

Bicycle Transportation Plan 2004  
Traffic Engineering Division  
**Public Works Department**

# City of Santa Cruz

## Bicycle Transportation Plan 2004



Prepared in conformance with  
California Streets & Highways Code Section 891.2

Adopted by the Santa Cruz City Council on  
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## California Codes - Streets and Highways Code

### **Introduction**

A majority of the streets in the City of Santa Cruz are capable of providing for safe bicycle travel. Many local and collector streets in the City maintain such low traffic and bicycle volumes that little more than normal maintenance activities are needed to make bicycling safe.

This plan focuses on the special provisions for bicycle facilities, which will encourage bicycle use by all ages on the remaining road system. One of the goals in the General Plan for the City of Santa Cruz is:

*Develop a safe, convenient and effective bikeway system that promotes bicycle travel as a viable transportation mode and connects work, shopping, schools, residential and recreation areas.*

The General Plan contains a number of policies and programs, which are intended to achieve this objective. Policies that support bikeway development, bikeway maintenance, and bicycle support facilities are recommended in the General Plan. The first program in the general plan recommends the development of a bike master plan to provide a comprehensive and safe bikeway system. The General Plan also recommends that a time schedule, priorities, and comprehensive funding program for the proposed bikeway improvements be developed. This Bicycle Transportation Plan is intended to implement both of these programs.

The objective of this document is to present the City's existing policies and programs as adopted in the Circulation Element of the General Plan in a format, which focuses on bicycle transportation and is consistent with the State of California Bicycle Transportation Plan requirements.

### **Public Participation in Preparation of Plan**

This Plan was prepared by the Santa Cruz City Public Works Department in conjunction with the Santa Cruz City Transportation Commission and its Bicycle/Pedestrian Subcommittee. This plan includes only minor changes to the original Bicycle Transportation Plan adopted by the City of Santa Cruz on March 24, 1998, updated on May 9, 2000, and approved by Caltrans. It was anticipated that this Plan update would contain major revisions based on the Bicycle Initiative section of the City's Master Transportation Study. However, the Master Transportation Study has not yet been formally adopted. Therefore, a major revision to the Bicycle Transportation Plan will take place with the next update. This update has been reviewed by Santa Cruz County Regional Transportation Commission staff. Comments in a letter dated March 27, 2000 from the Santa Cruz County Regional Transportation Commission Bicycle Committee are included as [Appendix D](#). This 2004 updated plan was submitted to the City Transportation Commission at their October 8, 2003 meeting and to the Santa Cruz City Council at their October 14, 2003 meeting for review and comments.

### **Existing Bikeway System**

The existing bikeway system in the City of Santa Cruz has developed over the last 30 years. Bike paths exist along the San Lorenzo River levees, West Cliff Drive and at other locations. Bike lanes exist along many of the City's arterial streets. Gaps in the bike lane system exist on streets like Soquel Avenue, King Street, and other high activity corridors. There is continuing community support for greater bikeway development. [Appendix A](#) presents a concise history of bicycle improvements, planning and implementation in the City of Santa Cruz.

## **Bikeway Options**

The California Department of Transportation "Highway Design Manual" provides a discussion of the role of bikeways in the urban setting.

*"Bikeways are one element of an effort to improve bicycling safety and convenience which, when added to maintenance and support facilities, either help accommodate motor vehicle traffic and bicycle traffic on shared roadways, or compliment the road system to meet needs not adequately met by roads alone.*

*Off street bikeways in exclusive corridors can be effective in providing new recreational opportunities, or in some instances, desirable commuter routes. They can also be used to close gaps where barriers exist to bicycle travel.*

*On street bikeways can serve to enhance safety and convenience, especially if other commitments are made in conjunction with establishment of bikeways, such as: elimination of parking or increasing roadway width, elimination of surface irregularities and roadway obstacles, frequent street sweeping, establishing intersection priority on the bike route street as compared with the majority of cross streets, and the installation of bicycle sensitive loop detectors at signalized intersections.*

