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BIKEWAYS PLAN

June 1972

City of Santa Rosa Planning Department

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## PURPOSE

The purpose of this report is to present a plan which can be adopted as the first part of the Bikeways Plan for Santa Rosa.

Adoption of this Bikeways Plan means that the City:

- (1) Endorses the concept of a bicycle plan.
- (2) Approves in general terms the routes presented on the Bikeways System map, and
- (3) Approves in general terms the design cross sections presented in this report.

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## INTRODUCTION

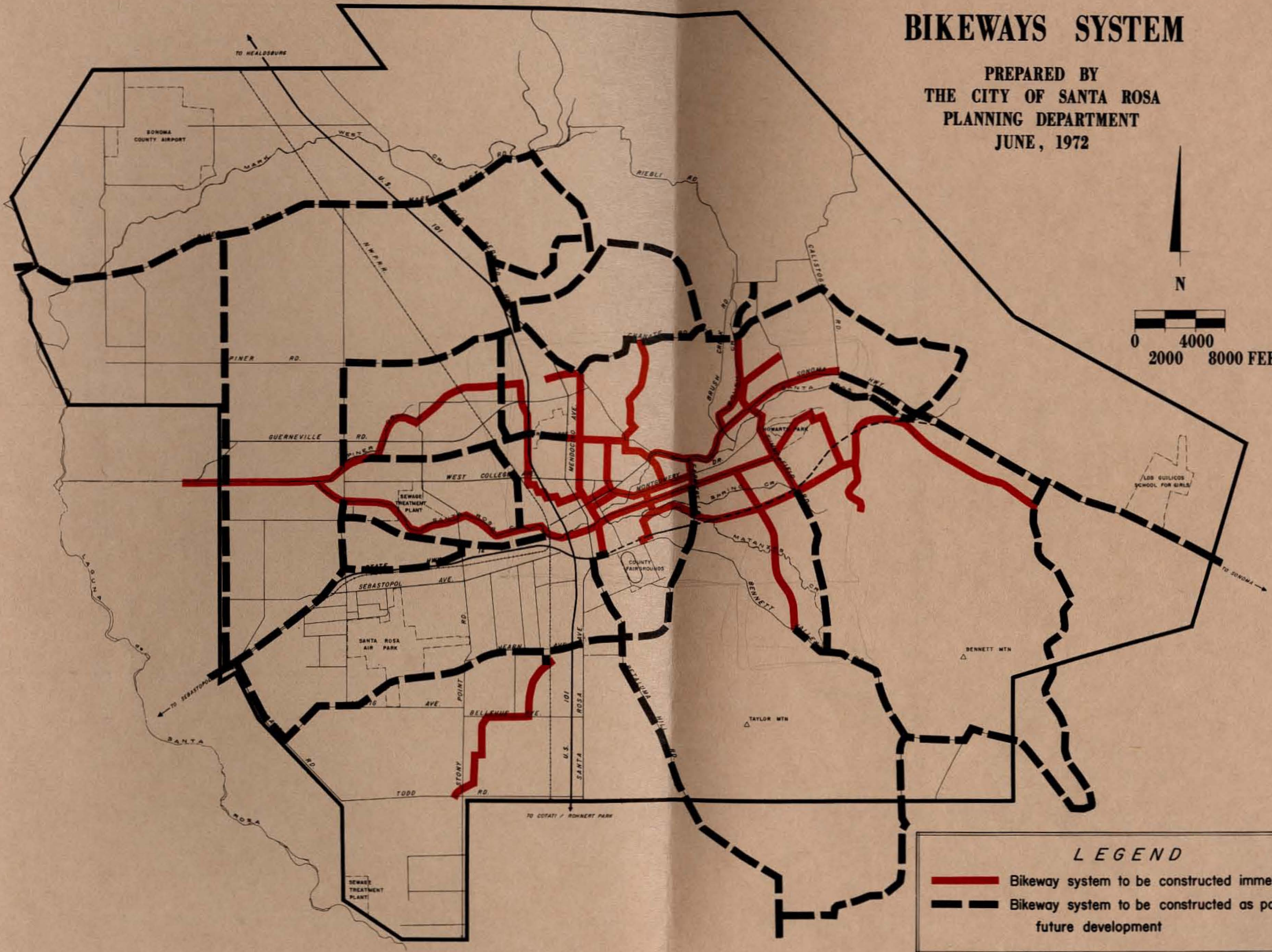
Bicycling is a way of life for an increasing number of people. It is estimated that over 20,000 bicyclists now compete with automobiles on Santa Rosa streets. This direct competition between bicycle and automobile is often unpleasant and unsafe. The best way to decrease this competition and promote safety is to provide separate paths for bicycles and separate lanes for automobiles. This physical separation is a major feature of the Bikeways Plan for Santa Rosa.

There are two parts to the Bikeways Plan. The first is the Bikeways System, a network of bike routes which link together major activity centers and scenic areas. The second part is Bikeways Design, a series of design cross sections which can be utilized for a variety of routes and needs. A preliminary cost breakdown is presented in the Appendix.



This report is supplemental to the Preliminary Report, Bikeways for Santa Rosa, which was published by the Santa Rosa Planning Department in March, 1972. The latter report presented the results of an extensive user survey (1000 questionnaires were tabulated) to determine which routes are now being used by bicyclists and which routes should be used for a formal bikeways system. Most of the preferred routes have been incorporated into the Bikeways System of this Plan.

# BIKEWAYS SYSTEM

PREPARED BY  
THE CITY OF SANTA ROSA  
PLANNING DEPARTMENT  
JUNE, 1972



**LEGEND**

-  Bikeway system to be constructed immediately
-  Bikeway system to be constructed as part of future development

## THE BIKEWAYS SYSTEM

The purpose of the Bikeways System is to provide a safe and convenient network of marked bicycle paths which will link major activity centers - parks, schools, commercial areas. This network is illustrated on the map, Bikeways System.

