

Executive Summary



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*Every time I see an adult on a bicycle,
I no longer despair for the future of
the human race.*

- H. G. Wells

The County of Los Angeles Bicycle Master Plan (Plan) proposes a vision for a diverse regional bicycle system of interconnected bicycle corridors, support facilities, and programs to make bicycling more practical and desirable to a broader range of people in the County. The Plan is intended to guide the development and maintenance of a comprehensive bicycle network and set of programs throughout the unincorporated communities of the County of Los Angeles for 20 years (2012 to 2032). The implementation of this Plan will start upon adoption by the Board of Supervisors. The success of the Plan relies on the continued support from all County Departments, the Board of Supervisors, the bicycling public, and advocates throughout the County who recognize the benefits of cycling in their community. The implementation of the network and the programs and policies outlined in the Plan will not be possible without availability of significant and sustained funding levels from grants as well as dedicated funding sources available to the County.

The Plan is an update to the 1975 County Bikeway Plan. The Plan provides direction for improving mobility of bicyclists and encouraging more bicycle ridership within the County by expanding the existing bikeway network, connecting gaps, addressing constrained areas, providing for greater local and regional connectivity, and encouraging more residents to bicycle more often. This Plan is a sub-element of the Transportation Element of the Los Angeles County General Plan. The General Plan is the long-range policy document that guides growth and development in the unincorporated County. The County's General Plan¹ is currently being revised and updated. Once the County's General Plan Update is adopted, this Plan will become a component of the Mobility Element of the County's General Plan. This Plan addresses the guiding principles, goals and policies of the General Plan as it plans for a more bicycle-friendly county that reduces traffic congestion and its carbon footprint, and provides improved opportunities for bicycling and active transportation.

Purpose of the Bicycle Master Plan

The Plan is an update to the 1975 County Bikeway Plan. The Plan provides direction for improving mobility of bicyclists and encouraging more bicycle ridership within the County by expanding the existing bikeway network, connecting gaps, addressing constrained areas, providing for greater local and regional connectivity, and encouraging more residents to bicycle more often.

The Plan complies with Streets and Highways Code Section 891.2, making the County eligible for Bicycle Transportation Account (BTA) funds. The BTA is an annual program that provides state funds for city and county projects that improve safety and convenience for bicycle commuters. **Appendix A** presents the County of Los Angeles Bicycle Master Plan BTA Checklist.

¹ A draft of the 2035 General Plan is available at: <http://planning.lacounty.gov/generalplan>.

Public Participation

Community involvement was vital to the development of the Plan. The Plan team held three rounds of public workshops to present to the public the Plan's findings and recommendations and to receive public feedback. A total of 32 public workshops were conducted.

The Plan team performed extensive outreach, including:

- Electronic mail blasts to stakeholders, including all 88 cities in Los Angeles County.
- Posting notices on the project website.
- Producing a meeting flyer in English and Spanish.
- Creating and distributing a press release.
- Mailing comment cards to local bike shops, libraries, and parks and recreation facilities.
- Discussing the Plan at Town Council meetings in unincorporated areas and at meetings held by the County of Los Angeles Department of Regional Planning for community specific plans.
- Distributing postcards at “Bike to Work Week” events throughout the County sponsored by the Los Angeles County Metropolitan Transportation Authority (LACMTA).
- Posting public service announcements on County websites, Bus Shelters in unincorporated areas, and on buses and shuttles that operate within or near unincorporated areas.
- Retaining the Los Angeles County Bicycle Coalition (LACBC) to assist with the outreach and to encourage attendance at the workshops. LACBC issued a press release to news media, radio and television; they worked with various entities to coordinate the posting of workshop information on these entities' websites; and sent electronic mail blasts to their members/subscribers.

