

PLAN OF BIKEWAYS

(A SUB-ELEMENT OF THE TRANSPORTATION ELEMENT)

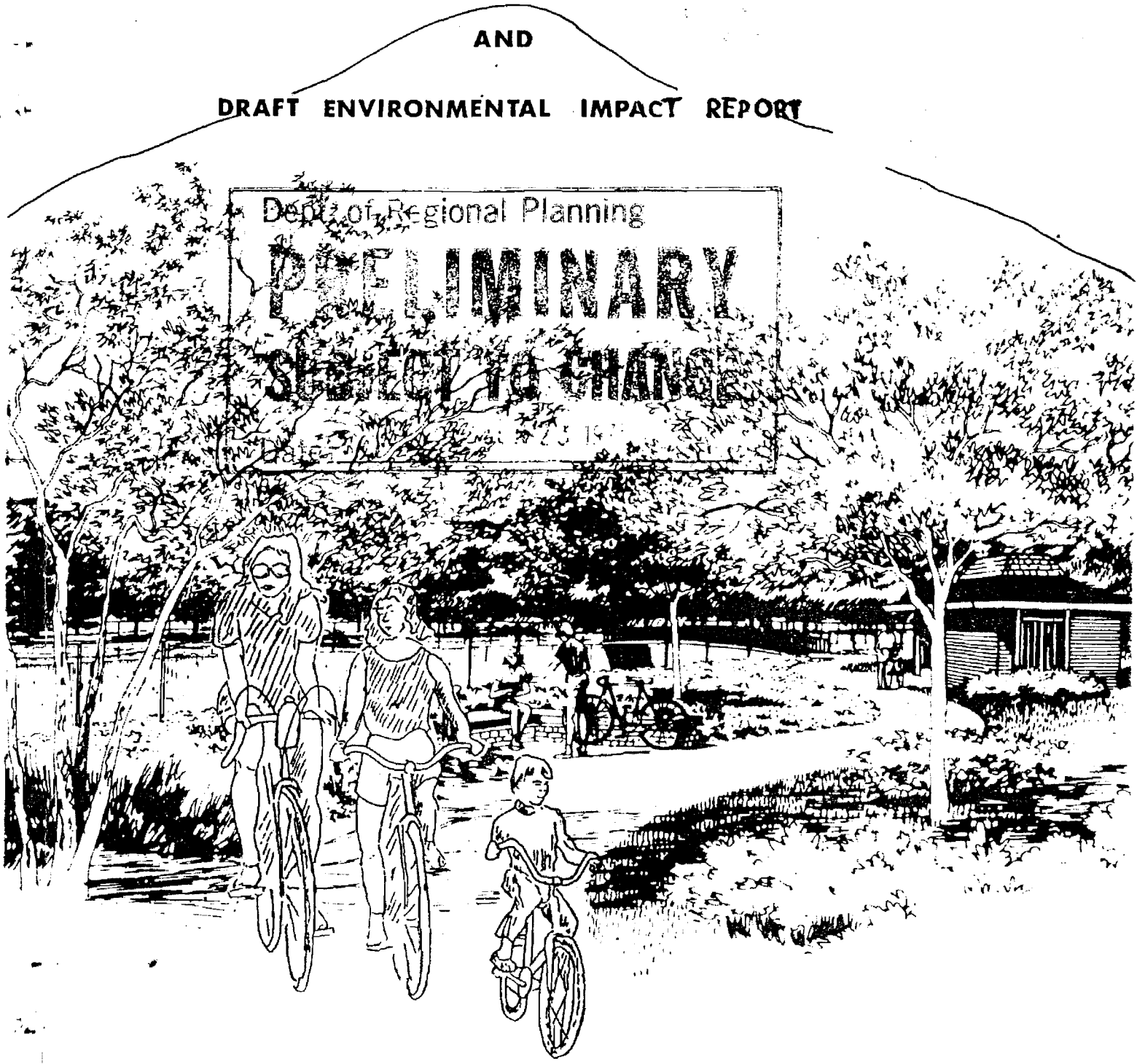
AND

DRAFT ENVIRONMENTAL IMPACT REPORT

Dept. of Regional Planning

PRELIMINARY

STATEMENT OF CHANGES



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LOS ANGELES COUNTY GENERAL PLAN

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June 23, 1975

Dear Concerned Citizens and Public Agency Staffs:

I am pleased to send you this copy of the newly prepared Los Angeles County Preliminary Plan of Bikeways. This Plan and Draft Environmental Impact Report are being forwarded to you for review and comment.

The Bikeways Plan indicates over 1,200 miles of regional bicycle route corridors deemed to have County-wide significance. The bicycle corridors, as mapped, are not intended to indicate specific precise locations, (with a few exceptions, i.e., California Aqueduct - Antelope Valley area), but show nonspecific "broad-band" corridors essential in serving the far-flung areas of the County, as well as providing for a more comprehensive circulation (transportation) system in Los Angeles County.

The Bikeways Plan will be submitted for a public hearing before the Regional Planning Commission on July 16, 1975 at 9:30 a.m., in Room 150 in the Hall of Records, 320 West Temple Street, Los Angeles, California 90012. You are invited to attend this hearing to give testimony or contribute written material. The Commission's recommendations will be transmitted to the Board of Supervisors for a public hearing. After consideration by the Board of Supervisors, the Plan is to be adopted as the County's Plan of Bikeways, and becomes an official component of the Transportation Element of the County General Plan.

Specific comments or inquiries, including all technical aspects, regarding the content material of this Preliminary Bikeways Plan should be directed to Mr. Robert Larson of the Planning Division, County Road Department, P. O. Box 4089, Los Angeles, California 90051. The telephone number is ~~(213) 225-1677~~, Extension 75184.

We, in the County, take this opportunity to express our appreciation for your past interest and contributions to the General Plan Program and the Bikeways Plan in particular. We look forward to your continued assistance in the ongoing County planning process.

Very truly yours,

DEPARTMENT OF REGIONAL PLANNING

Norman Murdoch

Norman Murdoch, Planning Director

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PART I plan of
bikeways

I. INTRODUCTION

Across the United States and locally there has been a resurgence of interest in bicycling. Persons of all ages have taken to the road riding bicycles for recreation, exercise, transportation and pleasure. Many individuals are discovering that the use of the bicycle, particularly for short and intermediate trips is proving to be a viable and economic alternative to the automobile.

This renewed interest in the use of the bicycle is evidenced both locally and nationwide by increased bicycle sales, increasing numbers of bicycle-related accidents and demand for safe facilities to accommodate the bicyclists.

This Bikeways Plan for Los Angeles County has been prepared to plan for and implement an interconnected network of countywide bicycle corridors to accommodate bicycle transportation in this County. It recognizes and encourages the use of the bicycle for personal transportation and recreation.

This plan is a sub-element of the Transportation Element of Los Angeles County and will be included in the Transportation Element when it is complete. It is also complementary to the Noise, Scenic Highway and Open Space Elements to the General Plan since it advocates the establishment of a quiet, non-polluting transportation mode throughout the County as well as along scenic and recreation corridors outlined in the Scenic and Open Space Elements.

This sub-element proposes a coordinated approach to providing bicycle facilities throughout Los Angeles County. It has been submitted to all 78 cities in this County, as well as Orange, Ventura, San Bernardino and Kern Counties. It has also been submitted to the Southern California Association of Governments, the California Department of Transportation, the Citizens Planning Council and various other planning organizations and governmental committees for review and approval.

This plan identifies major intercommunity bicycle corridors which will, when implemented, enhance bicycle transportation in this County. These corridors which are shown on the map on page 27 have been reviewed by the 78 cities, Federal, State and Regional agencies. The plan anticipates that each city, or groups of cities, as well as unincorporated communities will adopt a more detailed bikeways feeder system which will interconnect and supplement the regional system of bicycle corridors shown on the appended map. These subsidiary systems, when adopted together with the corridors delineated in this plan, will constitute a comprehensive system of bikeways to accommodate bicycle transportation needs in this County.

The plan will be reviewed periodically and revised as necessary to provide additional bikeways or support facilities as they are warranted and to accommodate changing conditions, trends and interests of the bicycling public.

II. TERMS DEFINED

The term bikeway is used for all facilities that explicitly provide for bicycle travel. It, like the term bike route, is a generic term which connotes a bicycle course which is to be traveled. These facilities may be classified into the following three major categories:¹

Class I - Bike Path or Trail

A bike path is a special pathway designated for the exclusive use of bicycles. Crossflows by pedestrians and motorists are minimized. It is usually separated from motor vehicle facilities by a space or physical barrier. It may be on a portion of a street or highway right of way or on a special right of way not related to a motor vehicle facility; it is usually grade separated but it may have street crossings at designated traffic controlled locations. It is identified with guide signing and also may have pavement markings.

Class II - Bike Lane

A bike lane is a lane on the paved area of a road for preferential use by bicycles. It is usually located along the edge of the paved area outside the traveled lanes or between the parking lane and the first motor vehicle lane. It is identified by "Bike Lane" or "Bike Route" guide signing, special lane lines, bicycle symbols or "Bikes Only" stencils on the pavement and other pavement markings or signs deemed appropriate to give adequate instructions to the users of the facility. Bicycles usually have exclusive use of a bike lane for longitudinal travel, but must accommodate crossflows by motorists at driveways and intersections and also by pedestrians at various locations.

Class III - Shared Route

A shared route is a roadway identified as a bicycle facility by "Bike Route" guide signing only. There are no special lane markings and bicycle traffic shares the roadway with motor vehicles. Special regulations may be enacted and posted along such facilities to control motor vehicular speeds or restrict parking to enhance bicycling safety.²

It should be noted that the 18,481 miles of surface roadways in Los Angeles County are being used by the bicycling public even though they are not presently delineated as bikeways. The Vehicle Code allows this use and it is anticipated that this Code will continue to allow roadways to be used by the bicyclists in the future. When the bikeway facilities shown in this plan have been implemented, these roadways will act as a feeder system which facilitates access to the regional and local bikeway systems from the various communities located throughout the County.

The term bicycle as used throughout this sub-element is defined in the California Vehicle Code as: a device upon which any person may ride, propelled by human power through a belt, chain or gears and having either two or three wheels in a tandem or tricycle arrangement.3

The term Plan of Bikeways as used in this sub-element refers to the written text contained in this document, the appended Environmental Impact Report and the corridors shown on the attached map.

III. ASSETS AND OPPORTUNITITES

Los Angeles County is a region of topographic and scenic diversity. The terrain of the region includes coastal beaches, sand dunes and marshes, coastal plains, broad valleys, gentle high plains, mountains, rolling hills, desert and offshore islands. This diversity of natural topographic features presents a variety of scenic experiences which can be enjoyed by the bicyclist. Climatological diversity ranging from arid desert to a Mediterranean type climate with very few days of inclement weather also provide ample opportunity for the bicyclists to use this mode of transportation in this County.

Bicycles are a non-polluting quiet form of transportation. They do not consume energy and are very economical to purchase, operate and maintain. Since they are so economical, they are readily available to all segments of the population. In addition, they contribute to the general health of the users by keeping them physically fit.

The majority of the urbanized areas of the County are located south of the San Gabriel Mountains in a massive area of approximately 1100 square miles. This urban sprawl has contributed to the transportation problems of the area. In the urbanized areas residential development, especially in the older communities, is generally located in close proximity to schools, shopping areas, neighborhood schools and certain recreational and entertainment centers. This neighborhood development pattern is conducive to the use of the bicycle for a variety of short range trips of from 3 to 7 miles for transportation purposes.

Within the urbanized areas of this County there are a number of linear systems available for use by bicyclists, and there are a number of other linear systems which can be used to accommodate bicycle transportation facilities. Together these systems constitute a comprehensive grid network of transportation facilities capable of accommodating bicycle transportation throughout the County.

A list of these linear systems follows:

<u>Roadways</u>	<u>Existing Mileage</u>
Arterial Highways	5,921
Conventional State Highways	428
Expressways	12
Local Streets	12,120
Freeway Rights of Way	482
TOTAL ROADWAYS ₄	<u>18,963</u>
 <u>Flood Control Channels</u>	
Los Angeles Flood Control District ₅	422

Railroads

Railroad Mainlines₆ 560

Utility Rights of Way

Power Transmission Lines 380

Bikeways may be constructed or implemented along these systems where a need for bicycle facilities can be demonstrated and it is physically feasible to implement safe, convenient bikeways to accommodate bicycle transportation.

IV. PROBLEMS AND ISSUES

The bicycle is a transportation and recreation mode for approximately seven to ten million people in California and for an estimated two million persons in Los Angeles County. New bicycle sales have been increasing steadily through 1973. According to the Bicycle Institute of America, nationwide sales totaled 3.7 million bicycles sold in 1960. In 1973, this figure had risen to a record 15.6 million or more. Figure 1 on page 10 graphically portrays this increase in sales through 1972. Locally, bicycle sales in 1973 were estimated to be approximately 400,000 units.⁷

With this increase in sales and use of the bicycle has come an increase in bicycle-motor vehicle accidents. In 1969, the California Highway Patrol recorded 5,244 such accidents including fatalities. In 1972, the number had more than doubled to 10,622. In 1973, it decreased slightly to 10,535 and for the first 11 months of 1974, the number of such accidents totaled 10,319.⁸

Clearly much work needs to be done to: improve existing roadways, provide additional well-designed cycling facilities, promote bicycle and driver safety education programs and provide consistent enforcement of statewide laws and local ordinances to improve the situation for both the cyclist and the motorist.

The problems and issues of the Bikeways Plan for Los Angeles County relate to the following broad areas of concern which will be discussed in detail: user characteristics and types of bicycle riders, increasing numbers of bicycle accidents, insufficient roadway width, large volumes of traffic and urban development patterns, uniform standards, uniform enforcement of ordinances, multiplicity of governmental jurisdictions, safety programs, support and maintenance programs and the legal rights of bicyclists on the roadways.

A. User Characteristics and Types of Bicycle Riders

Cycling activity falls into two categories: recreational and utility oriented riding. For recreational cyclists (racers, tourers, exercisers, and general pleasure riders) the trip itself is the objective. For the utility oriented cyclist the objective is not the trip but reaching a specific destination -- place of employment, school, home, a store, recreation or community activity center. Because of this destination consciousness the utility oriented cyclist places highest priority on directness of routes, acceptable grade profiles and minimized delay and inconvenience.⁹

In urban areas, the number of trips and the composite of trip purposes characterized as utility riding normally equal recreational trips. In rural areas, recreational riding is

more prevalent. In Los Angeles County, both types of trips are accommodated along our roadway systems and existing bicycle facilities.

Bicycle facilities provided for the public must also be capable of accommodating a broad cross section of the bicycling public. For there will be youngsters, teens, young adults, middle aged, and the aged riders using these facilities for bicycle transportation. Also the facilities must be capable of accommodating bicyclists with varying degrees of expertise and proficiency ranging from the expert bicycling groups to the novice who is just learning the rudiments of bicycling and may not be able to read.

