The Proposed

BIKEWAY MASTER PLAN

State Street between Cota and Ortega, 1888

Santa Barbara 1974 California

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May 23, 1974.

TO: Citizens of Santa Barbara.

In response to the community's request for improved bicycle facilities in the City of Santa Barbara, the City Council appointed a Citizens' Bicycle Transportation Committee. This Committee has provided the citizens' input into the development of this Bicycle Master Plan. In addition to the guidance from the Citizens' Bicycle Transportation Committee, the Transportation Division of the Public Works Department conducted home interviews with over 700 residents of the City of Santa Barbara. The purpose of these home interviews was to determine the attitudes and needs of the citizens. Substantial inventory counts and surveys have been conducted. It is in response to all of these inputs that this proposed Master Plan of Bikeways has been prepared. It is intended to be used as a basis for formulating a plan of action to develop substantial improvement to the present bicycle facilities in the City of Santa Barbara.

After the citizens have reviewed this proposal, required modifications will be made and submitted to the City Council with a request to approve the Master Plan of Bikeways and bicycle facilities for the City of Santa Barbara together with a plan for implementation.

One of the goals of the Citizens' Bicycle Transportation Committee was to develop a Bicycle Master Plan that would be responsive to all of the desires of the community. This is truly our objective and your participation and cooperation will bring us closer to achieving this goal.

R. W. Puddicombe

LIST OF FIGURES

Ortega and State Street

There is a new fad in bicycle riding that is rapidly gaining in popularity, although it is not likely that it will ever be introduced in the large cities. The problem that confronts the country swains is how to take a lady with them for a spin without her riding an extra wheel or putting them to the expense of a "bicycle built for two". Inventive minds have solved the difficulty. Two young men join forces and fasten their wheels together by a board that serves as a seat for the lady of their choice. The disadvantage of this system is that each fellow is obliged to be content with half a girl, but despite that, its use is growing. The Morning Press, Santa Barbara, August 18, 1895

INTRODUCTION

INTRODUCTION

In an effort to encourage the safe use of the bicycle as a healthful, non-polluting form of transportation, a Master Plan of bikeways has been developed for the City of Santa Barbara. This plan proposes some 40 miles of bikeways which would utilize existing road surfaces (on-street bikeways) and approximately 20 miles of bikeways which would be separated from vehicular traffic (off-street bikeways). The selection of bikeway routes was made on the basis of existing bicycle traffic patterns, areas of suggested community attractions, and extensive data gathered by city-wide surveys of both the general citizenry and bicycle riders.

This report explores the background and need for bikeways in Santa Barbara as well as detailing the route selection procedure. Various types of bikeway designs are explained and the costs and benefits of the proposed system are examined.

The basic conclusions reached by this report and some general recommendations which will aid in establishing bicycles as an alternative form of transportation are listed below.

Lower State Street

CONCLUSIONS

1. Bicycling can be an important and useful transportation alternative as well as a desirable recreational activity.
2. The establishment of a system of bikeways will increase the number of bicyclists in the City with a resulting decrease in air pollution and traffic congestion.
3. The provision of bicycle racks at bicycling destinations is also necessary to encourage bicycle ridership.
4. Bicycling, when properly integrated with other modes of transportation, can become a part of an area-wide transportation system.
5. The cost of establishing a system of bikeways is greatly outweighed by the benefit to be derived from their use.

RECOMMENDATIONS

1. That the proposed Bikeway Master Plan be submitted and approved as an amendment to the General Plan.
2. That a system of bikeways known as Phase One of the proposed Bikeway Master Plan be established after proper citizen and environmental review.
3. That a comprehensive bicycling ordinance regulating the registration and use of bicycles be submitted and approved.
4. That a continuing effort be maintained by the City of Santa Barbara to encourage the safe use of bicycles.
5. That a program of financing for implementation of Phase One be approved. The estimated cost of Phase One is $1,702,375.

Valerio and De la Vina Street

SOME OF THE MEMBERS OF -
"CYCLISTS CLUB OF SANTA BARBARA" - 1933, AT S.B. VELODROME

Some of the members of the "Cyclists Club of Santa Barbara" on the old Santa Barbara Velodrome track which was located at the south end of Dwight Murphy Field. The track disappeared under military housing during the Second World War.

BACKGROUND

BACKGROUND

Bicycling is not new to Santa Barbara. As in many areas of the country, the bicycle enjoyed a wave of popularity from about 1890 to 1910, before it was largely supplanted by the automobile. The bicycle was more dependable than a horse and could take advantage of the slightly improved roads which began to appear during those times, often as a result of active lobbying by organized bicyclists. Many cities actually developed "bikepaths" which were widely used for weekend outings.[1]

As the automobile came within the financial reach of more people, it made good use of the roads which had been developed for bicycles. Bicycle clubs which had lobbied for good roads faded away and were replaced by motoring clubs, which continue to lobby for good roads. The highway lobby came to be one of the most powerful pressure groups in the nation's history and many billions of dollars have been spent building the system of roads the country now enjoys.[2]

This extensive highway system is particularly prominent in Southern California where it has been criticized as the cause of a number of major environmental problems. Santa Barbaran's, blessed with a unique cultural and social heritage and an especially beautiful environment, have long been concerned with protecting their community from what has come to be known as "Los Angelization."

This community concern with the environment was broadened and solidified in January of 1969 when the famous "blowout" on Platform A and the resulting oil-soaked beaches shocked the nation. This catastrophe marked the beginning of a heightened environmental awareness in the community.

In the few months before the fateful blowout, a citizens group called the "Santa Barbara Committee for Bikeways" began working towards the creation of a bikeway along the oceanfront. Their efforts, when combined with those of an official City Bikeway Committee, eventually resulted in the Cabrillo Bikeway. The Cabrillo Bikeway is 3.4 miles long and runs from the Andree Clark Bird Refuge to Shoreline Park, making use of existing sidewalks for a large part of its length. The Cabrillo Bikeway has been a great success and has become one of the many tourist attractions in Santa Barbara.

Community interest in bikeways remained at a high level over the next several years even though funds for bikeway construction were in short supply. In 1970, a General Plan amendment concerning bikeways was prepared by the City Planning Department. The amendment suggested a major design and funding effort would be necessary to develop safe and meaningful bikeways. In 1971, A Mayor's Committee on Bikeways and Hiking was formed. The Committee worked closely with the University of California and the County of Santa Barbara in the development of a bikepath along the Airport to the University. In the same year, Friends for Bikecology was founded by a Santa Barbaran and grew to national status as a group actively promoting transportation alternatives to the automobile. Friends for Bikecology and the Community Ecology Center held a number of mass bicycle rides to raise funds. The events were well attended.

Much needed money for bikeways finally became available in April of 1973. At this time funds provided by the Transportation Development Act of 1971 (SB 325) were allocated specifically for the development of bicycle and pedestrian facilities. Transportation Development Act money came from a portion of the sales tax on gasoline.

A Citizen's Bicycle Transportation Plan Committee was appointed by the City Council in April, 1973. The Committee, made up of representatives of different segments of the community, both bicyclists and non-bicyclists, has served as a source of citizen input in the development of the proposed Bikeway Master Plan.

The Committee decided that the development and implementation of school bikeways required immediate action. Accordingly, the School Bikeway Plan was approved by the City Council in August of 1973 and 5 miles of school bikeways went into operation. Of secondary priority was the development of a plan for both recreational and commuter bike routes. This work has now been completed and is explained in this report.

According to an exchange the bicycle serves nearly every difficulty of the local passenger traffic. The bicyclist is always sure of a seat and never has to get up to give it to a lady. He doesn't need to "step lively" or hold onto a strap and smell the odor of Russel Sage's whale oil lamps. There is no one to tread on his toes, wipe his foot on his clothes, or read a newspaper over his shoulder. His horse is always harnessed, eats no oats, stands when tied, and never balks. The Morning Press, Santa Barbara, July 11, 1895

GOALS

The following goals, objectives and policies have been formulated and approved by the Citizen's Bicycle Transportation Plan Committee and have guided the development of this plan:

DEFINITIONS

A **GOAL** is the end toward which an effort is directed, but is never reached; it is something to be sought, not something to be achieved; it is general and timeless.

An **OBJECTIVE** is an end of action; a point to be reached. It is capable of both attainment and measurement. Objectives are successive levels of achievement in the movement toward a goal.

A **POLICY** is a definite course of action selected from among alternatives (with given conditions) to guide and determine present and future decisions on development and transportation implementation matters.[3]

GOALS

1. To make bicycling a means of transportation which may be used safely and enjoyably on any street in the City.
2. To make the use of the bicycle an alternative mode of transportation by providing the necessary facilities.
3. To provide scenic, recreationally oriented bikeways which are entirely separated from motor vehicle traffic.
4. To have the Bikeway Master Plan truly reflect the wishes of all the community.

OBJECTIVES

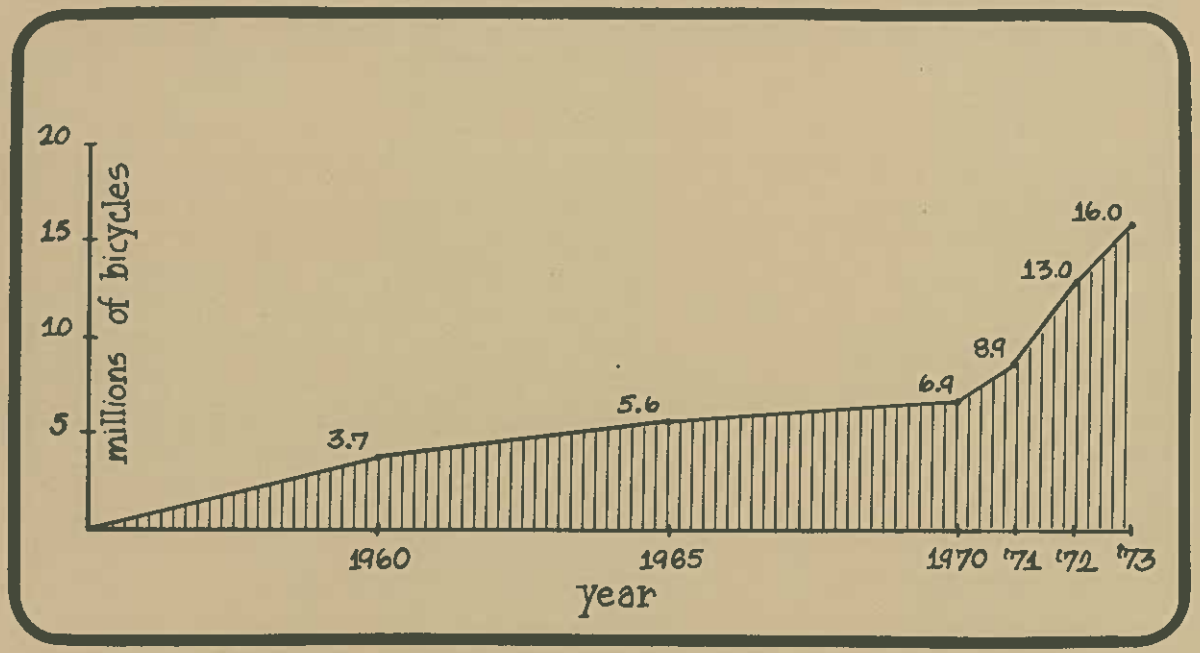
1. To establish a system of bikeways which serves community needs for transportation and recreation.
2. To provide attractive, convenient, and secure bike parking facilities on public property and to encourage the provision of same on private property.
3. To coordinate the City bicycle plan with that of the County.
4. To encourage officially the use of the bicycle as a pleasant, safe means of travel.
5. To make bicycling one of the many things which attracts tourists to Santa Barbara.

POLICIES

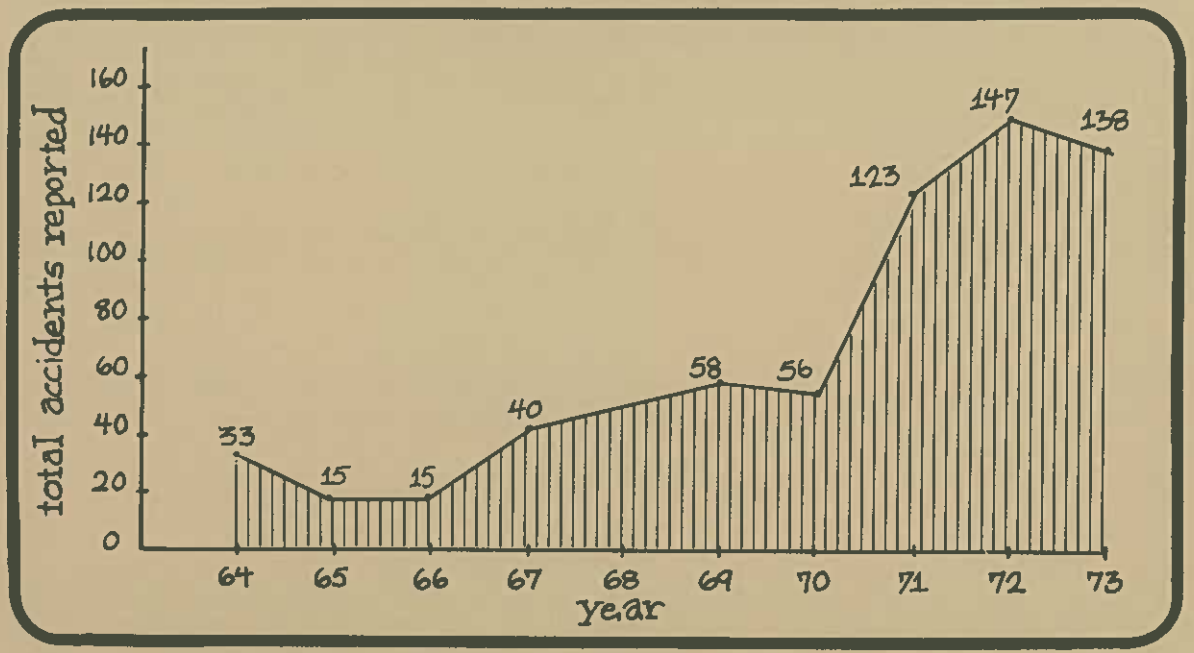
1. Bikeways should be provided on the streets being used most heavily by bicyclists.
2. Bikeways shall serve major areas of attraction such as shopping centers, public buildings, parks, and places of employment.
3. In general, bikeways will only be considered on streets with more than 2000 cars or more than 200 bicycles per day.
4. Facilities for bicycle travel and parking shall be considered in any future development, construction, or reconstruction, when facilities for vehicular travel and/or parking are provided.
5. In the design of bicycle facilities the bicycle shall be considered a vehicle subject to all the applicable rules of the road.
6. Due to the possibility of changing conditions, all bikeway routes and the Bikeway Master Plan shall be periodically reviewed.

It is illustrated every day how the bicycle is revolutionizing travel. Persons can now take long outings who could not well afford it under the old order of things, when a team and expensive camp outfit were deemed essential. A party can carry all necessary supplies on their wheels and with a light heart and a clear conscience sail away, visiting out of the way places, crossing mountains and plain, resting when tired and there is little to worry. Expense is small. More miles can be covered in a day than by horses and there is constant excitement and pleasure. The Morning Press, Santa Barbara, June 19, 1895

BICYCLE SALES IN THE U.S.



BICYCLE ACCIDENTS IN SANTA BARBARA



THE NEED FOR BIKEWAYS

The bicycle has enjoyed a tremendous rise in popularity in the past several years. In both 1972 and 1973, more bicycles were sold than automobiles in the United States.[4] According to the U.S. Department of the Interior, bicycling is the fastest growing adult participation sport.[5]

Accidents involving bicycles have risen dramatically too, but fortunately not as rapidly as bicycle use. In Santa Barbara, there were only 15 bicycle-motor vehicle accidents in 1965. In 1973, 138 bicycle accidents were reported. A large number of bicycle accidents go unreported because there is only minor injury or insignificant property damage.[6]

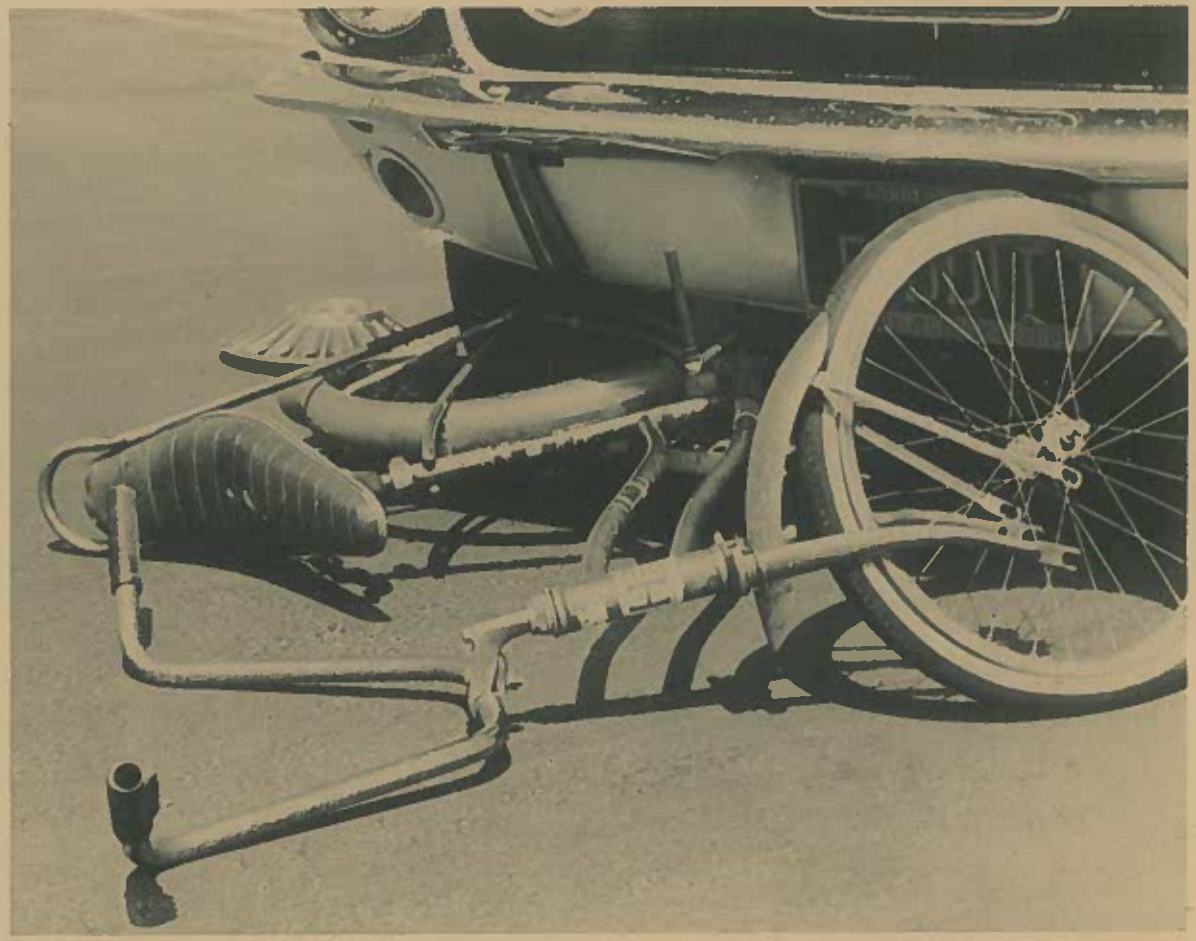
The reasons behind the Bicycle Boom are, no doubt, many and complex. The use of the bicycle has become part of the growing environmental movement and a renewed interest in the individual's physical well-being. With the congestion of city streets and the difficulty of finding a parking space, the bicycle can often be used for short trips more easily than the automobile.