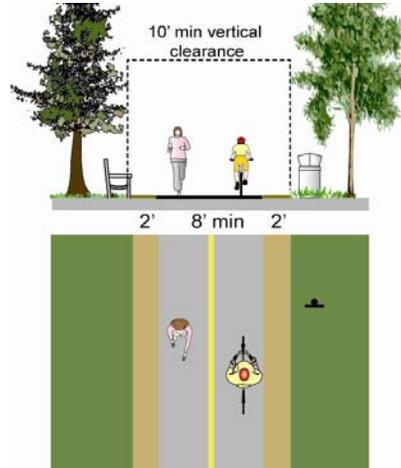
To improve connectivity between the Plan's recommendations and the existing and planned bikeways in other jurisdictions, the County kept the cities throughout Los Angeles County aware of the status of the Plan via electronic mail blasts. The cities were invited to review and comment on the Plan, as well as to attend the public workshops. Although not every city responded, representatives from numerous cities attended the public workshops and submitted comments on the Plan.

Bikeway Facilities Types

Bikeway Description	Example Graphic
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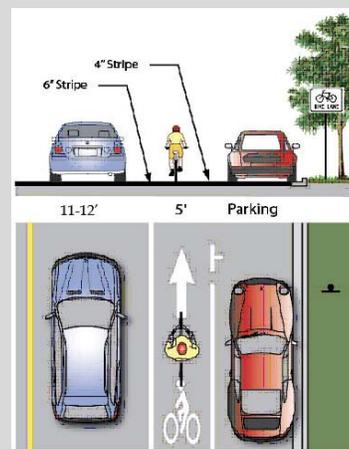
Class I - Bicycle Path

Bike paths, also called shared-use paths or multi-use paths, are paved right-of-way for exclusive use by bicyclists, pedestrians, and other non-motorized modes of travel. They are physically separated from vehicular traffic and can be constructed in roadway right-of-way or exclusive right-of-way. Most of Los Angeles County bicycle paths are located along the creek and river channels, and along the beach. These facilities are often used for recreation but also can provide important transportation connections.



Class II - Bicycle Lane

Bike lanes are defined by pavement striping and signage used to allocate a portion of a roadway for exclusive bicycle travel. Bike lanes are one-way facilities on either side of a roadway. Bike lanes are located adjacent to a curb where no on-street parking exists. Where on-street parking is present, bike lanes are striped to the left side of the parking lane.

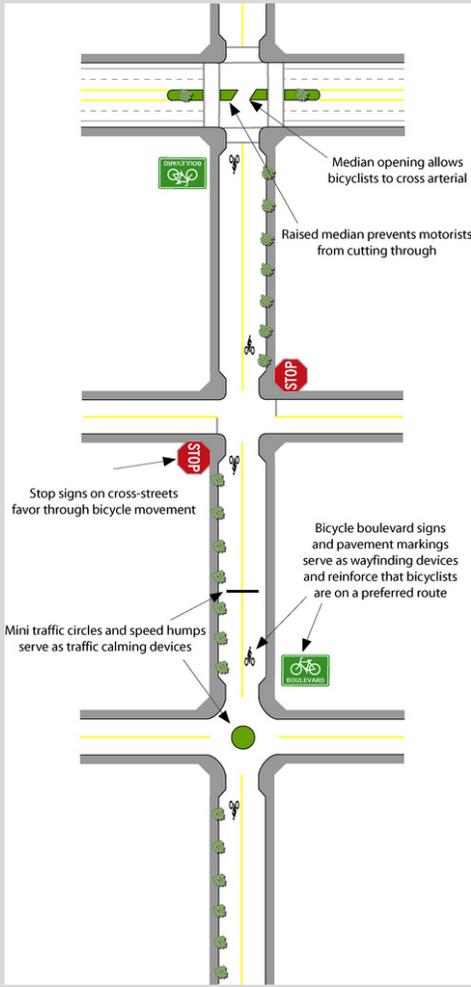


Class III - Bicycle Route

Bike routes provide shared use with motor vehicle traffic within the same travel lane. Designated by signs, bike routes provide continuity to other bike facilities or designate preferred routes through corridors with high demand.