B. Increasing Number of Bicycle Accidents

A recent bicycle accident report compiled by the Los Angeles County Road Department indicates that bicycle accidents increased 160% between 1966-1972. Figure 1 below graphically depicts this increase in accidents.¹⁰

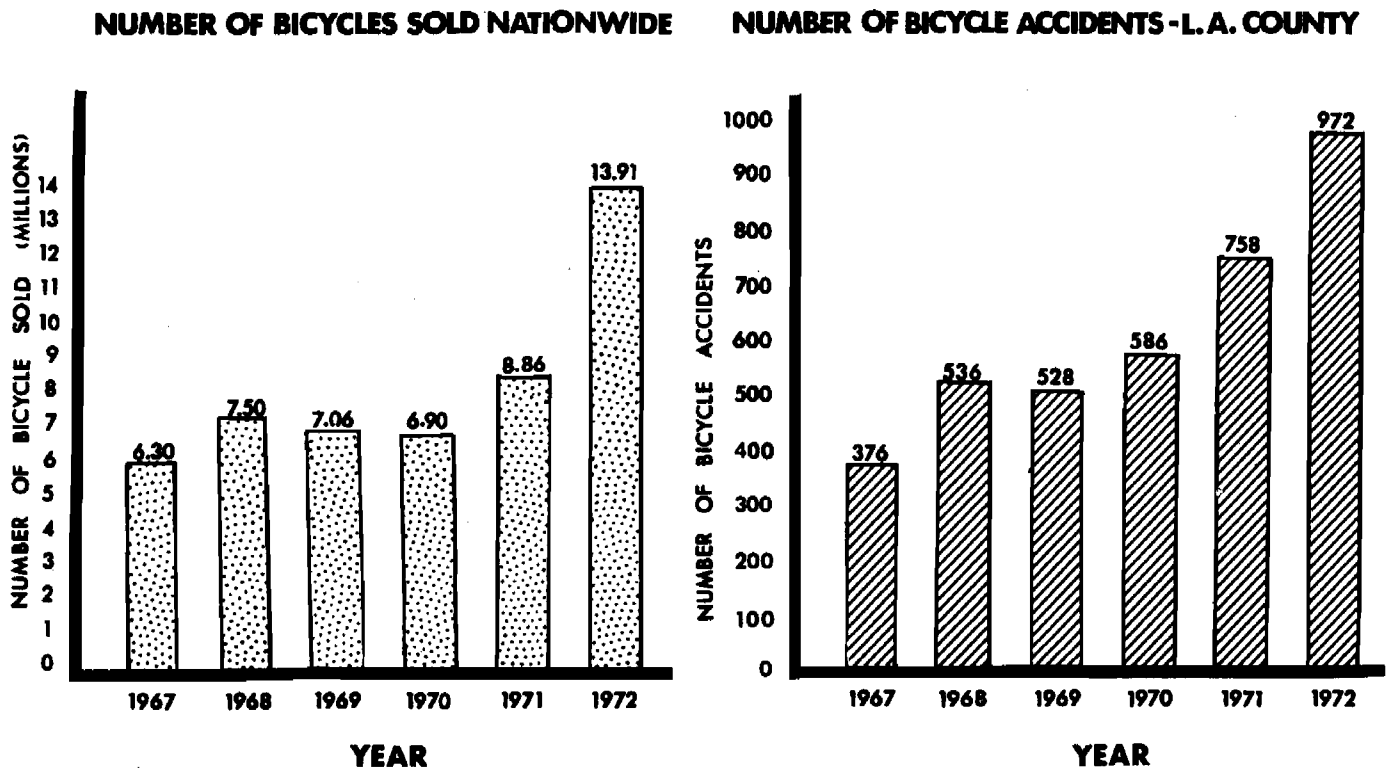


Figure 1 THE RISE IN BICYCLE ACCIDENTS

This dramatic increase in bicycle-motor vehicle accidents in many cases is largely due to the careless behavior or lack of understanding and failure to follow the rules of the road by the bicyclist.

Figure 2 below graphically portrays the causes of 972 accidents investigated by the Los Angeles County Road Department between bicyclists and motor vehicles in 1972.¹¹

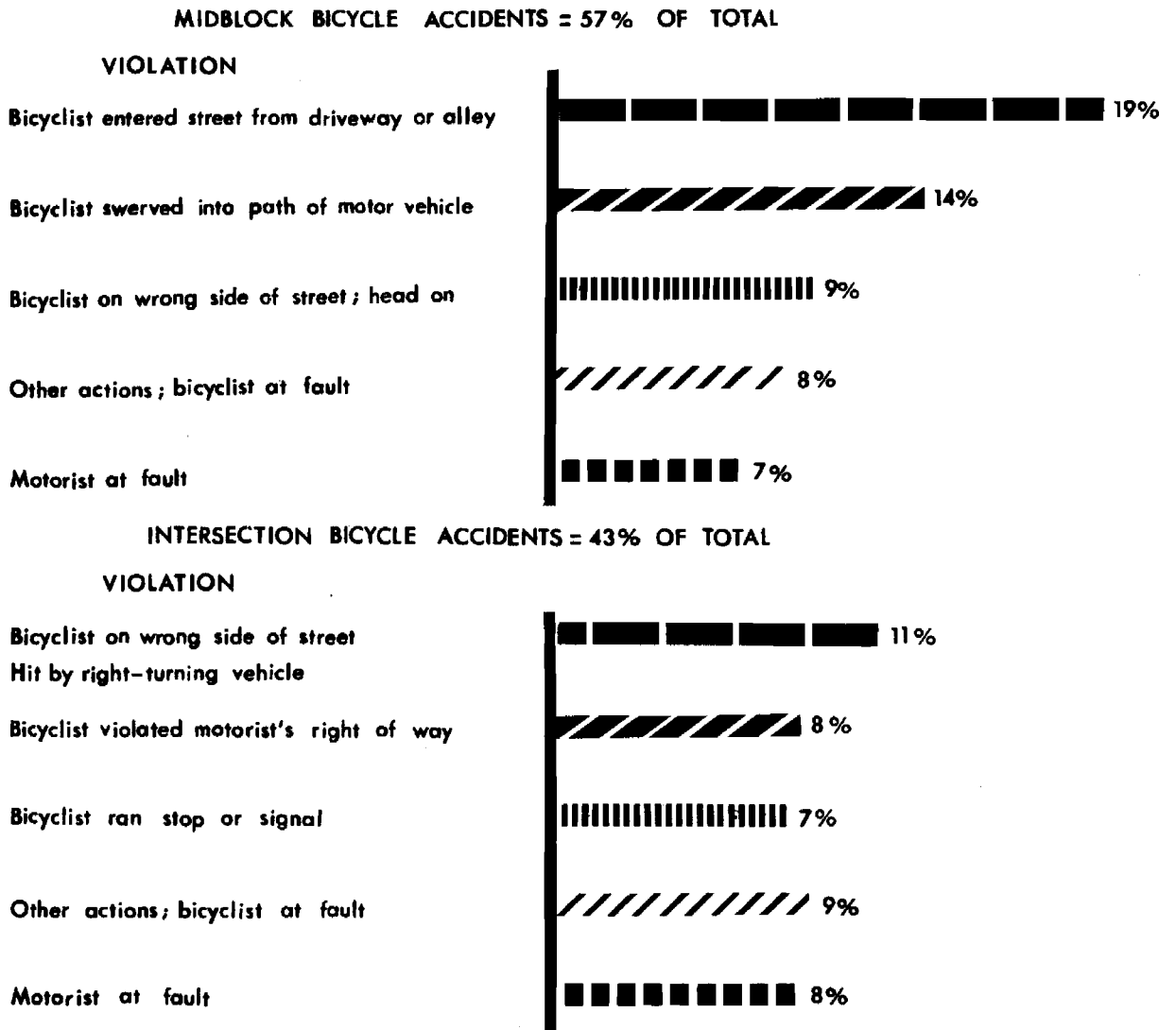


Figure 2 VIOLATIONS CAUSE ACCIDENTS

Other facts revealed from this accident study are as follows:

- . There is a trend toward older juveniles and adults riding bicycles which is resulting in more accidents in the older age groups.
- . The four summer months of June through September account for the highest percentage of accidents, 12% per month.
- . Over 1/2 of the bicycle accidents occur between 3 p.m. and 7 p.m.
- . The percentage of nighttime accidents is rising.
- . 60% of accidents occur in residential areas but the number occurring in commercial areas is increasing.
- . About 1/2 of bicycle accidents occur on arterial streets.
- . 2/3 of all intersection accidents occur on arterial highways.
- . 87% of all midblock accidents occur on streets with light to moderate parking.¹²

With the rapid growth of bicycle usage comes the obvious and pressing need for increased bicycle safety. While new facilities may ameliorate some of the conditions leading to accidents, the major share of bicycle travel will still be mixed with motor vehicles using a common thoroughfare. In an encounter between a 150-pound bicycle rider and a 3000-pound automobile the bicyclist in 99% of the cases is injured.¹³

One solution to this problem, which has proven to be effective, is more effective bicycle safety education in our schools and news media for both bicyclists and motor vehicle operators. This educational effort should emphasize the need to obey the rules of the road, the fundamentals of defensive riding and driving, and the need to be aware of the rights of other vehicles operating on our roadway transportation systems.¹⁴

For regardless of fault, there is presently a lack of driver awareness of the bicyclist and his rights to use the roadway system. As more bikeway facilities are provided, the signs, markings and enforcement procedures will also tend to educate the public in the safe, effective use of the systems provided.

C. Insufficient Roadway Width, Large Volumes of Traffic and Urban Development

In our automobile oriented society, a system of roadways has

evolved to handle the traffic needs of the various segments of the community.

Local streets and local collector streets provide access and egress to the residential and commercial areas and handle the traffic and parking demands generated in these areas. This local traffic then flows onto the arterial system of roadways which interconnects with the freeway system to form a comprehensive network of roadways to accommodate a variety of trips to home, work, commerce, education, shopping and pleasure.

Because of our dependence on the motor vehicle as the main source of transportation, traffic volumes seem to increase in direct proportion to urban development. Consequently, the development of adequate roadway systems to handle these increased volumes usually lags behind the traffic demands imposed on the road system by increased development. Thus many of the existing roadways become congested with excessive traffic requiring the complete utilization of all available roadway space to handle traffic demands leaving no room to accommodate separate bicycle facilities or lanes within the road right of way. Because of this situation bicycle traffic sometimes utilizes an entire traffic lane causing motor vehicles to veer into adjacent lanes on roadways where the right lane is not wide enough to accommodate both bicyclists and motor vehicle traffic.

Also as urban development progresses, strip commercial areas, apartment dwellings, and condominiums are allowed to develop along many of the arterial roadways with minimum setback distances from the roadway and minimal off-street parking to accommodate the needs of this type of development. This also presents problems for the effective development of bicycle facilities along roadways so impacted because of the high parking demand along the roadway and insufficient space adjacent to the road to accommodate widening or an off-road bicycle facility.

D. Uniform Standards

There is considerable variance in the bikeway design standards being used nationally, in California, and locally. This diversity is particularly noticeable in the areas of bikeway widths, capacity, design speeds, curvature and grade profiles.

The minimum widths for one-way bikeways, recommended by the Institute of Transportation and Traffic Engineering in a report prepared for the State of California in 1972, are shown in Figures 3 and 4 on page 15. For a two-way, separate bike facility, it is recommended that the width be increased an additional 3 feet to accommodate the additional shy distance needed for head-on bicycle traffic. (See Figure 5, page 16.)¹⁵

It should be noted that the dimensions shown are minimum widths. Bicyclists frequently like to ride two abreast not single file as shown in this diagram. In the design of a bicycle facility this factor as well as capacity, grade, speed, need for super-elevation and curve widening, horizontal and vertical sight distances and clearances will need to be evaluated and the facility designed to accommodate these factors. Graphical presentations of the recommended geometrical relationships of these factors may be found in a Federal Department of Transportation publication entitled "Bikeways State of the Art 1974".

Also the State of California Highway Design Manual recommends minimum standards for striping and signing to be used in the implementation of bikeways. These standards are shown in Section 7-1000 of this Manual.

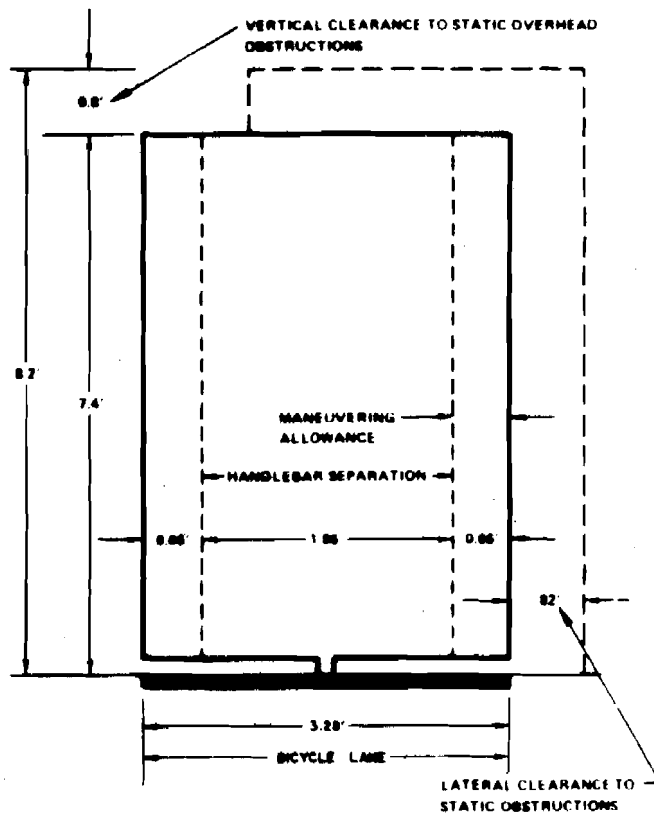


FIGURE 3. One-Lane, One-Way Bicycle Lane Minimum Dimensions of I.T.T.E.

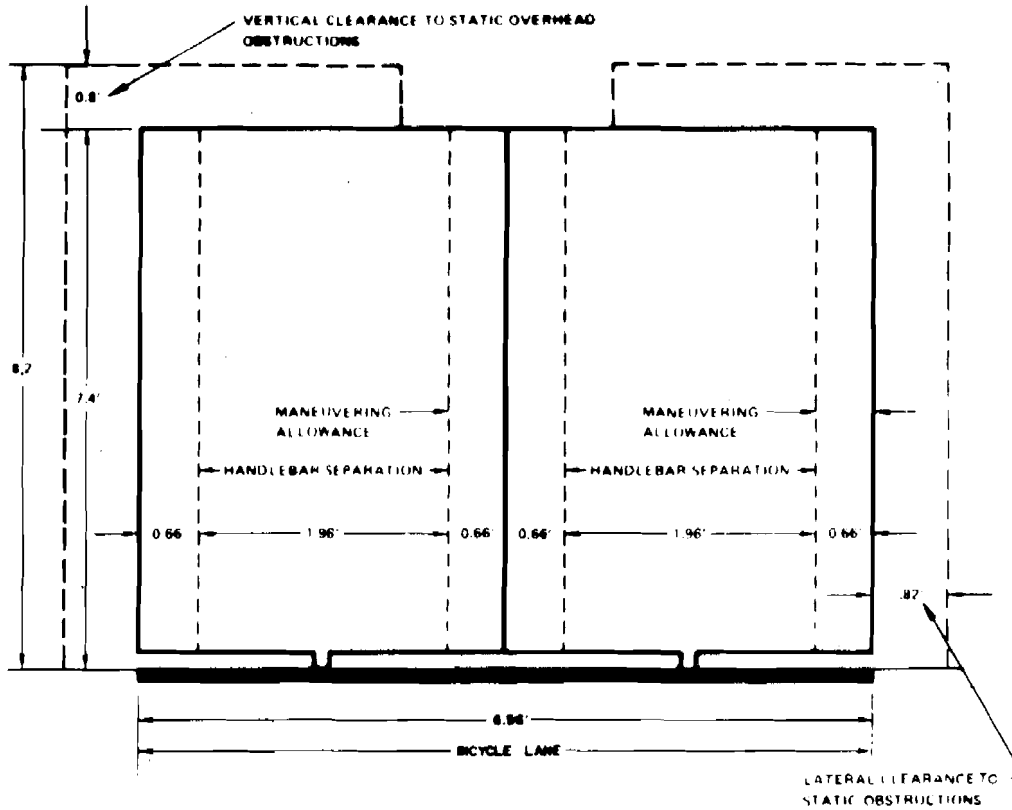


FIGURE 4. Two-Lane, One-Way Bicycle Lane Minimum Dimensions of I.T.T.E.

