

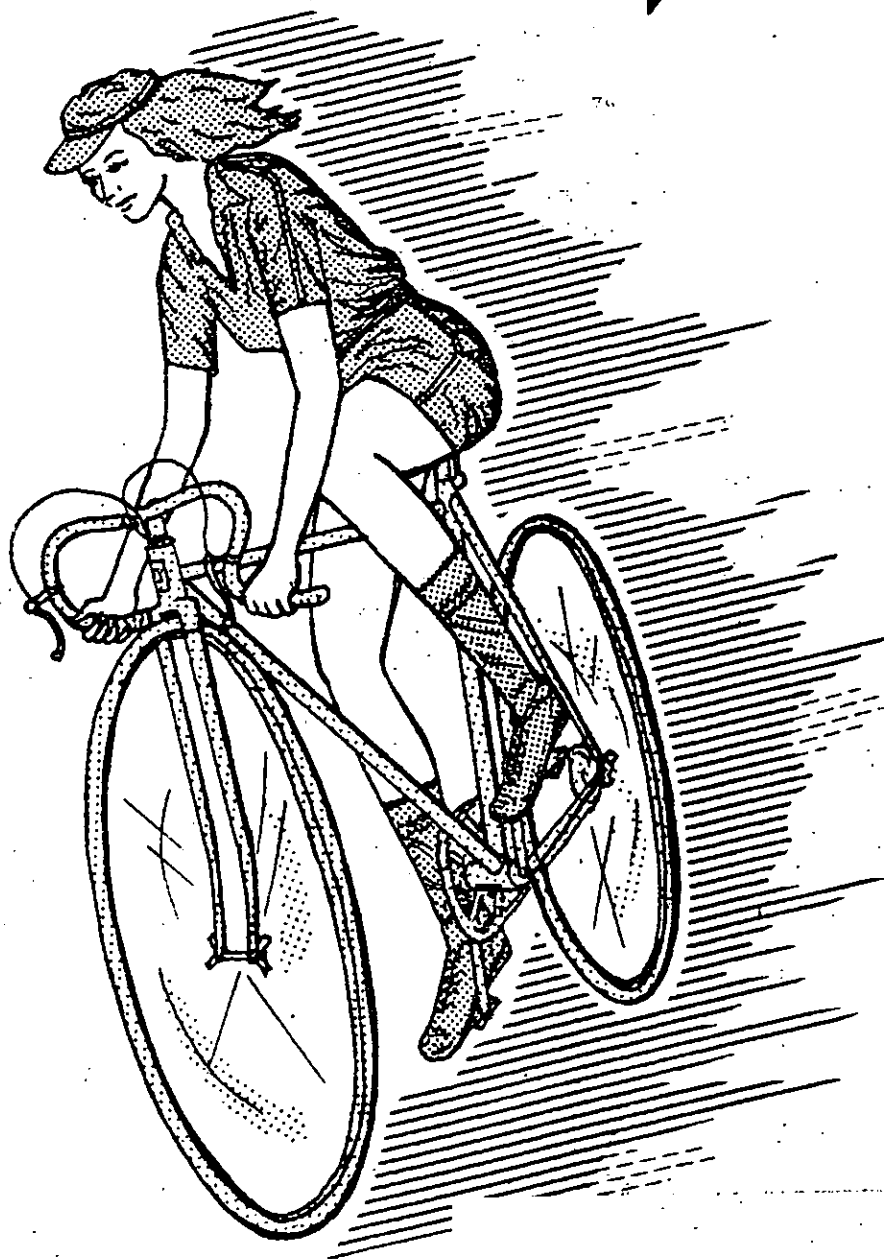


# GRAYS HARBOR

## BIKE PLAN

★  
REGIONAL

SEPTEMBER 1981



TO: Affected Jurisdictions  
FROM: Patrick L. Dugan *PD*  
DATE: June 2, 1981  
SUBJECT: Draft Bicycle Plan

At the request of some city members of the Commission, the staff of the Grays Harbor Regional Planning Commission has prepared the enclosed draft bicycle plan. This plan has been developed for two purposes:

- 1) To aid Commission members to comply with Chapter 47.26 R.C.W. which provides that each city and county eligible for urban arterial trust funds "...[is] directed to establish a system for bicycle routes for its jurisdiction"; and,
- 2) To suggest a framework for coordinating any development that might occur of bicycle routes among various jurisdictions.