The primary system is indicated by the solid red line: Bikeways System to be Constructed Immediately. This primary system is approximately 48 miles in length and is designed to link up major activity centers in Santa Rosa. A variety of bicycle path designs or cross sections are utilized, depending on the type or width of the route. Approximately 58 percent of the primary system will be superimposed on existing City streets, while 42 percent will be completely off street. The cost of the primary system is estimated to be approximately \$200,000.

The secondary system is indicated by the dashed black line: Bikeways System to be Constructed as Part of Future Development. This secondary system is approximately 123 miles in length and, in most cases, cannot be constructed at the present time. Rather, construction of bike trails can take place at the time of development. For example, bike trails indicated for Fountain Grove Ranch will be constructed when the parkways are built. The alpine bike trail across Annadel State Park could be constructed when the park is developed. The cost of the secondary system is roughly estimated to be \$600,000.

At this point it should be noted that the bike routes indicated on the Bikeways System map are not necessarily final alignments. Rather, the map should be viewed as a general guide relative to what activity centers need linking and what routes provide the most convenient access. During the implementation or construction phase, some modification of routes may be desirable. Therefore, adoption of this Bikeways Plan does not mean that the routes must be completed exactly as shown on the map.

A final element of the Bikeways System is the provision of adequate storage facilities near activity centers. At the public level, the City can install bicycle racks in all of the City garages (adjacent to the attendants' offices) and at all of the parks and plazas (such as Old Courthouse Square) where cyclists dismount to sit on benches or lawns. At the private level, bicycle racks can be required as part of the design of new buildings and developments. For existing structures, racks could be provided by donation or through service club efforts.

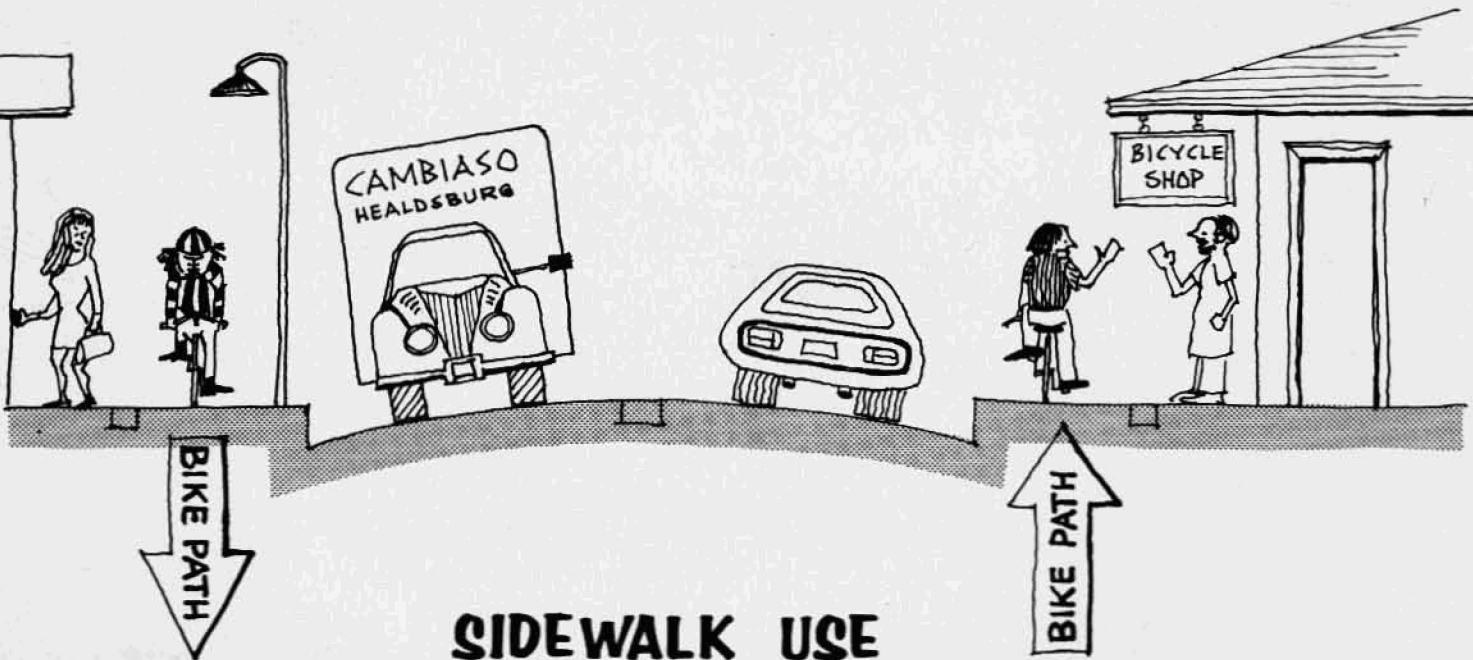


## BIKEWAYS DESIGN

Once activity centers have been identified and suitable bike routes have been selected, the difficult task remains of deciding exactly where to place the bike path in a given right-of-way. The task is difficult because almost all of the land in the City is already being used; there is just not enough vacant land left over in the right places to mark off 48 miles for exclusive bicycle use. The only solutions are (1) to give up some land for bike paths, e.g., parking lanes, (2) to share some of the land with bicycles, e.g., sidewalks or side streets, or (3) to take advantage of unused or under-used land, e.g., rights-of-way or flood control maintenance roads.

These solutions are graphically presented in cross section form. Although some of the more innovative approaches may appear to be best suited for bike paths, it must be remembered that the greatest demand for bike routes will be near the urban core, where only the more conventional approaches can be used. In any case, all possible designs and alternatives must be considered if the Bikeways System is to be both safe and convenient.