This and other environmental and economic reasons have contributed to the existing high level of bicycle use. The only factor lacking in Santa Barbara, which in other cities has contributed to the widespread use of the bicycle, is bikeways. A number of California cities have developed extensive bikeway systems, notably Davis and Palo Alto. Both of these cities have had bikeways

for a number of years which have succeeded in accommodating and encouraging the safe use of the bicycle.[7] In recent years, many other cities have developed bikeway plans and begun implementation including Denver, Colorado; Tempe, Arizona; Atlanta, Georgia; Berkeley, California; and Ann Arbor, Michigan.

In most cases, these bikeway efforts have stemmed from the realization that the existing transportation system is almost wholly dependent on the automobile. There is a desperate need in many cities for environmentally sound and economical transportation alternatives.

A continuing dependence upon the automobile will be very costly to the community in terms of air pollution, fuel shortages, and open space. New forms of transportation such as rail transit are also extremely expensive, long-range projects. The bicycle is coming to be looked upon as one, partial solution to transportation needs. Bicycling is good for both the individual's and the community's health. It has recreational qualities even when used for transportation. It is economical and can be used in combination with bus service to provide a quickly implemented, low cost transportation system.

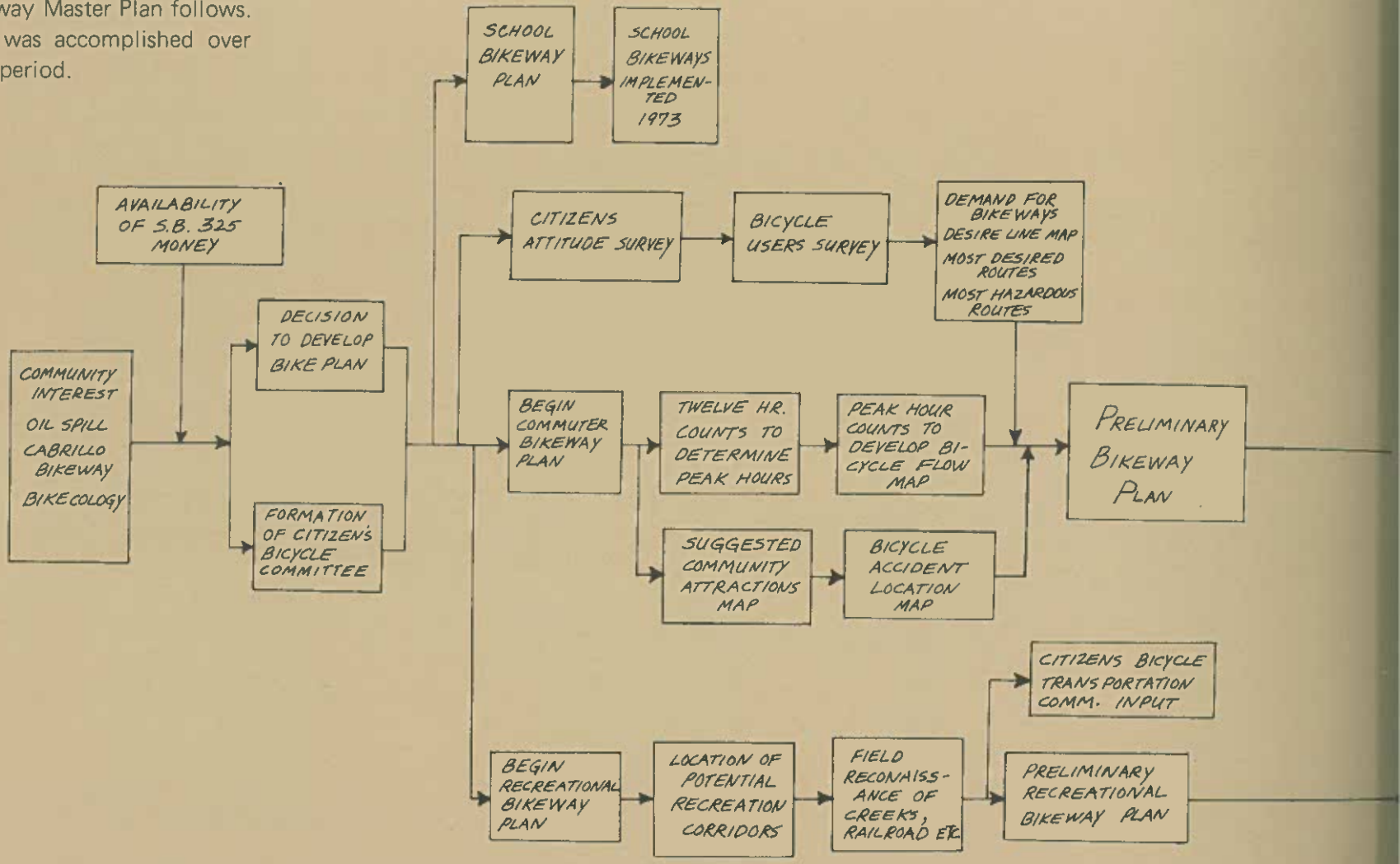


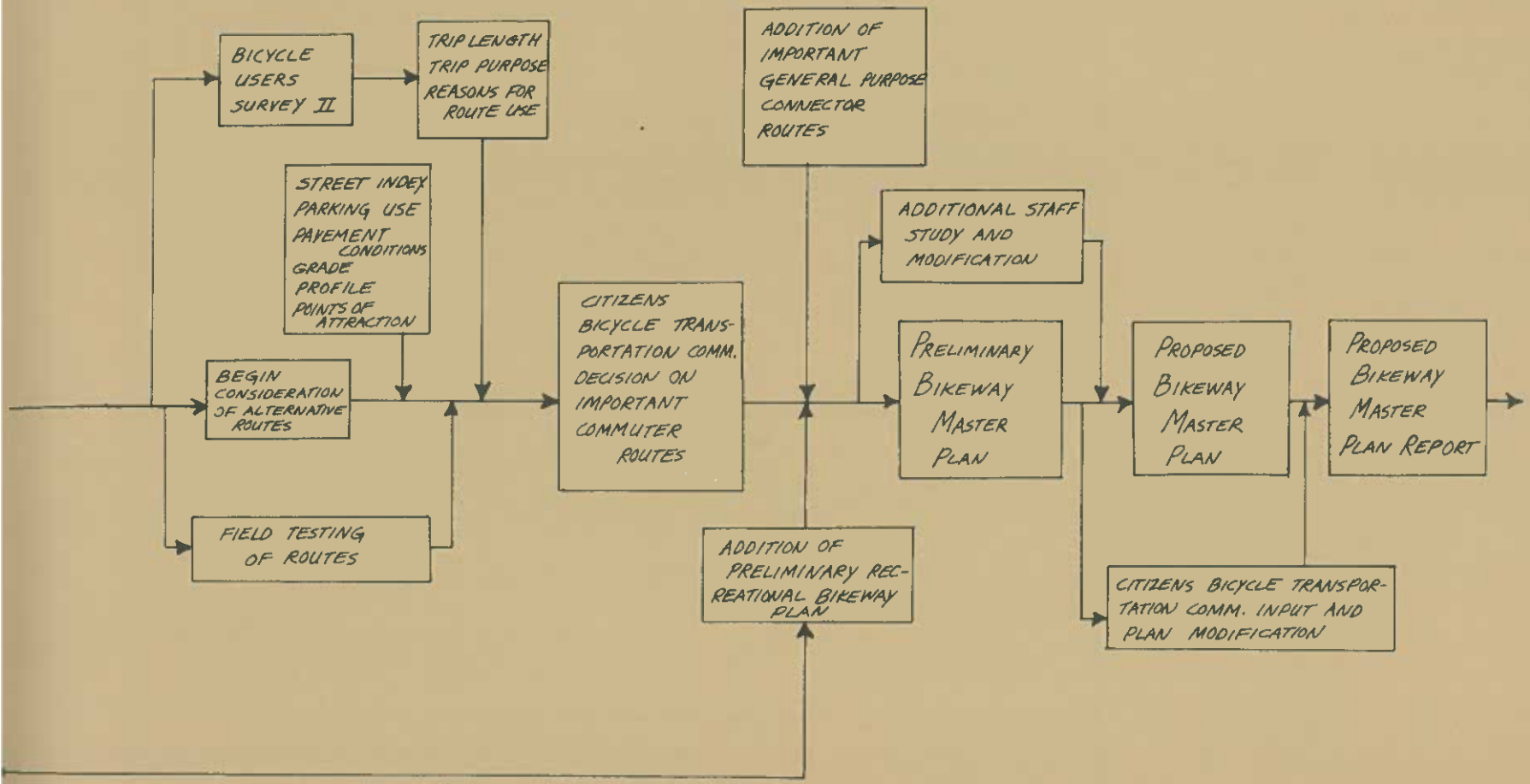
The bicycle bloomers may not make veal more plentiful, but we're sure to see more calves than ever. The Morning Press, Santa Barbara, June 22 1895

RESEARCH

RESEARCH AND ANALYSIS

A diagram of the steps taken to develop the proposed Bikeway Master Plan follows. The work shown was accomplished over about a ten month period.




BICYCLE USERS SURVEY II
TRIP LENGTH
TRIP PURPOSE
REASONS FOR ROUTE USE
STREET INDEX
PARKING USE
PAVEMENT CONDITIONS
GRADE
PROFILE
POINTS OF ATTRACTION
BEGIN CONSIDERATION OF ALTERNATIVE ROUTES
FIELD TESTING OF ROUTES
CITIZENS BICYCLE TRANSPORTATION COMM. DECISION ON IMPORTANT COMMUTER ROUTES
ADDITION OF IMPORTANT GENERAL PURPOSE CONNECTOR ROUTES
ADDITIONAL STAFF STUDY AND MODIFICATION
PRELIMINARY BIKEWAY MASTER PLAN
ADDITION OF PRELIMINARY RECREATIONAL BIKEWAY PLAN
PROPOSED BIKEWAY MASTER PLAN
CITIZENS BICYCLE TRANSPORTATION COMM. INPUT AND PLAN MODIFICATION
PROPOSED BIKEWAY MASTER PLAN REPORT

The development of the proposed Bikeway Master Plan may be divided into three basic parts:

1. Determining the needs and desires of the community.
2. Analysis of existing conditions in the community.
3. Development of a plan based upon existing and projected community needs.

The primary objective of the Plan was to select a system of bike routes which would both accommodate existing bicyclists and encourage an increase in bicycling throughout the City. Existing street patterns and land use were major limiting factors but also served as a basis for route selection.

DETERMINING THE NEEDS & DESIRES OF THE COMMUNITY

Bicycle Planning Surveys

In June and July of 1973, the City of Santa Barbara Traffic Division Staff undertook a two-part study to determine the extent of citizen support for a city-wide bikeway system. The first part, a Citizen's Attitude Survey, disclosed important information which was taken into account while developing the proposed plan. First, over 90% of the persons interviewed said they would like to see a system of bikeways established. Second, the survey data revealed an estimated 35,000 bicyclists in the City, nearly half the population (currently there are 23,000 registered bicycles in Santa Barbara). Nearly 75% of those surveyed felt the

SURVEY RESPONSE

QUESTION DO YOU BELIEVE THAT THE BICYCLE CAN BECOME A REASONABLE ALTERNATIVE TO THE AUTOMOBILE FOR TRAVEL WITHIN THE CITY?

	BICYCLE OWNERS	NON BICYCLE OWNERS
YES	81.4%	66.7%
NO	18.6%	33.3%
TOTAL	100.0% (N=211)	100.0% (N=405)

QUESTION DO YOU USE YOUR BICYCLE MAINLY FOR ... (N=181)

COMMUTER RIDING	28.2%
RECREATIONAL RIDING	54.1%
BOTH	16.0%
TOTAL	100.0%

QUESTION HOW IMPORTANT ARE EACH OF THE FOLLOWING IN LIMITING YOUR USE OF THE BICYCLE FOR NON-RECREATIONAL TRIPS?

(N=181)	IMPORTANT	VERY IMP.	OTHER	TOTAL
PERSONAL SAFETY	45.3%	32.0%	22.7%	100.0%
LACK OF BIKE RACKS	41.4%	20.4%	38.2%	100.0%
DANGER OF THEFT	39.2%	37.0%	23.8%	100.0%

QUESTION HOW IMPORTANT TO YOU IS RIDING YOUR BICYCLE FOR EACH OF THE FOLLOWING:

(N=181)	IMPORTANT	VERY IMP.	OTHER	TOTAL
TO SAVE MONEY	37.0%	31.5%	31.5%	100.0%
ENVIRONMENTAL	38.1%	51.4%	10.5%	100.0%
TO SAVE TIME	25.4%	12.7%	61.0%	100.0%

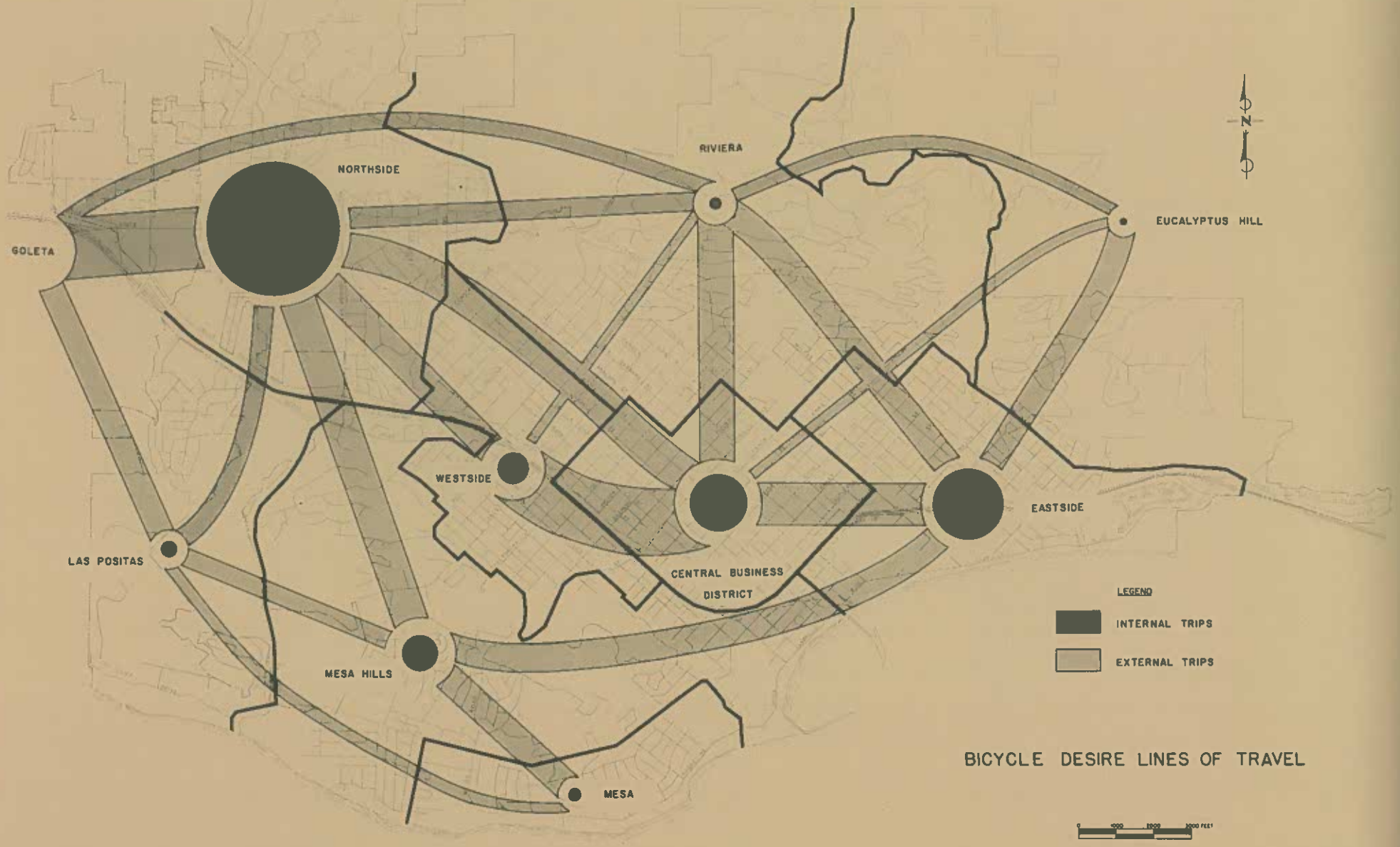
bicycle could be a reasonable alternative to the automobile, and that bikeways should be provided on major rather than residential streets.[8]

The second survey, a Bicycle Users' Survey, attempted to gather more detailed information about the specific facilities desired by the bicyclists. A total of 187 responses were mapped to determine streets bicyclists would most like to see a bikeway on and streets they considered most hazardous for bicycling. The maps on the following pages show this information.[9]