This latter purpose can be achieved for any jurisdiction by merely endorsing this plan. This plan has been prepared by the staff on a "time available" basis as cheaply as possible. The draft contains our judgment of what appears to be an appropriate designation for each jurisdiction. Since our staff includes some avid bicyclists, we have attempted to identify those routes which would work well from the bicyclist's point of view. We would like to request your help now in evaluating this plan and its route proposals from your jurisdiction's point of view so that we may make any appropriate changes before we publish this plan as a more formal review draft.

This effort is a proposal for possible future development--if and when monies are available. This document, and the accompanying maps, do not mandate the construction of any facilities nor obligate any entity to any expenditures of funds. These routes were selected on the following basis: (1) continuity with other routes and/or the State designated system; (2) access to major employers, shopping, schools, or recreation sites by possible cyclists; and (3) existing local plans. High traffic volume highways were avoided if at all possible except for access to other routes.

Could you please review these proposed routes in light of the above criteria and respond to us as soon as possible, but not later than June 15. If you have any questions, please contact us.

REGIONAL BIKE PLAN

FOR

GRAYS HARBOR

Adopted September 24, 1981

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Grays Harbor Regional Planning Commission

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## INTRODUCTION

In the past few years there has been an increased interest in bicycling. In addition to its basic role in recreation, the bicycle is also becoming a means of purposeful transportation. In an era of increasingly scarce or expensive energy resources--particularly gasoline--the bicycle can become a major contributor to conservation efforts. With a decrease in availability of capital for highway construction, better utilization of existing systems is desirable. Further, the use of the bicycle (rather than more automobiles) can assist to alleviate traffic congestion problems. Careful planning will aid in maximizing the safety of bicycle usage and in minimizing adverse effects on others.

Because of this interest, several member agencies of the Grays Harbor Regional Planning Commission recently requested that a regional bicycle plan be developed to promote bicycle route continuity between entities. A State bicycle corridor has been designated in Grays Harbor County and the City of Aberdeen has one designated path. Both Aberdeen and Hoquiam have estimated miles of recreational trail development recommendations. Currently, the only developed routes are along State Highway 105 within the City of Westport and a path adjacent to State Route 109 from Spencer Street in Hoquiam to John Gable Park east of the High School. As individual entities become more involved in route location decisions, it will be important that good linkages between routes are provided to increase associated recreational amenities and to enhance the capability of bicycling as an effective means of transportation.

It is recognized that fiscal resources for the development of any bicycle routes are extremely limited. Therefore, most development will, of necessity, be incremental and in very small segments. Such spot improvements will probably occur along with other capital improvement projects along existing transportation systems, e.g. road widening projects, or park development. Thus, it becomes very important to establish the route locations so that these small "parts" will eventually tie in with a "whole." Such fragmentary development should not discourage the designation of a future, continuous, bicycle network. With increasingly scarce governmental resources, private efforts might become an appreciable means by which to assist in bicycle facility improvements. Such incremental efforts, by both the public and private sectors, can enhance the potential to effectuate a complete bicycle network in the Grays Harbor region.

Because of the growing interest and awareness, this plan is being developed to provide guidance in bicycle route developments, to identify general needs, and to suggest possible solutions. This Plan should be viewed as a flexible guide intended to assist in siting and designing bicycle routes in the region as opportunities arise.

## 1. DEMAND POTENTIAL AND EXISTING FACILITIES AND RESOURCES

1.1 Introduction: The beginning point of any effort to plan is identifying the potential need or demand for the planning subject. For bike route planning there are two separate and distinct categories of activities, (1) utilitarian, and (2) recreational. Utilitarian bicycle usage includes trips that are primarily destination oriented, i.e. the commuter to work, the student to school, the shopper to a mall, or the visitor to a friend. In this instance, the bicycle becomes the mode of transportation to get from one point to another. Needs related to this aspect of bicycling are similar to those of any transport system. It must be able to move people safely and efficiently between places. Since it is not the only form of such movement, it must compete with, and is often mixed with, other forms of transportation.