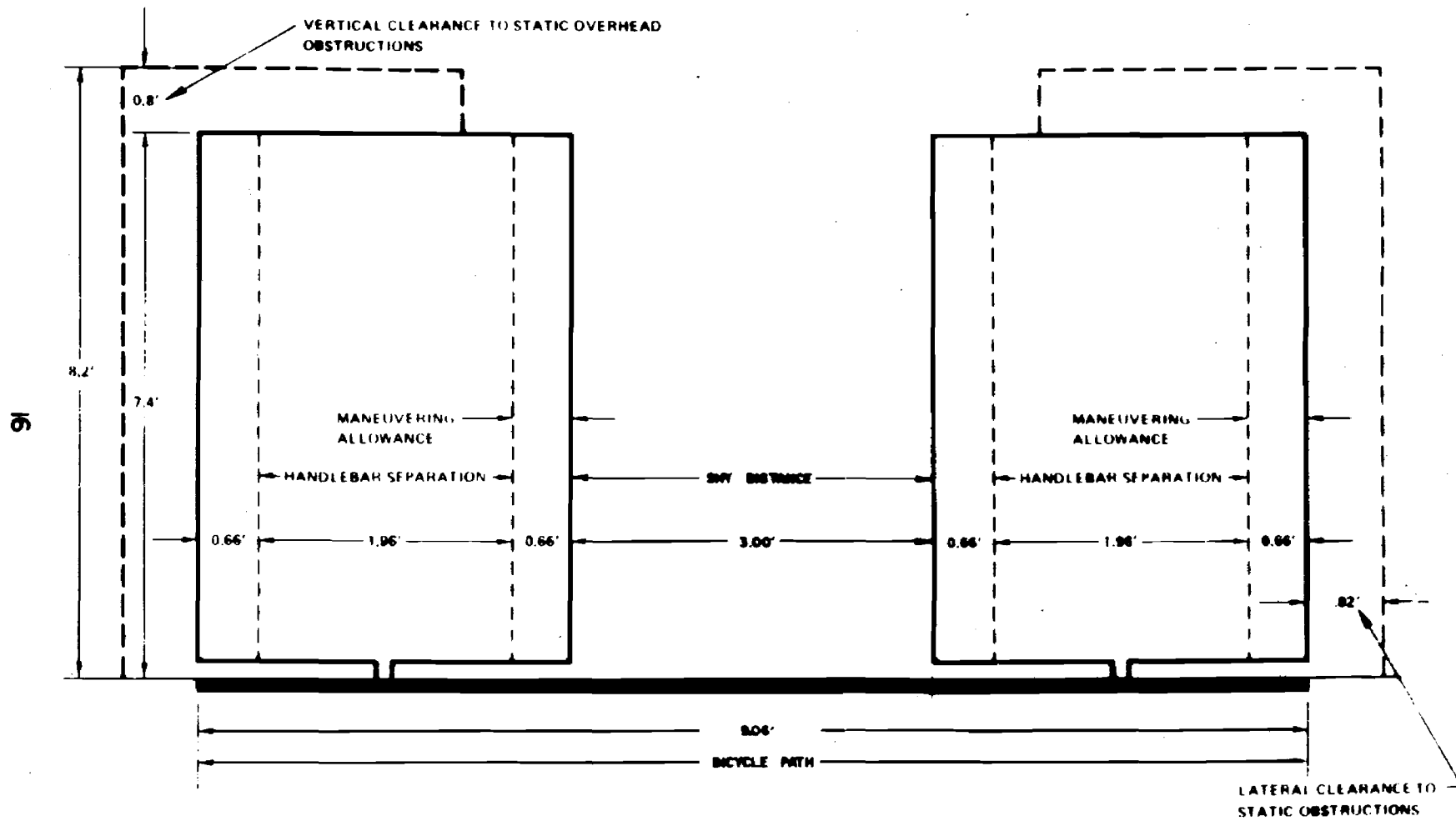


FIGURE 5. Two-way bicycle path minimum dimensions of I.T.E.

E. Safety Programs

In a recent report to the California Legislature, the SCR 47 Bicycle Committee endorsed the following recommendations of the California Traffic Safety Education Task Force.¹⁶

1. That the California State Department of Education study and adopt the framework of the programs recommended for each of the target groups identified by the Task Force Bicycle Resource Panel, and that these programs be pilot tested and put into a form useful to California schools and other agencies in counteracting the California bicycle accident problem.
2. That various funding sources be explored for the purpose of development and testing of comprehensive traffic safety education programs including the teaching of bicycle safety, or where appropriate, special bicycle safety programs.
3. More research should be conducted to determine whether the critical behaviors outlined by the Task Force Bicycle Resource Panel for each age group are in fact those contributing to the greatest number of bicycle accidents. If this were known, our educational system could be better designed also that it would become more effective in preparing young cyclists for safe roadway operation.
4. Further research should be conducted to determine ways of modifying negative traffic attitudes and deviant traffic behaviors among bicyclists and motorists alike. These methods must be incorporated into the educational program because poor attitude is as much a factor in bicycle accidents as is lack of knowledge of the rules of the road.
5. K-12 grade bicycle safety education programs should be implemented by the Department of Education in cooperation with the local school districts as part of the school curriculum, either separately or integrated with other appropriate subjects.
6. All schools in California should provide some instruction in bicycling skills, hazard identification and avoidance techniques, and related proficiency requirements before a child is allowed to bring his bike to school.

Although there are some safety programs currently being practiced by various jurisdictions in this County, there is a definite need for a concentrated, coordinated countywide safety education program which encompasses all levels of society. Such a program should consider and incorporate the following recommendations of the SCR 47 Bicycle Committee:¹⁷

1. Bicycle safety education should be provided in public and private schools annually from kindergarten through twelfth grade, including high school driver education courses.
2. Preschool and adult courses should be made available through public agencies.
3. Bicycle safety education should strongly emphasize how to follow the Vehicle Code rules, rather than just require memorization of the rules.
4. Bike safety education must include on-the-bicycle on-the-road (or simulated road) practice to develop proper bicycle handling expertise in both normal and emergency situations.
5. The Commission on Peace Officer Standards and Training (POST) should include mandatory bicycle safety and enforcement training in both the Basic Course and the Advanced Officer course required of officers from departments participating in the program.
6. Juvenile court judges, traffic court judges and referees, and all other judicial personnel who work with Vehicle Code violation adjudication should be required to take the same bicycle safety and enforcement motivation program as that provided for peace officers.
7. The California Department of Education, in conjunction with the California Department of Motor Vehicles, the California Highway Patrol, and other appropriate agencies (including user groups and local public agencies) should develop an adult level bicycle safety information text and disseminate such to all State and local government personnel involved in bicycle program activities.
8. The Department of Motor Vehicles, Highway Patrol and local law enforcement agencies should take a leading role in a public information effort advising motorists and other road users of their rights and responsibilities in relation to bicyclists, as well as making motorists aware of the bicyclists' needs on the roadway.
9. Adequate funding for implementation of the above recommendations should be appropriated by the State Legislature to assure statewide uniformity.

If such a comprehensive safety program were initiated, it would contribute greatly to the reduction of bicycle - automobile accidents in this County.

F. Enforcement of Ordinances

The California Vehicle Code defines bicyclists as vehicle operators for the purpose of enforcing the rules of the road and accident reporting. This principle provides good guidance for cyclists and other highway users providing the laws are obeyed. In most accidents involving bicyclists and motorists, the bicyclist is usually in violation of one or more laws. Many bicyclists and motorists do not seem to know that bicyclists are subject to the same rules of the road as motorists. This problem is compounded when local jurisdictions enact laws such as mandatory sidewalk riding, restrictions requiring bicyclists to turn left from the right-hand edge of the roadway and requiring motorists to turn right from a position that is not near the right hand edge of the roadway. These special rules confuse cyclists and motorists alike and can cause misunderstanding and accidents.

Testimony presented at the SCR 47 Statewide Bicycle Committee hearings last year indicate that many motorists, bicyclists, and law enforcement agencies are confused about present laws. It was readily apparent that the interpretation and enforcement of the Vehicle Code by local police agencies with regard to bicycle laws frequently is not uniform throughout the State.¹⁸

Riding on the wrong side of the road, operating without lights during darkness, not stopping for stop signs, darting into the street and failure to yield the right of way are violations most often committed by cyclists. Unless law enforcement agencies adopt uniform procedures for apprehending, citing and fining violators, the present accident situation will probably not improve.

As additional bikeways are provided along off-road rights of way such as flood control channels, beaches, aqueducts, canals, railroad and utility lines, it will be necessary to enact ordinances to establish regulations to control bicycle operations along these facilities. These ordinances will have to cover safety matters, rules of operation and along certain flood control channels, they will have to prohibit contact with polluted waters flowing in the channels.

Law enforcement agencies may eventually have to provide bicycle patrols along certain off-road bicycle facilities to enforce the ordinances and protect the users of these facilities.

G. Multiplicity of Governmental Jurisdictions

Within Los Angeles County there are 78 city governments, one County Government, Los Angeles County Flood Control District, a regional transportation planning agency Southern California Association of Governments, the State Coastal Commission, the California Department of Transportation, the State Department of Recreation, the State Department of Water Resources,

the Federal Department of Transportation, the Federal Department of the Interior, and the United States Corps of Engineers involved in the planning, funding and implementation of various bicycle facilities throughout the County. Some of these agencies have well defined policies and programs and other are in the process of formulating their plans and programs. Obviously this situation requires a great deal of coordination between the various agencies to initiate and implement a bikeways plan as extensive as the one shown in this sub-element.

If the limited funds available for the local, regional, state and federal levels are to be utilized effectively to achieve a comprehensive system of bikeways in this County, all levels of government must work cooperatively toward this objective.

H. Support and Maintenance Programs

In 1971 over 400,000 bicycles were stolen in the State of California at a cost of \$20,000,000 to the owners. Recovery rate for this type of theft are extremely low because of inadequate statewide registration programs. Bicycle thieves tend to thrive on local registration inadequacy and the absence of interjurisdictional recovery efforts.¹⁹

In 1972 the Legislature took remedial steps to standardize bicycle registration laws and to encourage recovery of stolen bicycles. This program has had a degree of success and as additional city and county governmental jurisdictions take the initiative in implementing registration and recovery efforts, it will be even more successful in the future.

A frequent complaint vocalized by bicyclists is the complete lack of adequate facilities to secure their bicycles at public buildings or facilities such as post offices, libraries, civic centers, parks, beaches, ball diamonds, parking lots, schools, shopping centers, places of employment and cultural and religious centers.

To alleviate this situation, local governmental agencies must take the initiative to ensure that adequate racks, lockers or other devices are provided for the convenience of the bicycling public.

Another concern of bicyclists is the lack of adequate maintenance along the roadway edge where they are required by the Vehicle Code to ride. The sweeping action of motor vehicles frequently deposits rocks, glass and other debris in the lane adjacent to the curb. Also pavement deterioration and cut slope raveling along the shoulders or edge of the roadway has on occasion made bicycle riding in these areas a problem.

For any bicycle facility to effectively attract bicycle usage by the general bicycling public, it must be properly maintained. This means that the pavement must be maintained in good structural condition and that the bikeway be kept clear of glass, rocks and other debris.

The provision of adequate toilet facilities, trash receptacles, turnouts, shelters, campgrounds, and hostels to accommodate the bicycle traveler or tourist will also need to be considered in the design phase of any proposed off-road bicycle facility. Other considerations are adequate emergency access to off-road trails, directional and location signing, and in some areas convenient communication facilities to report accidents, thefts and maintenance problems along the bikeway.

I. Legal Rights of Bicyclists on Roadways

The California Vehicle Code and local traffic ordinances regulate the operation of bicyclists on the roadway system. Recently the professional bicycling organizations have vocalized their concern that the provision of bikeways may result in governmental agencies and law enforcement personnel restricting the bicyclist to the use of these bikeway facilities.

They have indicated that bike lanes in their opinion are unsafe since they restrict the bicyclists operational capability and maneuverability, force them to ride in an unsafe location, gives a false sense of security, and are discriminatory against the bicyclist.

It is their contention that wider roadways and better safety education programs which stress the correct and safe method of operating bicycles on the roadway system are the best answers to improving the accident problems and improving the overall safety of operating bicycles on the roadway system.

This sub-element does not propose any restrictions on the use of the roadway by bicyclists but does recommend corridors where some modifications such as pavement widening, parking restrictions, separate facilities, or other innovations may be utilized to make bicycling safer throughout this County. It recognizes that the bicyclist will have to continue to use the existing roadway system to gain access to these corridors from a variety of locations and will not use facilities which are not safe, convenient or readily accessible. It anticipates that the Vehicle Code in the future will not restrict the operation of bicycles on the roadway system since it is not logical to do so.

V. STATEMENT OF GOALS AND OBJECTIVES AND POLICIES

Goals reflect the broad aims which an entity strives to attain to accomplish a desired product or achievement. Objectives further refine the goals by stipulating basic values to be considered in attaining the desired product. Policies provide direction for the achievement of the element goals and will be carried out through implementation programs utilizing public and private resources. The Goals, Objectives and Policies of the Bikeways Plan of Los Angeles County establish emphasis and tone for program formulation and direction for the decisions and activities of county government.

General Goal I - Bicycle Network Plan

Provide safer, more convenient bicycle facilities throughout Los Angeles County for recreation and transportation, as a viable alternative to automobile travel.

Objective A - Promote citizen participation in planning a bicycle program for Los Angeles County.

Policies

1. Encourage citizen participation in the planning and financing of bicycle routes.
2. Encourage all efforts by individual citizens and private organizations interested in the development of bikeways.

Objective B - Plan and implement a coordinated interconnected system of bikeways and bikeway support facilities to enhance bicycle transportation.

Policies

1. Implement a comprehensive system of bikeways and related facilities which takes into consideration health, safety, the needs of the bicyclists and their interrelationship with other modes of transportation.
2. Require new subdivisions to develop and dedicate bicycle facilities where feasible.
3. Require redevelopment projects to consider and provide bicycle facilities within the project limits.
4. Solicit and utilize all sources of local, regional, state and federal funds to plan, acquire rights of way, and construct bikeways.