Bikeway Facilities Types (continued)

Bikeway Description	Example Graphic
<p>Bicycle Boulevards</p> <p>Bicycle boulevards are local roads or residential streets that have been enhanced with signage, traffic calming, and other treatments to prioritize bicycle travel. Bicycle boulevards are typically found on low-traffic / low-volume streets that can accommodate bicyclists and motorists in the same travel lanes, without specific bicycle lane delineation. The treatments applied to create a bicycle boulevard heighten motorists' awareness of bicyclists and slow vehicle traffic, making the boulevard more conducive to safe bicycle (and pedestrian) activity. Bicycle boulevard treatments can include signage, pavement markings, intersection treatments, traffic calming measures and can include traffic diversions. The specific treatments employed for a bicycle boulevard will be determined during project implementation based on input received from the public. Bicycle boulevards are not defined as a specific bikeway type by Caltrans; however, the basic design features of bicycle boulevards comply with Caltrans standards.</p>	 <p>The diagram illustrates a bicycle boulevard layout with several key features: <ul style="list-style-type: none"> Median opening: A gap in the raised median at an intersection allows bicyclists to cross the arterial street. Raised median: A continuous raised median along the boulevard prevents motorists from cutting through. Stop signs: Stop signs are placed on cross-streets to favor through bicycle movement. Traffic calming: Mini traffic circles and speed humps are used to slow down motorist traffic. Signage and Markings: Bicycle boulevard signs and pavement markings serve as wayfinding devices and reinforce that bicyclists are on a preferred route. </p>

In addition to these standard designs, the Plan includes innovative bicycle treatments such as colored bicycle lanes, raised bicycle lanes, buffered bicycle lanes, cycletracks, and bicycle boxes. While these treatments do not have approved design standards at this time, the County will incorporate them into the Plan's toolbox of treatments as their uniform designs and standards are approved by the State of California Department of Transportation (Caltrans). Caltrans and the Federal Highway Administration allow for the experimental implementation of such treatments. The County promotes the use of these innovative treatments and will apply for and implement experimental projects utilizing them where cost effective and where such projects enhance the safety of bicycles, pedestrians, and motorists.

Summary of Recommendations

The Plan proposes to build on the existing 144 miles of bikeways throughout the County, and install approximately 832 miles of new bikeways in the next 20 years. Along with the proposed bikeway network, the Plan outlines a range of recommendations to facilitate accomplishing the regional goals of increasing the number of people who bike and the frequency of bicycle trips for all purposes. This will be accomplished by encouraging the development of Complete Streets,² improving safety for bicyclists, and increasing public awareness and support for bicycling in the County of Los Angeles. The recommendations include bicycle infrastructure improvements, bicycle-related programs, implementation strategies, and policy and design guidelines for the unincorporated communities of the County of Los Angeles and where the County owns property or has jurisdictional control, such as along flood control facilities.

Table i-1 summarizes the mileage of existing bikeway facilities and the mileage and cost for bikeway facilities proposed by this Bicycle Master Plan within each of the ten Planning Areas.³ Figures i-1 and i-2 illustrate the percentage of each type of bicycle facility recommended and its respective cost. Figure i-3 and Figures i-4 depict the proposed bicycle network for the eastern and western portions of the County, respectively.

Table i-1: Summary of Existing and Recommended Bikeway Facilities

Planning Area	Existing Facilities			Proposed Facilities			
	Class I	Class II	Class III	Class I	Class II	Class III	Bicycle Blvd
Antelope Valley	3.2	3.8	0.2	---	95.9	134.8	---
East San Gabriel Valley	7.5	7.6	9.4	25.2	31.0	30.6	4.3
Gateway	45.4	1.0	9.7	5.7	23.1	12.0	---
Metro	---	2.3	---	0.7	48.1	26.9	12.4
San Fernando Valley	---	1.5	---	2.2	1.7	7.5	--
Santa Clarita Valley	---	2.4	0.9	16.5	33.4	108.5	--
Santa Monica Mountains	---	0.5	---	---	1.8	93.8	--
South Bay	9.4	1.1	---	9.2	14.8	9.6	0.9
West San Gabriel	23.3	---	2.6	9.1	17.1	34.3	5.2
Westside	11.5	---	0.7	3.2	6.9	5.6	--
Total Mileage	100.3	20.2	23.5	71.8	273.8	463.6	22.8
Total Cost	---	---	---	\$76.4M	\$119.5M	\$134.4M	\$0.69M