For the recreational cyclist, on the other hand, the trip and route becomes the objective rather than just the means to a destination or end point. As such, it includes the person who cycles for exercise or the person who bicycles for the recreational enjoyment of viewing the country-side. Obviously, an end point or destination (a lake, campsite, etc.) could also be a factor for the recreationalist, but this purpose is usually secondary, or part of the whole. (A good destination, however, is important for enhancing the quality of the recreational experience.) Demand and facilities to meet these needs differs for these two types of usage potentials, although results can be coordinated to serve the dual purpose.

Once the demand for facilities is established, the next step in a planning process is to identify the facilities and programs that are currently available to address that demand.

This section of the plan will inventory the demand and need related factors affecting bicycling and inventory the existing facilities and programs available.

### 1.2 Demand Related to Utilitarian Purposes:

1.2.1 National Usage Patterns and Trends: The U.S. Department of Transportation estimates 650,000 (this represents approximately .6% of the total labor force in the U.S.) people pedal to work each day, up from 470,000 five years ago. Some state and municipal bicycle coordinators claim the actual figure is closer to one million. The U.S. Transportation Department has predicted that the number of bicycle commuters could jump to 2.5 million by 1985--at a savings in oil of 75,000 barrels a day--if major urban areas provided for cyclists and divided them from drivers.

Nationwide an estimated 3.7 million bicycles were sold in 1960, while in 1978 sales were estimated at 10 million. In Washington in 1977, 110,000 new bicycles were sold. Huffy and Murray Ohio, one of America's leading bicycle manufacturer has increased production capacity by one-third. One California dealer states, "Everytime the price of gas jumps I sell more bikes." Advertising is shifting to address the young adult market rather than the child, and statistics suggest that adult bicycle sales will account for 40% of the U.S. total by 1985.



1.2.2 Local Usage Patterns: From a survey of two local bicycle dealers, bicycle sales appear increasingly to portray the commuter type of usage. Local dealers anticipate sales of approximately 300 bicycles per month during the coming summer period. One dealer stated that the majority of the demand appears to be for the cruisers (basic transportation type of units) rather than the more youth-oriented recreation type of bikes. Both stated they are seeing more adult use of bikes.

It is estimated, as based upon national figures, that there are currently about 200 persons (.6% of the labor force) in Grays Harbor County who utilize a bicycle as the principal mode of transportation to commute to work. The potential for this figure to expand is dependent upon many factors such as gas shortages, continued increases in gasoline costs, and the availability of an adequate bike route system.

Table 1.1 presents an estimate of the commuter demand potential.

TABLE 1.1  
UTILITARIAN DEMANDS FOR BICYCLING  
GRAYS HARBOR COUNTY

CURRENT COMMUTER USE POTENTIAL PER WORK DAY

	<u>1981</u>
Current Use Estimate	200
Plus Wish to Use Factor*	<u>120</u>
TOTAL	320

PROJECTED COMMUTER USE POTENTIAL PER WORK DAY

	<u>1990</u>	<u>2000</u>
Projected Use Using Grays Harbor Regional Population and Employment Forecasts	239	286
Plus Wish to Use*	<u>143</u>	<u>171</u>
TOTAL	382	457
Projected Use Using Grays Harbor Regional Population and Employment Forecasts, Plus Gas Shortages and Higher Costs	478	572
Plus Wish to Use*	<u>286</u>	<u>342</u>
TOTAL	764	914

\*"Wish to Use" is a factor (of 60%) which is used by the State of Washington to estimate the number of persons who wish to use bicycle facilities, and would in fact use them if adequate facilities were available. It is noted that Oregon uses a "Wish to Use" factor of 80%.

In addition to the commuter, there are other destination orientated cyclists. These include particularly younger school children and college students. As costs increase for auto usage, high school students could become potential users of bicycle facilities. Regional and other major shopping

centers, in addition to recreation sites and school facilities, can become potential attractions for cyclists especially from the younger persons in Grays Harbor County.