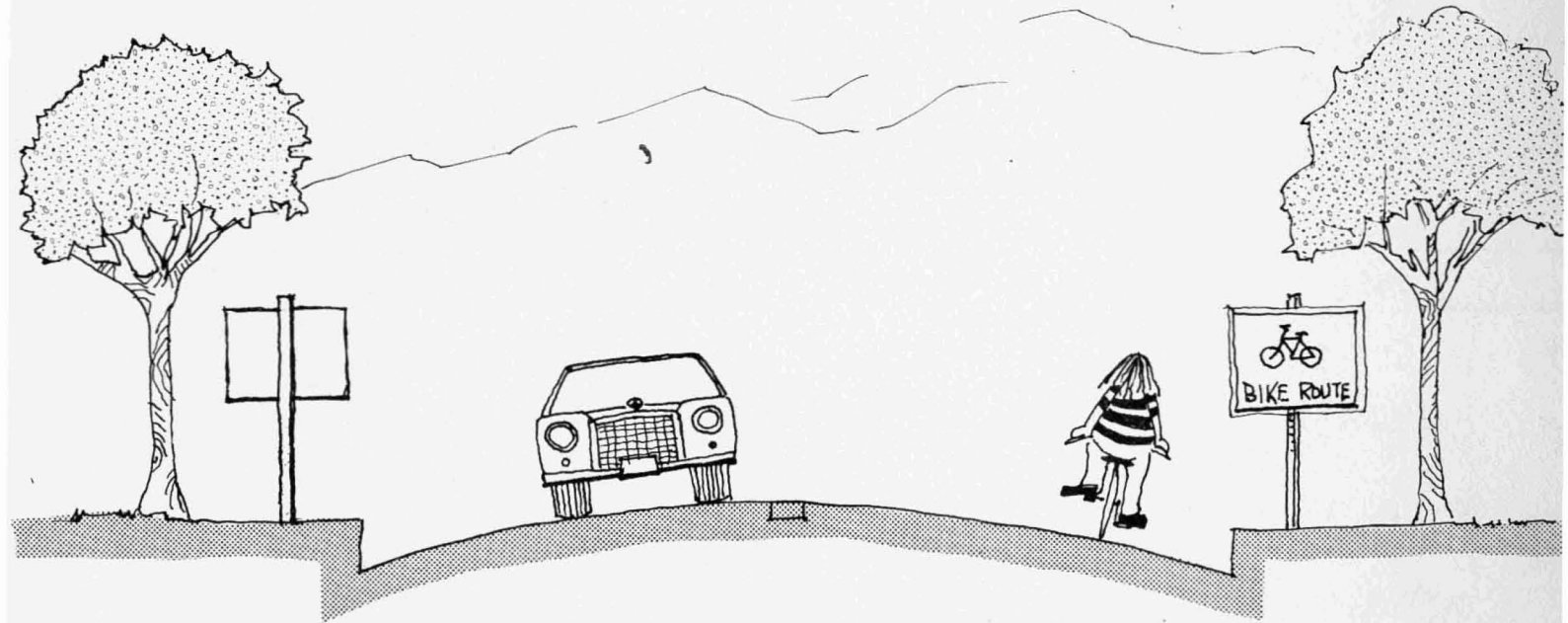
### Design Alternatives Along Existing City Streets



**SIDEWALK USE:** Bike paths combined with sidewalks are not normally recommended because of obvious conflicts. But often times, joint use of the sidewalk by cyclists and pedestrians offers the only practical solution

for an otherwise impossible situation. Access to Coddington Shopping Center is one such example. An approach from the north via Steele Lane is unfeasible because of the extremely heavy traffic. So the south approach via College Avenue becomes the only real alternative. This requires the use of sidewalks along Cleveland Avenue, a major street with a narrow right-of-way. Fortunately, in this instance, pedestrian traffic is light, so conflicts between cyclists and pedestrians will be rare.

In addition to marking a path on the sidewalk for bicycles, sidewalk use also requires some type of curb ramp which will allow the cyclist to move from the street to the sidewalk and back again. An obvious place where these curb ramps can be used is the Montgomery Drive Bridge (near Memorial Hospital), where cyclists must use the sidewalk for the short distance over the narrow bridge.

