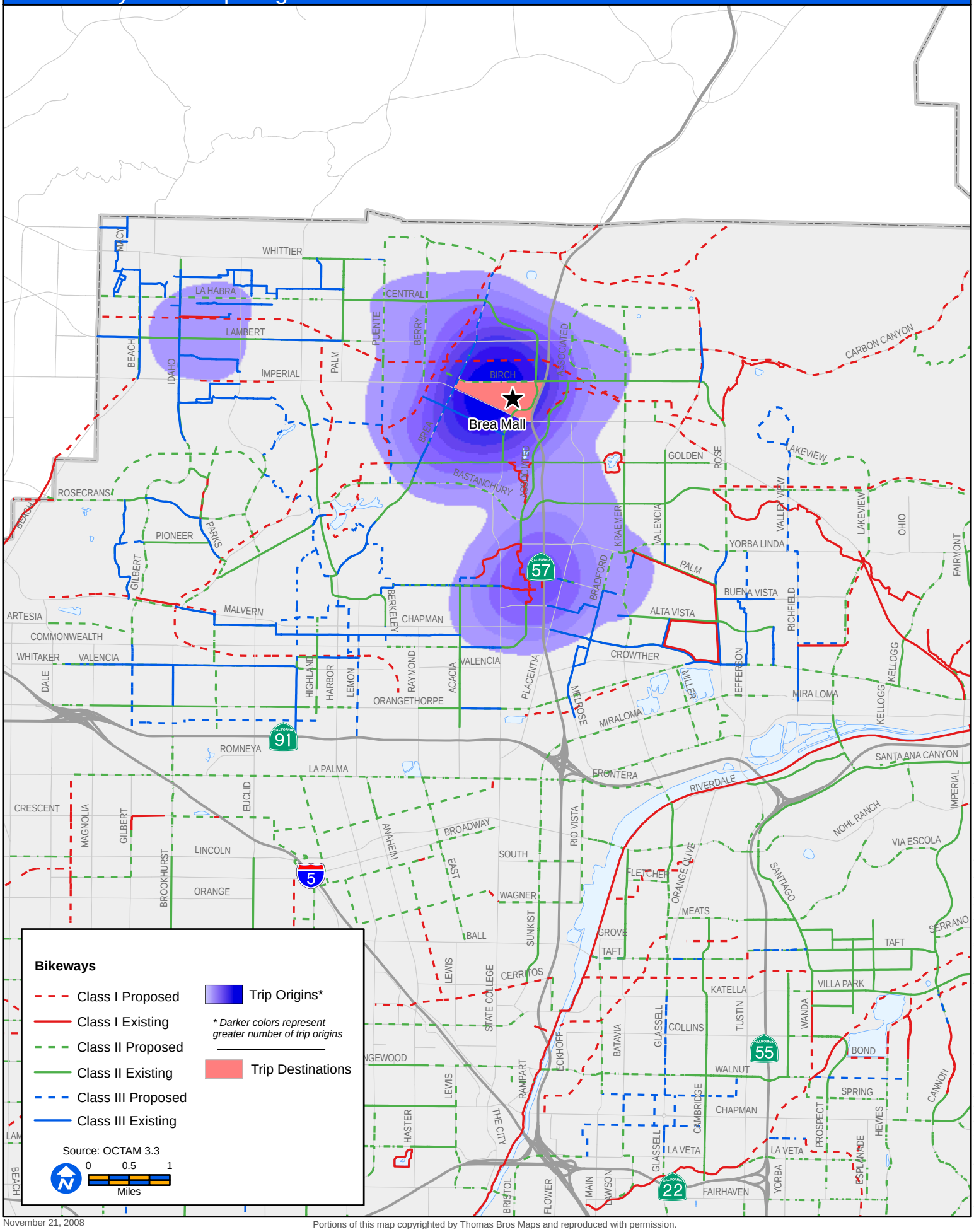
November 24, 2008

Brea Mall
2035 Daily Work Trip Origins



November 21, 2008

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A-6: Caltrans Deputy Directive 64

Deputy Directive

Number: DD-64-R1

Refer to Director's Policy:
DP-22
Context Sensitive Solutions
DP-05
Multimodal Alternatives
DP-06
Caltrans Partnerships
DP-23-R1
Energy Efficiency, Conservation and Climate Change

Effective Date: October 2008

Supersedes: DD-64 (03-26-01)

TITLE Complete Streets - Integrating the Transportation System

POLICY

The California Department of Transportation (Department) provides for the needs of travelers of all ages and abilities in all planning, programming, design, construction, operations, and maintenance activities and products on the State highway system. The Department views all transportation improvements as opportunities to improve safety, access, and mobility for all travelers in California and recognizes bicycle, pedestrian, and transit modes as integral elements of the transportation system.

The Department develops integrated multimodal projects in balance with community goals, plans, and values. Addressing the safety and mobility needs of bicyclists, pedestrians, and transit users in all projects, regardless of funding, is implicit in these objectives. Bicycle, pedestrian, and transit travel is facilitated by creating "complete streets" beginning early in system planning and continuing through project delivery and maintenance and operations. Developing a network of "complete streets" requires collaboration among all Department functional units and stakeholders to establish effective partnerships.