5. Utilize existing and abandoned public rights of way along flood control channels, parks, utility rights of way, railroad rights of way, and road rights of way, wherever possible and where a need can be demonstrated to construct bikeways.
6. Actively seek new means for the acquisition, construction and maintenance of bikeways and support facilities to encourage bicycle travel.
7. Initiate a program to provide bike racks, lockers or other devices for securing bicycles in convenient locations at public parks, buildings, libraries, and other activity centers.
8. Coordinate the development of local bikeway feeder systems with other jurisdictions in this County.
9. Provide bikeways which connect cultural facilities, recreation areas, educational facilities, commercial and industrial facilities with residential areas.
10. Separate bicycle and automobile traffic whenever possible, taking into consideration safety, use of the facility, economic factors, and physical feasibility.
11. Prohibit parking on shared routes (Class III) bikeways where adequate public or private off-street parking is available.
12. Initiate a bicycle registration program in unincorporated County areas and encourage all other city jurisdictions to initiate similar programs.
13. Locate bikeways along designated scenic highways wherever environmentally, physically or economically feasible.
14. Encourage other jurisdictions within the County to adopt a comprehensive system of bikeways which interconnect with the County bikeway system.
15. Modify and widen existing roads to accommodate and encourage safe bicycle use.
16. Encourage the State and Federal Governments to continue to develop and evaluate bicycle equipment standards in order to provide the safest bicycle possible.
17. Enact uniform ordinances in cooperation with other jurisdictions to control the operation of bicycles on off-road bikeways.

Goal II Initiate a comprehensive safety education program for both bicyclists and motorists to improve safety on existing roadways.

Objective A - Educate bicyclists, motorists and enforcement agencies in the proper operation of bicycles on our roadway transportation system.

Policies

1. Encourage the educational institutions in this County to adopt safety education programs similar to those recommended by the California Traffic Safety Education Task Force and the State SCR 47 Bicycle subcommittee (page 17).
2. Continue to publish and distribute brochures and safety literature to citizens and individual bicyclists.
3. Recommend uniform and stricter enforcement procedures and programs by local law enforcement personnel and the Highway Patrol.
4. Recommend that juvenile court judges, traffic court judges, referees and other judicial personnel who work with Vehicle Code violation adjudication adopt uniform procedures in dealing with bicycle infractions.
5. Encourage the news media to make public service information announcements regarding bicycle safety and operational rules of the road.
6. Sponsor a safety education program in the news media to make the public aware of the presence of bicycles on the roadway and the need to watch for them.

Objective B - Monitor accident and safety data to identify safety problems and their solutions.

Policies

1. Continue to conduct studies of bicycle - motor vehicle accidents and operator behavioral characteristics to discover ways of reducing accidents on the roadway system.

Goal III Interface the Bikeways Plan with existing and future modes of transportation as they are planned and implemented to ensure the development of a balanced coordinated transportation system which meets the needs of all the citizens of this County.

Objective - Coordinate the implementation of bikeways with other modes of transportation.

Policies

1. Encourage other agencies to plan for and provide space for carrying recreational and commuter bicycles on public transportation systems where feasible.
2. Recommend that bike lockers, racks, or other devices be provided at park-and-ride lots and other transportation centers to facilitate bicycle transportation.
3. Plan for and implement feeder bikeways which connect regional mass transportation facilities to regional bikeways.

The Plan of Bikeways map is a graphic extension of the written policy. It identifies those corridors along which bikeways may be initiated and depicts corridors in Los Angeles County where bikeways are operational.

The map shows four major categories of bikeways -- proposed off-road, existing off-road, proposed on-road and existing on-road bikeways. It shows 280 miles of proposed off-road, 80 miles of existing off-road, 890 miles of proposed on-road and 10 miles of existing on-road bikeway facilities, for a total of 1260 miles of bikeways. These routes are listed in Appendix I.

This plan will be reviewed periodically and revised as necessary to provide additional bikeway corridors as they are warranted and to accommodate changing conditions, trends, and interests of the bicycling public.

VI. STANDARDS AND CRITERIA FOR BIKEWAYS

The criteria and standards contained in this section will serve as a guide to be used in implementing the bikeways shown in this plan. They will also serve as the means by which potential bikeways are evaluated and implemented. Criteria are generally non-quantitative rules while standards are usually quantitative or measurable.

The primary responsibility for the design of a bikeway is with the local jurisdiction or public agency which is implementing the bikeway facility. Minimum standards and criteria for bikeways on State highways have been developed by the California Department of Transportation. It should be noted that recent legislation amended Section 99401 of the Public Utilities Code to require that the local transportation agency responsible for analyzing claims for allocation of local transportation funds for bikeway facilities shall apply the general design criteria of the Department of Transportation for such facilities. It is therefore essential that the local agencies use the State's criteria as a minimum standard when seeking funds from this source.

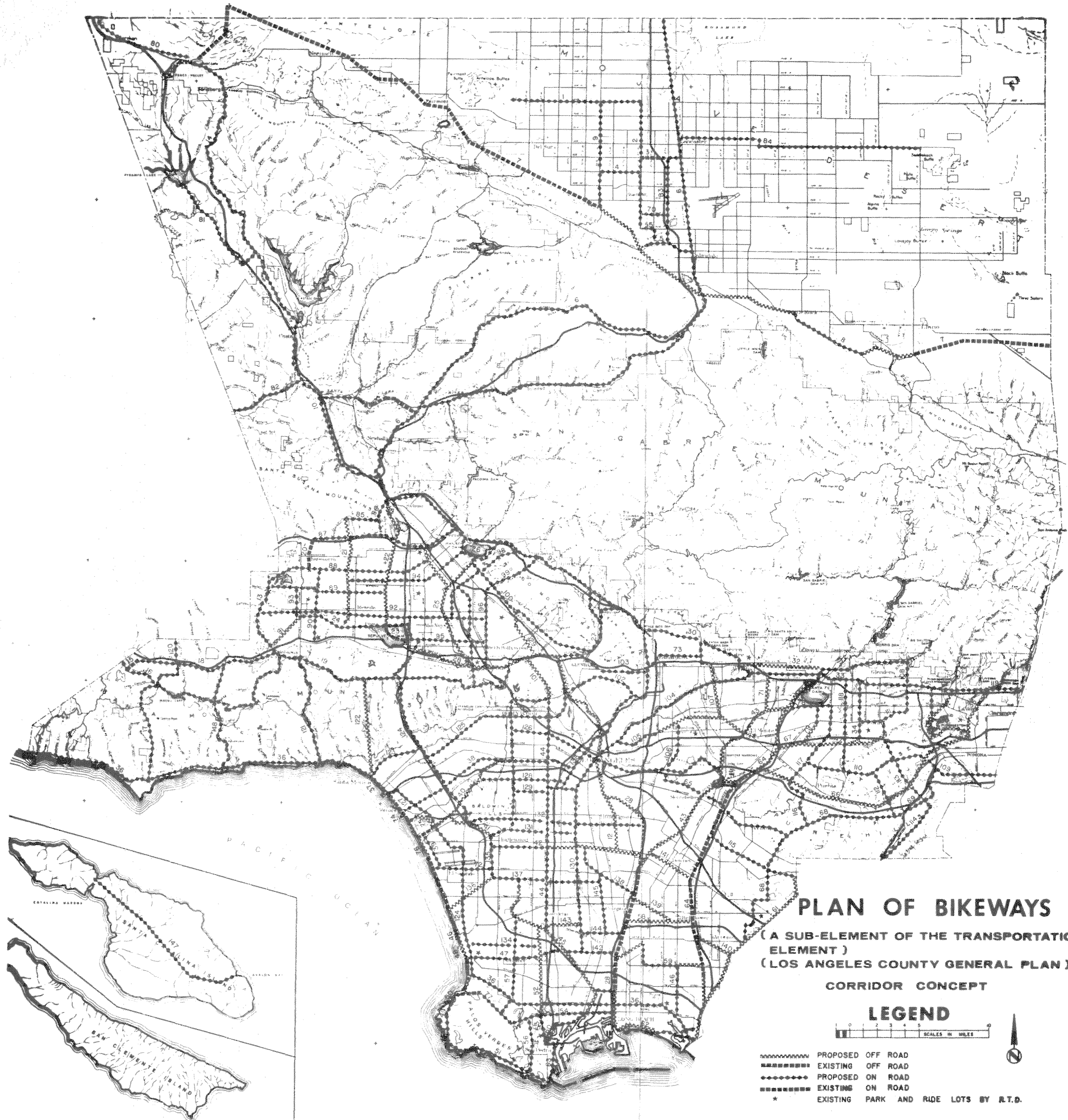
The following criteria and standards are intended to supplement the State's criteria and to assist the local jurisdictions in implementing the bikeways shown in this plan.

A. GENERAL CRITERIA

Bikeways should be implemented on the basis of three basic design principles.²⁰

1. Access - the bikeway must be located where bicyclists want to go, readily accessible and convenient for the user.
2. Protection - the bikeway should be located where it will afford the user the greatest degree of protection.
3. Continuity - the bikeway system must be continuous internally and provide access connections to bikeways in adjacent communities.

In general a bicycle facility should be located to the right of an existing traveled way if it is located upon or adjacent to a roadway. Two-way separated facilities are possible on one side of a street, but the designer of such facilities must give close consideration to the problems of safe access to the facility. All bikeways should be clearly marked and delineated so that motorists, pedestrians, equestrians and bicyclists are alerted to the location reserved for this use. To delineate the lane or path effectively, the pavement markings, striping, and signing should be in conformance with the recommendations of the California Traffic Control Devices Committee so that statewide standardization may be achieved. (See Figure 6, page 32.)



PLAN OF BIKEWAYS
 (A SUB-ELEMENT OF THE TRANSPORTATION
 ELEMENT)
 (LOS ANGELES COUNTY GENERAL PLAN)
 CORRIDOR CONCEPT

- LEGEND**
- 0 1 2 3 4 5
 SCALES IN MILES
- PROPOSED OFF ROAD
 - EXISTING OFF ROAD
 - PROPOSED ON ROAD
 - · - · - EXISTING ON ROAD
 - * EXISTING PARK AND RIDE LOTS BY R.T.D.

Other factors which must be considered and evaluated for any proposed bikeway are: user characteristics, terminal facilities, conflict points with motor vehicular traffic, maintenance of the facility, clearances, geometrics, lighting, bicycle trip demand, cost, financing, impact of facility on the neighborhood, grades, energy consumption, pollution and replacement for other modes of transportation.

B. CRITERIA FOR CORRIDOR SELECTION

The bicycle corridors shown on the map on page 27 were selected on the basis of the following considerations:

1. Bicycle Trip Demand: Individual citizens, bicycling groups, city planning agencies, city councils, and supervisors nominated many of the bicycle corridors shown. Other routes were selected on the basis of observed usage and projected demand as well as their proximity to existing well-used corridors or roadways which lead to educational, recreational and commercial facilities.
2. Safety: Factors such as separation from vehicular traffic, sufficient lane or roadway width to accommodate bicyclists, grades, and traffic volumes along a given facility were considered.
3. Continuity: The interconnection of the proposed facility with other city-wide and regional systems was evaluated.
4. Cost vs. Available Funding: Bikeways that can be implemented at the lowest unit costs were evaluated and utilized wherever possible considering such factors as available right of way, roadway widths, and graded sections.
5. Impact on Local Neighborhood and Communities: Such factors as proximity of the route to local residences, whether a route is along a backup subdivision, effect of parking restrictions and effect of the bikeway on the neighborhood through which it passes were evaluated for some of the routes shown.

It should be noted that during the design stage for any of the bikeways shown, the above factors will need to be evaluated in more definitive detail before implementation proceeds. This is usually accomplished by conducting surveys, preparing engineering reports and feasibility studies, and through coordination efforts with the local jurisdictions and citizens.

C. DESIGN STANDARDS

Design must consider the space required by the cyclist, user characteristics, minimum widths and clearances, grade, radius of curvature, design speed, parking, signing, surface, base material, maintenance, safety and drainage.

Clearances: The recommended minimum clearances and widths to be utilized for bike lanes and separate facilities in the implementation of this Bikeways Plan are shown in Figures 7 through 9 on pages 33 and 34. These recommendations should be further evaluated in light of the proposed capacity of a particular facility and the maintenance equipment used to clean a particular facility.

Grade: Because of the diversity of terrain in Los Angeles County, a rideable grade is an important design consideration. Where long or severe grades occur, consideration should be given to rest stops or additional width to accommodate bicyclists travelling up or down grade. Grades should be less than 7% and preferably no more than 5% or it is to be expected that some bicyclists will have to walk their bicycles.

Speed: Some bicyclists' speed may exceed 40 mph but usually the speed of the majority of bicyclists is in the 10-15 mph range. Therefore a design speed of 20 mph for a particular facility is probably more than adequate. Where grades exceed 4% this speed may not be conservative enough and a higher design speed should be utilized when designing the geometrics and width for such a facility.

Surface and Base Material: Three inch thick, smooth asphalt concrete on 4 inches of aggregate base is adequate for supporting wheel loadings from bicycles and maintenance equipment. This of course is dependent on the characteristics of the native soil and in some instances a thicker wearing surface or more aggregate base material may be required.

Safety: The bicycle facility which provides minimum conflict between motor vehicles and bicyclists while maintaining adequate access is usually the safest. In actual practice, however, especially in urban areas, this is difficult to achieve.

Intersections are a big problem to the cyclist. Operators of turning vehicles usually do not see the cyclist or do not choose to honor his right of way. This is a problem with all types of bicycle facilities including a separate bicycle path which crosses a roadway. Even the provision of costly grade separations have not proven effective in some areas since bicyclists will circumvent them if not convenient. Also, if they are not properly designed they can cause operational problems and accidents for the user.

Left turns may be legally accomplished by cycling into the center of the road and turning like a vehicle, but this is of questionable

safety to the young, inexperienced cyclist. A suggested alternate method for the novice is to follow the pedestrian route around the intersection. Other possible methods of handling bicycles at intersections are shown in Bikeway Planning Criteria and Guidelines prepared for the State of California by the Institute of Transportation and Traffic Engineering in April 1972.

Parking and Signing: Realistically and economically it will be necessary to provide bicycle facilities on streets. In these instances a separation between the cyclist and motor vehicle is desirable if it does not compromise the safety of the cyclist or the motorist. Where parking is permitted, the vehicle parking and leaving the curb will be in direct conflict with the cyclist. Therefore, every effort should be made to prohibit or restrict parking where bike routes or bike lanes are to be established. Also additional pavement widening should be considered in locations where the existing roadway width is inadequate to accommodate vehicles and bicyclists. Adequate signing which is clear and conveys the message that a bikeway exists in the vicinity of the roadway should be provided for all types of bikeway facilities. A traffic investigation which evaluates the conflicts from both the bicyclists and motorists viewpoints should be conducted and signs provided accordingly to adequately delineate a bikeway facility.

Maintenance and Drainage: Gratings, curb and gutter, local depressions, meters, slotted cross gutters, debris from the sweeping action of cars, water on the pavement and deteriorated pavement cause problems for bicyclists. In designing and maintaining a bikeway all these factors must be considered and remedial measures initiated to remove as many of these problems as possible.