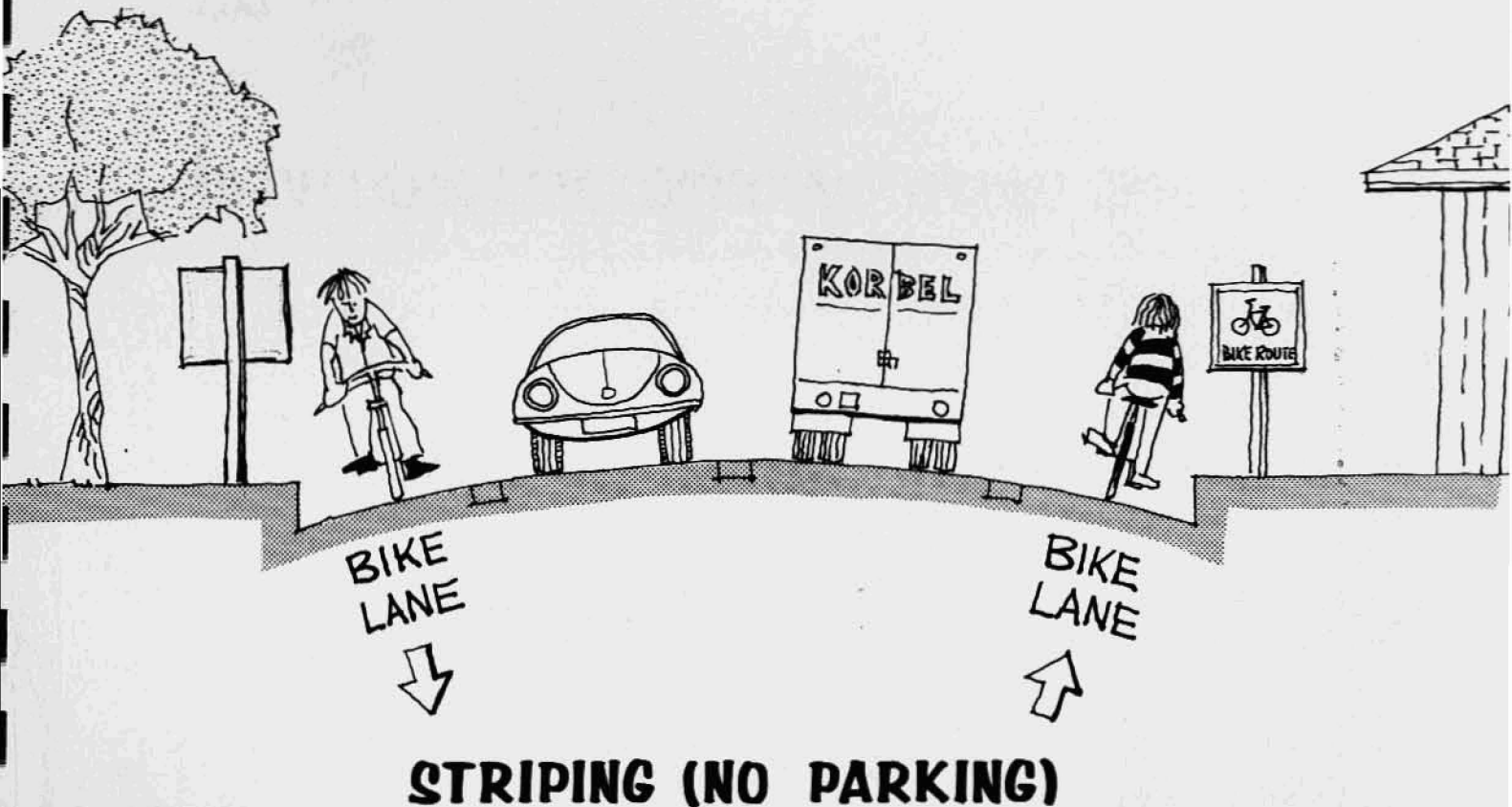


## SIGNING ONLY

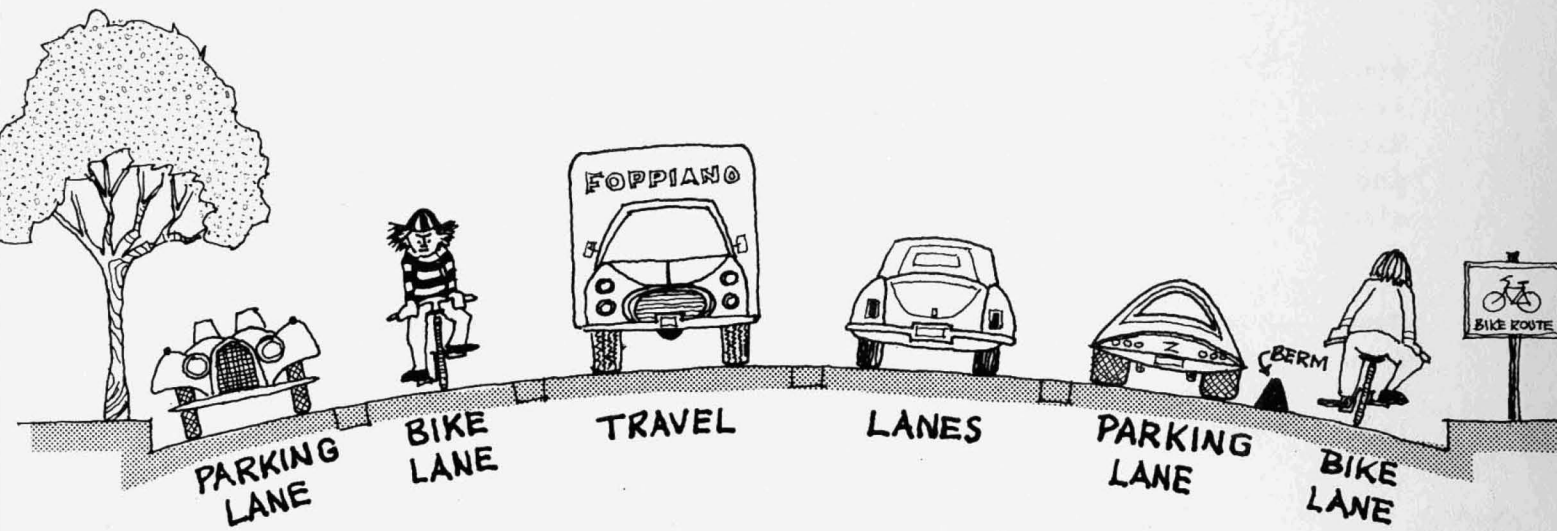
**SIGNING ONLY:** The traditional method of establishing bike routes over existing City streets has been to designate certain streets as bike routes and mark them with "Bike Route" signs. Striping separate bicycle lanes on the pavement has usually not been undertaken. Unfortunately, signing only has not been very successful because (1) routes selected are usually secondary streets which do not provide direct linkages between activity

centers and (2) the signing itself often gives cyclists a false sense of security. For these reasons, signing only is not a prominent part of the Santa Rosa Bikeways System. Only in locations where traffic is light and the street is wide; e.g., Hidden Valley Drive, or where the route is along a dead end street, e.g., Newanga Avenue, is signing only used.

Most of the activity centers in Santa Rosa are linked by City streets. These streets are now used by bicycles and automobiles in a more or less free-for-all manner. By striping or painting separate travel lanes for bicycles and automobiles, traffic can be segregated, and the designated City streets can become important elements of the Bikeways System.