*The decision to develop bikeways should be made with the knowledge that bikeways are not the solution to all bicycle-related problems. Many of the common problems are related to improper bicyclist and motorist behavior and can only be corrected through effective education and enforcement programs. The development of well-conceived bikeways can have a positive effect on bicyclist and motorist behavior. Conversely, poorly conceived bikeways can be counterproductive to education and enforcement programs."*

The primary purpose of this plan is to provide for safe and convenient bicycle travel on all roads in the City, whether or not they are part of the bikeway system. A secondary purpose of this plan is to designate and provide a bicycle network that focuses on commuter use and serves the schools and parks in the City. Another purpose is to complete a recreational route network that is an integral component of the City's tourist industry.

## **Existing and Forecast Bicycle Use**

An analysis of the 2000 Census indicates that the City of Santa Cruz has a total of 28,971 commuters, of which 1,567 are bicyclists. These cyclists represent approximately 5.4% of the commuting population. Bicycle commuters in the City of Santa Cruz make up 39% of the entire County bicycle commuter population. The large percentage of bicycle commuters in Santa Cruz is due in part to the presence of the University of California campus in the City. Approximately 800 persons per day commute to UCSC via bicycle. It is anticipated that the promotion of the use of electric bicycles will increase this number substantially.

The City's continued development of the bikeway system, with particular emphasis on commute routes is projected to encourage a 100% increase in the percentage of bicycle commuters. AMBAG employment growth forecasts estimate an increase in 30% employment in the Santa Cruz area by the year 2015. Assuming both of these estimates hold true the number of bicycling commuters in Santa Cruz will increase to 3,680 per day by the year 2015.

## **Existing and Future Land Use Patterns**

The City of Santa Cruz is nearly built out. Few large parcels remain within the City limits that will change existing land use characteristics. Commercial development is focused in the Downtown Beach central business district and on the four major arterials in the City, Ocean Street, Soquel Avenue, Water Street, and Mission Street. There are two major industrial areas: the Harvey West area and the Delaware area on the City's westside. The remaining uses in the City are generally residential, except for the University property at the northwest corner of the City. [Figure 1](#) schematically presents these land use patterns.

Future land use patterns are expected to remain the same with some intensification of development. Travel desires associated with these uses will also remain essentially the same.

### **Bicycle Activity Centers**

Certain bicycle activity centers such as junior and high schools, colleges, parks, and community centers require special emphasis because of their potential to attract bicycle travel. One objective of the plan is to provide at least one connection of the bikeway network to all schools. Traffic calming measures may be incorporated on other local and collector streets serving these activity centers in order to support safer and more pleasant bicycle travel.

### **Bike Plan Objectives**

One bikeway plan objective is to provide a bikeway on all the major arterials within the City of Santa Cruz during the next ten years. A second objective is to develop a traffic calming plan, where appropriate, for major activity centers identified as needing improved bicycle access.

### **General Plan Goals, Policies, and Programs**

The following goals, policies and programs are from the Santa Cruz City General Plan. Minor language modifications have been suggested to clarify the language. Changes or additions to the General Plan are shown in italics. A number of the programs in the General Plan have been implemented or are being implemented with this plan. These programs are discussed in relevant sections of this plan and are eliminated from this section.

GOAL: Develop a safe, convenient and effective bikeway system that promotes bicycle travel as a viable transportation mode and connects work, shopping, schools, residential and recreational areas.

### **Policies and Programs**

Where proposed or existing plan lines include bikeways, or where bicycle links are needed, require developments to dedicate land for rights of way and require that facilities for safe bicycle travel, including bike lanes where possible, be provided for as part of new development near existing bike paths and construction or improvements to all major collector and arterial roadways.

Study, and if feasible develop bike commute routes along railroad rights of way (while ensuring the ability to develop rail transit), and other streets such as West Cliff Drive, Broadway, and King Street ~~and other streets~~ to encourage biking by commuters, residents and tourists.

Investigate the feasibility of street closings for "bikes, pedestrians, skaters only days" for streets with a high level of pedestrian/bicycle activity.