² Complete streets are designed and operated to enable safe access for all users. Pedestrians, bicyclists, motorists, and public transportation users of all ages and abilities are able to safely move along and across a complete street. – www.completestreets.org

³ The Plan is organized by the eleven Planning Area boundaries used for the County General Plan, with the exception of the Coastal Islands planning area, which contains no County-maintained roadways.

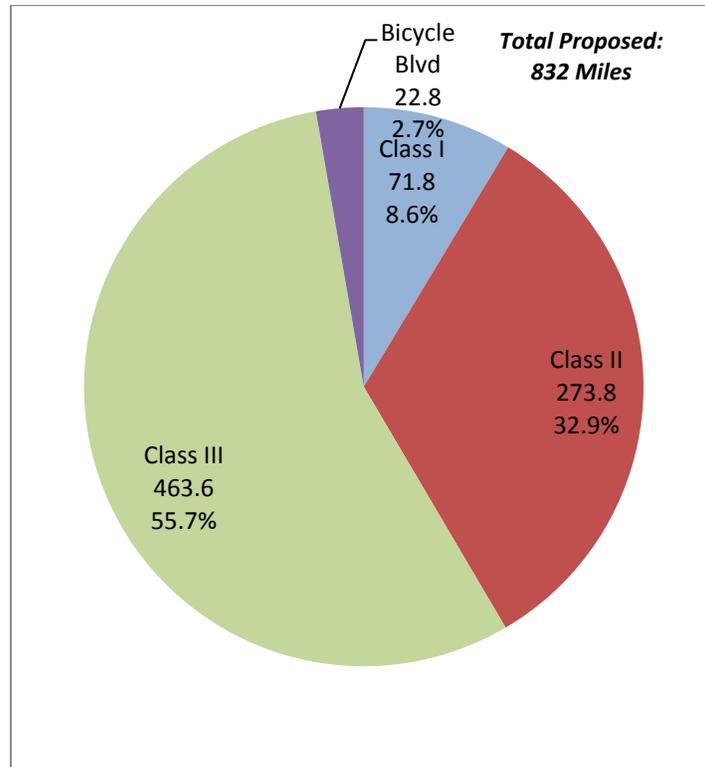


Figure i-1: Total Miles of Proposed Bikeway Facilities

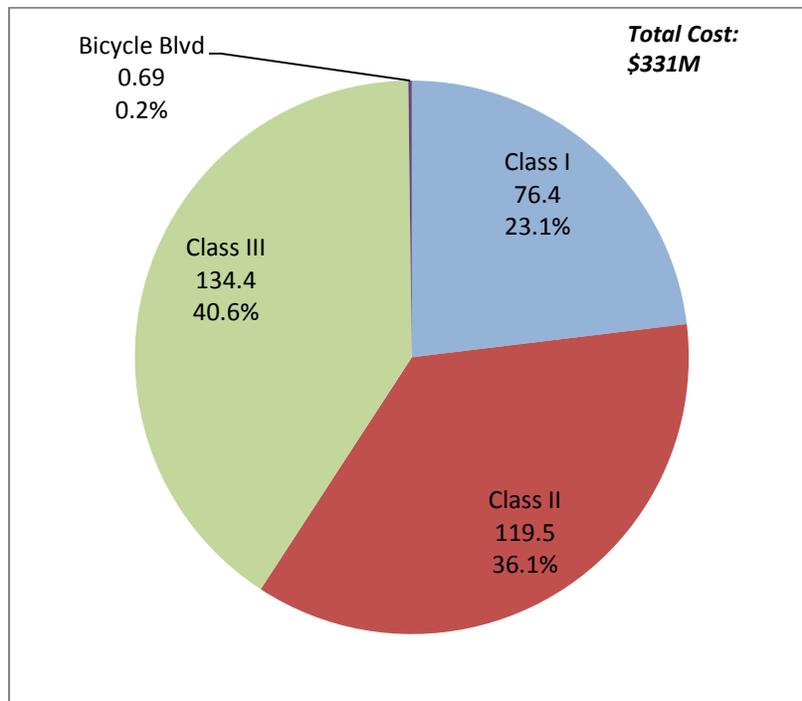


Figure i-2: Estimated Cost of Proposed Bikeway Facilities

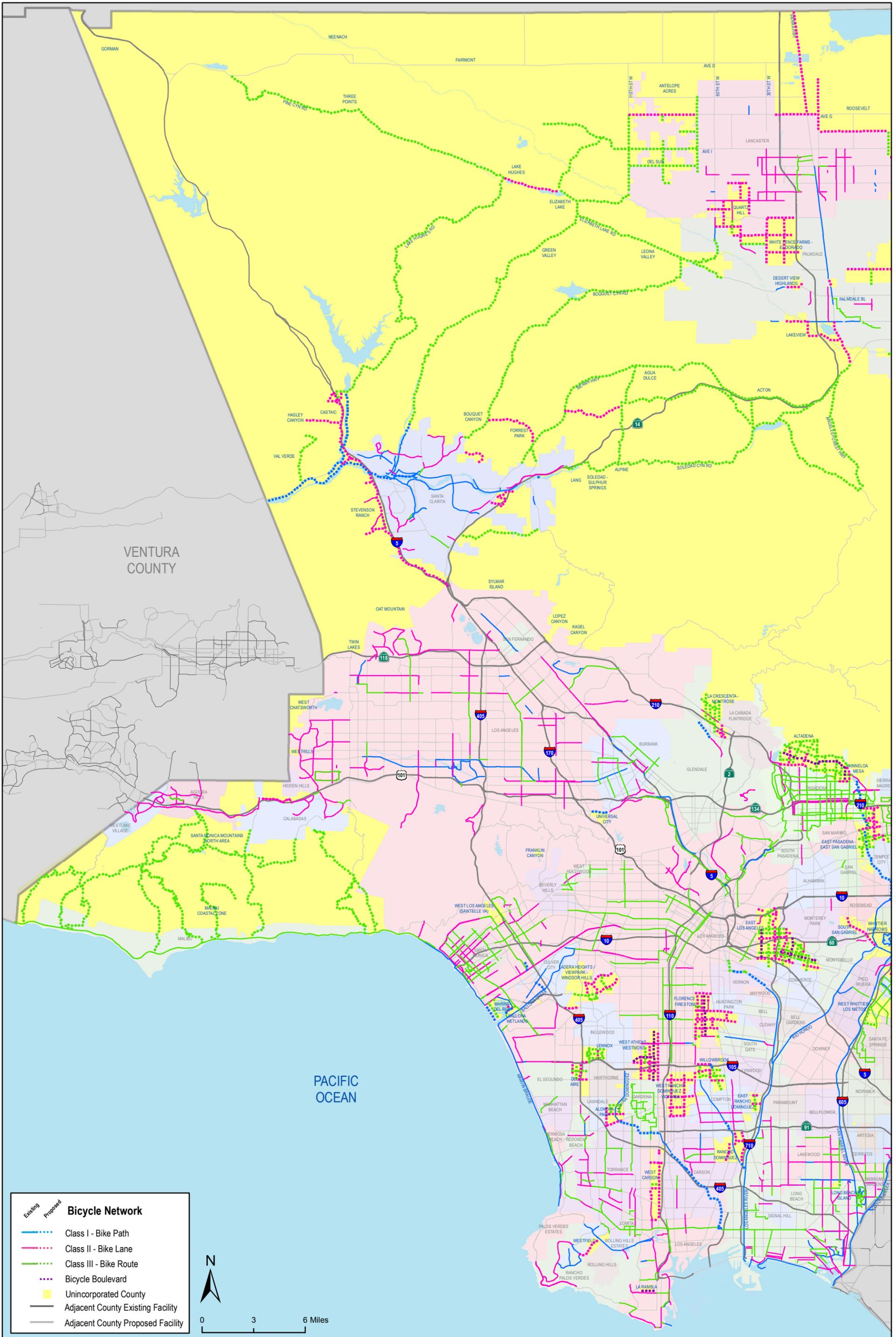


Figure i-3: Western Los Angeles County Proposed Bicycle Network

Los Angeles County Bicycle Master Plan

Source: Los Angeles Metro (2006; 2010); Alta Planning + Design (2010)
Date: 1/30/2011

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Plan at a Glance

The Plan includes five chapters and eleven appendices. A supplemental atlas of maps of the existing and proposed bikeway network was also made available on the Plan website for ease of reference. The following is a brief orientation to the chapters and the appendices in the Plan.

Chapter 1: Introduction

This chapter introduces the purpose of creating a Bicycle Master Plan for the County of Los Angeles, and how the community has been involved in the planning process. It also presents the benefits of bicycling, describing how a bicycle-friendly County will contribute to resolving general complex issues that affect the quality of life of its residents.