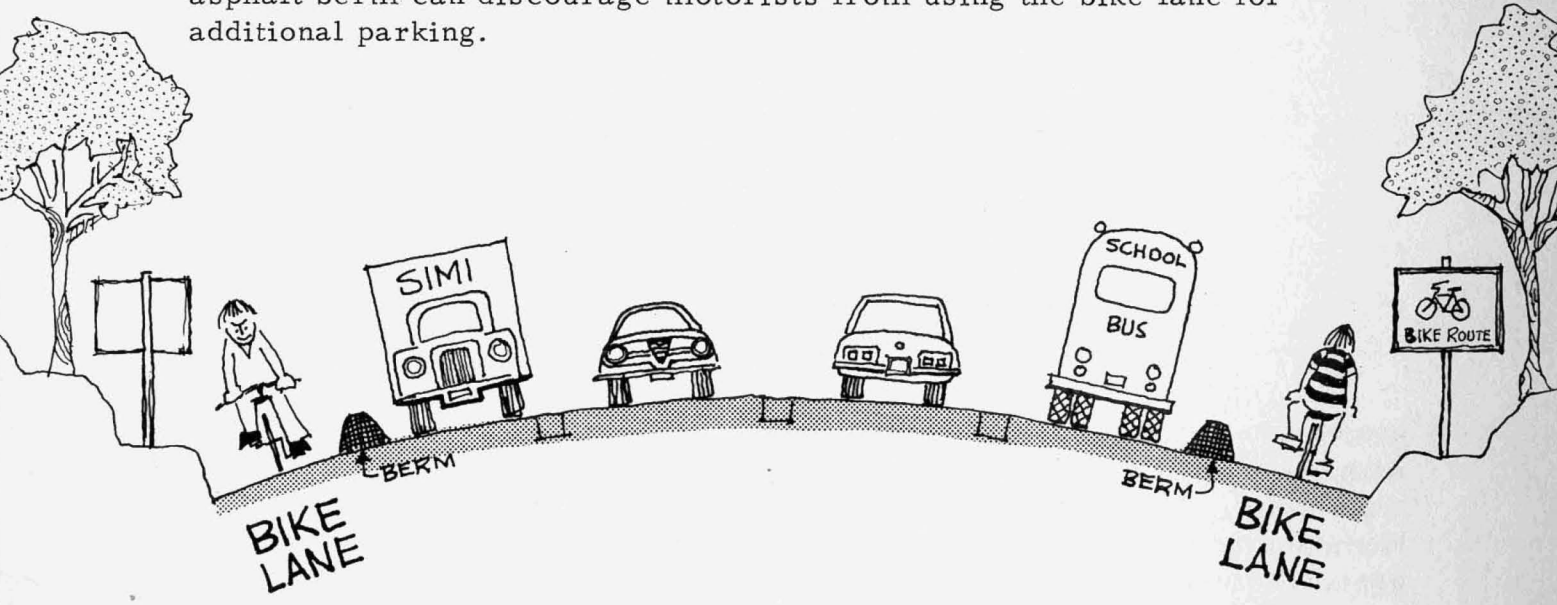


**STRIPING (NO PARKING):** There are numerous alternatives and variations with striping which can be used, depending on the width of the right-of-way and the volume of automobile traffic. On relatively narrow streets such as Humboldt Street or Pacific Avenue, striping (no parking) is the recommended approach.



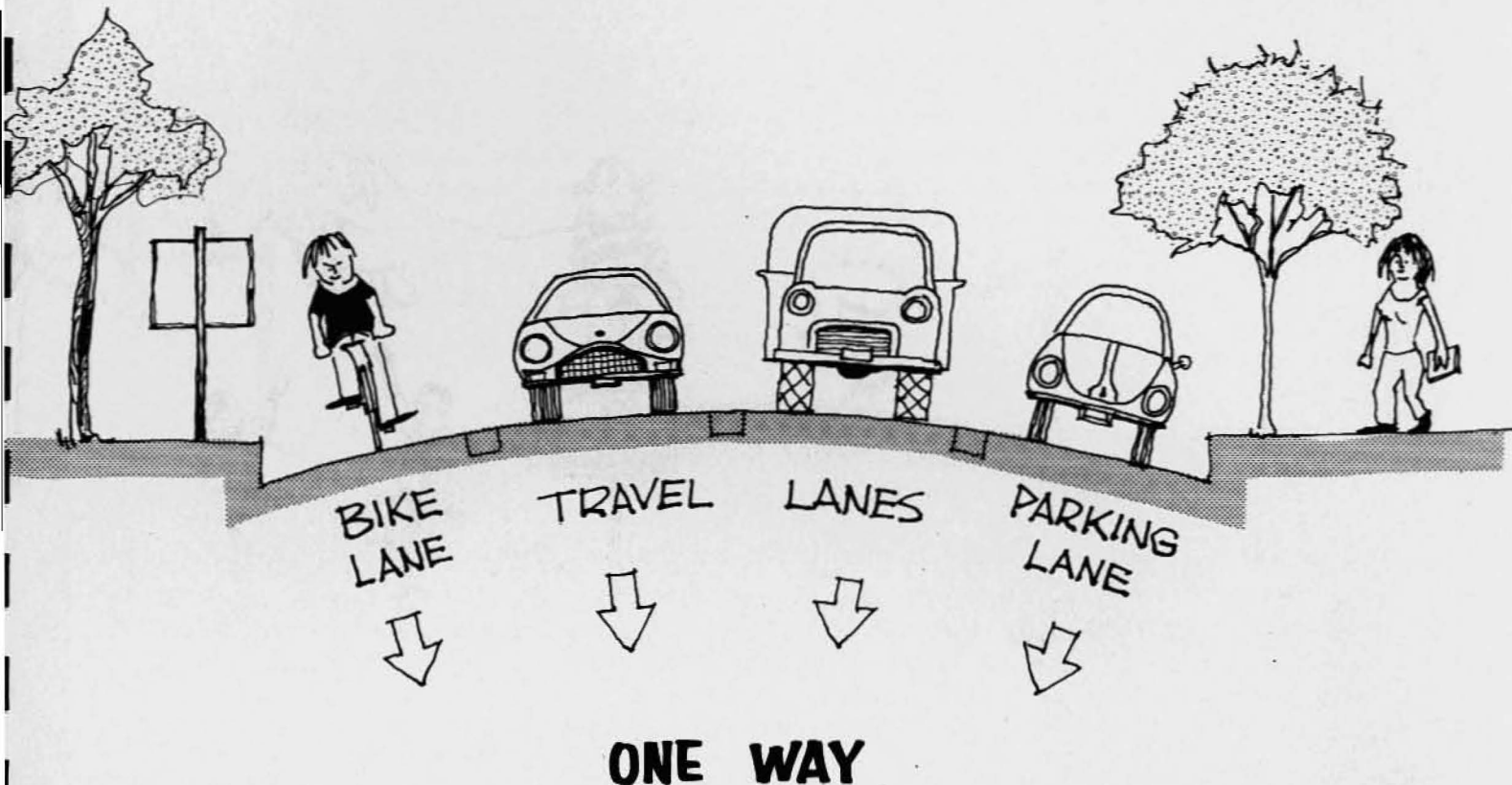
## STRIPING (WITH PARKING ALTERNATIVES)