Remove barriers and hazards along existing and potential bikeways to enhance bicycle travel and reduce the number of accidents involving bicycles.

~~Work to~~ Install contraflow bike lanes on one way streets where significant bicycle traffic is expected, safety measures are in place, *which is consistent with State Standards and/or which receives Caltrans approval as a demonstration project.* ~~Establish a demonstration project with a contraflow bike lane on an experimental basis.~~ *Beach Street between Pacific Avenue and Third Street and High Street between Storey Street and Highland Avenue are demonstration projects for this concept.*

Develop and sign Include pathways for bicycle use through cul de sac and loop streets. Areas needing cut throughs include the end of Spring Street and Grandview Street.

Limit on street parking where it interferes with the safe passage of bicycles. *Time restrictions or prohibitions may be necessary on new and existing facilities to provide a safe bikeway.* Study the development of parking alternatives (such as removal of parking from one side of the street) and off street parking facilities prior to the removal of any on street spaces for parking.

Develop without adjacent parking for improved safety and comfort.

Identify signalized intersections needing bicycle detection systems and install them with appropriate markings. Where feasible, adjust existing loop detectors to be sensitive to bicycles.

Ensure that traffic diverters, chokers and railroad crossings do not impede bicycle travel by allowing bicycles to travel through diverters and islands, (e.g. Water Street at May Street; Morrissey Blvd. at Pacheco Ave) retrofitting railroad crossings, and designing and implementing intersection improvements that will facilitate safe bike travel.

Continue ~~Develop a~~ program to provide regular sweeping, pavement repairs, striping, and signs along bike routes and coordinate activities with the SCCRTC Bikeway Hazard Program.

Maintain ~~Require that~~ bikeways and road shoulders be maintained in the best possible condition during construction and *repair or remove damages or hazards when identified. that damage is promptly repaired and hazards removed.* *Continue yearly striping program and initiate a bicycle hazard remediation program with TDA or other funding as available.*

Prioritize the development of Class II bikeways and construct and mark bikeways in conformance with state standards as outlined in Caltrans bikeway planning and design criteria and waiving normally accepted Caltrans bike standards only when space constraints exist and bike facilities lanes can be accommodated without jeopardizing ~~interfering~~ bicycle safety.

~~Existing or newly constructed~~ Bikeways shall not be removed or closed to increase automobile capacity, ~~even on a temporary basis, unless a detour is provided.~~ *except during construction when an alternative is provided Adhere to the Caltrans Traffic Manual regarding pedestrian, bicycle, and worker considera-tions during construction.*

Continue the program to install bicycle parking on City owned property at or near high demand areas.

*Continue to work with schools and UCSC to develop a program to improve their biking potential through the development of bike lanes, secure and covered bike parking, and education programs which motivate and encourage safe bicycle use.* Actively support further improvements

to the bicycling infrastructure and programs on the UCSC campus to support continued high bicycle ridership to, from, and on the campus.

Require that event sponsors provide safe bicycle access and secure bicycle parking at special events.

Incorporate pedestrian, bicycling, and mass transit facilities in the design of bridges and road projects.

Regularly inspect streets and maintain pavement condition (including the enforcement of compaction and smoothness standards for repair work) that keeps maintenance costs at a minimum, encourages bicycling, and ensures that repairs are acceptable and long lasting.

Sweep streets at regular intervals to ensure removal of debris that would create a fire hazard, cause skidding conditions, and obscure or deteriorate pavement markings, and also to reduce hazards to bicycle safety.