DEFINITIONS/BACKGROUND

Complete Street – A transportation facility that is planned, designed, operated, and maintained to provide safe mobility for all users, including bicyclists, pedestrians, transit riders, and motorists appropriate to the function and context of the facility.

The intent of this directive is to ensure that travelers of all ages and abilities can move safely and efficiently along and across a network of "complete streets."

State and federal laws require the Department and local agencies to promote and facilitate increased bicycling and walking. California Vehicle Code (CVC) (Sections 21200-21212), and Streets and Highways Code (Sections 890 – 894.2) identify the rights of bicyclists and pedestrians, and establish legislative intent that people of all ages using all types of mobility devices are able to travel on roads. Bicyclists, pedestrians, and nonmotorized traffic are permitted on all State facilities, unless prohibited (CVC, section 21960). Therefore, the Department and local agencies have the duty to provide for the safety and mobility needs of all who have legal access to the transportation system.

Department manuals and guidance outline statutory requirements, planning policy, and project delivery procedures to facilitate multimodal travel, which includes connectivity to public transit for bicyclists and pedestrians. In many instances, roads designed to Department standards provide basic access for bicycling and walking. This directive does not supersede existing laws. To ensure successful implementation of "complete streets," manuals, guidance, and training will be updated and developed.

RESPONSIBILITIES

Chief Deputy Director:

- Establishes policy consistent with the Department's objectives to develop a safe and efficient multimodal transportation system for all users.
- Ensures management staff is trained to provide for the needs of bicyclists, pedestrians, and transit users.

Deputy Directors, Planning and Modal Programs and Project Delivery:

- Include bicycle, pedestrian, and transit modes in statewide strategies for safety and mobility, and in system performance measures.
- Provide tools and establish processes to identify and address the needs of bicyclists, pedestrians, and transit users early and continuously throughout planning and project development activities.
- Ensure districts document decisions regarding bicycle, pedestrian, and transit modes in project initiation and scoping activities.
- Ensure Department manuals, guidance, standards, and procedures reflect this directive, and identify and explain the Department's objectives for multimodal travel.
- Ensure an Implementation Plan for this directive is developed.

Deputy Director, Maintenance and Operations:

- Provides tools and establishes processes that ensure regular maintenance and operations activities meet the safety and mobility needs of bicyclists, pedestrians, and transit users in construction and maintenance work zones, encroachment permit work, and system operations.
- Ensures Department manuals, guidance, standards, and procedures reflect this directive and identifies and explains the Department's objectives for multimodal travel.

District Directors:

- Promote partnerships with local, regional, and State agencies to plan and fund facilities for integrated multimodal travel and to meet the needs of all travelers.
- Identify bicycle and pedestrian coordinator(s) to serve as advisor(s) and external liaison(s) on issues that involve the district, local agencies, and stakeholders.
- Ensure bicycle, pedestrian, and transit needs are identified in district system planning products; addressed during project initiation; and that projects are designed, constructed, operated, and maintained using current standards.
- Ensure bicycle, pedestrian, and transit interests are appropriately represented on interdisciplinary planning and project delivery development teams.
- Provide documentation to support decisions regarding bicycle, pedestrian, and transit modes in project initiation and scoping activities.

Deputy District Directors, Planning, Design, Construction, Maintenance, and Operations:

- Ensure bicycle, pedestrian, and transit user needs are addressed and deficiencies identified during system and corridor planning, project initiation, scoping, and programming.
- Collaborate with local and regional partners to plan, develop, and maintain effective bicycle, pedestrian, and transit networks.
- Consult locally adopted bicycle, pedestrian, and transit plans to ensure that State highway system plans are compatible.
- Ensure projects are planned, designed, constructed, operated, and maintained consistent with project type and funding program to provide for the safety and mobility needs of all users with legal access to a transportation facility.
- Implement current design standards that meet the needs of bicyclists, pedestrians, and transit users in design, construction and maintenance work zones, encroachment permit work, and in system operations.
- Provide information to staff, local agencies, and stakeholders on available funding programs addressing bicycle, pedestrian, and transit travel needs.

Chiefs, Divisions of Aeronautics, Local Assistance, Mass Transportation, Rail, Transportation Planning, Transportation System Information, Research and Innovation, and Transportation Programming:

- Ensure incorporation of bicycle, pedestrian, and transit travel elements in all Department transportation plans and studies.
- Support interdisciplinary participation within and between districts in the project development process to provide for the needs of all users.
- Encourage local agencies to include bicycle, pedestrian, and transit elements in regional and local planning documents, including general plans, transportation plans, and circulation elements.
- Promote land uses that encourage bicycle, pedestrian, and transit travel.
- Advocate, partner, and collaborate with stakeholders to address the needs of bicycle, pedestrian, and transit travelers in all program areas.
- Support the development of new technology to improve safety, mobility, and access for bicyclists, pedestrians, and transit users of all ages and abilities.
- Research, develop, and implement multimodal performance measures.
- Provide information to staff, local agencies, and stakeholders on available funding programs to address the needs of bicycle, pedestrian, and transit travelers.