STRIPING (WITH PARKING ALTERNATIVES): On wider streets such as Sonoma Avenue or Yulupa Avenue, parking can be maintained on one or both sides of the street. In these cases, bike lanes can be provided between the parking lane and the travel lane or, as an alternative, can be provided between the curb and the parking lane. In the latter instance, a raised asphalt berm can discourage motorists from using the bike lane for additional parking.



## BERM SEPARATION

**BERM SEPARATION:** Berm separation can also be used to increase the physical separation between cyclists and motorists on high speed roads, such as Highway 12. An alternative solution would be to separate the bike lane with steel posts at appropriate intervals.



**ONE WAY:** An interesting variation for bike lanes is on one way streets. Even when the right-of-way is narrow, space is usually available for a bike lane, two travel lanes, and a parking lane. This approach can be used on Third Street and Fifth Street.

Signing must always be used in conjunction with marked bike lanes, whether they are separated by painted stripes or asphalt berms. Besides identifying the route for the cyclist and reminding the motorist to be cautious, signs also help to reduce the inevitable conflicts at intersections between cyclists and motorists. Bike symbols and directional arrows should also be painted directly on the pavement, within the confines of the bike lane.

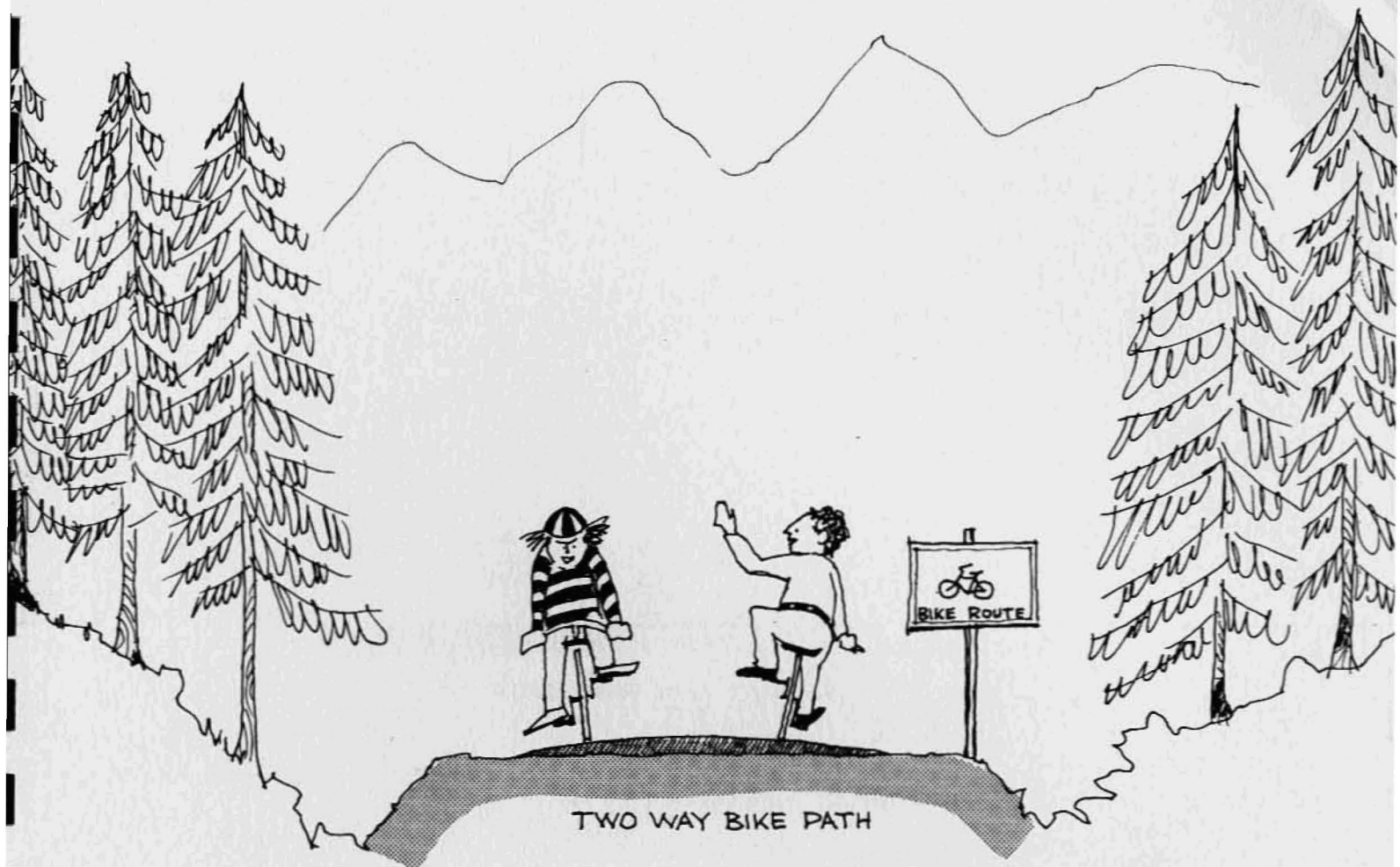
### Other Design Alternatives

The Bikeways System for Santa Rosa includes a substantial number of alignments which are completely removed from the City street system and utilize special design and construction. To be specific, 42 percent of the primary system will be constructed off street.