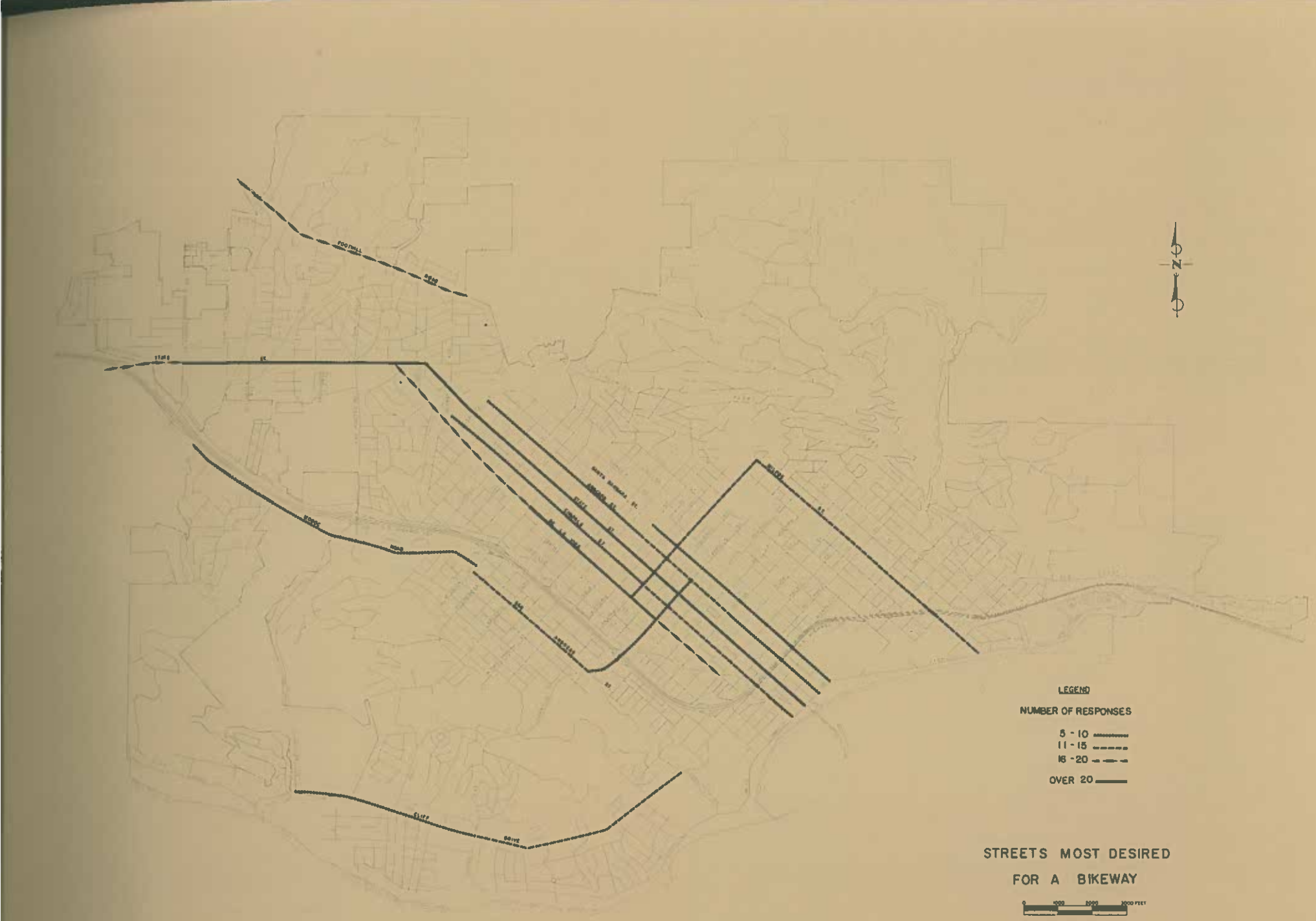
Respondents to the Bicycle Users' Survey were also asked to list the three most frequent bicycle trips they made. Some 352 trips were reported and mapped into nine areas of the City to show desire lines of travel. If less than three trips were reported between two areas, no line is shown. The width of the line between areas and the diameter of the circle represents the number of trips taking place within the area.

The Central Business District, the Eastside, and the Northside presently attract the largest number of trips, and Goleta is the most popular destination outside of the City. A great many of the trips parallel the State Street axis with shorter, more dispersed trips being made in the East-West direction.

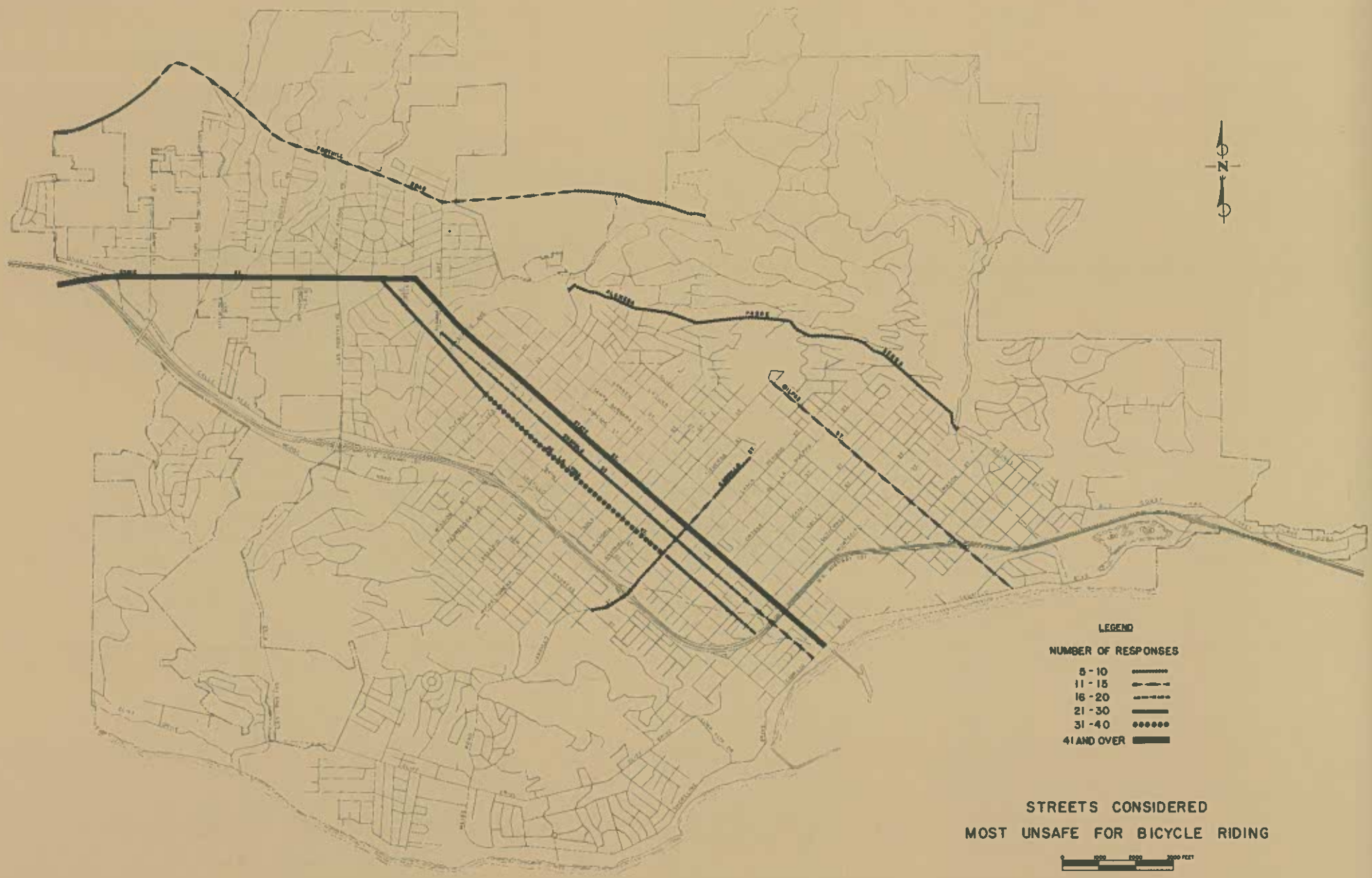
Anacapa and Yanonali Street



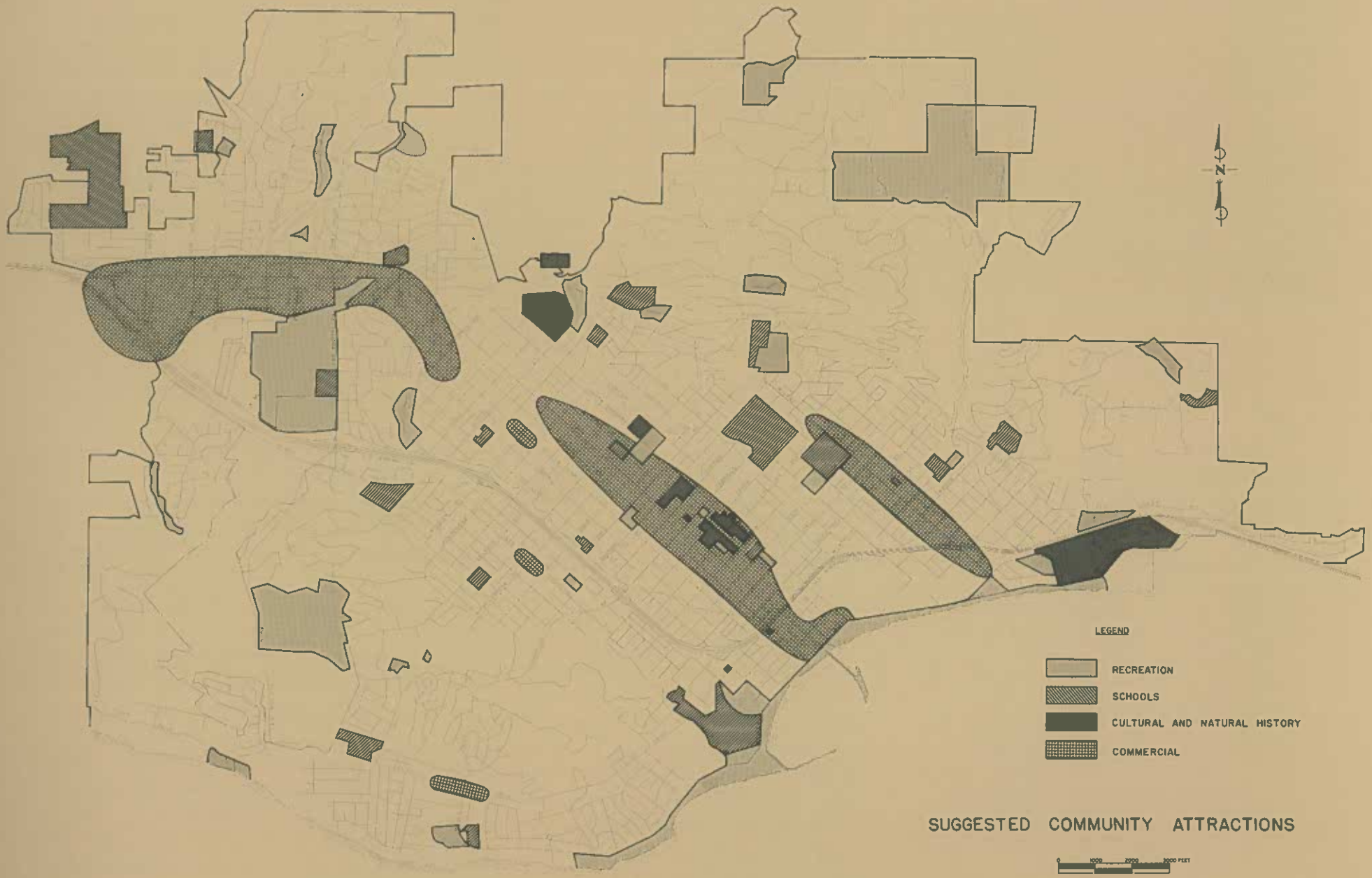
BICYCLE DESIRE LINES OF TRAVEL



STREETS MOST DESIRED
FOR A BIKEWAY



STREETS CONSIDERED
MOST UNSAFE FOR BICYCLE RIDING



SUGGESTED COMMUNITY ATTRACTIONS

ANALYSIS OF EXISTING CONDITIONS

Basic to the development of the proposed Bikeway Master Plan was the belief that bikeways should serve major areas of trip attraction in order to encourage the use of the bicycle as a real transportation alternative to the automobile. A map was prepared showing areas of commercial, historical and recreational interest. Commercial areas, particularly, have developed along certain streets which are now used by large numbers of bicycles and motor vehicles. In many cases, these streets were selected for bikeways.

Other communities have often, for reasons of expediency or safety, developed bike routes on quiet residential streets. The City of Palo Alto, California, placed their first bikeways on little used streets and the following excerpt from a Palo Alto Traffic Division Report summarizes their experience:

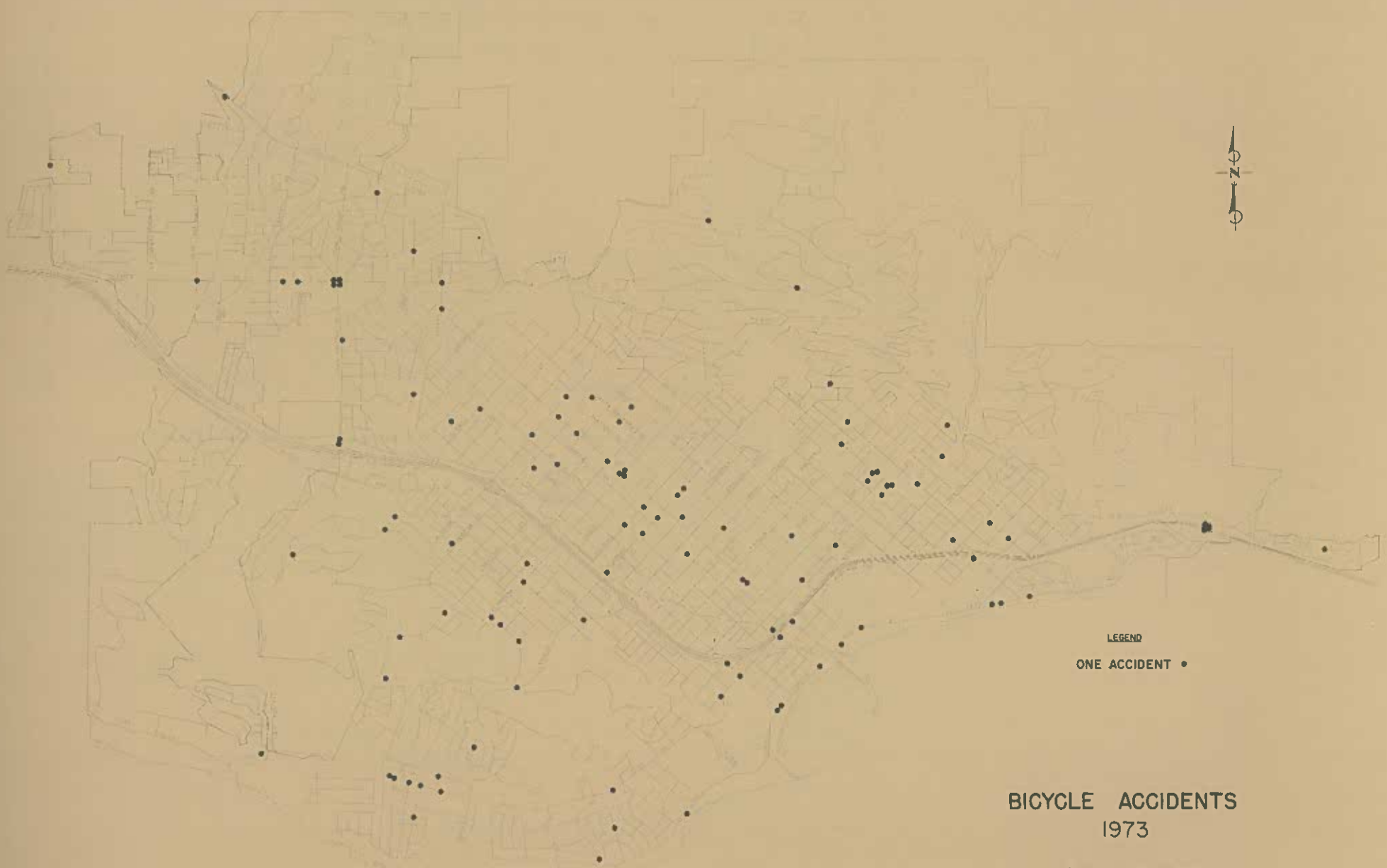
> "Bicycle Routes" did not lead to or end at desired activity center destination points such as schools, parks, industrial parks, etc. Use of the more convenient and uninterrupted collector and arterial streets continued to be preferred by bicyclists. Bicyclists simply were not willing to ride several blocks out of their way in order to use the "Bicycle Route" that appeared to offer no particular or obvious advantages for travel purposes. Further evidence of the ineffectiveness of the "Bicycle Route" street plan was reflected by the 24% increase in City-wide bicycle-motor vehicle accidents during the year (1968) following the completion of the "Bicycle Route" street plan. It was clear that the "Bicycle Route" street plan did not offer or provide an improved bicycle safety environment for the growing bicycle public.[10]

The "Bike Route" system has since been abandoned and the City of Palo Alto now has designated bikelanes and bikepaths along major arterial streets.

Bicycle-Motor Vehicle Accidents

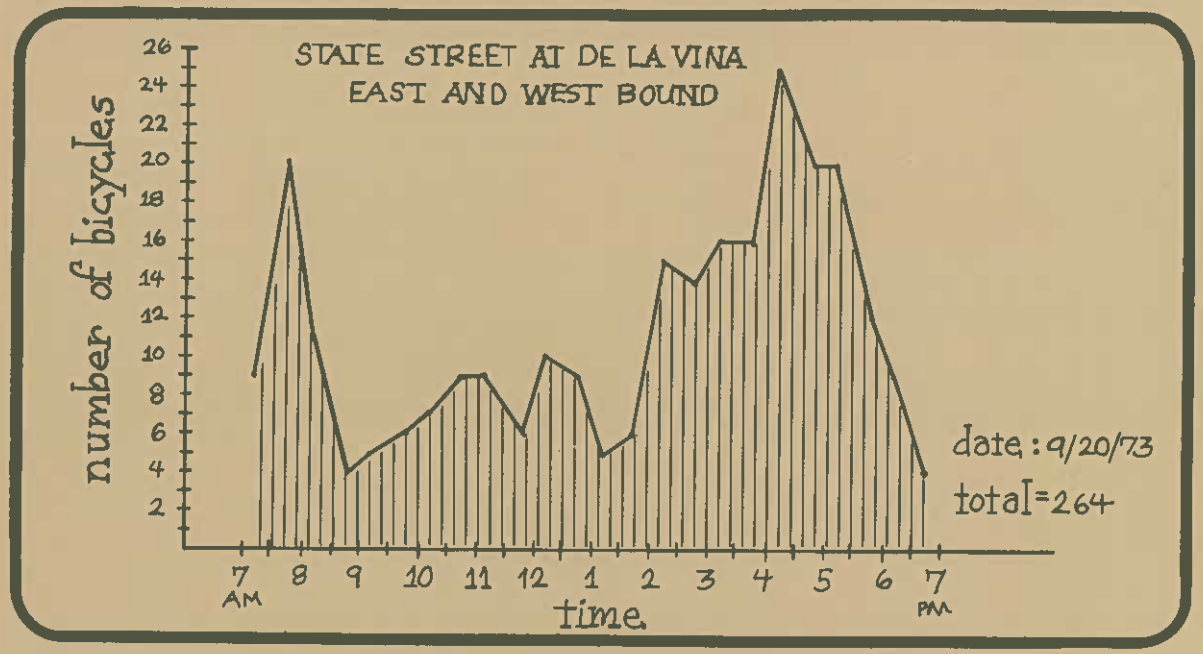
An accident location map of Santa Barbara showing all bicycle-motor vehicle accidents in 1973 was made to determine critical accident locations. This map serves to quickly pinpoint areas where bicycles and motor vehicles are frequently in conflict. This conflict may be the result of high volumes of bicycles and automobiles, or it may be an indication of a particular recurring conflict.