**1.3 Demand Related to Recreational Purposes:** Bicycling is a popular form of recreation and exercise. The 1980 U.S. Statistical Abstract reports that 46% of the U.S. population over 12 years old participated in bicycling during 1977. It also reports that 11% of the U.S. population over 20 years old regularly engages in bicycling for exercise. For the 20-44 age group, the figure is even higher--16%.

Grays Harbor County has considerable attraction for the recreational oriented cyclist. Of the total 1,910 square miles in the County, approximately 90% could be considered relatively uninhibited with the majority of the use being forest lands. See location map on next page. The 150,000 acre Olympic National Park borders the northern portion of Grays Harbor County. Approximately fifty miles (out of Washington's one hundred miles) of coast line along the Pacific Ocean constitutes the western boundary of the County.

One State designated bicycle corridor connects the Grays Harbor coast to points from the North and South (U.S. Highway 101) and from the east (State Highway 8, U.S. 12, and Interstate 5). Scenic U.S. 101 transverses Grays Harbor County, north and south, which is also designated as a State bicycle corridor. There are approximately fifty-four different State and Federal parks or other recreational facilities located within Grays Harbor County with the majority of these being accessible to the bicyclists. Additionally, there are about nine major river valleys of recreational and scenic value (fishing, hunting, camping, hiking), most of which also serve as transportation routes. Also, most major highways serving the region have moderate grade characteristics.

Table 1.2 through 1.5 illustrate the estimated demand potential for recreational bicyclist activity in Grays Harbor County.

TABLE 1.2  
GRAY'S HARBOR COUNTY  
BICYCLING IN ANNUAL ACTIVITY OCCASIONS

(1)	(2)	(3)	(4)	(5)	(6)
Year	Activity Occasions Received By Grays Harbor From Other Counties	Resident Activity Occasions Sent From Grays Harbor to Other Counties	Resident Activity Occasions Remaining in County	Total Activity Occasions Received (2) + (4)	Total Activity Occasions Generated (3) + (4)
1975	27,500	39,200	109,300	136,800	148,500
1980	29,300	40,300	112,000	141,300	152,300
1990	34,700	41,300	114,600	149,300	155,900
2000	38,400	41,000	115,000	153,400	156,400

SOURCE: Information is based upon surveys conducted by the Pacific Northwest River Basins Commission in the fall of 1975 and spring of 1976. An Activity Occasion is defined as a standard unit of measure of recreation use consisting of one individual participating in one recreation activity during any reasonable portion or all of one day.