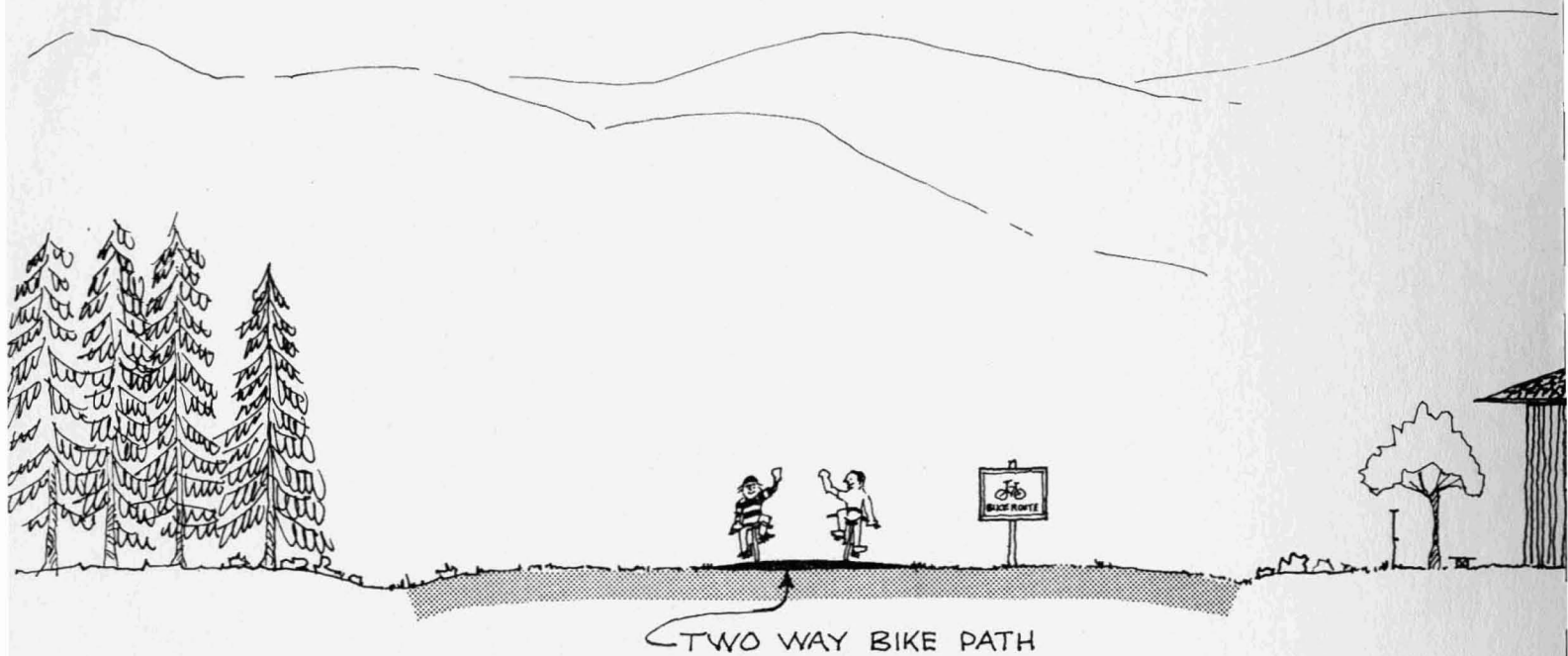
## **PARK TRAIL**

**PARK TRAIL.** The maintenance road through Howarth Park can be re-surfaced and opened to bicyclists. This road will link up with the bike trails which will be constructed in Spring Lake Park. From there, bike access can be provided into Annadel State Park (west entrance).