Chiefs, Divisions of Traffic Operations, Maintenance, Environmental Analysis, Design, Construction, and Project Management:

- Provide guidance on project design, operation, and maintenance of work zones to safely accommodate bicyclists, pedestrians, and transit users.
- Ensure the transportation system and facilities are planned, constructed, operated, and maintained consistent with project type and funding program to maximize safety and mobility for all users with legal access.
- Promote and incorporate, on an ongoing basis, guidance, procedures, and product reviews that maximize bicycle, pedestrian, and transit safety and mobility.
- Support multidisciplinary district participation in the project development process to provide for the needs of all users.

Employees:

- Follow and recommend improvements to manuals, guidance, and procedures that maximize safety and mobility for all users in all transportation products and activities.
- Promote awareness of bicycle, pedestrian, and transit needs to develop an integrated, multimodal transportation system.
- Maximize bicycle, pedestrian, and transit safety and mobility through each project's life cycle.

APPLICABILITY

All departmental employees.

Randell H. Iwasaki
RANDELL H. IWASAKI
Chief Deputy Director

October 2, 2008
Date Signed

A-7: USDOT, Accommodating Bicycle and Pedestrian Travel

Accommodating Bicycle and Pedestrian Travel: A Recommended Approach, Policy of the US DOT; full document at http://www.fhwa.dot.gov/environment/bikeped/design.htm

Excerpts:

Purpose:

Accommodating Bicycle and Pedestrian Travel: A Recommended Approach is a policy statement adopted by the United States Department of Transportation. USDOT hopes that public agencies, professional associations, advocacy groups, and others adopt this approach as a way of committing themselves to integrating bicycling and walking into the transportation mainstream. The Design Guidance incorporates three key principles:

a. a policy statement that **bicycling and walking facilities will be incorporated into all transportation projects** unless exceptional circumstances exist;
b. an approach to achieving this policy that has already worked in State and local agencies; and
c. a series of action items that a public agency, professional association, or advocacy group can take to achieve the overriding goal of improving conditions for bicycling and walking.

The Policy Statement was drafted by the U.S. Department of Transportation in response to Section 1202 (b) of the Transportation Equity Act for the 21st Century (TEA-21) with the input and assistance of public agencies, professional associations and advocacy groups.

Policy Statement

1. Bicycle and pedestrian ways shall be established in new construction and reconstruction projects in all urbanized areas unless one or more of three conditions are met:

- bicyclists and pedestrians are prohibited by law from using the roadway. In this instance, a greater effort may be necessary to accommodate bicyclists and pedestrians elsewhere within the right of way or within the same transportation corridor.
- the cost of establishing bikeways or walkways would be excessively disproportionate to the need or probable use. Excessively disproportionate is defined as exceeding twenty percent of the cost of the larger transportation project.
- where sparsity of population or other factors indicate an absence of need. For example, the Portland Pedestrian Guide requires "all construction of new public streets" to include sidewalk improvements on both sides, unless the street is a cul-de-sac with four or fewer dwellings or the street has severe topographic or natural resource constraints.

2. In rural areas, paved shoulders should be included in all new construction and reconstruction projects on roadways used by more than 1,000 vehicles per day, as in States such as Wisconsin. Paved shoulders have safety and operational advantages for all road users in addition to providing a place for bicyclists and pedestrians to operate.
Rumble strips are not recommended where shoulders are used by bicyclists unless there is a minimum clear path of four feet in which a bicycle may safely operate.
3. Sidewalks, shared use paths, street crossings (including over- and undercrossings), pedestrian signals, signs, street furniture, transit stops and facilities, and all connecting pathways shall be designed, constructed, operated and maintained so that all pedestrians, including people with disabilities, can travel safely and independently.
4. The design and development of the transportation infrastructure shall improve conditions for bicycling and walking through the following additional steps:

- planning projects for the long-term. Transportation facilities are long-term investments that remain in place for many years. The design and construction of new facilities that meet the criteria in item 1) above should anticipate likely future demand for bicycling and walking facilities and not preclude the provision of future improvements. For example, a bridge that is likely to remain in place for 50 years, might be built with sufficient width for safe bicycle and pedestrian use in anticipation that facilities will be available at either end of the bridge even if that is not currently the case
- addressing the need for bicyclists and pedestrians to cross corridors as well as travel along them. Even where bicyclists and pedestrians may not commonly use a particular travel corridor that is being improved or constructed, they will likely need to be able to cross that corridor safely and conveniently. Therefore, the design of intersections and interchanges shall accommodate bicyclists and pedestrians in a manner that is safe, accessible and convenient.
- getting exceptions approved at a senior level. Exceptions for the non-inclusion of bikeways and walkways shall be approved by a senior manager and be documented with supporting data that indicates the basis for the decision.
- designing facilities to the best currently available standards and guidelines. The design of facilities for bicyclists and pedestrians should follow design guidelines and standards that are commonly used, such as the AASHTO *Guide for the Development of Bicycle Facilities*, AASHTO's *A Policy on Geometric Design of Highways and Streets,* and the ITE Recommended Practice "*Design and Safety of Pedestrian Facilities*".