Chapter 2: Goals, Policies, and Implementation Actions

This chapter includes the Goals, Policies, and Implementation Actions necessary to implement the Plan. The overarching goal of the Plan is to increase bicycling throughout the County of Los Angeles through the development and implementation of bicycle-friendly policies, programs, and infrastructure. To achieve this, the Plan identified the following goals:

- **Goal 1 - Bikeway System:** Expanded, improved, and interconnected system of County bikeways and bikeway support facilities.
- **Goal 2 - Safety:** Increased safety of roadways for all users.
- **Goal 3 - Education:** Develop education programs that promote safe bicycling.
- **Goal 4 - Encouragement Programs:** Encourage County residents to walk or ride a bike for transportation and recreation.
- **Goal 5 - Community Support:** Community supported bicycle network.
- **Goal 6 - Funding:** Funded Bikeway Plan.



Investing in bicycle-friendly communities can have a profound influence on the quality of life of County Residents.

Chapter 3: Existing Conditions and Proposed Network

This chapter discusses the existing conditions and proposed bikeway network for the ten Planning Areas in the County.

Existing Conditions

Representing about 11% of the County's total population, the unincorporated areas include more than one million residents living in approximately 300,000 households.

The unincorporated areas of the County of Los Angeles comprise 2,656.6 square miles of Los Angeles County's 4,083.2 square miles, equivalent to approximately 65% of the County's total land area. These unincorporated areas are climatically and ecologically diverse. The majority of unincorporated County land is located in the northern part of the county and includes expansive open space. The unincorporated areas of the County consist of 124 separate, non-contiguous land areas. These areas in the northern part of the County are covered by large amounts of sparsely populated land and include the Angeles and Los Padres National Forests, and the Mojave Desert. The unincorporated areas of the southern portion of the County consist of 58 communities, located among the other urban incorporated cities in the county, and are often referred to as the County's unincorporated urban islands. The County's southwestern boundary consists of 70 miles of Pacific Ocean coastline and encompasses two islands, Santa Catalina and San Clemente.

Proposed Network

The Plan recommends approximately 832 miles of bikeway facilities at a proposed cost of \$331 million to construct. The network selection process included extensive public outreach and on-going consultation with County staff through monthly meetings with the Technical Advisory Committee, comprised of the County of Los Angeles Departments of Beaches and Harbors, Parks and Recreation, Public Health, Public Works, and Regional Planning. The Plan team received monthly consultation with the Bicycle Advisory Committee (BAC), comprised of two representatives from each Supervisorial District, and one representative for Caltrans and LACMTA, respectively.