## **ABANDONED RAILROAD RIGHT-OF-WAY**

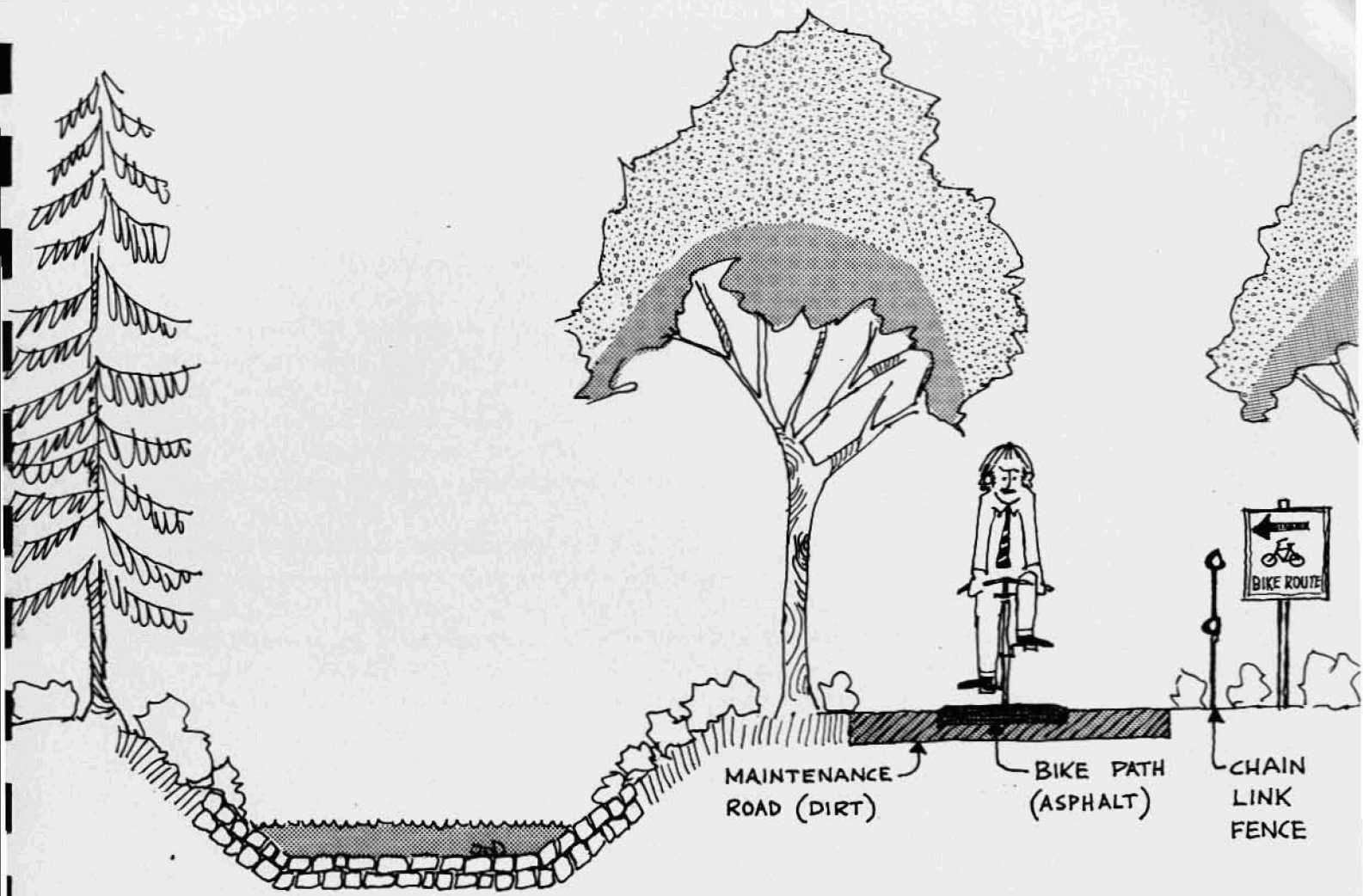
**ABANDONED RAILROAD RIGHT-OF-WAY:** The route through Howarth Park and Spring Lake Park can also link up, via Channel Drive, with the abandoned railroad right-of-way. This right-of-way would make an excellent bike route link to Oakmont and Annadel State Park (north entrance).



## **FREEWAY RIGHT-OF-WAY**

**FREEWAY RIGHT-OF-WAY:** Another right-of-way that can be used for a bike route is the yet unused Highway 12 freeway right-of-way from Hoen Avenue to Summerfield Road. An asphalt bike path could be constructed and used until such time as the freeway is constructed (estimated to be completed within the next five years). At that time, the bike route could be shifted to the north along Frontage Road.





## FLOOD CONTROL CHANNEL

**FLOOD CONTROL CHANNEL:** An important element of the Bikeways System is the use of existing flood control channels. These channels now incorporate a maintenance road for Water Agency vehicles. Narrow bike paths could be constructed in the middle of these maintenance roads. In this way, the tires of the heavy maintenance vehicles would continue to roll on the gravel portion of the road and thus not break down the thin pavement of the bike path.

Innovations that could be used in the future as part of new road construction or new residential development include bike paths completely separated from the paved road section or bike paths along natural waterways which are internal features of subdivisions or large planned developments.

## IMPLEMENTATION

Adoption of the Bikeways Plan is the first step toward development of bike routes in Santa Rosa. Adoption of this Plan means that the City endorses the concept of a bicycle plan, i. e. , recognizes the necessity of linking activity centers and scenic areas with a network of safe and convenient bike routes. Adoption of this Plan also means that the City approves in general terms the network presented in the Bikeways System portion of this Plan. In addition, the City would be approving in general terms the design cross sections presented in the Bikeways Design portion of this Plan.

After adoption of the Bikeways Plan, the second step toward development of bike routes in Santa Rosa is for the City Council to direct staff to proceed ahead and develop the following supplemental plans: (1)\*a program to finance construction of bike paths, (2) amendments necessary to change codes and ordinances relative to public safety, (3) engineering standards for bike path construction, (4) policies which will require dedication and construction of bike paths in all new large developments, both public and private, and (5) an educational program which will inform the public of the Bikeways System (including storage facilities) and promote proper safety procedures.

The third and final step toward development of bike routes in Santa Rosa is the actual construction of the bike paths.

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\*Funding sources under investigation at the present time include: (1) annual registration fee, (2) general fund, (3) general obligation bond, (4) gifts, donations, services, (5) Division of Highways money, (6) grants through the State Office of Traffic Safety, (7) TOPICS funds, and (8) grants from the Bureau of Outdoor Recreation.

## APPENDIX

Following is an estimated cost breakdown for the primary Bikeways System to be constructed immediately.

<u>Design Cross Section</u>	<u>Cost per Mile</u>	<u>Total Miles</u>	<u>Total Cost</u>
Sidewalk Use	\$ 800	1-1/2	\$ 1,200
Signing Only	\$ 600	8-1/2	\$ 5,100
Striping	\$1,840	15	\$ 27,600
Berm Separation	\$8,400	3	\$ 25,200
Park Trail	\$8,520	4	\$ 34,080
Abandoned Railroad Right-of-Way	\$8,520	2	\$ 17,040
Freeway Right-of-Way	\$8,520	1	\$ 8,520
Flood Control Channel	<u>\$5,880</u>	<u>13-1/2</u>	<u>\$ 79,380</u>
Totals		48-1/2	\$198,120

Source: Estimates by City of Santa Rosa, June 1972

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