This information was not of direct use in determining a system of routes, as the ability of bikeways to reduce accidents remains undetermined. It is interesting to note that in the area of the State Street Plaza where the highest concentration of bicycles in the City may be found, there were no bicycle-motor vehicle accidents in 1973 and, in fact, only one accident since 1970. A number of factors may be responsible for this, including the absence of parked cars and driveways, low vehicle speeds, and wide traffic lanes.



BICYCLE ACCIDENTS
1973

TWELVE HOUR BICYCLE COUNT

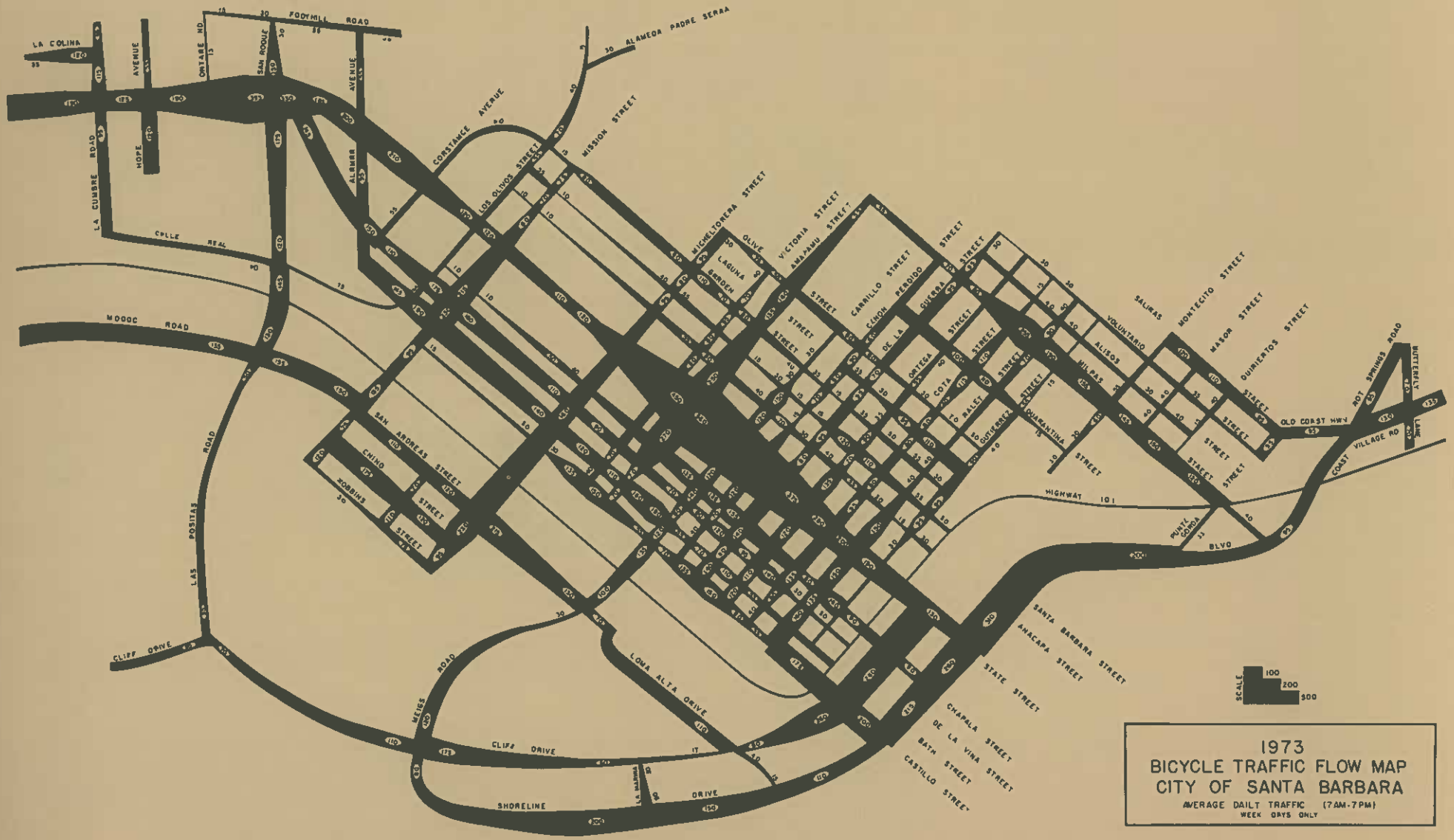


Bicycle Flow Map

A flow map of bicycle traffic in the City was developed and served as an important source of information in determining a system of bike routes. Bicycle counts over the twelve hour period from 7:00 a.m. to 7:00 p.m. were made at a number of locations to determine the peak hours of bicycle flow. The peak hour between 4:00 and 5:00 p.m. was found to be approximately 15% of the total 12 hour flow.

Counts were then taken during the peak hour city-wide over a period of three months in the summer and fall of 1973. Counts were made along all streets found to have more than ten bicycles during the peak hour. The Bicycle Flow Map shows the results of those counts.

It may be noted that many of the streets which have the heaviest flow of bicycles were frequently mentioned by survey respondents as desirable bikeway locations.



1973
BICYCLE TRAFFIC FLOW MAP
CITY OF SANTA BARBARA
AVERAGE DAILT TRAFFIC (7AM-7PM)
WEEK DAYS ONLY

Anapamu Street School Bikeway

DEVELOPMENT OF A PLAN

Selection of streets for on-street bikeways was a difficult process primarily due to the tremendous amount of information that was needed in order to make an intelligent decision. Two of the most important items of information considered were the existing numbers of bicyclists using the street and the demand for on-street parking. Also considered were grades, surface conditions, street width, and vehicle traffic flow.

The determination of areas for off-street bikeways was easier because there were fewer possibilities to choose from. Linear open space suitable for bikeways is scarce, in the City of Santa Barbara and, in most cases, exists only because it is used for other purposes, such as flood control or transportation, or because the natural terrain is impossible to build upon. The off-street bikeways which are proposed offer excellent opportunities for the City to begin a program for the preservation of open space corridors.

Bike Users' Survey II

As a preliminary system of bike routes began to take shape, it was often necessary to choose between a number of parallel and similar routes for inclusion on the Master Plan. In order to gather more information relating to the reasons bicyclists ride upon one street rather than another, a brief, on-the-street interview of 76 cyclists was conducted.

Bicyclists offered a number of reasons for riding on a particular street. They most commonly reported that the street they were using had a better pavement surface, fewer hills, and was a more direct route than another adjacent street. They generally said the street they were riding on was also more convenient or faster than adjacent streets. Only about half of those interviewed stated they felt they were riding on the safest street available; speed and convenience were more important.

This survey also provided information about the length and purpose of typical bicycle trips in the City. The majority of the bicyclists were surveyed between 7:30 and 8:30 in the morning and were either riding to school or to work. An average one-way trip distance was 2.2 miles and a round trip was made 4.7 times a week, or nearly every day.

Other bicyclists interviewed between 2:00 and 3:00 in the afternoon had widely varied trip purposes ranging from visiting a friend to conducting personal business. The average one-way trip distance was 1.8 miles, much shorter than the average morning commuter trip. The round trip was also repeated less frequently—approximately 2.2 times per week.

SURVEY RESPONSE

QUESTION IS THERE ANY SPECIAL REASON YOU ARE RIDING ON THIS STREET ?

(N=76)	YES	NO	TOTAL
MORE CONVENIENT	83%	17%	100%
FASTER	82%	18%	100%
SAFER	46%	54%	100%

QUESTION IF THERE WERE A BIKEWAY ON AN ALTERNATE STREET WOULD YOU USE IT RATHER THAN THE STREET YOU ARE ON ?

(N=76)

YES	62%
NO	26%
DON'T KNOW	12%
TOTAL	100%

Final Route Decisions

As final route decisons were being made, often four or five alternative streets had to be chosen from. To aid in this process, a route index form was developed. The route index showed at a glance the number of bicycles and motor vehicles using the street, the grade and street surface condition, and the existing parking utilization. These factors were then assigned a number from one to five; a higher number meaning that particular attribute made the street more desirable for a bikeway. Then, by adding all the weighted numbers for each street, a total could be reached which, theoretically, expressed the desirability of a street for a bikeway. In practice, there were always additional variables which could not be expressed numerically. Route selection then became a matter of the Staff and the Citizens' Bicycle Transportation Plan Committee verbally weighing the possibilities and arriving at a recommended alternative.

COMMUTER ROUTE INDEX

	AVERAGE PARKING USE	PAVEMENT CONDITION	GRADE	AVERAGE DAILY BICYCLES	AVERAGE DAILY TRAFFIC	AVERAGE STREET WIDTH	TOTAL
CASTILLO	3 40%	4	2.7 1.3%	2 120	3 2500	2 36'	16.7
BATH	2 51%	2.8	2.7 1.3%	2 111	3 4500	3 37'	15.5
DE LA VINA	3 41%	4	2.6 1.3%	2 150	2 7000	2 36'	15.6
CHAPALA	3 31%	2	2.5 1.5%	2 169	1 10,000	2 36'	12.5
STATE	3 36%	3.5	2.3 1.7%	4 400	1 12,000	3 48'	16.8
ANACAPA	3 37%	1.5	1.6 2.4%	1 90	2 7,000	3 37.5'	12.1
SANTA BARBARA	4 27%	1	1.5 2.5%	1 90	2 6,000	2 35.9	11.5
GARDEN	4 28%	3	1.4 2.6%	2 180	2 4,300	3 37.1'	15.4
RATINGS	1 = POOR 2 = FAIR 3 = GOOD 4 = EXCELLENT			ACTUAL VALUE RATING			

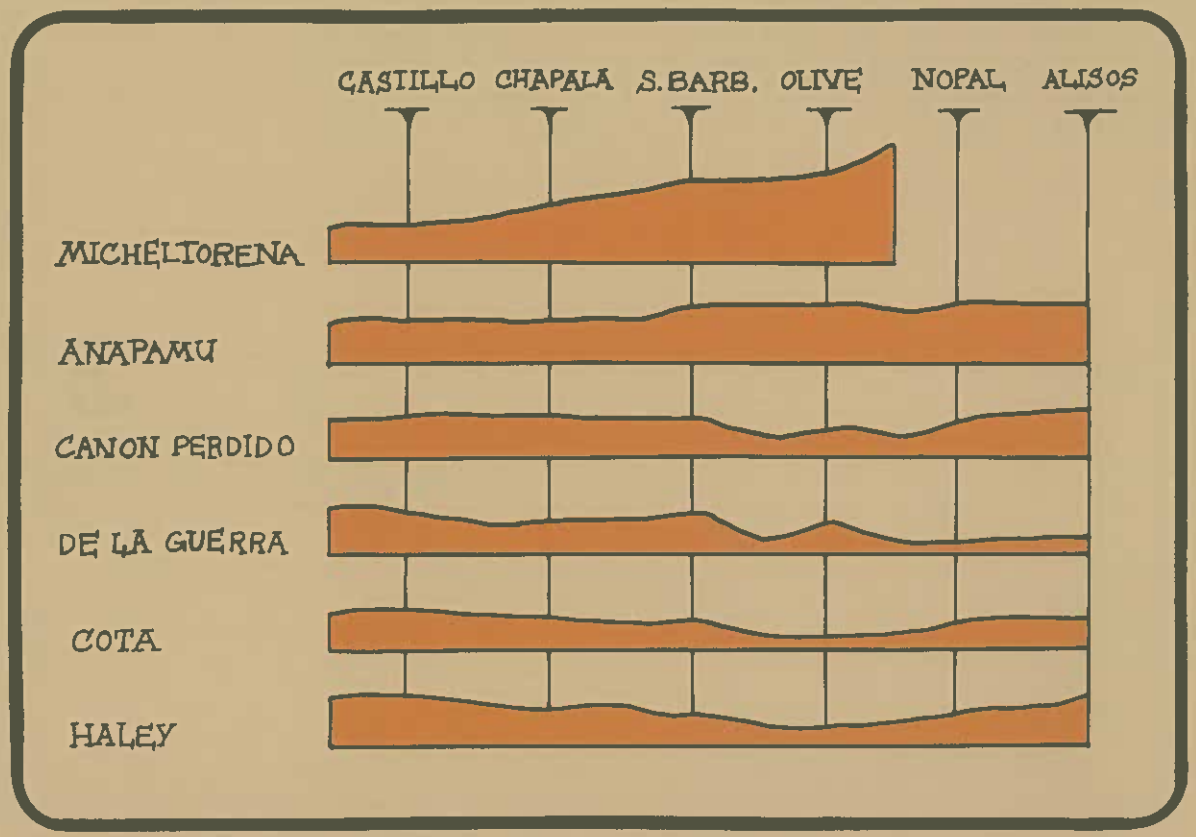
The Bikeway Master Plan

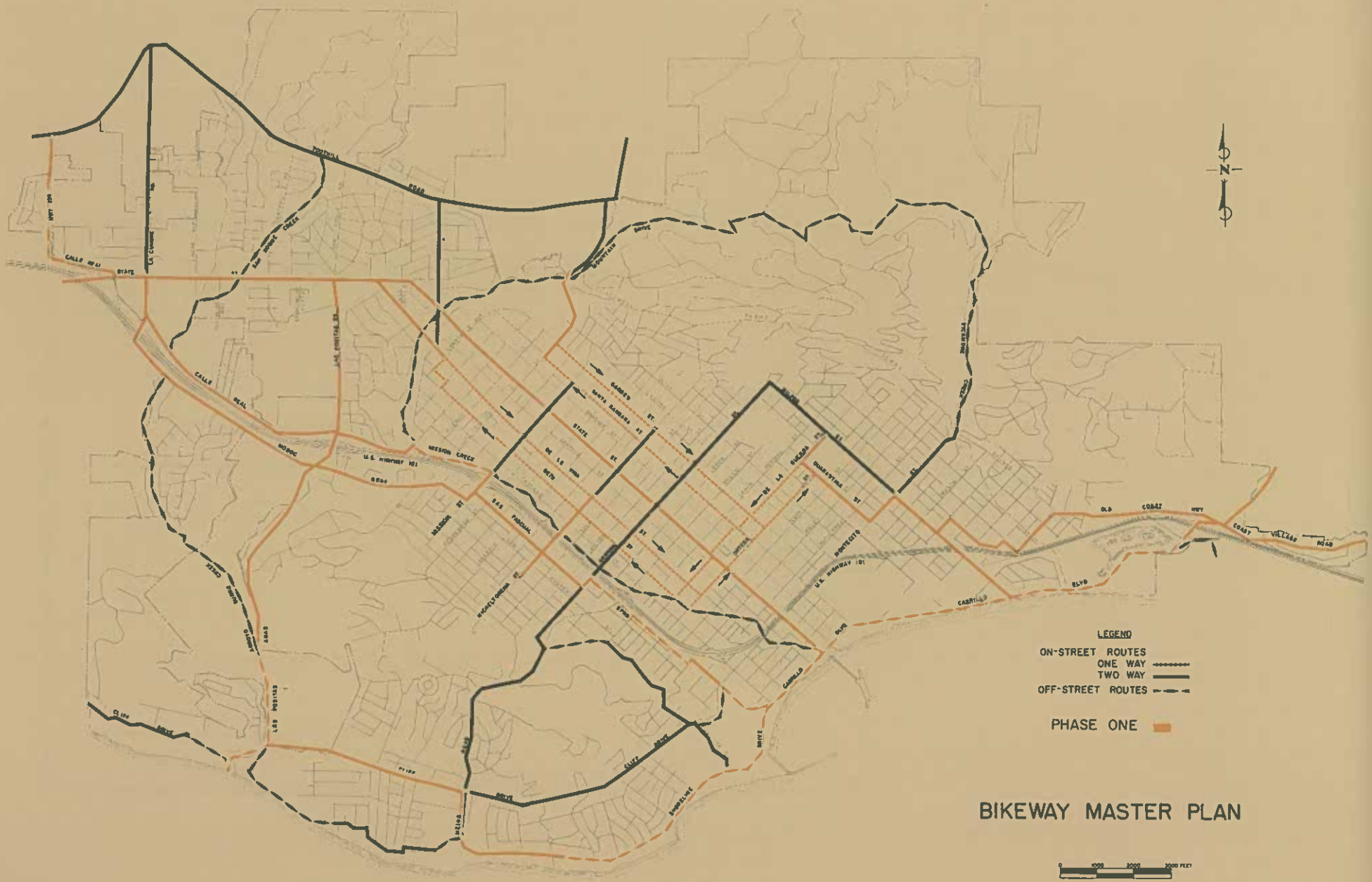
The Bikeway Master Plan represents a selection of the most desirable routes for a system of bikeways in the City of Santa Barbara. In studying the plan, it may be noted that in many cases major arterial streets have been selected for bikeways. To some this may seem paradoxical, given the inherent dangers of busy streets, but there are a number of good reasons why bikeways are needed on major streets. First, as may be seen on the Bicycle Flow Map, these are the streets cyclists are presently using. Secondly, bicyclists, like automobile drivers, are looking for the shortest route between two points, and often this turns out to be a major street. Thirdly, the destinations of automobile drivers and bicyclists are often the same—shopping centers, banks, public buildings; thus they come to use the same streets. And finally, it is on these dangerous, busy streets that a bicyclist most needs the protection which may be provided by a bikeway. There is really no need to eliminate parking for bikeways on most quiet, residential streets. Bicycles can safely share the roadway with the smaller number of cars and lower speeds which typify residential streets.