*Where bike lanes cannot be achieved, wide curb lanes and/or "share the road" signing should be considered to provide continuity for bicycle travel. Install "Bicyclist May Use Full Lane" signs where useful to clarify road usage.*

*Coordinate the planning, design, and construction of bicycle facilities with all other appropriate implementing agencies.*

*The City should pursue all available funding for the implementation of the adopted bike plan. A combination of Local Transportation Development Act Funds, State Highway, and Federal Highway funds will be necessary to finance the implementation of the Bicycle Transportation Plan. Develop preliminary plans for high priority projects for potential grant sources.*

*Prepare a bicycle program for inclusion in the yearly capital improvement program based on the Bicycle Transportation Plan and implement minor modifications to reduce automobile bicycle conflicts, and to close gaps in the bikeway network.*

*Work with the Santa Cruz Metropolitan Transit District to increase the bike carrying capacity on Metro buses. Update Bicycle Transportation Plan every five years or sooner as necessary to reflect changing priorities, funding levels, and/or more specific program recommendations.*

## **Bikeway Focus**

Bike lanes (Class II), particularly in the short term, are thought to have potential for serving the desired objective of this plan. Completion of the bike path (Class I) system is also a high priority component of this plan. The bike route (Class III) concept is not considered effective at encouraging bicycle travel. However, in some cases "Bike Route" signage may be useful. This plan concentrates on developing a bike lane system in conjunction with the arterial road system. Arterial streets are and will continue to be the streets with the greatest bicycle travel demand.

Providing bike lanes is not a simple task. Each project will have to be reviewed carefully to identify the most appropriate way of achieving this bike lane. A toolbox of approaches is available which include:

- removing parking on one or both sides of the street
- removing median strips
- narrowing existing travel lanes and/or sidewalks

- widening the roadway
- eliminating travel lanes
- installing parking bays
- restricting parking during certain peak travel time periods
- traffic calming

### **Other Bikeway Concepts**

In addition to the above measures of bikeway development such as eliminating parking, widening bike lanes, and traffic calming a concept explored in this plan which will be considered in the design process is one which separates the bikeway from the automobile and which places the bikeway closer to the sidewalk. Bike lanes are thought to have limited potential in encouraging bicycle use. There are segments of the population such as the elderly, the young, and inexperienced riders that would prefer greater separation from the automobile to feel safe.

While this concept has potential, it poses a number of challenges in design and operation that must be addressed to truly make it safe. Very careful consideration must be given to a number of areas:

- Separation of bicyclist and pedestrian
- Every driveway crossing of the new bikeway
- The transition areas between street and sidewalks
- Every street intersection
- Bicycle, automobile, and pedestrian conflicts
- Identification of a design which is consistent with State standards or which would be approved for testing
- Enforcement of one way travel on separate path

An illustration of this concept is presented in [Figure 2](#). This concept can potentially be designed within the same right of way as a typical bike lane.

Another concept to be considered is that of the bicycle boulevard. This concept gives priority to bikes by calming or diverting through automobile traffic. The approach is generally used on routes parallel to major arterials where a bike boulevard would provide a higher level of service for bicycle travel than would the congested arterial. Such a boulevard does not require bike lanes because automobile volumes are typically low.

Both of the above concepts along with the other traditional approaches to bikeway design, should be considered in the design process, and implemented when they can be safely incorporated into the network. Neither of these concepts should preclude the use of the street or the arterial by bicyclists.

### **Bikeway Design Guidelines**

The "Highway Design Manual" criteria for bikeway and automobile design was used to define desirable standard dimensions. Based on these figures, an 11 foot (3.3m) minimum motor vehicle lane width, and a 5 foot (1.5m) bike lane combine to a desirable 16 foot (4.8m) minimum curb lane for auto and bike travel. Recent roadway striping projects within the City of Santa Cruz provide 6' bike lanes or 13' for bike lane/parking. Where feasible, the City will continue to install 6' bike lanes as a desirable width.

One option recommended where curb to curb width does not meet the desired standards above, is to design a curb lane as wide as possible to provide for the automobile and bicycle. A curb lane of no less than 14 feet (4.2 m) is the recommended minimum for this instance. This strategy should be considered only where parking, bicycle, and automobile conflicts are expected to be low and where it is necessary to provide continuity to the bikeway system. A 10 foot motor vehicle lane is another option to consider when curb to curb width is restricted.

## **Bikeway Development**

The Highway Design Manual identifies standards for bike paths and other bikeway facilities that should be incorporated into the design.