Lighting: Nighttime accidents involving cyclist are increasing. The visibility of the cyclist by the motorist is a critical factor. The cyclist should have reflector pedals and lights clearly visible from the side front and rear. Bikeway illumination capable of providing nighttime identification and silhouetting of the cyclist is a desirable feature and should be considered in the design phase. Also for safety, it is desirable that the bicycle facility be illuminated adequately to provide visibility of the surface and surroundings, particularly at decision points and intersections with other facilities.

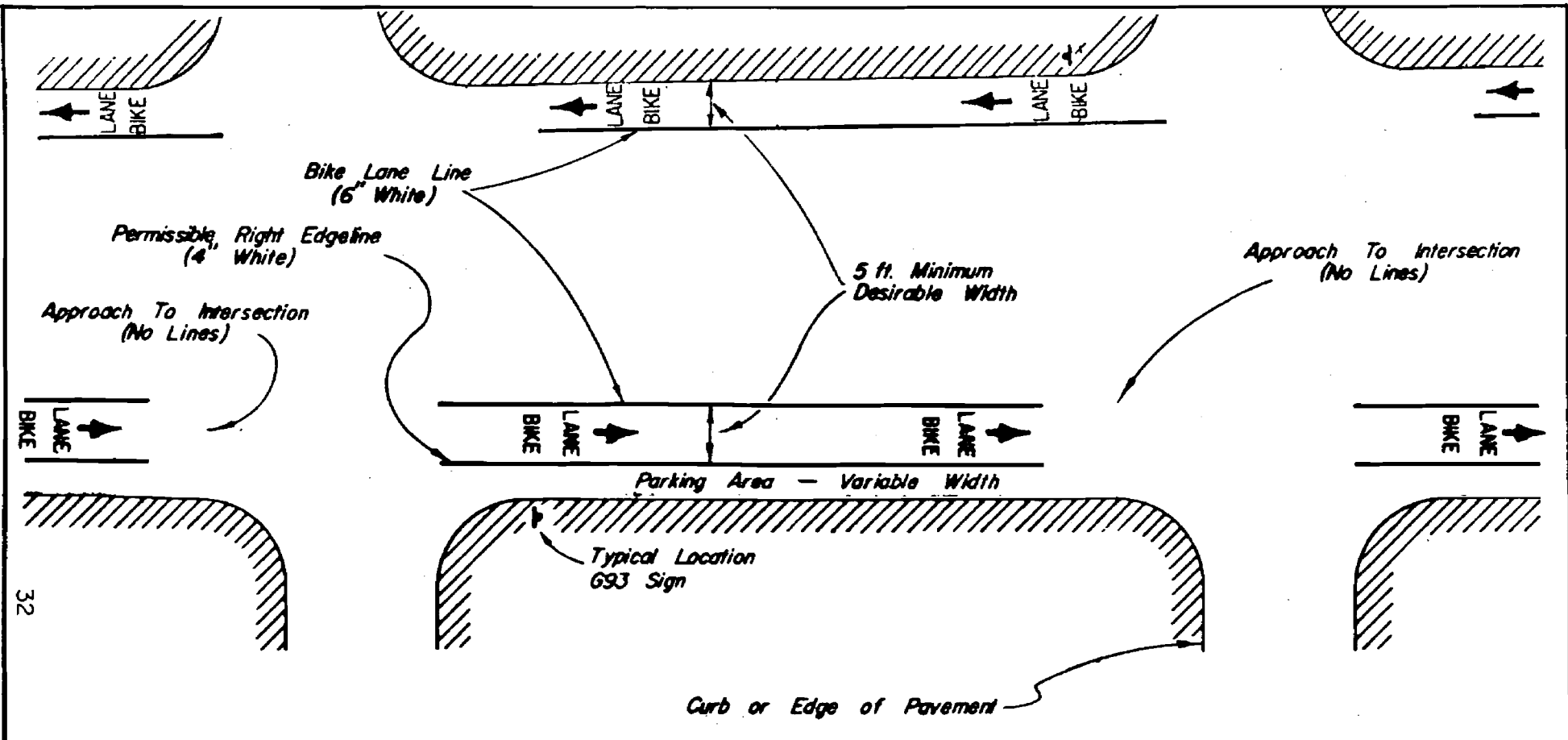


FIGURE 6.

TYPICAL BIKE LANE MARKINGS

NO SCALE

ALTERNATE LEGEND: ONLY
 ↑
 BIKE

C.T.C.D.C.
 JUNE 1973

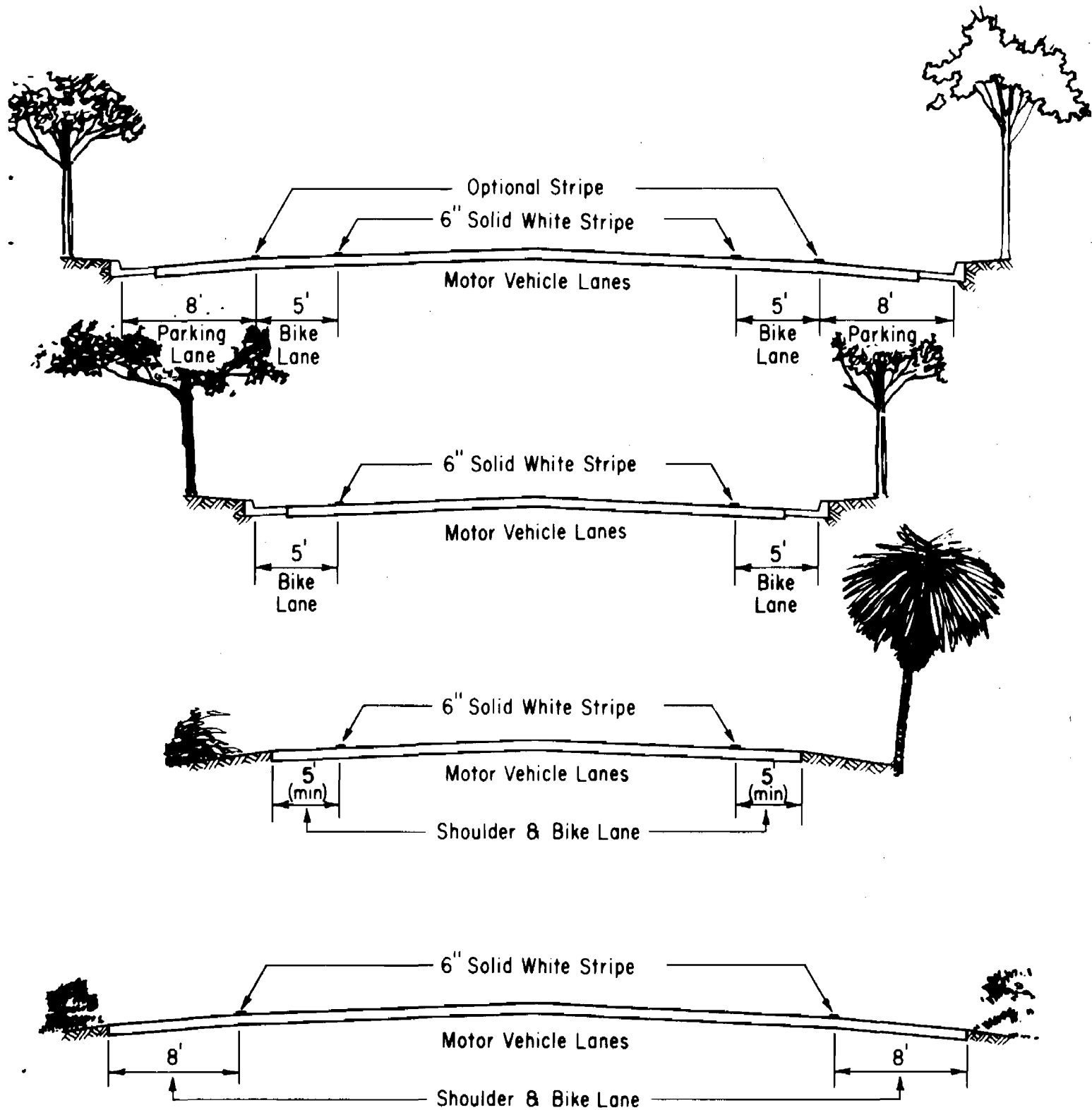
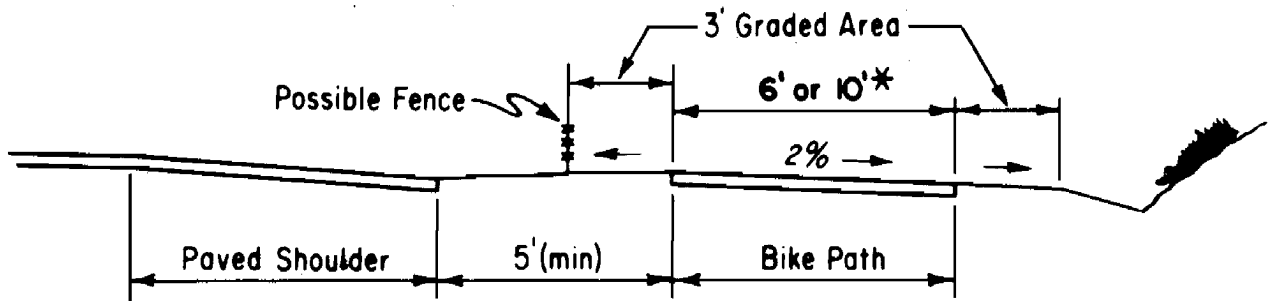


FIGURE 7. Typical bicycle lane cross section on highway



* 1-Way : 6' Minimum Width
 2-Way : 10' Minimum Width

FIGURE 8. Typical bicycle path cross section along highway

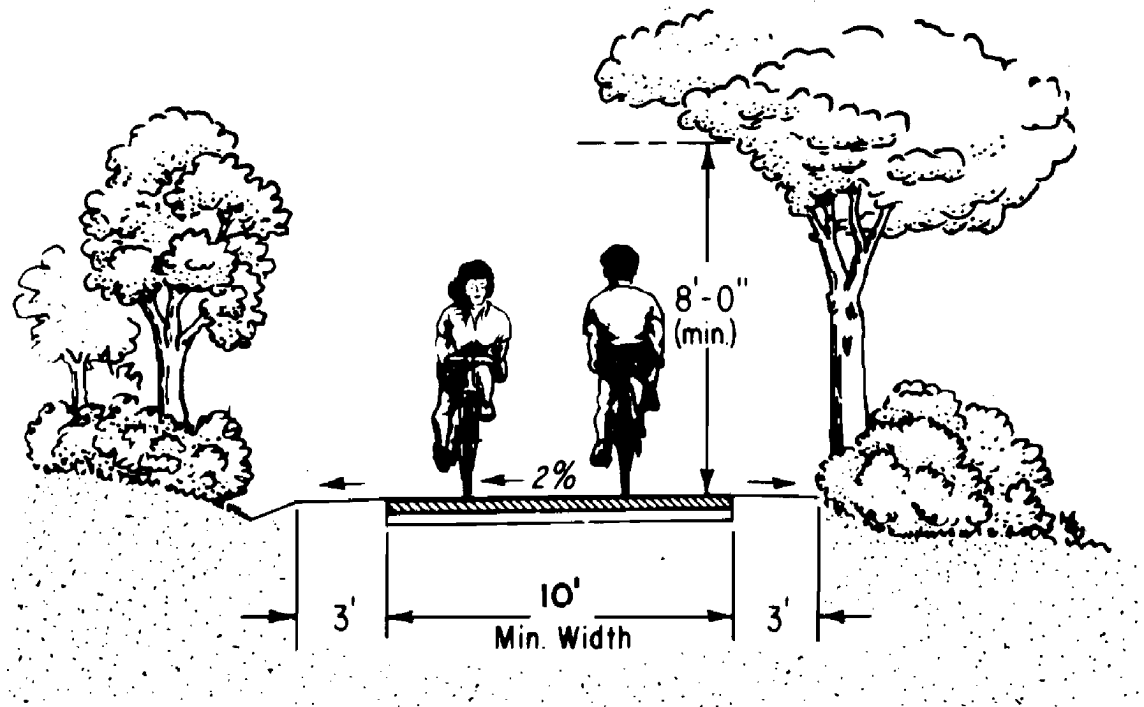


FIGURE 9. Two-way bicycle path not along highway

VI. IMPLEMENTATION PROGRAM

The purpose of the Bikeway Implementation Program is to identify actions by the various agencies which will promote safe, convenient bicycle transportation in this County.

The programs identified and evaluated in this section represent the range of actions available to the various levels of government to implement bicycle transportation and support facilities. It is not economically possible to immediately initiate all the bikeways shown in this Plan. It is possible, however, to initiate a planned program of construction and implementation which effectively utilizes the available funds to provide additional bikeways and support facilities to accommodate the transportation and recreational needs in this County.

A. IDENTIFICATION OF EXISTING PROGRAMS

Following is a listing of existing programs and activities related to the Bikeways Plan.

1. City and County Programs

- . Bikeway Implementation
- . Bikeway Planning
- . Building Regulation and Land Division
- . Capital Improvement
- . Channel Beautification
- . Enforcement of Vehicle Code Regulations
- . Highway Construction and Maintenance
- . Transportation Planning

2. Regional Programs

- . Funding
- . Transportation Planning

3. State Programs

- . Bikeway Implementation
- . Bikeway Planning
- . Funding
- . Enforcement of Vehicle Code Regulations
- . Highway Construction and Maintenance
- . Standardization of Signs and Striping
- . Traffic Operations and Management
- . Transportation Planning

4. Federal Programs

- . Bikeway Implementation
- . Funding
- . Research and Standards
- . Transportation Planning

B. EVALUATION OF EXISTING PROGRAMS

Following is an evaluation of the ability of the existing programs to carry out the policies, objectives and goals of this sub-element.

1. Bikeway Implementation

The County of Los Angeles has been active in providing bicycle facilities since 1970. Bikeways which have been implemented to date include 40 miles of separate bicycle trails along the ocean and the Los Angeles and San Gabriel Rivers and 25 miles of bicycle lanes.

The 78 cities have also been active in providing bicycle facilities. They have constructed 15 miles of separate paths and approximately 30 miles of bicycle lanes. They have also initiated approximately 125 miles of shared routes within their respective jurisdictions.

Other agencies are also active in providing bicycle facilities in this County. The State Department of Water Resources has opened 50 miles of the California Aqueduct in the Antelope Valley for bicycle use. The Corps of Engineers is currently constructing a 1-mile-long segment of the Tujunga Wash Bike Trail in the San Fernando Valley.

This program of providing additional bicycle facilities for the safe, convenient use by the bicycling public will do much to enhance bicycle transportation in this County.