Chapter 4: Education, Enforcement, Encouragement and Evaluation Programs

This chapter describes bicycle-related programs that are essential facets of the overall bicycle system envisioned for the County of Los Angeles. These include education, encouragement, enforcement and evaluation programs.

Education

The Plan proposes bicycle education programs that target both youth and adults such as Community Bicycle Education Courses, Youth Bicycle Safety Education, Bicycle Rodeos, and Public Awareness Campaigns for motorists, bicyclists and others.

Enforcement

The Plan recognizes that traffic enforcement is a necessity to improve conditions for all roadway users. The recommended enforcement programs include Bicycle Patrol Unit and Bicycle Light Enforcement.

Encouragement

The Plan recognizes that encouragement programs may likely play the biggest part in improving Bicycle Ridership in the County. The Plan recommends a variety of encouragement programs for youth and adults, such as Suggested Routes to School, Family Biking Programs, Bicycling Maps, Valet Bike Parking at Events, Bike to Work Week/Month, Launch Party for New Bikeways, Bike and Hike to Park programs, Bicycle Sharing programs and local partnerships for more bicycle parking.

Evaluation

The plan recognizes that in order to track its progress it is critical that the County monitors and evaluates changes in bicycling patterns. This Plan recommends convening a Community Stakeholder Group, to

establish a bicycle biennial count program, and to provide annual progress reports on the progress of implementing this Bicycle Master Plan.

Chapter 5: Funding and Implementation

Funding

An overview of potential funding sources for proposed projects and programs, and planning level cost estimates are presented in **Chapter 5**. The implementation of the network and the programs and policies outlined in the Plan will not be possible without availability of significant and sustained funding levels from grants as well as dedicated funding sources available to the County. The County is committed to a balanced approach in assigning its available funding to streets and roads, bikeways, and pedestrian projects commensurate with their needs.

Implementation

The Plan provides a long-term vision for the development of a region-wide bicycle network that can be used by all residents for all types of trips. Implementation of the Plan will take place incrementally over many years; and while the Plan is intended to guide bicycling in the County for the next 20 years. The County will review and update the Plan every five years (See **Policy 1.5, Chapter 2**). County staff will review the list of projects on a regular basis, add new projects, remove completed projects, and revise priorities as conditions changes. These changes will be reflected in future updates to the Plan.

The County will evaluate the effectiveness of the Bike Plan Implementation every two years (See **IA 1.5.1, Chapter 2**). Suggested measurements to measure the County's progress toward implementing the Plan and its effectiveness are provided in **Table 5-1** of Chapter 5. These suggested measurements include measurement of bicycle mode share; public attitudes about biking; number of miles of bikeways; proportion of arterial streets with bike lanes; independent recognition of non-motorized transportation planning efforts; as well as a measured reduction in collisions involving bicyclists.

Appendices

Appendix A: Bicycle Transportation Account Checklist

Appendix A presents the County of Los Angeles Bicycle Master Plan BTA Checklist. The Plan complies with Streets and Highways Code Section 891.2, making the County eligible for Bicycle Transportation Account (BTA) funds.

Appendix B: Ridership and Air Quality Benefits

Appendix B presents the benefits of bicycling in relation to environmental/climate change, reduction in obesity and other public health issues, as well as improvements in local and regional economies, and quality of life and safety in the community.

Appendix C: Relationship to Existing Plans and Policies

Appendix C lists the existing plans and policies of the State of California, Los Angeles County and other local agencies that were reviewed during development of the Plan. The Plan was developed to be consistent with these policies and plans to the greatest extent possible.

Appendix D: Existing Land Uses

Appendix D includes maps depicting the existing land use, including locations of residential neighborhoods, schools, shopping centers public buildings, and major employment centers for all ten Planning Areas.