Admittedly, the implementation of the proposed Bikeway Master Plan is a prodigious undertaking. Both the City of Santa Barbara Staff and the majority of the public they serve consider it a job worth doing.

Phase One of the Bikeway Master Plan consists of the routes which are to be implemented first. These routes were selected to meet basic transportation needs as well as provide several of the more important recreational routes. By implementing these routes first, the community will have a chance to use and observe bikeways of different types and so be better able to judge the desirability of implementing the entire Bikeway Master Plan. Detailed design of all the Phase One Bikeways is proceeding in order that they may be implemented as soon as possible. After public hearings and citizen review, the proposed routes will be submitted to City Council for approval. If approved, work will begin immediately.

COMMUTER ROUTE PROFILE




LEGEND
ON-STREET ROUTES
ONE WAY
TWO WAY
OFF-STREET ROUTES
PHASE ONE
N
BIKEWAY MASTER PLAN

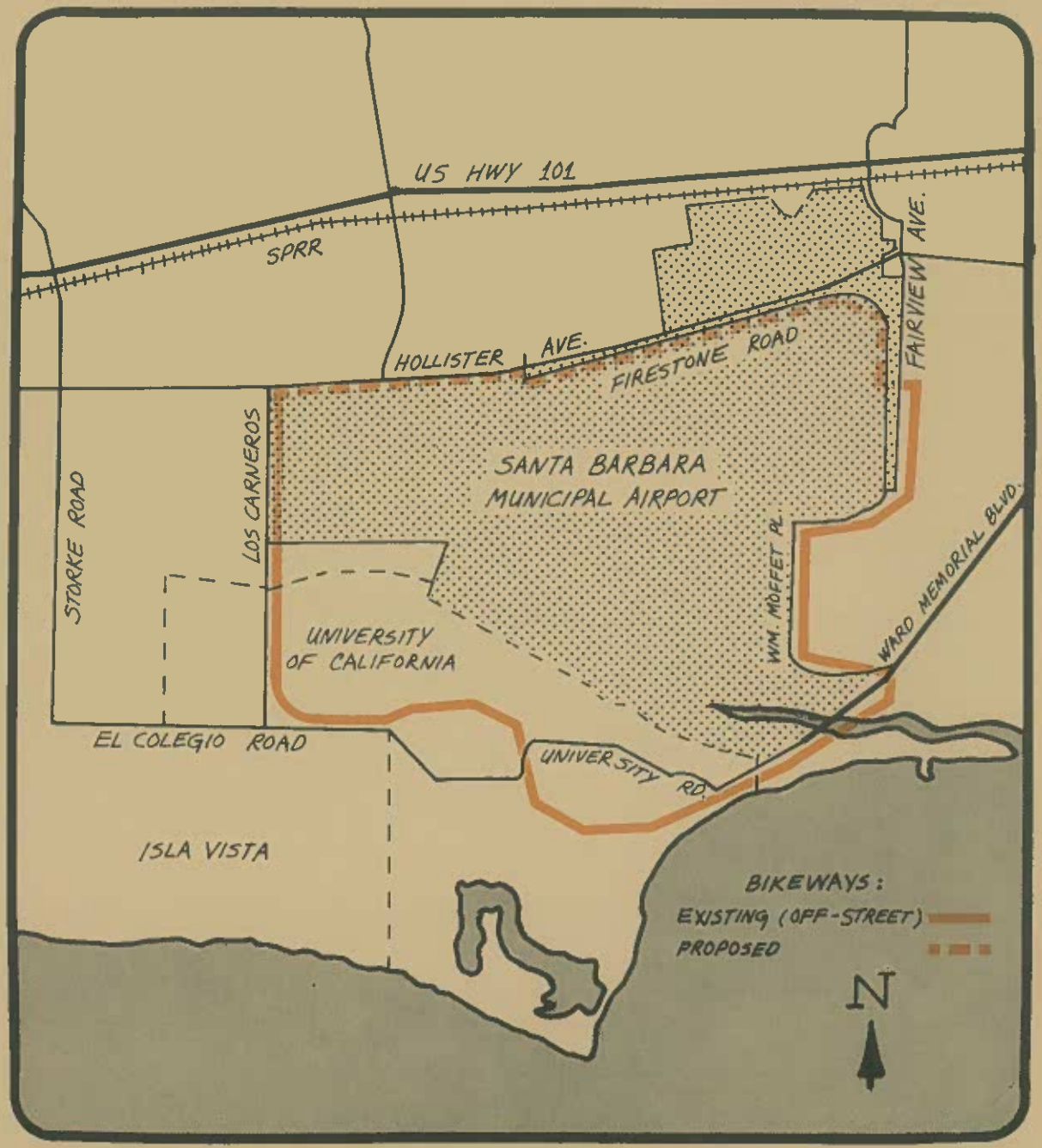
The Santa Barbara Airport

The Santa Barbara Airport exists as an island of City property surrounded by Santa Barbara County. Because of its geographical remoteness to the City, the bikeways proposed for the Airport are considered separately.

The existing bikeway shown along Fairview Avenue on the east side of the Airport has been in operation since 1971 with heavy daily use by bicyclists headed for the University of California. Improvements are scheduled for this existing bikeway, including a bridge over San Pedro Creek, which will increase the safety of this route.

A proposed bikeway is shown along Hollister Avenue between Los Carneros and Fairview Avenue. A portion of this bikeway could make use of the existing Airport frontage road paralleling Hollister Avenue. The rest of the bikeway would be off-road along the south side of Hollister Avenue and would connect to an existing off-road bikeway on Los Carneros Road.

SANTA BARBARA AIRPORT



Henry M. (Hap) Hazard about to embark from East Beach on his amazing "Aquacycle", a bicycle equipped with pontoons and a propeller, capable of making six knots in the water and 15 miles per hour on the street. Shortly after the picture was taken, Hap rode the Aquacycle into the surf, pedaling out to the kelp beds and back. He caught an incoming wave and was washed up on the beach, high and dry.

DESIGN

DESIGN

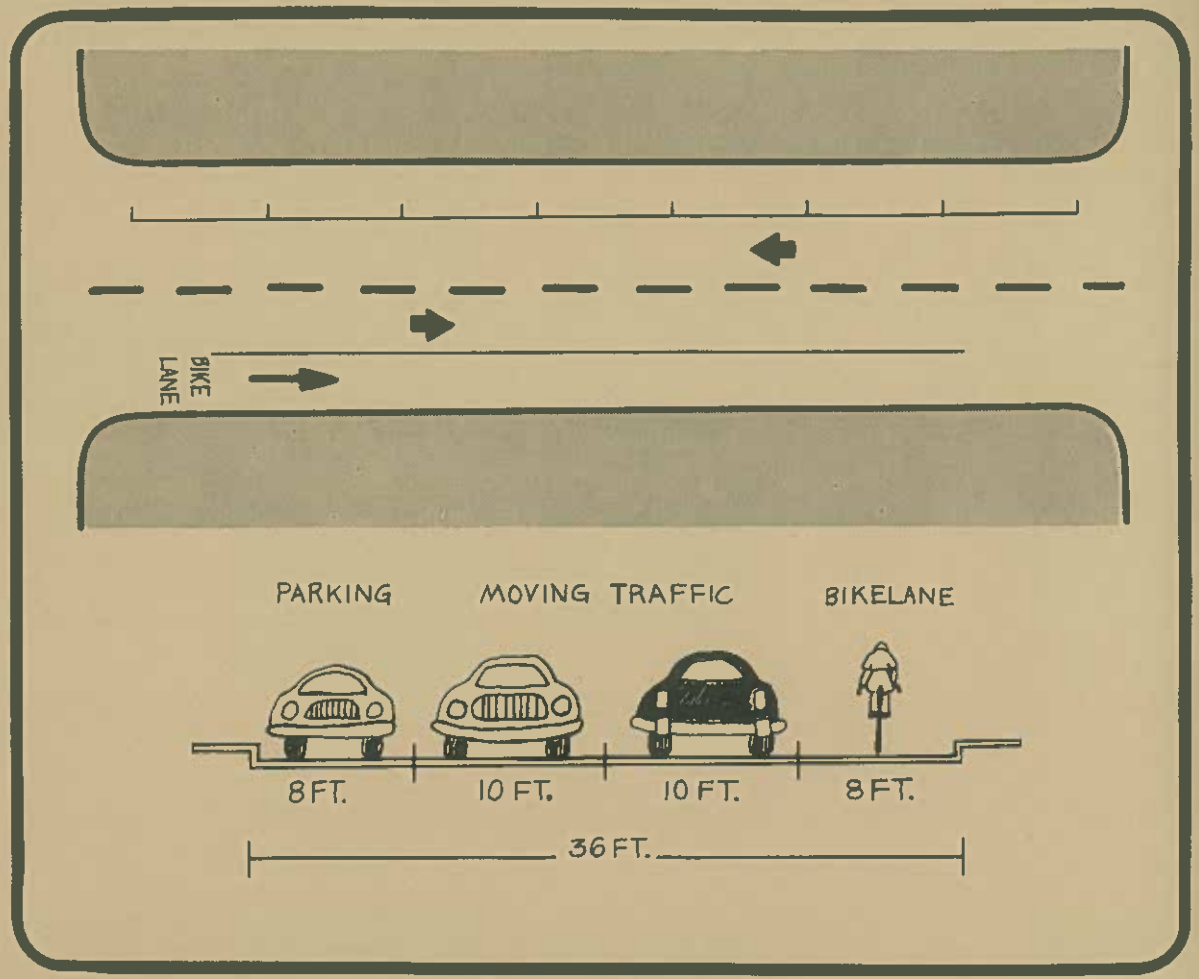
Two basic types of bikeways are proposed in the Bikeway Master Plan. The first type has been called "on-street bikeways". These bikeways make use of existing street surfaces and are generally lanes designated by pavement markings and signs. On-street bikeways may be either one-way or two-way, are inexpensive to construct and normally require restriction of on-street parking.

The second type of bikeway is an "off-street" bikeway. These bikeways are completely separated from motor-vehicle traffic and may occur in parks or along flood control, railroad, or highway right-of-ways. They are intended primarily for recreational use but will offer pleasant riding for commuters also. They are more expensive to construct and, in many cases, are proposed as long range projects. An off-street bikeway is generally an 8-10 foot wide path which carries bicycle traffic in both directions.

ON-STREET BIKEWAYS

A one-way, on-street bikeway requires the removal of automobile parking on only one side of the street. This space is then designated as an 8 foot wide bikelane by the provision of the proper signs and pavement legends. One-way bikelanes are practical only when a suitable street is available immediately adjacent which can also have a one-way bikelane traveling in the opposite direction. The two parallel bikelanes then form what is called a "one-way couplet." A one-way couplet should provide a continuous route for a long distance, since bicyclists going short distances are less likely to go out of their way to use it.

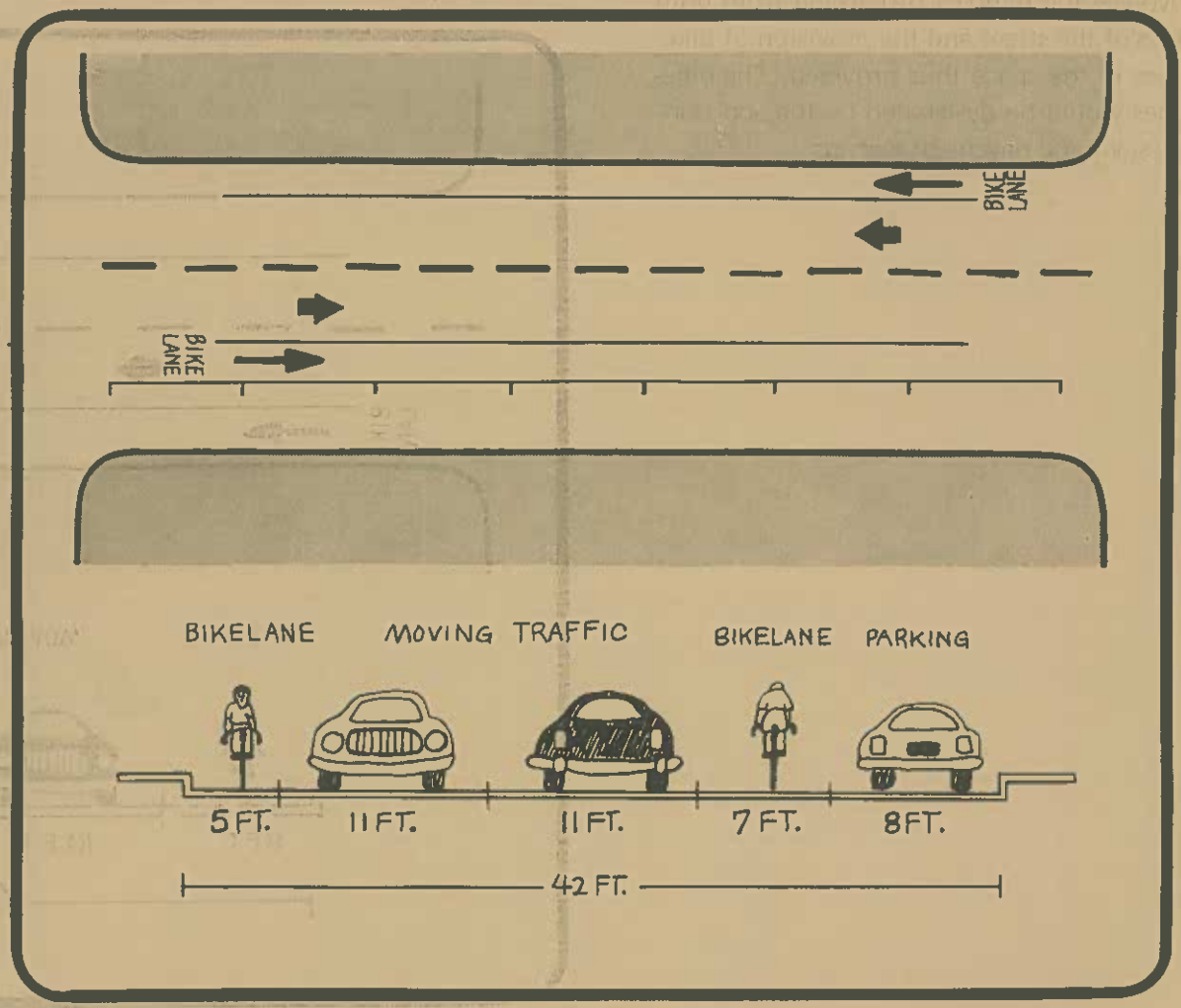
ONE-WAY ON-STREET BIKEWAY



A two-way, on-street bikeway may require removal of vehicle parking on one or both sides of the street. This type of bikeway is necessary when no suitable streets are available for a one-way couplet, or bicycle volume is very high due to the large number of attractions or directness of the route.

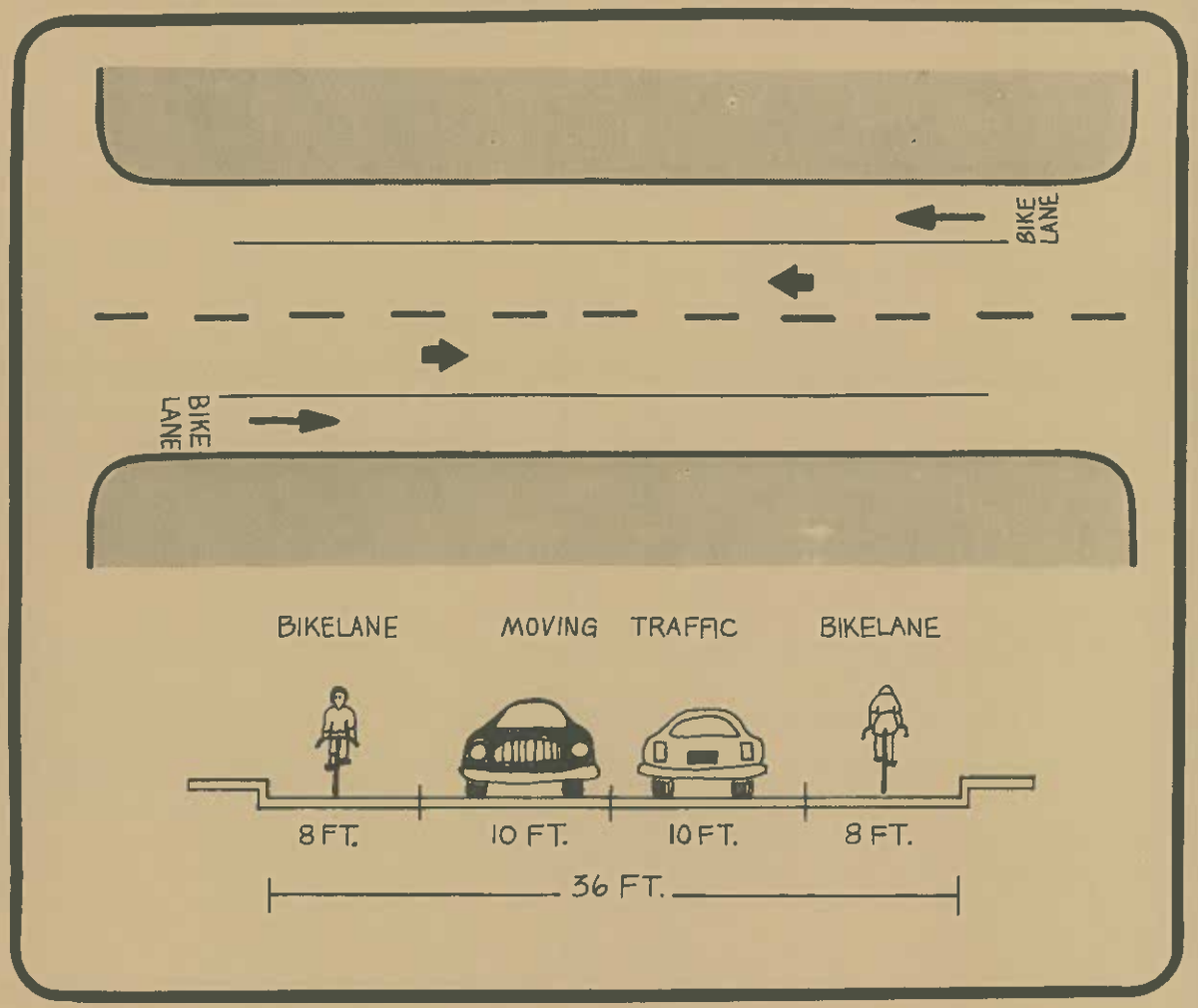
When an extremely high demand for on-street parking exists, as on many streets in business areas, a compromise form of bikeway may be necessary. In this case, and when street width exceeds 40 feet, vehicle parking may be removed from one side of the street and bikelanes provided next to the parking lane on one side and next to the curb on the other side, as shown in the diagram. The primary drawback of this type of bikeway is that the bicyclist does not have adequate protection from car doors opening into the bikelane. An open car door may protrude into the bikelane three feet. This distance plus another foot which the bicyclist allows to avoid the open door effectively blocks the entire bikelane. Most of the streets in the City are not wide enough to permit this type of bikeway.