A **fold out map** at the end of this report presents the proposed Bikeway Plan for the City of Santa Cruz. This plan identifies existing bicycle paths and lanes as well as the future system desired. To complete the system a number of projects are needed. These projects are identified in the Bicycle Transportation Plan Program of Projects as shown on [Table 1](#). This table describes the project by its limits, its cost and the priority given to implementation. The projects are divided into two categories: separate paths (Class I) and bike lanes (Class II).

## **Bicycle Parking and Locker Shower Facilities**

The City of Santa Cruz has developed a comprehensive bicycle parking program. One of the program recommendations of the City General Plan was to revise the Zoning Ordinance and parking district requirements to require secure, covered bicycle parking and/or storage lockers at private and public facilities. This revision was accomplished in 1993. The City Parking Ordinance requires that bicycle parking be provided with all new development.

In 2000, Santa Cruz City Ordinance 10.68.050 was amended to allow the parking of bicycles to parking meters. This small change immediately increased the supply of bicycle parking facilities in commercial areas. Local businesses are also eligible to receive bicycle parking racks for use on private property through the Santa Cruz County Regional Transportation Commission's Bikes Secure program.

The City itself has incorporated bicycle parking facilities, lockers and posts into its parking structures. Installing ample and accessible bicycle parking has been an emphasis of the Capital Improvement Program for the past six years. There are now 134 bicycle lockers in 10 different locations in the downtown area and on the wharf. An innovative bicycle cage was installed at the Soquel/Front Garage in 2001 to serve employees in the Downtown area. In addition, new bike racks for 124 bicycles will be installed at 18 locations on the wharf in 2003. The City operates a bicycle locker rental program for employees and residents in the downtown area. Existing bicycle locker locations are reflected in [Bikeway Plan Map](#).

The Santa Cruz Metropolitan Transit District maintains bicycle parking facilities at many of its transit stops. This program was originally funded by the Federal Highway Administration as a demonstration program to encourage multi modal travel. The Transit District has continued to maintain those facilities as well as provide bike racks on most of its buses.

No public shower facilities exist for bicycle users. However, the City of Santa Cruz (Civic Auditorium), County government Center, the University of California, and several local businesses provide shower facilities for their employees. The City of Santa Cruz requires new development to provide these facilities for their employees.

## **Bicycle Safety and Education Programs**

The need for bicycle safety enforcement and education together with engineering has long been recognized in the City of Santa Cruz. A number of advisory bodies, agencies and advocacy groups exist in the area that serve the City of Santa Cruz bicycling community. These include:

- The City of Santa Cruz Transportation Commission and its Bicycle Subcommittee have over the years supported a number of bicycle safety programs
- The Community Traffic Safety Coalition is a public safety organization representing over 30 community and government organizations. This program is funded by Transportation Development Act funds allocated by the Santa Cruz County Regional Transportation Commission. Activities in this program include bike rodeos, school wide speakers bureau, low cost helmet distribution, low cost night riding light distribution, and several other safety and education related programs. In addition, the City coordinates the Safe Routes to School Program with the Community Traffic Safety Coalition. The City's Bicycle/Pedestrian Coordinator works with a different campus each year and since 1999 has worked with four out of the six elementary schools.
- In 2002 the Santa Cruz Police Department received an Office of Traffic Safety grant to teach bicycle and pedestrian safety, increase enforcement, distribute free helmets, and conduct a media campaign.
- UCSC Transportation and Parking Services has developed a series of bicycle safety videos that are available for purchase or from the UCSC and Santa Cruz Public Libraries.
- A number of private organizations also exist in the area that serve advocacy and educational roles in the community. These include: Santa Cruz Bike Industry Coalition, Santa Cruz Hub for Sustainable Transportation, Bike To Work, National Bicycle Greenway, People Power, the Santa Cruz County Cycling Club, Growing Cycles Recycle a Bicycle, Ped Ex and Wandering Wheels Women.
- The Santa Cruz Area Transportation Management Association (TMA) of which the City is a member, provides information on bike safety.
- The Santa Cruz County Electric Bicycle Incentive Program has provided well over 1,000 Santa Cruz County residents with a 2-hour safety training class.
- The SCCRTC Bicycle Committee has for many years given encouragement to ongoing bicycle safety programs.
- City and other local agencies work together on promoting Bike to Work Week, held each spring and fall.
- A number of groups on the UCSC Campus contribute to the bicycle safety and education program. The Transportation and Parking Services Department (TAPS) carries out most of the bicycle facility planning efforts on campus, supports and provides a variety of safety, licensing and educational programs. The UCSC Transportation Advisory Committee also advises on bicycle facility planning and safety programs. Bike licensing is being done at the Bike Co op at the Student Center and is co sponsored by UCSC TAPS.