MAP 1.1  
GRAYS HARBOR COUNTY AND VICINITY

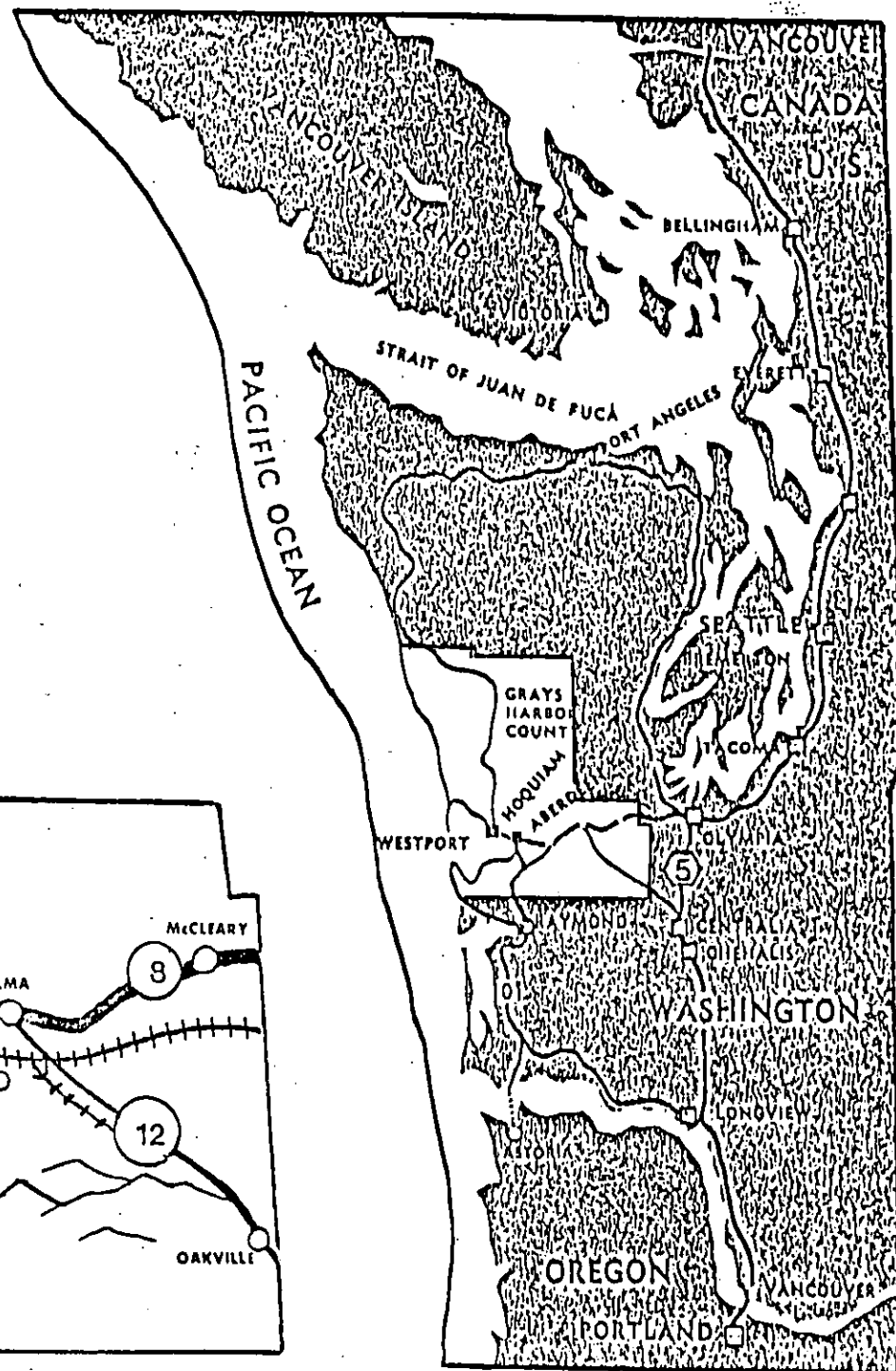
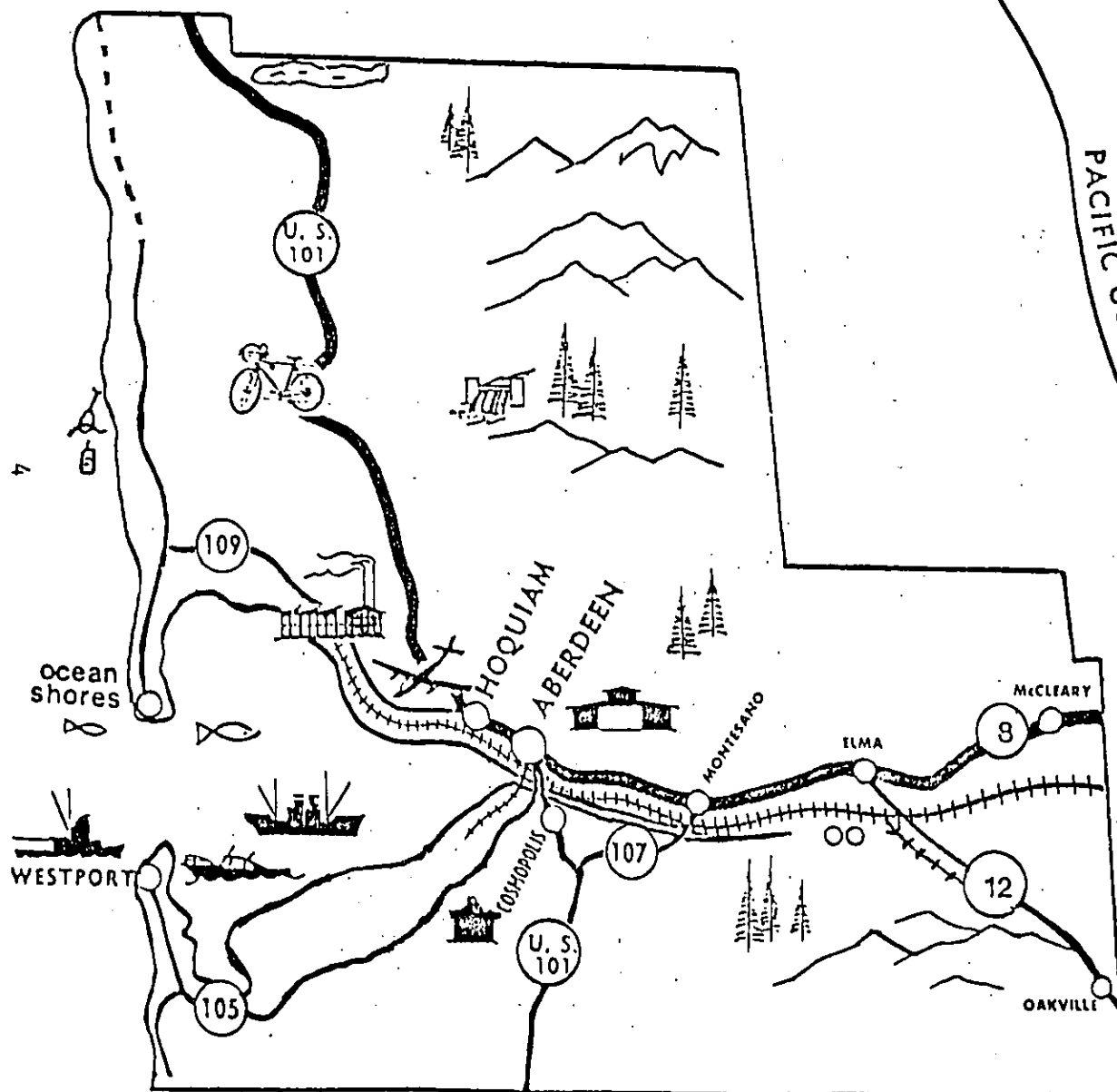