TWO-WAY ON-STREET BIKEWAY



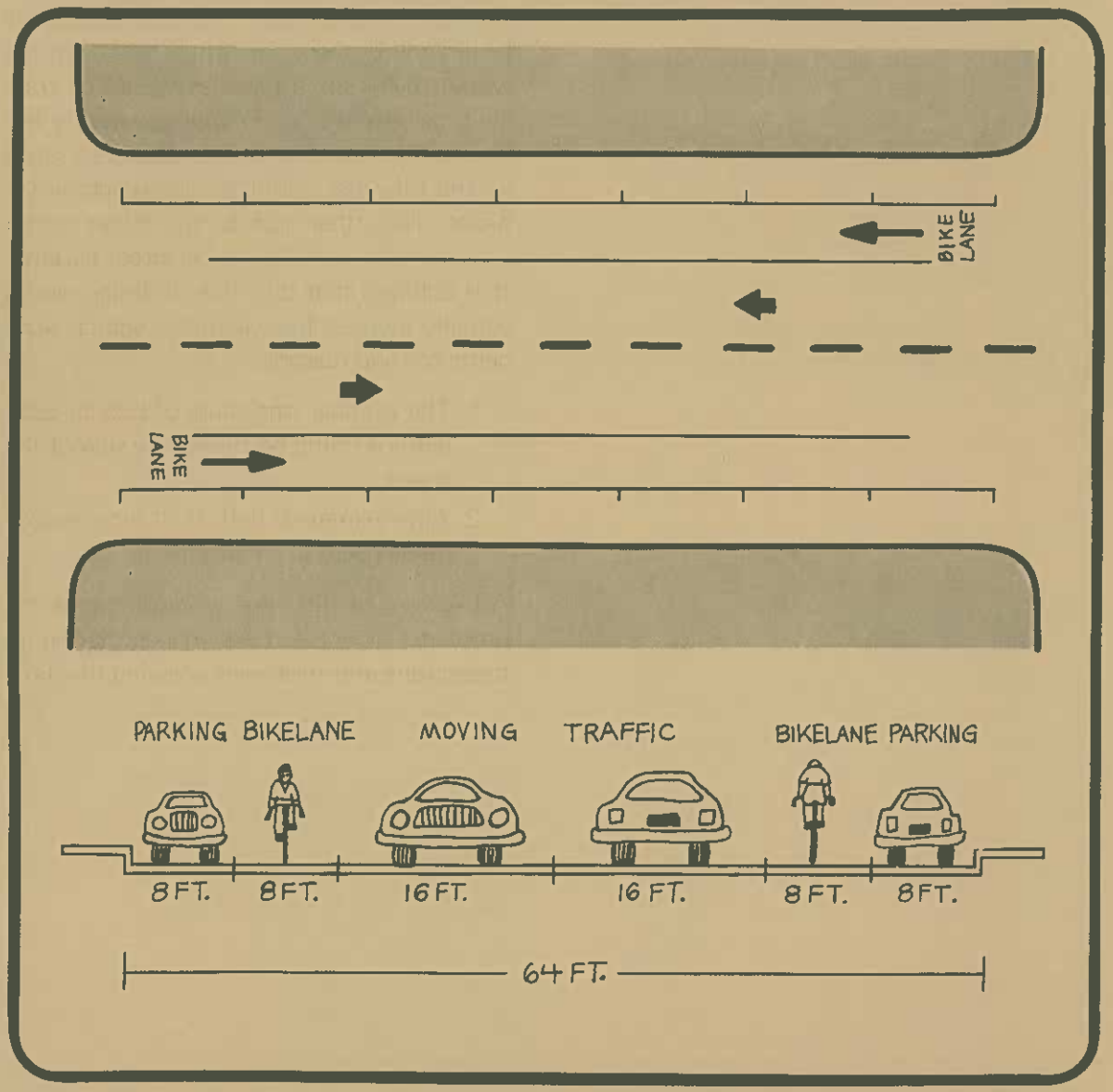
The design most ideal for the bicyclist involves the removal of parking from both sides of the street and the provision of bikelanes in the space thus provided. The bikelanes would be designated by the appropriate signs and pavement legends.

TWO-WAY ON-STREET BIKEWAY



A fourth type of on-street bikeway may be found suitable for certain four lane streets on which it is desirable to retain on-street parking. In this case, the street would be reduced to two lanes of moving traffic with a bikelane on either side next to the parking lanes (see diagram). The bikelanes would be sufficiently wide so open car doors could be avoided without coming into conflict with moving vehicles. The moving traffic lanes could be slightly wider also to increase their volume capacity.

TWO-WAY ON-STREET BIKEWAY



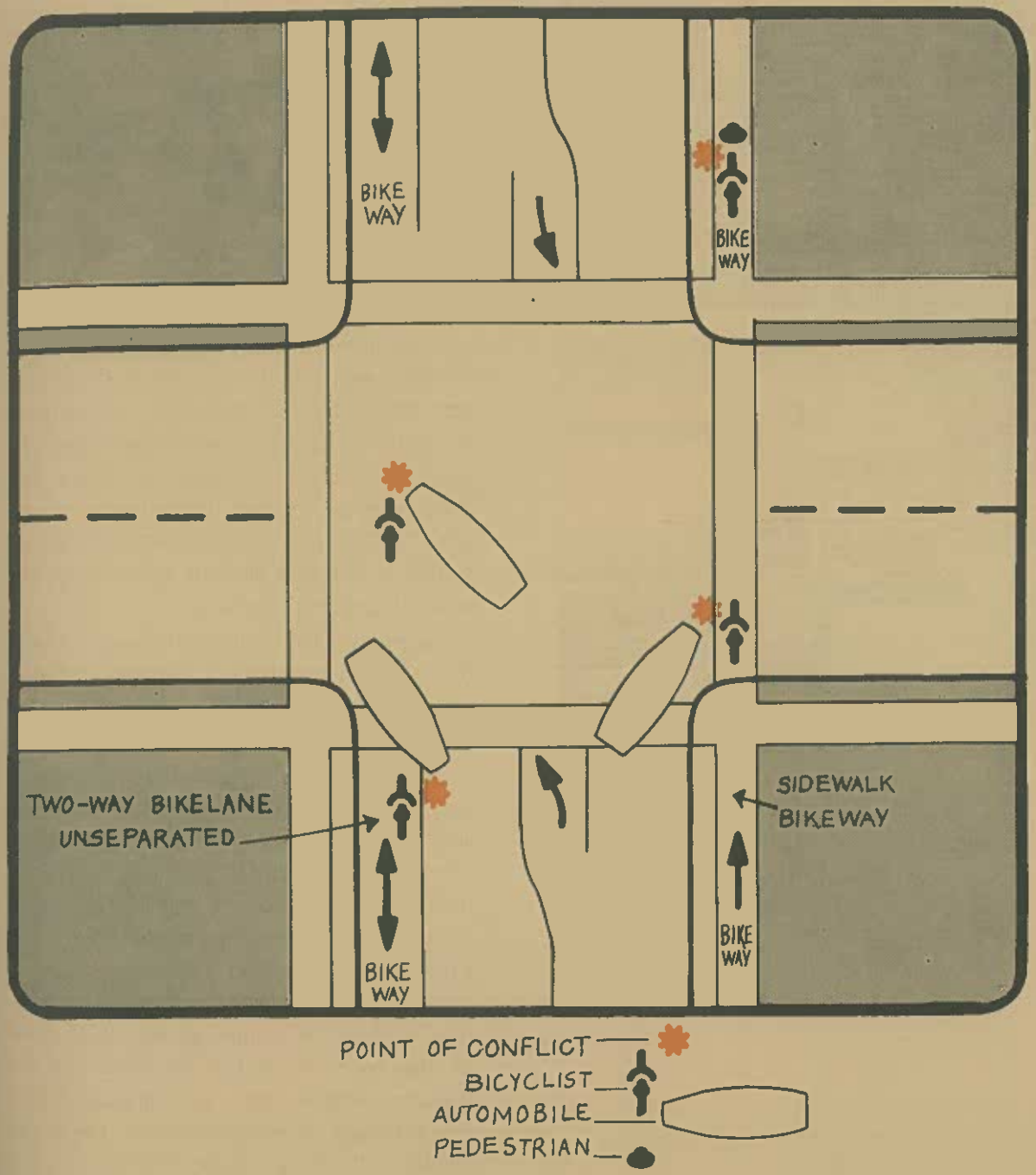
Citizens have often recommended to the City Transportation Division that a bikeway for bicycles traveling in both directions be provided, on one side of the street, which would mean some bicycles would be traveling against traffic. People apparently believe a bikeway of this type would be safer, as the bicyclist could see approaching vehicles. The other side of the street would also then be available for on-street parking. It is believed that this type of design would actually increase bicycle-motor vehicle accidents for two reasons:

1. The number one cause of bicycle accidents is riding on the wrong side of the street.
2. Approximately half of all bicycle accidents occur at intersections.

A bikeway of this type would increase the problems bicyclists have in negotiating intersections and motorists crossing this type of bikeway at an intersection may not be watching for the unexpected cyclist on the wrong side of the street. This type of bikeway would only be acceptable where no intersections are encountered and a physical barrier between the bicycle and automobile traffic could be erected.

Another solution the public commonly proposes is to permit bicycles on sidewalks on either one or both sides of the street. While the Transportation Division feels this is acceptable in residential areas where vehicle and pedestrian volumes are low, it is a dangerous proposition most other places. Pedestrians may be endangered by bicycles overtaking them from the rear or rounding corners unexpectedly. Bicyclists must still negotiate intersections safely and the ability, for instance, of a right-turning motorist to see a bicyclist approaching an intersection on the sidewalk is doubtful. The diagram illustrates further problems.

POTENTIAL BIKEWAY CONFLICTS



Anapamu Street

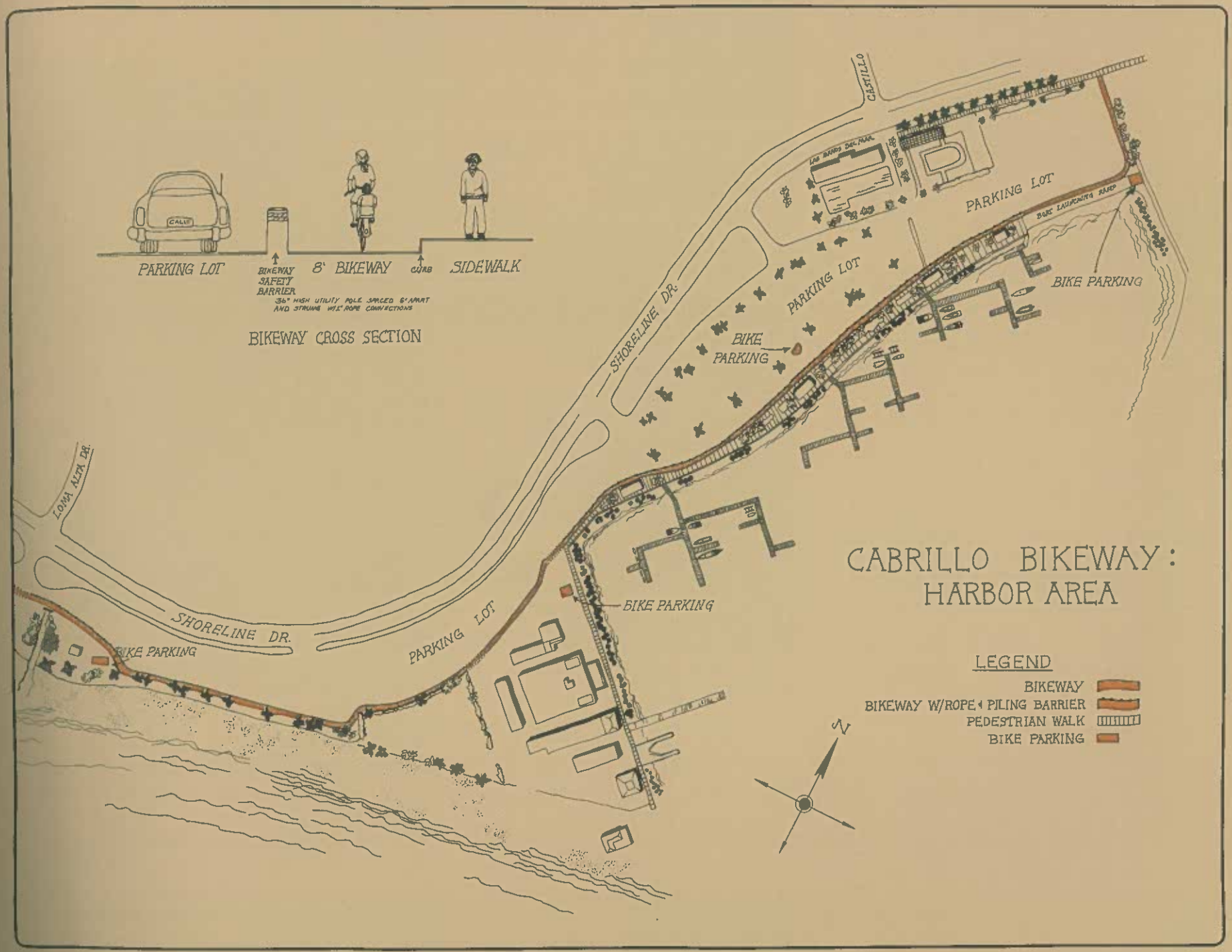
OFF-STREET BIKEWAYS

Off-street bikeways are intended primarily for recreational use although they will also be convenient for transportation purposes. Few bicyclists in Santa Barbara know the feeling of riding on a path designed especially for bicyclists where none of the noise, fumes and danger of the roadway exist.

These bikeways will be designed to complement each of the unique settings they pass through. Close attention will be paid to aesthetic and environmental considerations as well as to possible intrusions into the privacy of adjacent properties. Any proposed design will be sensitive to the natural values of the area and the concerns of the adjacent property owners.

As there is no typical off-street bikeway it may be instructive to consider two proposed designs as examples of what can be done.

An extension and upgrading of the existing Cabrillo Bikeway between Bath Street and Loma Alta Drive has been approved by City Council and is being designed. In order to reduce conflict with pedestrians and automobiles, the bikeway is separated by either a difference in grade or a physical barrier of some type. To enhance its recreational qualities, it is routed to take advantage of views of the beach and harbor. As shown on the Bikeway Master Plan, it is proposed that this bikeway be extended along the entire length of the City's ocean frontage.


PARKING LOT
BIKEWAY SAFETY BARRIER
8' BIKEWAY
CURB
SIDEWALK
36" HIGH UTILITY POLE SPACED 6' APART AND STRUNG WITH ROPE CONNECTIONS
BIKEWAY CROSS SECTION
CASTILLO
SHORELINE DR.
LOMA ALTA DR.
PARKING LOT
BIKE PARKING
BOAT LAUNCHING RAMP
CABRILLO BIKEWAY: HARBOR AREA
LEGEND
BIKEWAY
BIKEWAY W/ROPE & PILING BARRIER
PEDESTRIAN WALK
BIKE PARKING
N

The Aquacycle in action off Stearn's Wharf, February 3, 1923.

A second off-street design has been developed as an example of how bikeways might be constructed along the three main creek drainage systems that traverse the City of Santa Barbara: the Arroyo Burro and San Roque Creeks, Mission Creek, and Sycamore Creek. All of the creeks are important for flood control during heavy rains, although they run only intermittantly the rest of the time. The creek beds are strewn with boulders, and native alder and sycamore trees grow along the banks. Considerable open space exists along the creeks either as vacant land or due to building set backs because of flooding hazards. In the past few years, some high density housing has been built right next to creek channels and, in one case, even over-hanging the creek.

The creeks were officially recognized as potential recreational areas in the General Plan of 1964. The plan suggested the creeks be preserved as open space corridors containing trails linking the foothills and the sea.

Santa Barbara's creeks are considered part of the City's open space and are discussed in the Open Space Element which has been adopted as part of the General Plan:

> Implementation of the creek open space category involves the City's establishment of firm policies to preserve these channels in their natural state. Special regulations for development adjacent to major creeks should be enacted to prevent construction in creek open space areas and to protect development from known flood hazards.

Mission Creek near Oak Park

> While much of the land adjacent to these creeks is already developed, most will be redeveloped. New construction should respect the creeks as important community open space.[11]

No organized effort was made to preserve the creek space until 1973 when development along Mission Creek met some resistance from the City's Architectural Board of Review.

Nearly half of all the proposed off-street bikeways are located along the various creeks. Because the creeks are natural corridors following the most level topography, they appear to be ideal for recreational bicycle paths. In order to determine the feasibility and cost involved in providing bikeways along creeks, a preliminary design was developed for the portion of Mission Creek between Oak Park and Mission Street. The use of native stone and plant material as well as the removal of some existing concrete channel will help upgrade the overall creek environment. The bikeway has also been designed to increase the flood control capacity of the creek by the placement of planted earthen berms and the widening of portions of the channel.

There are several vacant properties along this portion of the creek which could be acquired as permanent open space. Some could be developed as neighborhood parks, which will become increasingly important along the portions of Mission Creek which are zoned for high density residential development.

The City's Community Development Department has assigned a senior planner to study the creeks and come up with recommendations. He is expected to develop an open space ordinance which will require substantial building setbacks along the creeks and allow sufficient space for bikeways.