2. Bikeway Planning

Various County, City, State, and Federal jurisdictions and agencies are currently planning a number of additional bicycle projects which will further improve and enhance bicycle travel in this County. Following is a listing of some of these projects:

- . Aliso Creek Bike Trail
- . Ballona Creek Bike Trail
- . California Aqueduct Bike Trail
- . Carson Street Bike Path

- . Centinela Creek Bike Trail
- . Los Angeles River Bike Trail extensions
- . Malaga Cove extension of the South Bay Trail
- . Marina Del Rey Bike Trail
- . Normandie Avenue Bike Trail
- . Palos Verdes Drive North Bike Path
- . POLARSS Bikeways
- . Rio Hondo Bike Trail
- . San Gabriel River Bike Trail (extensions North and South)
- . Santa Monica extension of South Bay Trail
- . Tujunga Wash Bike Trail
- . Wilbur Creek Bike Trail
- . 98th Street Bikeway

In addition, the County local jurisdictions, Southern California Association of Governments, Caltrans and the Corps of Engineers, are preparing Bikeways Plans, and proposing a number of additional Bike Lanes and signed routes at various locations throughout the County.

3. Building Regulation and Land Division

Various County and city agencies issue building permits and control the subdivision of land and related activities. In conjunction with this program, parking facilities are evaluated and controlled, streets are constructed and easements dedicated.

This program presents an excellent opportunity for the responsible governmental agency to require the dedication and construction of additional bicycle facilities and the provision of adequate racks or other locking devices at public parking facilities.

4. Funding

The County and city governments maintain capital improvement programs which provide additional public parks, recreational facilities, libraries, courts, hospitals, and buildings. These programs have been utilized in the past by the various jurisdictions to fund construction of bicycle facilities. It also presents an excellent opportunity for providing adequate bicycle security devices at existing and future public facilities.

The Los Angeles County Flood Control District has initiated a program of channel beautification. Under this program, funds are made available each year to beautify selected reaches of existing flood control channels. The development

of bike paths in conjunction with this beautification effort would provide additional bicycle transportation facilities.

In addition to local funding programs, there are a number of regional, State, and Federal sources which may be utilized to construct bicycle facilities and should be a coordinated effort.

The Southern California Association of Governments Executive Committee controls the allocation of bicycle funds from the Local Transportation Fund. Application criteria, the prioritization of projects, and evaluation criteria, are the responsibility of the Federal Aid Urban Committee. Under this program, the local agency submits projects to the F.A.U. Committee for consideration. This committee then evaluates the project and recommends funding priorities to the Comprehensive Transportation Planning Committee (CTPC) for approval. The CTPC then submits funding priority recommendations to the Executive Committee which approves the project and allocates the available funds.²¹

Section 2106 of the California Streets and Highways Code provides that \$30,000 per month be transferred from the Highway Users Tax Fund to the Bicycle Lane Account Fund. This fund is administered by the California Department of Transportation with the allocation of the funds going to cities and counties.²²

Projects must be submitted to Caltrans for funding consideration prior to December 1 of each year. Caltrans then makes allocations in accordance with a system of priorities established by this agency.

The Federal Aid Highway Act of 1973 authorized the expenditure of Federal Aid Highway Funds (except Interstate) for the construction of independent pedestrian and bicycle facilities.²³

Funds available for these non-motorized transportation developments may be diverted from other Federal Aid Highway purposes.

These Federal Highway Funds may also be utilized to develop bicycle facilities in conjunction with any Federal Aid Urban (FAU) or Federal Aid State (FAS) Highway project.

The Federal Aid Highway Act Amendments of 1974 established a Bikeway Demonstration Program for commuting and recreational purposes in urbanized areas. The legislation authorizes an appropriation of \$10 million nationwide for the program in 1976.²⁴

The Corps of Engineers, under the Code 710 funding program, may develop recreational facilities along or within completed Corps of Engineers projects. The Corps designs, constructs, and funds 50% of the design and construction costs of such facilities, and the local agencies must fund the remaining 50% share from available local funds and assume maintenance responsibility for the completed facility. Right of way along the various flood control facilities must either be owned in fee or a recreational easement from the fee owners procured before a project qualifies for consideration under this program. 25

Bikeway projects may be funded under a Land and Water Conservation Grant. The Federal funds for this program are derived from the sale of surplus Federal properties, a special marine fuel tax, entrance permits, and user fees at Federal outdoor recreational areas, and oil revenues from offshore drilling. Essentially, it is a reimbursement program. Fifty percent of the actual expenditures up to the support ceiling of the grant will be refunded when the project has been completed. Projects are submitted to the Director of the California Department of Parks and Recreation who is the responsible liaison agency in this State for administering this program. The plans and specifications must be approved by the State, and property acquired under the program must be retained in perpetuity for public outdoor recreation use. 26

5. Enforcement of Vehicle Code Regulations

The California Highway Patrol, the local county and city policing agencies, and the Courts have the primary responsibility for enforcing the regulations of the California Vehicle Code.

To ensure that uniform procedures are followed in citing infractions of this Code by bicyclists and motor vehicle operators is the responsibility of these policing agencies.

If a coordinated enforcement policy could be initiated, it would help to reduce the number of bicycle - motor vehicle accidents in this County.

6. Highway Construction Maintenance and Traffic Operations

The State, County and city jurisdictions maintain a program of providing additional highway improvements, maintaining the existing roadway system, and controlling the operation of vehicular traffic on this system. As a part of this program, roadway widenings and the provision of bikeways

to accommodate bicycle transportation are considered where a need for such facilities can be demonstrated. Also, the elimination or mitigation of problems along the roadway edge such as deteriorated pavement, drainage grates, chuckholes, and debris, as well as traffic control devices, are considered where bikeway facilities are initiated.

7. Standardization of Signs and Striping

The California Traffic Control Devices Committee is the group responsible for reviewing and making recommendations concerning traffic signing and striping to the California Transportation Department. Figure 6, page 32, shows the recommended striping and signing for bikeways within the roadway section. To achieve Statewide standardization, it is essential that bikeways conform to these recommendations as closely as possible.

This Statewide program of providing standard highway markings plays an important part in enhancing the safety of users of the roadway system.

8. Research

The State and Federal Governments are conducting research programs which are evaluating various ways of handling bicycle traffic at intersections, signing and striping requirements for bikeways, new highway drainage devices and gratings, improvement of the vehicle itself, and accident prevention.

The local agencies continue to compile and evaluate accident statistics and transportation data in an attempt to pinpoint locations where remedial measures are needed to make bicycling safer, and to determine where this mode of transportation may be effectively utilized within this County.

These research efforts will eventually improve bicycle transportation by providing safe, efficient facilities and equipment for the user.

9. Evaluation Summary

These programs, taken together, will eventually achieve a regional bicycle transportation system in this County. Together, they comprise a program of action which has already been set in motion to solve the bicycle transportation problems of this County. Other action programs are needed, however, to aid and abet this effort. These additional programs are contained in the following section.

C. ACTION PROGRAM

The Bikeway Plan action program consists of all the existing programs discussed and evaluated in the preceding section of this sub-element. These action programs are summarized below.

1. Continue to fund and implement the Bikeways shown in this Plan.
2. Continue to review, plan, and interface closely with all agencies in this County to provide additional bikeways.
3. Solicit and procure all available funds to construct additional bicycle facilities.
4. Enact changes in the Building Codes and Land Division Ordinances to ensure that additional bikeways and bicycle support facilities are provided in conjunction with new construction.
5. Encourage private developments to provide racks, lockers, or other bike security devices at apartments, shopping centers, parking lots, and office buildings.
6. Continue to maintain the facilities provided, and to evaluate the need for additional road widenings, signals, or other traffic control devices to enhance bicycle travel and safety.
7. Endorse the State and Federal efforts, and encourage them to continue to investigate all aspects of bicycle safety, and to continue their efforts in standardizing signs, striping, laws, and criteria for the development of bikeways.

Other actions that should be undertaken to further improve bicycle transportation in this County are as follows:

1. Recommend that all law enforcement agencies and the Courts in this County adopt uniform procedures in handling bicyclists who violate the provisions of the Vehicle Code.
2. Recommend that the local governments adopt uniform ordinances relating to bicycle facilities.
3. Initiate a comprehensive bicycle registration and recovery of stolen bicycles program and encourage all other jurisdictions to adopt similar program.
4. Recommend that all the educational institutions initiate bicycle safety programs patterned after the recommendations of the California Traffic Safety Education Task Force and the SCR 47 Bicycle Committee.

5. Initiate a program of providing bicycle racks, lockers, or other security facilities at all County-operated facilities and encourage the other jurisdictions to initiate similar programs.
6. Fund additional bikeway projects annually and actively seek additional funds from Federal, State and regional sources to accelerate the bikeways construction program.

D. USE OF THE BIKEWAYS PLAN

The Bikeways Plan will serve as an advisory tool for County decision-makers, the Board of Supervisors, and the various Department heads, as well as other private and governmental agencies. It will also serve as a guide in implementing and funding regional bicycle facilities. The element will serve as a device to achieve a consistent course of action in developing an integrated network of bikeways to serve the bicycle transportation needs in this County.

E. CONCLUSION

The establishment of a safe network of bicycle facilities to serve all segments of the population is the primary purpose of this element. The accomplishment of this objective is dependent upon the willing coordination and cooperation of citizens, all levels of government, and private enterprise. In this era of energy shortages, air and noise pollution, and rising costs, the bicycle offers a viable, quiet, economical non-polluting alternative to the automobile, especially for the short trip of from 3 to 7 miles. The staged implementation of the 1260 miles of routes shown in this Plan will greatly encourage the use of the bicycle as an alternative mode of transportation.

VIII. FOOTNOTES

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PART II draft
environmental
impact report

INTRODUCTION

Pursuant to Division 13, Chapter 2.6, Section 21083 of the Public Resources Code, the Secretary for Resources adopted amended State guidelines for Environmental Impact Reports on December 29, 1974. Section 15037 (a) (1) of these guidelines defines a project as including the adoption of local General Plans or elements thereof pursuant to Government Code Sections 65100-65700. As a result of this requirement, the County of Los Angeles, as well as other governmental jurisdictions, is required to assess the environmental impact of the adoption of General Plans or their elements. This report analyzes impacts which may occur, based on available information, if the Plan of Bikeways of the Transportation Element for Los Angeles County is implemented.

The Plan of Bikeways identifies the problems and issues of bicycle transportation in this County and proposes that certain goals be established, policies initiated, and programs implemented to bring the problems under control. This Environmental Impact Report attempts to analyze the effects of the policies and program recommendations on the environment in this County.

This EIR was prepared in accordance with State and County guidelines to be an information document and a full disclosure of environmental effects. The report does not imply that the Plan of Bikeways is entirely beneficial, detrimental, or of no significance.

Additional information and identification of impacts may be provided by the individual reports of the other jurisdictions within this County which are also required to prepare similar reports. It is the intent of this EIR to consider the impact of this Plan on all jurisdictions located within this County.

SECTION I - PROJECT DESCRIPTION

A. LOCATION

The Plan of Bikeways of the Transportation Element of the Los Angeles County General Plan encompasses the entire County of Los Angeles, which covers 4083 square miles. The County is bounded by Ventura County on the west, Kern County on the north, San Bernardino County on the east, Orange County on the south-east, and the Pacific Ocean on the west and south. The County jurisdiction also includes the islands of Santa Catalina and San Clemente.

Los Angeles County is the hub of the Southern California region as defined by the jurisdictional area of the Southern California Association of Governments (SCAG). The County comprises only 10.6 percent of this region's area, but contains 70 percent of the population. The County includes 78 incorporated cities and hundreds of special districts. Urban land uses occupy about 1,100 square miles, the majority of which is in an extensive urban area south of the San Gabriel Mountains.

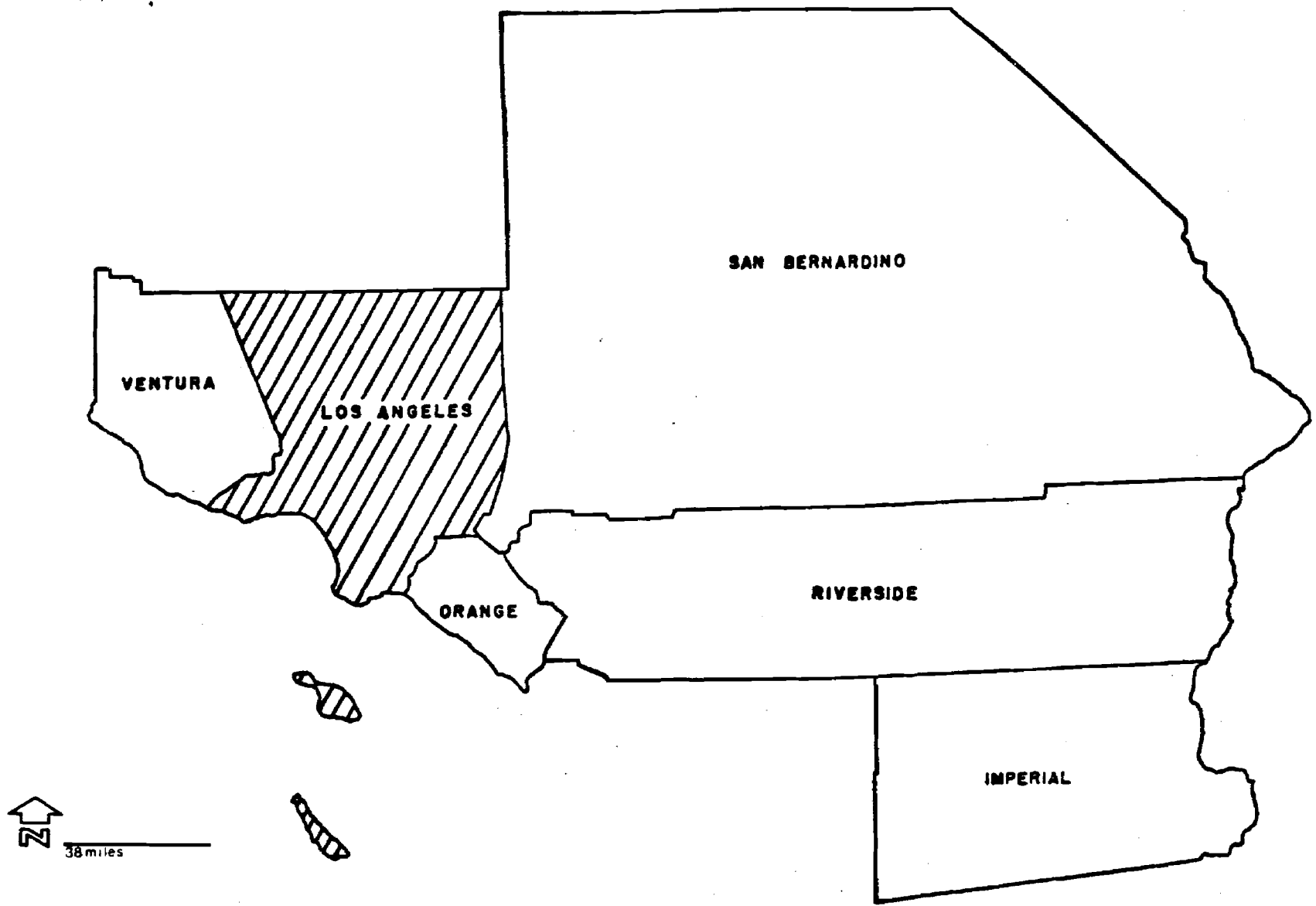
The unincorporated area is 3,000 square miles and includes areas where major growth and alteration of the natural environment will likely occur. These areas include Malibu, Calabasas, Antelope Valley, Newhall-Saugus, and Puente Hills, all of which are growing and lie within the direct planning jurisdiction of the Board of Supervisors.