TABLE 1.3  
CITY OF ABERDEEN  
DAILY AVERAGE BICYCLE ACTIVITY OCCASIONS

	Daily Average Activity Occasions
1973	1,954
2000	2,483

SOURCE: City of Aberdeen, Comprehensive Parks and Recreation Plan, 1978.

TABLE 1.4  
CITY OF HOQUIAM  
RESIDENT BICYCLE ACTIVITY OCCASIONS PER 30 DAY PERIOD

	Per Capita Hoquiam Level	Per Capita Average Level*
1974	5.6	3.7

SOURCE: City of Hoquiam, Comprehensive Parks and Recreation Plan, March 1974.

\*Based upon surveys of other areas conducted by ORB, Architects, in 1974 and prior.

As can be seen, Hoquiam's activity level appears to be 51% higher than other areas for the same population. In May 1981, approximately 1,248 bikes were registered in Hoquiam which represents one bicycle for every three housing units in Hoquiam or 12.8% of their population own (at least register) a bike.

TABLE 1.5  
ESTIMATED MILES OF BICYCLE RECREATION TRAIL NEEDED  
BY ACTIVITY OCCASION POTENTIAL

	Supply	Need			
	1980	1975	1980	1990	2000
Aberdeen	.00	9.30	10.13	10.96	11.80
Hoquiam	.25	9.30	9.28	9.51	9.75
Grays Harbor County*	.86	7.66	7.05	7.50	7.73
TOTAL	1.11	26.26	26.46	27.97	29.28

\*Formula: Activity Occasions received (Table 1.2, Column 5) X .0112 factor for percent use on average peak day X .60 factor for percent who wish to use facility (but do not as adequate facilities are not available) ÷ 12 (persons per mile) ÷ 10 (turnover factor).

SOURCE: Interagency Committee for Outdoor Recreation and Aberdeen and Hoquiam's respective Parks and Recreation Plans.