This plan proposes continuing collaboration with community based organizations for this necessary component of the bicycle transportation system.

## **Financing**

The City receives annual Transportation Development Act Allocation funds of approximately \$50,000. This money is reserved for bicycle and pedestrian facility development and maintenance. These funds are set aside for capital projects and or bikeway maintenance. Over the last 30 years this has been the most consistent funding available for bikeway development. A number of the bike paths and bike lanes in the City have been funded using this funding source.

Other sources of revenue include ISTEAs, State Bicycle Transportation Account, Safe Routes to School, and Air District funds. A more complete listing of the various funding sources available for bikeway development is included in [Appendix B](#) .

## **Consistency with Other Plans and Programs**

This Plan is consistent with the Santa Cruz City General Plan and with the Santa Cruz County Regional Transportation Plan and Congestion Management Plan. The Regional policies in these documents related to Bicycle Transportation are included in [Appendix C](#) to this plan. This Plan is an implementation of the City General Plan. This plan is also consistent with the Monterey Bay Unified Air Pollution Control District's regional air quality plan, the Santa Cruz County Bike to Work Program, and the Santa Cruz County Electric Bicycle Incentive Program.

A component of the approval process for this document is its approval by the Regional Transportation Commission for content as well as consistency with the Regional Transportation Plan and Congestion Management Plan.

## **Implementation**

In 1999 the City of Santa Cruz created a staff position, Bicycle/Pedestrian Coordinator, to facilitate the implementation of this plan. The City of Santa Cruz Public Works Department will be responsible for implementation of the projects in this plan that are within the jurisdiction of the City of Santa Cruz. Those projects located on the campus of UCSC will be implemented by UCSC Transportation and Parking Services. The various components of implementation including design, construction, maintenance will be done by various divisions within the Department. On bike paths within park facilities maintenance responsibilities may be the responsibility of the Parks Department. The coordinated effort of these various City Departments and other local agencies will be necessary to double the number of bicycle trips made by the year 2010. This plan proposes continued collaboration with existing enforcement and education programs that play an important part in the bicycle transportation system.

The Bicycle/Pedestrian Subcommittee of the City Transportation Commission reviewed the Bicycle Transportation Plan for the 2004 Update. The Subcommittee recommends the following general prioritization of projects for implementation:

- (1) completion of projects currently funded or in progress;
- (2) projects facilitating bicycle transportation to schools;
- (3) projects that would help complete the Riverway as a loop trail system;
- (4) projects that can be implemented expediently.

The Santa Cruz City Transportation Commission and its Bicycle/Pedestrian Subcommittee will monitor.

### **Definitions**

**Bikeway** means all facilities that primarily provide for bicycle travel.

A **Class I Bikeway** or **Bike Path** provides for bicycle travel on a travelway completely separated from any street or highway travelway. Bike paths are usually intended to provide opportunities not provided by the road system.

A **Class II Bikeway** or **Bike Lane** provides a striped lane for one-way

bike travel along a street or highway auto travel lane. Bike lanes are intended to delineate the portion of the right of way assigned to bicycles and automobiles and to provide for more predictable movements by each.

A **Class III Bikeway, Shared Roadway, or Bike Route** provides for shared use with pedestrian or motor vehicle traffic. These routes are delineated to provide continuity to other bicycle facilities or to designate preferred routes through high demand corridors. This type of facility is not proposed in this plan.

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