Los Angeles County is the principal commercial and industrial area on the West Coast. As such, it has great significance as a center of commerce through which many goods and products flow to all sectors of the nation and the world. This commercial status requires extensive transportation facilities to sustain its operations.

In addition, approximately one-fourth of the County (which is primarily located in the coastal plains and inland valleys) is highly urbanized with residential, commercial and industrial areas which also require extensive transportation facilities to sustain the need to move people and goods.

B. DESCRIPTION OF THE PROJECT

This plan is a sub-element of the Transportation Element and has been prepared to provide an interconnected network of Countywide bicycle corridors and support facilities to enhance and accommodate bicycle transportation needs within this County. This plan identifies major intercommunity bicycle corridors which will, when implemented, enhance bicycle transportation. It is anticipated that each city will interconnect



**FIGURE 10.
REGIONAL JURISDICTION
OF
SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS**



FIGURE II. THE COUNTY OF LOS ANGELES AND ITS SUB-REGIONS.

and supplement the regional system of bicycle corridors shown on Plan of Bikeways Map on page 27 of the Plan. These subsidiary systems, together with the corridors delineated in this Plan, will constitute a comprehensive system of bicycle routes to accommodate bicycle transportation needs in this County.

The plan identifies the problems, issues, assets and opportunities to be considered in a bikeways program; establishes goals and policies; and recommends action programs which, if implemented, would satisfy the need for safe, convenient bicycle transportation facilities, bicycle security facilities and other support programs to accommodate this mode of transportation in Los Angeles County.

This sub-element will be incorporated into the Los Angeles County General Plan, and will serve as a tool for planners, administrators, and legislators. Also, there will be periodic reviews and revisions as necessary to provide additional bicycle routes or support facilities as they are warranted, and to accommodate changing conditions, trends and interests of the bicycling public.

C. NEED FOR THE PROJECT

The bicycle is a transportation and recreation mode for approximately seven to ten million people in California and for an estimated two million people in Los Angeles County. New bicycle sales have been increasing steadily through 1973. According to the Bicycle Institute of America, nationwide sales totaled 3.7 million in 1960. By 1973, this figure had risen to 15.6 million. Locally, bicycle sales in 1973 were approximately 400,000 units. Concurrent with bicycle sales increases, there has been an increase in bicycle-motor vehicle accidents. In 1969, the California Highway Patrol recorded 5,244 such accidents. In 1972, the number had more than doubled to 10,622. In 1973 and 1974, there were decreases in accidents--10,535 and 10,319, respectively. However, much work still needs to be done to improve existing roadways, provide additional bicycling facilities, promote safety education programs, and provide consistent enforcement in order to enhance and encourage the use of the bicycle as a viable transportation mode in this County.

D. PRESENT PROGRAM

This Plan is a sub-element of the Transportation Element of Los Angeles County, and will be included in the Transportation Element when that element is completed.

The transportation planning requirements for the general plan are specified by the Government Code, Section 65302 (b) which requires that the General Plan contain "A circulation element consisting of the general location and extent of existing

and proposed major thoroughfares, transportation routes, terminals and facilities all correlated with the land use element of the plan". The Transportation Element, when completed, will meet these requirements in addition to other optional transportation considerations outlined in Section 65303(c) of the Government Code.

This Plan of Bikeways, a sub-element of the Transportation Element, has been prepared to answer the mandate of certain State laws and regional requirements which require that a jurisdiction have an adopted Bikeways Plan in order to qualify for certain State and Regional funds. This sub-element meets the requirements of these existing laws as well as other legislation currently being considered by the State.

It is important that this sub-element be evaluated in the context of the total General Plan effort due to the interrelationship of policies and programs proposed in the Noise, Scenic Highway and Open Space Elements. Since this plan proposes a program to enhance and promote the use of a quiet, non-polluting efficient mode of transportation, which will be located in some instances along recreational and Scenic Highway Corridors, it integrates adequately with these previously adopted elements.

E. METHODOLOGY

The initial step in the environmental assessment procedure was the identification and assessment of the environmental impacts that would result from the implementation of the Plan of Bikeways for Los Angeles County. This process followed a logical sequence and was an integral part of the element preparation. First bikeways were nominated for consideration by various individuals, groups and governmental bodies and these facilities were evaluated taking into consideration their impact upon the environment.

Secondly, goals, objectives, policies and programs were developed and a draft plan prepared, evaluated and subsequently submitted to the various review bodies for consideration.

The review bodies consisted of the Citizens Planning Council Transportation Committee (CPC TC), the General Plan Policy Review Board (GPPRB), which consisted of representatives from selected County departments, the Los Angeles County Association of Planning Officials, the 78 cities, numerous bicycling organizations and groups and the Regional Planning Department's General Plan Program Management Review Committee.

These organizations proposed additional bikeways, goals, objectives, policies and programs for consideration. Again, these modifications were subjected to environmental assessment and staff review and where deemed feasible were incorporated into the text of the Plan.

The resultant element will now be submitted to the public for additional review and comment through the public hearing process and to the Regional Planning Commission and Board of Supervisors for adoption.

SECTION II - ENVIRONMENTAL SETTING

Los Angeles County is a region of topographic diversity quite unlike any other comparable area on the North American Continent. The terrain of the region includes coastal beaches, sand dunes and marshes, coastal plains, elevated marine terraces, broad valleys, gentle high plains and dry lake beds. Elevations range from sea level to 10,000 feet; and the coast, the desert and high mountains all lie in close proximity to each other. This terrain may be divided into four major natural subregions: the coastal lowlands, the mountains, the desert and the offshore islands. This diversity of topography and scenic experiences encourages recreational bicycle riding for both exercise and pleasure.

The County also has a great climatological diversity. The "Mediterranean" climate exists only in part of the County. This area is in a transition zone between the dry subtropic and the moist, north temperate climate zones. During the long summer, arid subtropical weather conditions prevail, typified by sunny skies and drought. During the short winter season, temperate weather patterns predominate, characterized by the passage of warm and cold fronts accompanied by rain in the coastal lowlands and rain and snow in the mountains and deserts. On the basis of factors such as rainfall, temperature, and wind patterns, several climatic regions can be recognized in the County, which in turn can be related to the basic regional patterns.

The vegetation patterns of the County are very complex in form, arrangement, and number of species. Regional differences are also quite distinct. The coastal lowlands have been largely cleared of natural species and are covered with exotic (introduced) species associated with urban and agricultural uses. Only the transverse hill chain retains its natural cover of grass, coastal sage and chaparral.

The central mountains have a complex vegetation pattern of zones differentiated by elevation and exposure. Higher elevations and north slopes are covered with coniferous and oak forests and woodlands with chaparral belts, sagebrush and grassland zones between them and the developed lowlands.

The northern deserts have a distinctive cover of grasslands, and desert and alkali sink shrubs. Pinon-juniper woodland, desert sagebrush, and chaparral blanket the southwestern desert fringes.

Vegetation is an important part of the varied habitat types which exist in Los Angeles County. A habitat includes all the environmental factors which exist in an animal's dwelling place, all of which are interdependent and interrelated. Twenty-six habitat types in the County have been identified by the Los Angeles County

Environmental Resource Committee. Some of these are still fairly widespread, while others are critically endangered. Each is composed of an interrelated complex of physical conditions, vegetation, characteristic plants and animals, and for each the committee also identified significant, rare and endangered species of plant and animal.

Examples of these habitats, which are of significant ecological importance and whose preservation is essential, have been included in areas delineated as "Significant Ecological Areas". These designations reflect the collective judgment of scientists from many disciplines and consider factors such as public interest, environmental values special to each area, fragility of the habitat, the location, degree of present protection, vulnerability and rarity, and the interrelationships between the areas. Boundaries for these areas have not been precisely delineated and do not reflect all aspects of ecological concern. Some areas are already critically endangered and immediate preservation is extremely important, while others are more resistant to development or are more common in the County. (An example would be the very fragile, critically endangered fresh-water marsh in the relation to the hardier, more widespread chaparral.)

As an urban region, Los Angeles County is of global importance, being the largest urban complex on the Pacific Coast. It is also the heart of Southern California. It is unique in many ways, perhaps most for the pace and scale of its urbanization and development. In less than a century, the County has transformed from a ranch and agricultural area to a vast metropolis.

Now, one out of every 3 Californians and 7 out of every 10 residents of the SCAG region live in Los Angeles County. Nearly all of the County's 7 million residents live south of the San Gabriel Mountains in a massive urban area of approximately 1100 square miles. The urbanized portion of the County could hold the cities of Chicago, Denver, Detroit, New York, Philadelphia, Pittsburgh, and St. Louis.

A major impetus for the growth pattern in the County came from the completion of the transcontinental railroad after the Civil War. New transportation systems and the introduction of commercial farming supported a much denser population and stimulated the development of towns and small cities to serve the agricultural areas. Another wave of migration was prompted by World War I. The most spectacular growth, however, was during the post World War II years, as returning servicemen settled in the area, contributing to the vast housing and baby boom. The County's population grew 49% during the forties and 46% during the fifties, with the ingress of migrants accounting for an overwhelming portion of the increase. This growth rate slowed appreciably in the 1960's and is now nearly at a standstill.

By 1970, the Los Angeles area economy had grown to become the largest, most important trade and financial center in the Western United States. The continuing maturation and diversification of the area economy is reducing the one-time dependency on aerospace and defense industries.

The maturity and diversity can be witnessed by the increased location of corporate headquarters and financial institutions here. Main offices of 23 of the nation's 500 largest industrial firms are located here - an area containing the second busiest airport in the nation and two major seaports.

The size and diversity of the economy is also reflected by the fact that approximately 40 percent of the 1970 State employment was located in Los Angeles County. In 1970, the estimated Los Angeles County employment was over 3,200,000. The changing distribution of the employment base is another indicator of the diversity and maturity of the Los Angeles area economy as shown below:

	<u>1950</u>	<u>1960</u>	<u>1970</u>
Manufacturing	25.76%	30.56%	26.05%
Trade	25.73	21.95	22.32
Service	18.40	18.71	21.88
Government	9.90	10.87	13.04

This size and diversity of the economy has meant increased economic opportunities for County residents. This is reflected by the fact that the Los Angeles metropolitan area was second in the nation in the growth of disposable income in the decade preceding 1970. Additionally, the Los Angeles market area spent in excess of 78 billion dollars for retail sales. This represented 45 percent of the total State retail sales in 1970.

This brief overview of the Los Angeles region shows the economy to be a large, viable and dynamic system of regional and national importance which has the potential for continued growth and opportunities.

Intermeshed in this highly industrialized area is man's only refuge from the hectic pace of the day--home. Nearly 58 percent of the County's urbanized area is residential, of which 67 percent of the

units are single family residences and 33 percent are multiple dwellings. Traditionally, Los Angeles County has had a high percentage of low-density single family residences. However, since 1970, 92 percent of new residential developments have been multiple units, which seems to indicate a new residential trend. The 1970 SCAG land-use inventory showed 63 percent of the urbanized land within the regional area in residential, seven percent in commercial, nine percent in industrial, and 20 percent in other related uses. Only four percent of the region's 38,000 square miles were urbanized, with

approximately one-quarter of the remaining land available for development.

In addition to its economic, social and cultural interrelationships, the region is functionally interrelated by a vast transportation system of freeways, railroad, transit facilities, surface streets, and bicycle routes. These include:

- . Freeways which cross the Coastal Basin and inland valleys, carrying large volumes of motor vehicles, and which facilitate the efficient transportation of people and goods statewide, interregionally and within the County.
- . Master Plan Highways or arterials which are laid out on a grid system in the urbanized or developed areas of the County to facilitate the transportation of people and goods by motor vehicle and bicycles within and between neighborhood communities and counties. These facilities also interchange motor vehicular traffic with the freeway system and serve a subordinate function as collectors and distributors of the traffic from that system.
- . Airports which can be classified into two major categories: commercial and general aviation. These facilities accommodate approximately 10,000 aircraft operations in this County daily and these operations are expected to increase to 15,000 daily by 1980. The aircraft that use these facilities transport over 24,000,000 passengers annually as well as goods of commerce to world, national, State, regional, and local destinations.
- . Bikeways presently exist in many cities and in the County. The existing 286 miles of lanes, paths and/or routes, are not interconnected due to their intercommunity nature and the size of the County. This mode of transportation at present is greatly lacking in adequate facilities and parking accommodations to facilitate the bicycling public. The bikeway plan proposes a phased program of improvements, and support facilities to mitigate these deficiencies in order to encourage the use of the bicycle as a viable mode of transportation in this County.

SECTION III - ENVIRONMENTAL IMPACT STATEMENT

A. THE ENVIRONMENTAL IMPACT OF THE PROJECT

The policies and programs of the Plan of Bikeways are directed at providing an interconnected network of Countywide bicycle corridors and support facilities to accommodate bicycle transportation in this County. The impacts and corresponding mitigating measures were evaluated with respect to 12 environmental factors: landforms, hydrology, air quality, health, hazards, biotic, mineral resources, energy consumption, urban development, cultural facilities, governmental and utility growth. As the individual bikeways shown in this plan are implemented, a more definitive environmental impact report will be prepared which addresses the environmental considerations in more specific detail.

1. LANDFORM

Impact: There may be some slight alterations in land form especially in mountain and hillside areas as the bikeways shown in this plan are implemented in accordance with policies and programs of this element. There will also be a need to acquire some right of way to provide additional pavement widths along existing roadways and to provide off-road bikeways.

There will also be a need to provide retaining walls at some locations to maintain present natural and man-made slopes as existing roadways or roadway shoulders are widened to accommodate bicycle facilities.

Mitigating Measures: Changes to existing landforms will be mitigated by providing native vegetation and landscaping on cut slopes as well as slope contouring and retaining walls which blend with the surrounding terrain. The acquisition of additional right of way to accommodate bikeway facilities is needed to provide safer, more convenient bikeways.

2. HYDROLOGY

Impact: The provision of additional impervious pavement throughout the County will have a negligible effect on hydrology since it will usually be installed along roadways, channels or utility rights of way where the existing soils have become impervious due to compaction or other maintenance procedures. Consequently the net effect on the permeability of the soil and runoff will be insignificant.

Mitigation Measures: The effects will be insignificant, therefore, none are required.

3. AIR QUALITY

Impact: Bicycles are a quiet non-polluting form of transportation. It was observed by the Air Pollution Control District that the introduction of bicycles onto the roadway system may have the effect of causing automobile traffic to travel at slower speeds thus increasing the air pollutants from automobiles. Also, the possibility that additional automobile trips might be generated by persons driving to a certain location to use a bicycle facility for recreation purposes was presented as a possible problem during the reievew of this report.

Mitigating Measures: The sub-element is the mitigating influence. The whole purpose of the Plan of Bikeways is to provide a Plan of Action to enhance and promote the use of the bicycle as a viable alternative mode of transportation. As additional, safer more convenient bikeway facilities and programs are provided both bicycle and automobile traffic movement will be enhanced, which should result in an overall decrease in air pollutants. Also, as additional bikeways leading to the more popular bicycle recreation areas along the beaches and channels are provided the use of the automobile to reach these centers should diminish again resulting in a decrease in air pollution.