Mission Creek at Padre Street

Mission Creek at Pueblo Street

PERSPECTIVE - A

PERSPECTIVE - B

BIKEWAY · PRELIMINARY DESIGN

MISSION CREEK

OTHER BIKEWAY DESIGNS

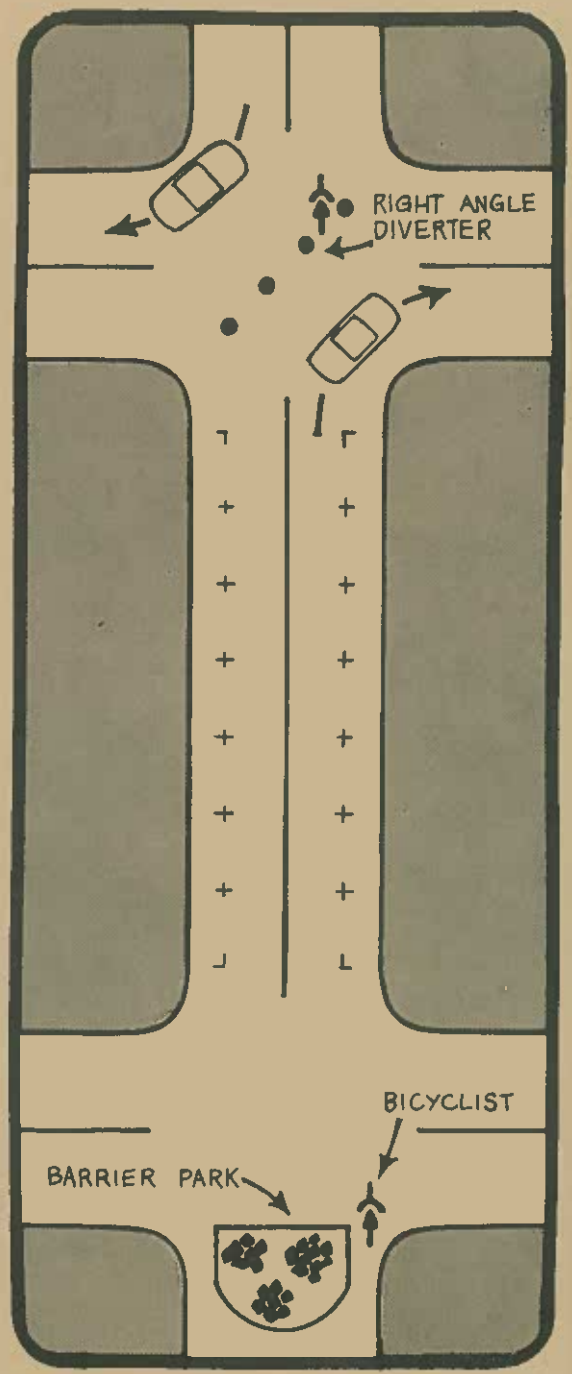
One additional way to make streets safer for the use of bicycles is to reduce the volume and speed of the motor vehicles using a particular street. This will permit bicycles to compete with motor vehicles on a more reasonable basis.

This method has been used with some success in the community of Isla Vista, adjacent to the University of California at Santa Barbara. By erecting what are called "barrier parks" consisting of large, built-in planters and posts, a number of cul de sac streets have been created. The barriers are designed to allow the through passage of bicycles but not of automobiles, thus street traffic becomes strictly local and low speed. Under these conditions, on-street parking may be retained since the bicyclist has more room in the street in which to maneuver and avoid any hazardous situations.

Another application of this idea is to take existing dead-end streets and make them through streets for bicycles. This has been proposed in the Bikeway Master Plan for San Pascual Street. San Pascual was divided neatly in two by the Micheltorena Street overpass when the freeway was constructed in 1962. It is a quiet street of primarily single family residences and is presently used for safe bicycling by local residents. By reconnecting the two halves of San Pascual with a pedestrian-bicycle underpass beneath the Micheltorena Street overcrossing, it could become part of a major bikeway leading all the way to Pershing Park and the beach.

Preliminary plans for the City's redevelopment area prepared by Patterson, Langford and Stewart include streets which are closed completely to automobiles and given over to bicycle and pedestrian traffic. In some cases, these are residential areas where cars are stored in a nearby parking lot. In other cases cars will be prohibited from commercial areas to create a mall-like atmosphere.

TRAFFIC DIVERTERS



Isla Vista Barrier Park

HOURS OF OPERATION

Two possibilities are presently being considered for the hours of operation of on-street bikeways:

1. On-street bikeways may be in operation for a 12-hour period from 7 a.m. to 7 p.m. This is when the majority of the present bicycle riding takes place and will allow on-street parking when the bikelane is not in use. Signs and enforcement of parking restrictions are necessary.
2. On-street bikeways may be available for use permanently during the entire 24-hour day. Night time bicycling especially needs the protection of a bikeway. No signs will be necessary as red curbing will be sufficient to prohibit parking, thus the street appearance remains essentially the same. Increased design flexibility is possible with 24-hour bikeways as the width of the bikelane need not be sufficient to accommodate a parked car.

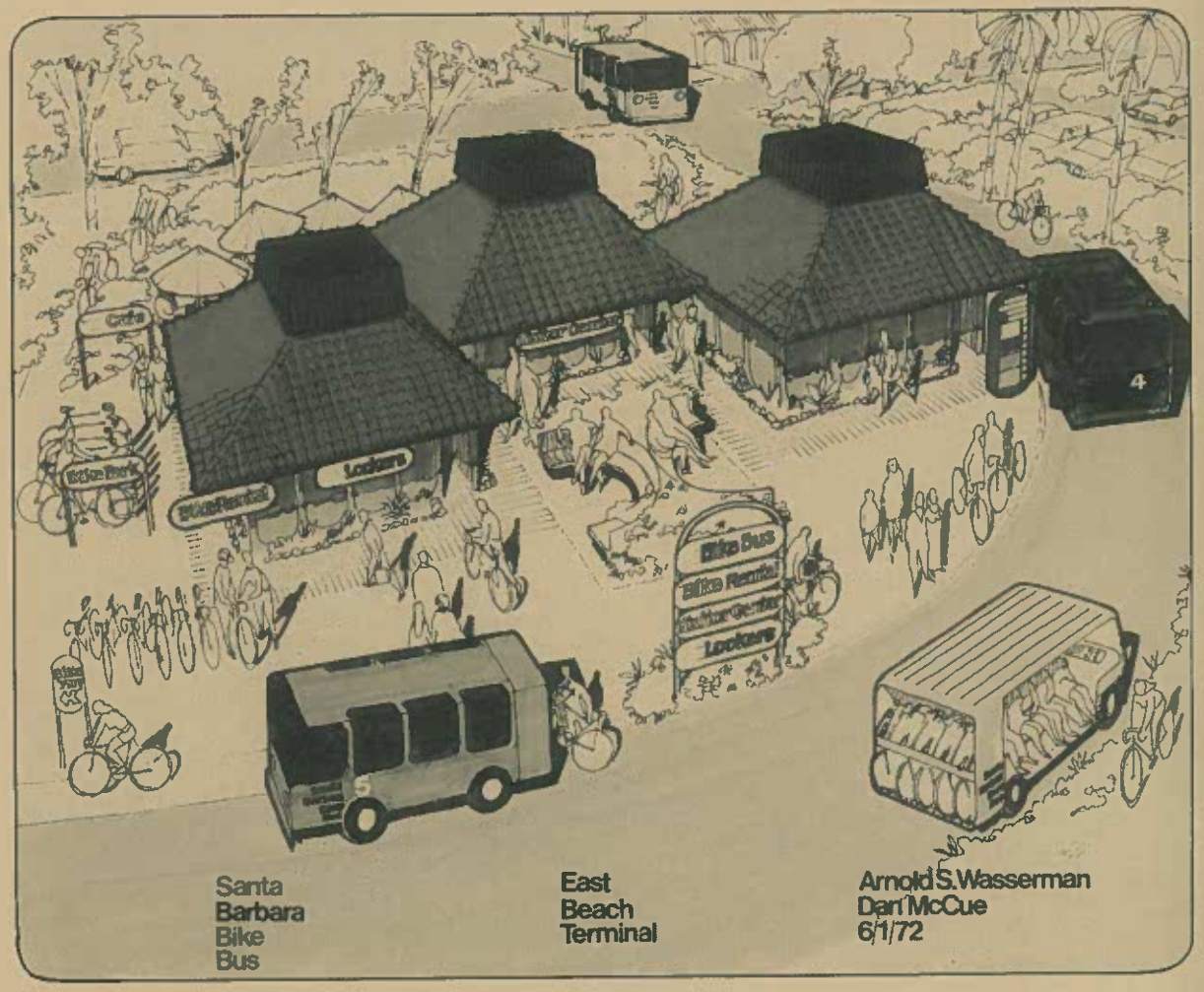
No one runs so hard as the young man who is trying to teach his best girl how to ride the bicycle.
—The Morning Press, Santa Barbara, June 23, 1895

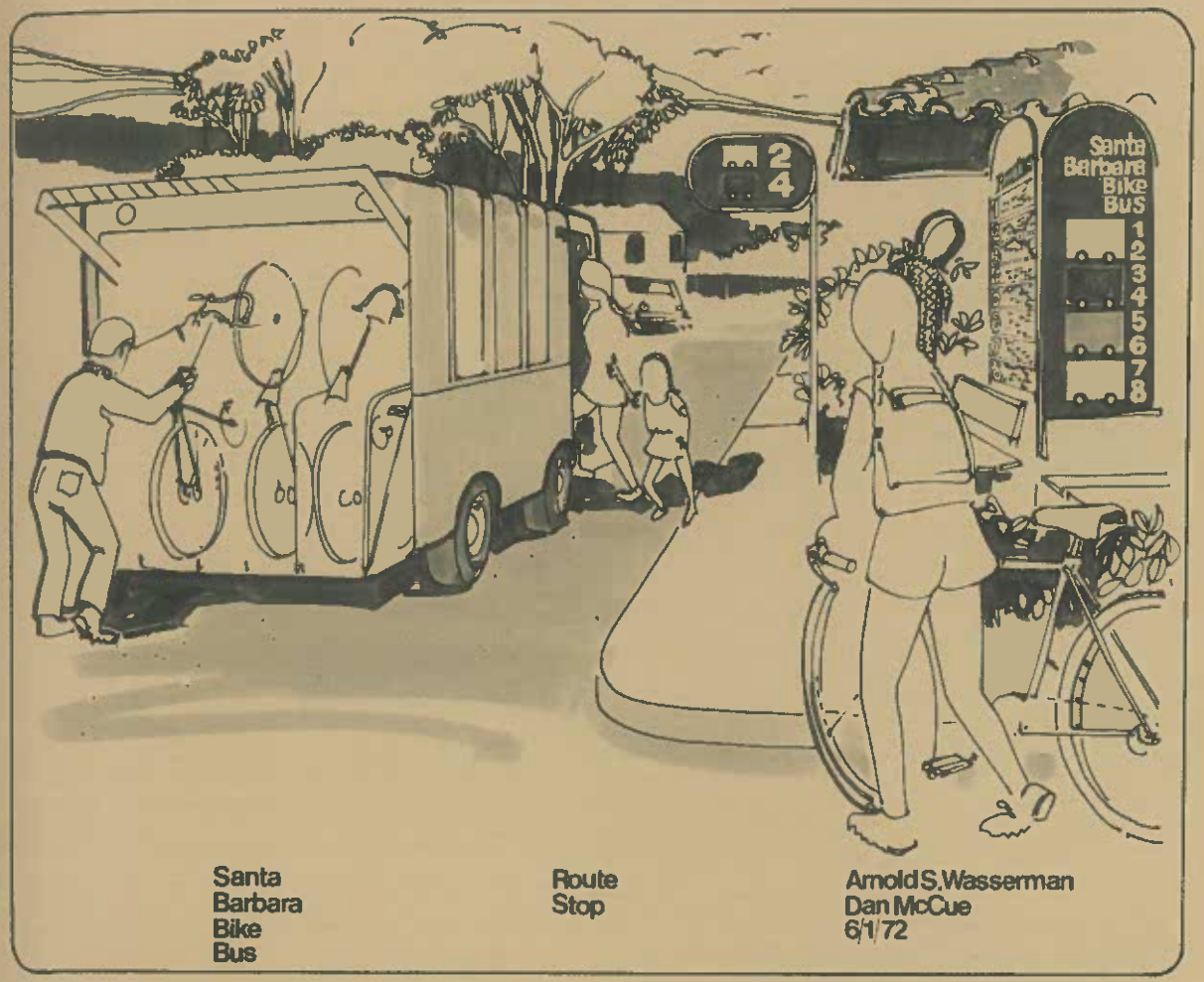
BICYCLE SUPPORT FACILITIES

Bicycle support facilities may be anything other than bikeways which make it more convenient or attractive to use a bicycle. This may include bicycle racks, storage space for bicycles on buses, or hostels for overnight bicycle trips.

DUAL-MODE TRANSPORTATION

The bicycle, because of its small size and weight, can be easily carried by larger vehicles such as buses and trains. Folding bicycles are available which can be reduced to the size of a normal piece of luggage. These features render the bicycle useful in a "dual mode" type of transportation system where bicyclists ride to a transit station, board a bus or train with their bicycle, and, after disembarking, proceed on bicycle to their destination. This type of operation increases substantially the area served by each transit station and is particularly effective in areas which, like Santa Barbara, have a low population density which does not easily lend itself to the use of public transportation.

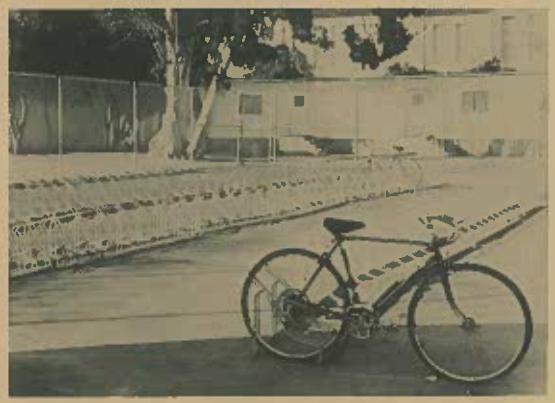




Bicycles may be carried by vehicles in a number of ways. In the case of buses, special racks may be attached to the outside of the bus or bicycles stored in a portion of the interior, preferably in the rear for ease in loading. The City of Oakland, California, has experimented with bicycles carried inside buses where a number of seats in the rear have been removed.[12] Small trailers have also been designed to carry from 8 to 30 bicycles and be towed by buses of the type now in operation. Because the loading of bicycles extends the time required at each stop, the bicycle-bus combination is better adapted to express bus routes with higher speeds and fewer stops. A bicyclist can frequently cover as much distance in a given time as a bus which stops every two or three blocks.

Another combination of the bicycle and mass transit is known as "park and ride." In this case, the bicycle is riden to the transit station or bus stop and left there during the day. While this system does not permit the use of bicycles at the destination, it is more easily implemented and also increases the area served by each transit station. All that is required are bicycle storage facilities that offer suitable protection from weather and theft. Bicycle lockers and certain types of bike racks may be installed at bus terminals and bus stops for this purpose.

Public Parking Lot Bike Racks



Santa Barbara Junior High—7:30 a.m.

Santa Barbara Junior High—8:00 a.m.

BICYCLE RACKS

The need for bicycle racks in the City of Santa Barbara is evidenced by the high demand from bicyclists, the large number of bicyclists in the City, and the potential for bicycle theft. Of these, bicycle theft is the best documented reason for installation of bicycle racks. In Santa Barbara, stolen bicycles (valued at $25 or more) increased from 529 in 1969 to 889 in 1971. Total property loss from bike theft amounted to $28,000 in 1972. Nationwide, bike theft has increased three times as fast as larceny in general.[13]

The provision of secure bicycle racks will only partially solve this problem as most bicycles are stolen from residential areas where they are left unsecured.[14] However, the potential for theft always exists and deters some use of the bicycle when bicyclists are uncertain about the availability of bike-racks at their destination.

For the purpose of properly designing bicycle parking facilities, two basic types of bike parking have been defined. The first is for short term parking where the bicycle is to be left for a few minutes while the owner is shopping or running errands. A bike rack for this type of use should be highly visible, conveniently located and easy to use. The second type is for long term parking where the bicycle is to be left for long periods of time out of the owner's sight. Bike racks for this type of use should provide excellent security from theft and need not be as con-

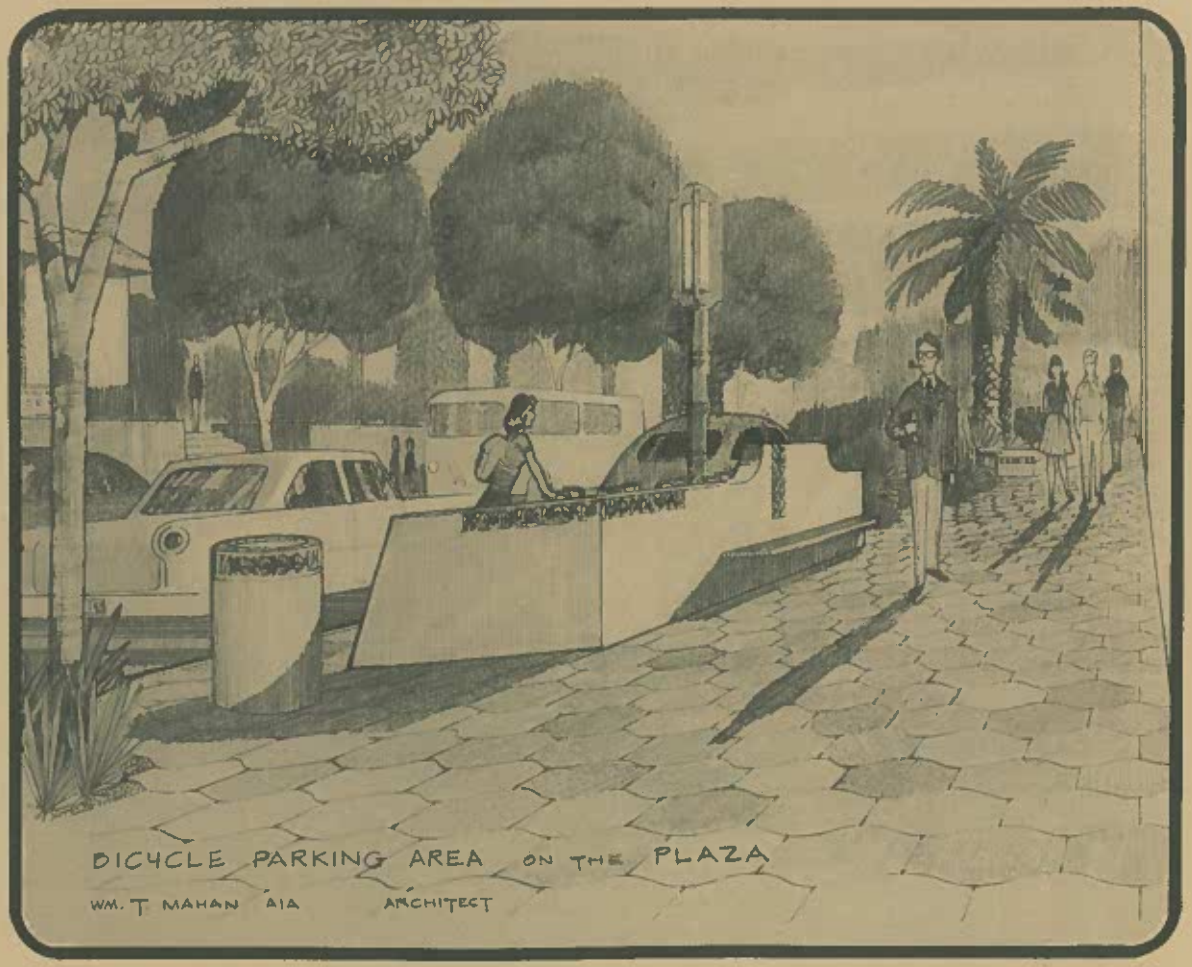
venient to use as a rack for short term parking.