Appendix E: End of Trip Facilities

End of trip facilities, such as short term and long term bicycle parking, showers and changing facilities for employees are essential components of a bicycle network. Appendix E provides recommendations for bicycle parking at key locations in unincorporated communities within the unincorporated County. In addition, as per Policy 1.6, in Chapter 2, the County is committed to establish a bicycle parking policy by 2013.

Appendix F: Design Guidelines

Bicyclists have legal access to all county streets. While this Plan identifies a specific subset of streets to be designated as bikeways, many bicyclists will need to use other streets to reach their destinations. Therefore, it is important that all roadways be designed to accommodate bicyclists.

The County will continue to implement on- and off-street projects to encourage walking and bicycling, to improve safety and accessibility, and to enhance the quality of the walkway and bikeway networks so that these activities become integral parts of daily life. Appendix F provides a range of design options for bicycle treatments and key principles to guide the development of future County bikeway facilities.

The guidelines provide a toolbox of ideas that can be implemented in the County, but do not reflect treatments that will be used for any specific project. California State law requires that the State adopt uniform standards, and that local agencies conform to those standards. The guidelines include those standards currently prescribed by the Caltrans Highway Design Manual and/or the California Manual of Uniform Traffic Control Devices are described in the Plan. In addition to these standard designs, the Plan includes innovative bicycle treatments such as colored bicycle lanes, raised bicycle lanes, buffered bicycle lanes, cycletracks, and bicycle boxes. While these treatments do not have approved design standards at this time, the County will incorporate them into the Plan's toolbox of treatments as their uniform designs and standards are approved by the State of California Department of Transportation (Caltrans).

Appendix G: Street Plan Analysis

Appendix G describes Alta Planning + Design's 'Street Plan' model used for determining the suitability of all roadways studied for the proposed bikeway network. The StreetPlan model is a method to determine how an existing roadway cross section can be modified to include bike lanes. Assuming acceptable minimum widths for each roadway element, the model analyzes a number of factors to determine strategies to retrofit bike lanes on each surveyed roadway segment. Options for retrofitting bike lanes given the physical curb-to-curb roadway constraints are also described in the appendix.

Appendix H: Engineering Unit Cost Estimates

Appendix H outlines the estimated unit costs used for various recommendations included in the Plan, which were used to determine the estimated total cost of \$331.0 million to implement the bicycle network proposed in the Plan.

Appendix I: Prioritization and Phasing Plan

Appendix I describes the three phases for implementing the proposed bikeway network, and the prioritization strategy used for determining the phase for each project.

Prioritization Strategy

Sixteen different criteria were used to assign prioritization scoring. The criteria fell under two main category themes: Utility and Implementation. The first category, Utility Criteria, considered a project's usefulness toward enhancing the current bicycle network and providing service to key land uses. The second category, Implementation Criteria, considered prioritizing those projects with fewer implementation obstacles.

Phasing Plan

The Plan will be implemented in the following three phases:

Phase I: Projects listed are anticipated to be implemented within the first five-year period following adoption of the Plan (2012-2017).

Phase II: Projects listed are anticipated to be implemented within the ten-year period following Phase I (2017-2027).

Phase III: Projects listed are anticipated to be implemented within the final five-year period of the term of the Plan (2027-2032).

The phasing plan for the non-infrastructure programs are briefly discussed in Chapter 5. Phasing of the bicycle network primarily takes into consideration the overall prioritization score for each project and the anticipated available funding. However, projects in which funding has already been allocated, or that are expected to be implemented in conjunction with County road reconstruction and/or rehabilitation projects may be shown in an earlier phase, regardless of their prioritization score

Appendix J: Facilities Removed

Those segments of the proposed network that were removed from the Plan, either due to their feasibility or because they are outside of the County's jurisdiction, are documented in **Appendix J**.

Appendix K: Acronyms

Appendix K provides a list of acronyms used in the Plan and their corresponding meaning.

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