4. HEALTH AND HAZARDS

Impact: The bicycle has been cited by numerous health authorities, including cardiologist Dr. Paul Dudley White as an excellent device to promote physical stamina and well being.

Unfortunately the bicycle was also given the unenviable title of being the most hazardous device in the American Household by the National Safety Council in 1973, since it was involved in over 1,040,000 accidents nationwide that year.

This sub-element shows future bikeway corridors along several major and secondary roadways throughout the County. During the review of this element some concern was expressed regarding the accident potential along these thoroughfares especially by young bicyclists.

The Plan of Bikeways also shows future proposed bikeway corridors along several flood control channels which are presently carry sewage effluents. During the review of

this element, some concern was expressed regarding the health hazard of providing the public with access to these channels.

Other problems which might affect the health and safety of the users include such problems as molestation, lack of expertise in the use of the bicycle, behavioral problems, and the lack of uniform ordinances governing separate bicycle path or trail operations.

Mitigating Measures: The Bikeways Plan proposes a positive, integrated program of education, enforcement, and the enactment of uniform laws and ordinances governing bicycle facilities. It also proposes additional safer bicycle facilities which will accommodate the bicyclist and take into consideration his safety and well-being.

It will not eliminate all accidents, since human judgment, equipment failure, behavioral problems, and a lack of operational expertise and knowledge by both drivers and bicyclists will still continue to exist on any system provided. Many of these problems can be alleviated and minimized by providing uniform programs of education and enforcement, standardizing signs and markings, elimination of hazards by providing additional pavement-widening where needed, off-road facilities where possible and practical, lighting, adequate maintenance and uniform ordinances. This element proposes a coordinated course of action to solve these problems. This is obviously better than doing nothing at all.

To protect users from contamination from sewage plant effluents in some channels, several solutions are possible within the scope of the policies and programs outlined in this sub-element.

- (1) Clean up the polluted source of the water;
- (2) Design the facility so that contact with the channel flow is minimized;
- (3) Publicize the contamination and provide adequate signs warning users of this problem;
- (4) Enact and enforce an ordinance prohibiting contact with the polluted waters.

To protect users of separate bicycle facilities from molestation falls within the purview of the law enforcement agencies. As problems are identified along the various bikeways provided, they will be dealt with by those agencies responsible for protecting the public.

The proficiency of the user will be improved through improved educational programs and experience of the rider attained through continued use of his vehicle.

Inadequate law enforcement will have to be evaluated and dealt with by the separate jurisdictional agencies responsible for providing such service along a given facility. Should they decide that bicycle patrols are needed, they will have to request sufficient resources to underwrite such a program.

Ordinances governing the operation of bicycles along separate bikeways will be enacted by the responsible jurisdictional authority if the sub-element's policies and programs are implemented.

5. BIOTIC

Impact: There will be insignificant removal of plant life as the bikeways proposed in this plan are implemented. There will be, however, in many instances, extensive landscaping included with various bikeways to improve the aesthetics along such facilities.

Mitigating Measures: None required, since there are no measureable effects.

6. MINERAL RESOURCES

Impact: To construct bikeways as proposed in this sub-element, it will be necessary to commit certain natural resources such as rock, sand, cement, wood, metal, and asphaltic oil to the construction of these facilities.

Mitigating Measures: If this element is to be implemented, it will be necessary to commit the above-enumerated mineral resources. The benefits to be derived from the implementation of the Plan of Bikeways exceed the need to conserve the mineral resources delineated.

7. ENERGY CONSUMPTION

Impact: To construct and maintain bikeway facilities as proposed in this sub-element, it will be necessary to expend energy resources.

Mitigating Measures: The bicycle is a nonpolluting transportation vehicle which utilizes human power for propulsion. As its use becomes more popular through the provision of adequate, convenient facilities to accommodate its use, the small amount of energy needed to construct and maintain the bikeways will be ameliorated through decreased use of motorized transportation.

8. URBAN DEVELOPMENT

Impact: The construction of bikeways and support facilities as advocated in this sub-element will have no undesirable effects on land use, scenic or aesthetic qualities.

Mitigating Measures: None required since there are no measurable effects.

9. CULTURAL FACILITIES

Impact: The Plan of Bikeways will provide additional recreation and transportation facilities for the benefit of all the citizens of this County.

There will be a beneficial social impact since the plan advocates providing safe, convenient facilities for the use of bicyclists of all ages. This should result in improved communications between individuals, community groups and their government. Also, there should be fewer accidents resulting in less physical, mental and economic trauma for the users of the transportation system. This should also result in a greater use of the bicycle for family outings, youth groups and individual riding.

Mitigating Measures: None required since there are no measurable impacts.

10. GOVERNMENTAL

Impact: The adoption of this sub-element and the implementation of the policies and programs proposed will eventually have a growth inducing effect on government.

It will require additional educational programs to train school age children and adults in the safe operation of the bicycle and motor vehicle.

There will also be a need to provide additional maintenance personnel to clean, repair sign and stripe the facilities provided.

There will also be a need to provide additional law enforcement personnel to patrol along separate bicycle facilities to minimize accidents, vandalism and molestation.

Mitigating Measures: The benefit to be derived from the implementation of the Plan of Bikeways are the only

mitigating factors. They are:

- a. The provision of a quiet economic, non-polluting mode of transportation as an viable alternative to the automobile.
- b. Increased recreational oportunitites for the citizens of this County.

11. UTILITIES

Impact: This Plan of Bikeways proposes a program of providing ancilliary facilities such as toilets, drinking water and hostels at various locations as well as lighting to promote bicycle travel. These facilities will require that additional utilities such as gas, water and electricity be provided.

Mitigating Measures: If bicycle travel and turning is to be accommodated it will be necessary to expand the utility services to accommodate these ancilliary facilities. It is anticipated, however, that the needs for expansion of services will be very minor.

B. ADVERSE ENVIRONMENTAL IMPACTS WHICH CANNOT BE AVOIDED IF THE PROPOSAL IS IMPLEMENTED

The adverse environmental effects identified in the previous section are enumerated below:

1. Minor alterations of existing landforms due to construction of bikeways at locations requiring grading.
2. Acquisition of rights of way where necessary to construct bikeways.
3. Possible increase in accidents, potential health problems along certain facilities and crimes of molestation.
4. Commitment of some mineral resources to construct bikeways.
5. Expending of energy resources to construct bikeways.
6. Growth inducing influence on educational and law enforcement agencies.
7. Slight increase in the need for increased utility services.

C. MITIGATION MEASURES PROPOSED TO MINIMIZE THE IMPACT

For reasons of clarity and simplicity, mitigating measures proposed to minimize the impacts are discussed concurrently with the impacts in Section A.

D. ALTERNATIVES TO THE PROPOSED ACTION

The Plan of Bikeways sub-element proposes a coordinated program of education, enforcement and implementation to promote the use of the bicycle as an alternative transportation mode in this County. It proposes that a comprehensive system comprised of 1260 miles of bikeways be provided as needs are determined and funding is made available.

In addition to the plan proposed in this sub-element, the following alternatives were considered:

No Plan: Recent and proposed State legislation requires that a local jurisdiction have a Bikeways Plan prior to receiving certain State funds for bikeway construction. Also the Regional Transportation Agency has indicated that this is a requirement for receiving funds for bikeways from the Local Transportation Fund. If a bikeways plan is not initiated, these funds could not be made available to the County for bikeways construction. Also, if a Plan of Bikeways is not initiated, there would not be a positive program initiated for alleviating the increasing motor-vehicle/bicycle accident problem, bike security facilities would remain deficient, no uniform bicycle registration and recovery program would be initiated, and in general, the use of the bicycle for both transportation and recreation would be discouraged.

ALTERNATE A

SMALLER SYSTEM CONSISTING OF 850 MILES OF BIKEWAYS
ORIENTED TOWARD RECREATIONAL RIDING

This proposal was developed through the coordinated efforts of the Interdepartmental Engineering Committee. The routes were selected on the basis of recreational need with an additional attempt made to include as many cities as possible and provide some continuity throughout the system. The transportation aspects were subordinated in favor of the recreational considerations.

ALTERNATE B

SYSTEM CONSISTING OF 655 MILES OF BIKEWAYS

This alternative system evolved from continued study and evaluation of the system proposed in Alternative A. Economic constraints in the evaluation criteria dictated the deletion of some of the previous routes considered, together with a de-emphasis on the recreational aspects and a greater emphasis on the regional and transportation considerations. This plan was submitted to the 78 cities and other governmental entities for review and comment. Other bikeways were nominated for consideration, and the Plan was revised to include the requests of the various cities for both recreational and transportation bikeways.

There are obviously a number of additional routes that will be proposed for inclusion in this Plan in the future by the various jurisdictions as needs become more definitive and the use of the bicycle increases both for transportation and recreation. As these needs are determined, the Plan will be amended to include these facilities.

E. THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTION

This plan will improve the bicycling environment in the County. The short-term implications of the element will be a relatively small amount of disturbance to landforms, expenditures associated with implementing the Plan, and commitment of energy and materials. The long-term results will be the preservation and improvement of bicycle transportation and the gradual improvement of the quality of life in the urban areas through the use of the bicycle as a viable alternative to the automobile.

F. ANY IRREVERSIBLE ENVIRONMENTAL CHANGES WHICH WOULD BE INVOLVED IN THE PROPOSED ACTION SHOULD IT BE IMPLEMENTED.

Irreversible environmental changes which may be involved in implementing this Plan are as follows:

- . Minor modification of landform.
- . Use of natural resources and energy to effect construction of bikeways.
- . Acquisition of rights of way where necessary to effect construction of bikeways.

G. GROWTH-INDUCING IMPACT OF THE PROPOSED ACTION

There will be a need for expanded governmental services in the education and law enforcement agencies if this element is implemented. There will also be some increase in economic growth to provide eating facilities, bicycle repair and accessory shops, restrooms, hostels, lighting, telephones and drinking water adjacent to certain more popular touring and recreational bikeways.

PART III appendix

APPENDIX I

LIST OF BIKEWAYS SHOWN ON PLAN OF BIKEWAYS MAP ON PAGE 27.

- | | |
|-----------------------------------|----------------------------------|
| 1. Avenue G | 48. South Bay Bike Trail |
| 2. 30th Street West | Harbor Dr |
| 3. Avenue K | 49. Palos Verdes Dr West |
| 4. Avenue L | 50. Malaga Cove |
| 5. Elizabeth Lake Rd | 51. Palos Verdes Dr South |
| 6. Sierra Hwy | 52. Normandie Ave |
| 7. Calif Aqueduct | 53. Gaffey St |
| 8. Ft Tejon Rd | 54. Anaheim St |
| 9. 60th St West | 55. Avenue P |
| 10. Old Road | 56. Western Ave |
| 11. Soledad Cyn Rd | 57. Crenshaw Bl |
| 12. Railroad R/W | 58. Southern Calif Edison R/W |
| 13. Valley Circle Bl | 59. Carson St |
| 14. Old Ridge Rt | 60. Wilkinson Memorial Bikeway |
| 15. Lindero Cyn Rd | 61. Coyote Crk |
| 16. Triunfo Cyn Rd | 62. Ocean Bl |
| 17. Dume Cyn Rd | 63. Harbor Bike Rt |
| 18. Agoura Rd | 64. San Gabriel River |
| 19. Mulholland Hwy | 65. Beverly Bl |
| 20. Browns Cyn Wash | 66. San Jose Crk |
| 21. Aliso Cyn-Wilbur Wash | 67. Walnut Crk |
| 22. Bull Crk | 68. Colima Rd-La Mirada Bl |
| 23. Sepulveda Dam Recreation Area | 69. Diamond Bar Bl |
| 24. Victory Bl | 70. Avenue O |
| 25. Tujunga Wash | 71. Santa Anita Wash |
| 26. Hansen Dam | 72. Imperial Hwy |
| 27. Verdugo Rd | 73. Orange Grove Ave |
| 28. LA River | 74. South Bay Bike Trail Venice |
| 29. Burbank -Western Ch | 75. Marina Bypass |
| 30. New York Dr-Woodbury Rd | 76. South Bay Bike Trail |
| 31. Arroyo Bl | 77. Palos Verdes Dr North |
| 32. Royal Oaks Dr-Sierra Madre Av | 78. Arrow Hwy |
| 33. Foothill Bl | 79. Big Dalton Wash-Azusa Cyn Rd |
| 34. Hollenbeck Ave | 80. Gorman Post Rd |
| 35. POLARSS | 81. Peace Valley Rd |
| 36. Pacific Coast Hwy | 82. Henry Mayo Dr |
| 37. South Bay Bike Trail | 83. 10th St West |
| Santa Monica | 84. Lancaster Bl-Avenue J |
| 38. Venice Bl | 85. Woodley Rd |
| 39. Pershing Dr | 86. Balboa Bl |
| 40. Ballona Crk | 87. Simi Valley Fwy |
| 41. Centinela Crk | 88. Lassen St |
| 42. 98th St | 89. Roscoe Bl |
| 43. Rio Hondo River | 90. De Soto Ave |
| 44. Vermont Ave | 91. Arroyo Calabasas |
| 45. Dominguez Ch | 92. Vanowen St |
| 46. Hermosa Beach | 93. Shoup Ave |
| 47. Torrance Bl | 94. Nordhoff St-Osborne St |

95. Burbank Bl
96. Vineland Ave No. Hollywood
97. Foothill Bl
98. Sunland Bl
99. La Tuna Cyn Rd
100. Kenneth Rd
101. Griffith Park
102. Fletcher-York Bl
103. Colorado St
104. Huntington Dr
105. Mission Rd
106. Garfield Ave
107. Eaton Wash
108. Lone Hill Ave
109. Temple Ave
110. Amar Rd
111. Badillo St
112. Nogales St
113. Grand Ave
114. Brea Cyn Rd
115. Slauson Ave
116. Stimson Ave
117. Sunset Ave
118. Lark Ellen St
119. Base Line Rd
120. Kanan Rd
121. Topanga Cyn Rd
122. Reseda Ave
123. San Vicente Bl
124. Sepulveda Bl
125. Santa Monica Bl
126. Beverly Bl-1st St
127. Lincoln Bl
128. Jefferson Bl
129. Santa Barbara Ave
130. Central Ave
131. 79th St
132. Gage Ave-Fairview Bl
133. Broadway
134. 190th St
135. Inglewood Ave
136. Railroad R/W
137. El Segundo Bl
138. Fernwood Ave
139. Railroad R/W
140. Railroad R/W
141. Railroad R/W
142. Del Amo Bl
143. So. Calif Edison R/W
144. Artesia Bl
145. Alameda St
146. Bellflower
147. Catalina Island
148. Malibu Cyn Rd

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Road Dept.

Plan of bikeways

DUE DATE	DUE DATE

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PREPARED BY THE STAFF OF THE LOS ANGELES COUNTY ROAD DEPARTMENT AND
THE DEPARTMENT OF REGIONAL PLANNING

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For information concerning the Plan of Bikeways, a sub-element of the Transportation Element, contact the Los Angeles County Road Department, Planning Division, 1540 Alcazar Street, Los Angeles 90033
Telephone - (213) 225-1677, Extension 75184.

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