Plans for the installation of bike racks in a number of different public areas are moving ahead. A bike parking facility for the State Street Plaza has been designed which will match the existing structures in appearance and may be constructed in a number of different places to encourage the safe parking of bicycles.

The public parking lots are also slated to have bike parking facilities. Each parking lot will have an installation capable of securely locking six to ten bicycles and will be for both the customers and employees of adjacent stores to use.

Recreational bikeways may include bike parking areas at scenic viewpoints, beaches and public parks, or wherever a bicyclist might wish to dismount. Bike racks are also needed for shopping centers, public buildings, corner grocery stores, industrial plants—any place people on bicycles might visit.

Some bike racks have already been installed by the City at selected locations and their use and effectiveness is being carefully monitored.



State Street Plaza

When it comes to a question of health, there is no comparison between wheel riding and matrimony.
The Minneapolis Tribune, August 17, 1895.

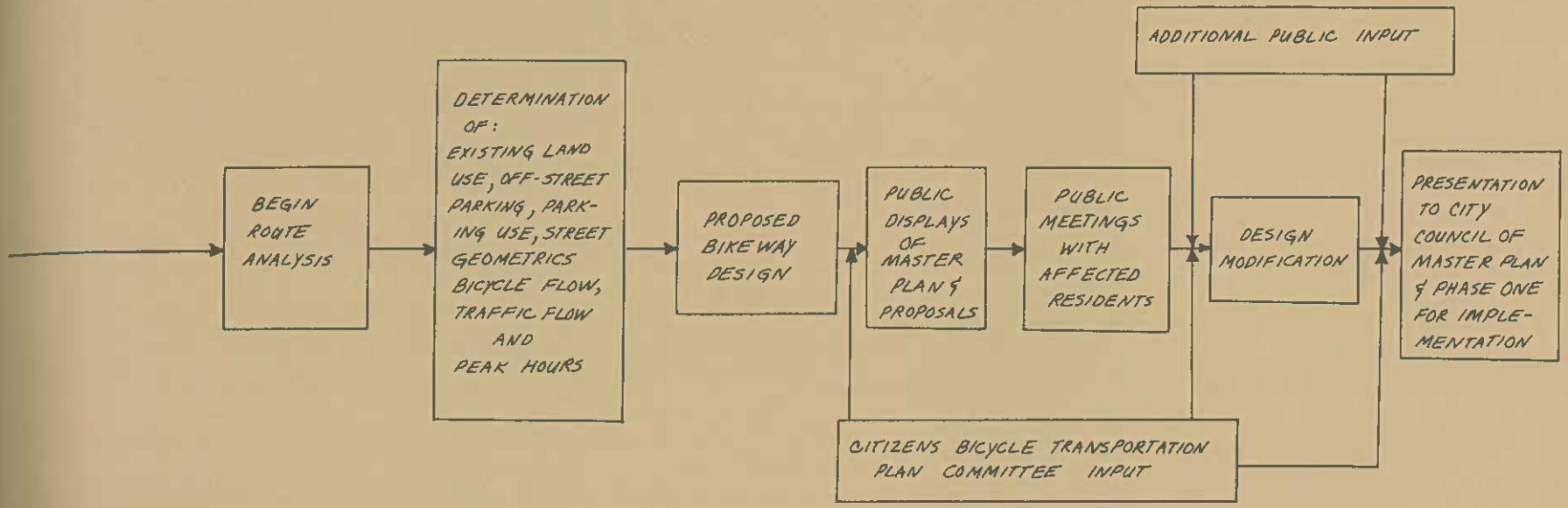
IMPLEMENTATION

ROUTE ANALYSIS

Implementation is one of the most important aspects of the proposed Bikeway Master Plan. The first step, currently in progress, is to complete a route analysis of the proposed Phase One Bikeways. This will show the existing land use, parking availability, traffic and bicycle flow, and the design of the proposed bikeway. This information will be presented at neighborhood meetings which will be held to discuss the proposal with residents along the various routes. Recommendations from the residents and the Citizens' Bicycle Transportation Plan Committee will then be incorporated into the design. Additional public input may be made at the Citizens' Committee meetings and when the routes are presented to the City Council for approval.

After School—Milpas Street looking south

A diagram of the steps necessary to implement the proposed Bikeway Master Plan is shown.



COSTS

It is believed that the cost of the construction of bikeways is greatly exceeded by the benefit derived from their use. In comparison with other types of transportation facilities such as freeways and roads, bikeways are extremely inexpensive.

The costs of on-street bikeways can be accurately estimated because of past experience in constructing school bikeways. Costs depend on whether bikeways are one-way or two-way and whether they are designated for 12 hours or 24 hours.

The expected costs of off-street bikeways are difficult to estimate for a number of reasons. First, each bikeway is designed individually and costs are hard to anticipate until the design and engineering are completed. Second, at the present time, construction costs are extremely unstable and past costs are poor indicators of future costs. For these reasons, the off-street bikeway costs presented here are liberal estimates.

Design work for Phase One of the proposed Bikeway Plan has proceeded to the point where fairly accurate cost estimates can be made for its implementation. Twenty-seven miles of on-street bikeways will cost an estimated $98,523 to construct while the five proposed off-street recreational routes would cost an estimated $1,603,852. Thus, Phase One, which consists of over half of the proposed Master Plan, could be implemented for a total of $1,702,375 and would provide the City with an excellent system of bikeways.

OFF-STREET BIKEWAYS – PHASE ONE

	Cabrillo Bikeway	Mission Creek Bikeway	Westside Bikeway	Las Positas Bikeway	Verano Bikeway
Length	4 miles	.5 miles	1.2 miles	.6 miles	.25 miles
Project Report	3,000	1,000	2,000	1,000	
Engineering	15,000	4,000	5,000	4,000	2,000
Construction					
Earthwork	6,710	3,500	2,000	5,000	3,500
Demolition		2,000			
Brush Removal		500	500	500	
Paving	59,455	20,000	35,480	17,360	7,000
Structures	46,500	705,000	61,000		
Railing	25,580	3,000	5,250	3,500	2,600
Landscaping	12,000	5,000	1,000	2,000	2,000
Other	34,510		2,000	1,000	500
Land Acquisition		200,000			
TOTAL	202,755	944,000	113,230	34,360	17,600
Overhead & Contingency	40,557 20%	188,800 20%	45,292 40%	13,744 40%	3,520 20%
TOTAL	243,306	1,132,800	158,522	48,104	21,120
GRAND TOTAL: $1,603,852					

ON-STREET BIKEWAYS – PHASE ONE

	One-Way	Two-Way
Length	8 miles	19 miles
Engineering	1,960	7,410
Construction		
Sandblasting		20,900
Paint	760	7,600
Signs	1,904	5,462
Sign Posts	1,800	8,075
Sign Brackets	400	1,093
Concrete	440	1,110
Labor	3,851	13,877
TOTAL	11,115	65,527
Overhd. & Contg.	2,223 20%	19,658 30%
TOTAL	13,338	85,185
GRAND TOTAL:$98,523		

BIKEWAY FUNDING SOURCES PRESENTLY AVAILABLE

State

State Senate Bill 36 (Mills, 1972)

Requires not less than $360,000 of the Annual State Highway Budget be set aside for construction of bicycle facilities related to the State Highway System and creates the "Bicycle Lane Account" which transfers $30,000 per month to such an account from the city-county share of State gas tax for local bicycle lane projects.

State Senate Bill 821 (Mills, 1973)

Provides for 2% of gasoline sales tax local transportation funds to be used to build bicycle or pedestrian facilities, unless such funds are allocated for other specified public transportation systems by a designated transportation agency.

California Highway Commission:

Approved a $300,000 allotment for bikeway construction in the 1973-74 fiscal year which was later reduced to $30,000 because of a decrease in gas tax revenue brought on by the energy crisis. The Commission also approved the 1974-75 State Highway Budget which includes $700,000 for new bikeway construction. These funds are from the State Highway gas tax and must be used only along State highways where the bikeway will increase the traffic capacity or safety of the highway.

Transportation Development Act of 1971 (S.B. 325)

Provides for a portion of the sales tax on gasoline to be allocated at the local and regional level for public transportation systems, including pedestrian and bicycle facilities. This act currently provides funding for bikeway planning in Santa Barbara.

Federal

Land and Water Conservation Fund

This fund is administered by the Bureau of Outdoor Recreation and provides matching funds for recreational bikeways. Some 13 million dollars is available for use in California under this program, but not exclusively for bikeways.

Federal Highway Act of 1973

New guidelines provide that each state may use 2 million dollars of money previously allocated for federal aid-urban projects for the construction of bikeways adjacent to federal aid highways. Bikeway construction money must be diverted from other projects as no new money is allocated by these guidelines.[15]

Jake Eckhardt, the bicycle scorcher, and Harvey Moore were partially filled with birdshot on the Carpinteria Beach where apparently they were mistaken for birds on the wing. The Morning Press Santa Barbara, January, 1896

CONCLUSIONS

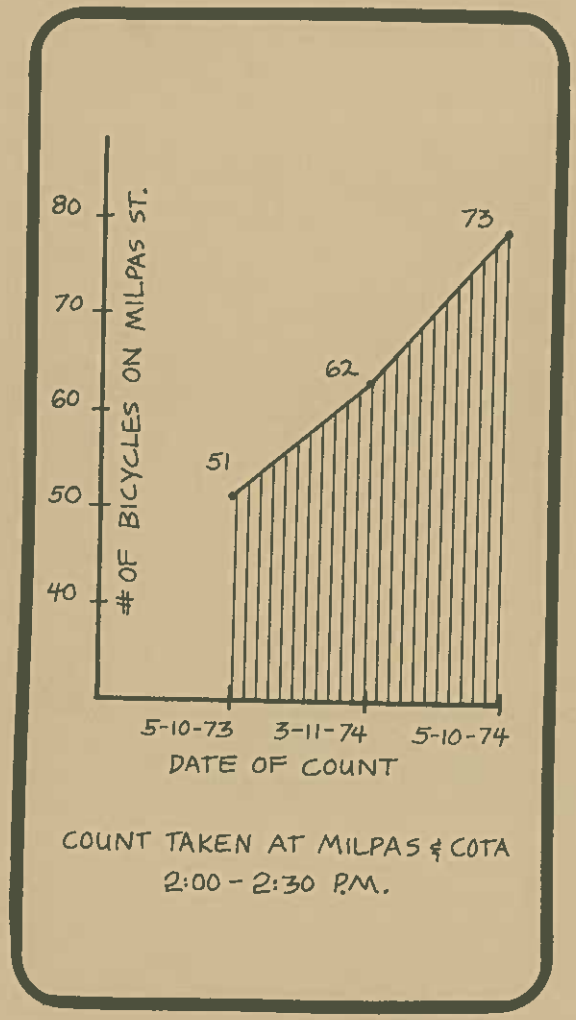
BICYCLES: A TRANSPORTATION ALTERNATIVE

The bicycle can fill an important transportation need by providing inexpensive and efficient portal to portal service over short distances and, in combination with mass transit, can be used in order to travel longer distances. By reducing the public's need to depend on the automobile for transportation, there may be significant reductions in air pollution, traffic congestion, and the amount of space presently required for automobile parking.

In Santa Barbara, 49% of all trips made into the CBD are the distance of a 20 minute bicycle ride or less.[16] If just 20% of the ***home-to-work*** trips made within a twenty minute bicycle ride of the CBD were converted to bicycle trips, each day there would be approximately 1000 fewer automobiles using the streets and parking lots. This alone would reduce air pollution of the downtown area by 75 tons of pollutants each year and free 10 acres of parking space for other uses.[17] Currently, about 25% of the land area in the CBD is used for parking lots, and parking demand remains at a high level.

Achieving a 20% conversion of ***home-to-work*** trips to bicycle trips may not be as difficult as it sounds. Already 2.5% of the total traffic attracted to the CBD is bicycle traffic; some 1235 bicycle trips enter the CBD daily. Results of the Citizens' Attitude Survey indicate that there would be an 18% increase in the use of the bicycle for commuter purposes if an adequate bikeway system were established. Also, bicycle counts made by the City Traffic Division at the same locations over a one year period often show considerable increases in bicycle traffic. These increases are sometimes as high as 100%. No doubt the current fuel shortage and accompanying high gasoline prices are partially responsible for this increase.

BIKE COUNT INCREASE



BENEFITS OF A BIKEWAY SYSTEM

The benefits received from the establishment of a system of bikeways are of two kinds: community-environmental benefits and economic benefits.

Environmental benefits accrue to the community as a whole. As has been shown, even a small conversion of existing motor vehicle trips to the bicycle can result in a measurable reduction in air pollution and space required for vehicle storage. Decreased use of the automobile will also decrease the amount of petroleum required for transportation. Other community benefits are less easily measured. Less noise, more open space, and cleaner air naturally contribute to a healthier environment. As bicycle use in a community increases, so does the quality of life in that community. Benefits from increased access to recreation and open space will also result if recreational bikeways are provided as shown in the proposed Master Plan.

One of the primary goals in developing a bikeways system is to insure greater safety for cyclists, but will bikeways really make it safer for people to ride bikes? There should be no question that a bikeway completely separate from vehicle and pedestrian traffic would be considerably safer than riding in the street. Unfortunately, a bikeway such as this is extremely difficult to provide—often impossible. Most of the bikeways shown in the Master Plan make use of existing roadways and cannot provide the same

measure of safety as a completely separated path. On-street bikeways in Davis and Cupertino, California, appear to have reduced the number of bicycle accidents.[18,7] Studies conducted for the City Traffic Division indicate a 14% reduction in accidents may be expected by the provision of an on-street bikelane.[19] Nearly half of all bicycle-motor vehicle accidents occur at intersections, which on-street bikeways can do little to alleviate. However, due to the seriousness of many bicycle-motor vehicle accidents, even a 14% reduction is well worth the effort.

Much of the task of producing a safe bicycling facility involves changing the unsafe behavior of the bicyclist. A study of some 400 bicycle-motor vehicle accidents has shown cyclists were in clear violation of a basic traffic law in 70% of those accidents.[20] The City of Santa Barbara Police Department has started a program of strict enforcement of traffic laws in regard to bicyclists, coupled with a safety oriented educational program. The educational program is based on developing public support for the bicycle safety program and includes extensive use of radio and television. Bicycle rodeos have been held at local schools to test riding skills of bicyclists and to encourage bicycle licensing.

An important side benefit of establishing bikeways may be a reduction in motor vehicle accidents. Right angle accidents at intersections are often caused by poor visibility resulting from parked cars obscuring the driver's view. By eliminating parked cars, visibility will be greatly improved and accidents of this type should decrease.

There are, in addition to environmental benefits, important economic benefits which will result if a bikeway system is established. First, a reduction in air pollution, while perhaps not yet a significant problem in the South Coast region, would decrease health and property damage now occurring as a result of air pollution.

Probably the most important economic benefit which might result from a successful system of bikeways is a reduction in the average transportation cost per mile travelled. The automobile, because of its high initial purchase price, fast depreciation, high maintenance costs, and increasing fuel costs is a very expensive means of getting from one place to another. Add to the direct personal costs of the automobile the amount of money required for the construction and maintenance of roads, highways, freeways, and parking lots plus the property tax revenue lost in the enormous amount of land area required for streets and roads, and the price paid for a transportation system based on the automobile quickly becomes astronomical.

Another economic benefit which may be derived from a bikeway is the increased at-

State Street Plaza

tractiveness of the City for tourists and visitors. Santa Barbara's economy depends largely on the tourist trade, and a good bikeway system will undoubtedly attract a large number of tourists to the City. The City is already developing a reputation as a "good place for bicycling" and many requests have been received from out of town for maps of the City's bikeways.

Billboard on the San Bernadino Freeway

IMPACT ON THE COMMUNITY

The only negative impact of a bikeway system, and the one of most concern to the public, is the elimination of a substantial amount of on-street parking. Phase One of the Bikeway Master Plan will eliminate approximately 4500 on-street parking spaces which are occupied an average of 28% of the time.

The primary purpose of streets is to provide for the movement of vehicles of all kinds, including bicycles. The Traffic Division feels this function should take precedence over the temporary storage of vehicles, but also recognizes that, historically, businesses and residences have enjoyed the privilege of on-street parking and, in some cases, come to depend on it. Since 1930, a zoning ordinance has required the provision of adequate off-street parking for any new construction. Buildings which were built before this time, of which there are many, often do not have off-street parking. In the past, parking on some streets has been removed to increase the traffic capacity of that street. Bikeways will essentially do the same thing by allowing more people to use the same street at the same time, thereby reducing congestion.

In order to reduce the impact of parking prohibition on certain streets, some of the proposed bikeways travel in one direction only and therefore will require removal of parking on only one side of the street. There is usually sufficient parking on the other side of the street to accommodate all of the

parked cars displaced by this type of bikeway. In other cases, parking may need to be eliminated from both sides of the street to provide a satisfactory bikeway (see Design Section).

One of the most important solutions to the problems raised by eliminating some on-street parking may be the provision of sufficient "lead time" to the affected residents. If residents know of the proposal a year or two in advance of when the bikeway is to be implemented, they can begin making other arrangements for parking at their residence or business.

Affected residents may also wish to consider forming Off-Street Parking Districts to finance the construction of parking lots and structures, as has been done in the Downtown area. This may be most feasible in areas of retail business, such as Milpas Street.

Utility, Simplicity, Efficiency—the bicycle has them all.

FOOTNOTES

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