It may be noted that the factors used on Table 1.5 vary considerably in various applications. For example, Oregon uses a .7 factor for peak day usage, an 80% factor for wish to use, and 6% for the turnover rate. Aberdeen uses a factor of 6% for turnover rate. Trails in America, a 1966 report by the Bureau of Outdoor Recreation, recommends that 25 miles of trail be provided per 50,000 population in urban areas. Using this figure, approximately 15 miles of trail would be needed in 1981 for the urban area of Aberdeen, Hoquiam, and Cosmopolis.

1.4 Local Facilities to Address Demand: Currently, there are only two specifically developed bicycle routes in Grays Harbor County. One is a bicycle lane from Highway 105 (a State designated bicycle corridor) within the City of Westport extending from the south City limits boundary along Ocean Street to Montesano Street near City Hall. This was developed in conjunction with several other capital improvement projects and extends .858 miles.

The second is a bicycle path just recently completed in Hoquiam. This paved path parallels the northern side of State Route 109 from Spencer Street west to the High School and John Gable Park, a total of approximately .25 miles. This was developed in conjunction with John Gable Park improvements.

An 800' private motor-cross type of race track is developed in south Aberdeen. This is available to all cyclists with 26" bikes though use has been primarily by youth. Although not in Grays Harbor County, 26 miles of bike routes are developed in and near the Willapa Wildlife Refuge in southern Pacific County by the U.S. Fish and Wildlife Service.

The City of Aberdeen has obtained a 30' right-of-way between the north shore of the Chehalis River and the southside of State Highway 12 extending from the eastern City limits line to the Wishkah Mall. This could be developed as a bicycle path when Morrison Park is improved. Further, Aberdeen has designated the BPA powerline corridor, which transverses most of the northern boundary of the City, as a corridor. However, this might not be feasible to develop since terrain and slope characteristics of this corridor tend to exceed recommended minimum standards. Also, recent additions of cyclone fencing effectively barricades this corridor at one location. As a result, this route is not included in the routes designated for Aberdeen in Section 4 of this report.

Grays Harbor County has one designated bicycle path, called a forest trail, in their Six Year Highway Plan. This path extends from Highway 101 (a State designated bike corridor) along Southshore Road and Lake Quinault to the Lake Quinault Lodge. This is designated for multiple use (pedestrians and bicycles) with about a 10' width for the entire 3 miles.

Three entities in Grays Harbor County currently receive very limited revenues from the 1/2 of 1% gas apportionment monies which must be allocated under RCW 47.26 (See Appendix II) for trail (bicycle, pedestrian, and equestrian) development--Aberdeen, Hoquiam, and Grays Harbor County. Most of this money (a total of \$7,561 for all three entities in fiscal year 1980) has been expended on pedestrian improvements. In contrast, the County estimates they have expended a total over \$51,000 just on pedestrian improvements over the last five years.

## 1.5 State and Federal Programs to Address Demand

1.5.1 Federal Legislation: The 1963 Federal-Aid Highway Act was the first to explicitly recognize bicycles as a transportation mode. Ten years

later, the 1973 Act allowed Highway Trust Funds to be expended, in certain amounts and under certain conditions, for bicycle facilities. In 1974, Congress established a "Bikeway Demonstration Program" funded at \$10 million on an 80 percent Federal and 20 percent State or local matching basis (Public Law 93-643).

The 1976 Highway Act slightly increased the amount of Highway Trust Funds that could be expended. The most significant financial support for bicycle facilities was passed in 1978 as legislation established a "Bicycle Program." While this 1978 Act authorized \$10 million from the General Fund for each fiscal year from 1979 through 1982, it did not appropriate these funds. When appropriated, the funds are to be provided on a 75 percent Federal and 25 percent State or local matching basis (Public Law 95-599). However, this program is currently slated for elimination under the Reagan Administration proposal. Also, while these federal programs did make money available funding was always very limited and served primarily metropolitan areas.

1.5.2 State Legislation: Legislation adopted in 1965 (RCW 46.61) set forth the rights, duties, and special regulations applicable to bicycle drivers. Additional legislation of that same year provided cities and towns with authority to construct and maintain bicycle routes and to regulate and license bicycle riding (RCW 35.75). Legislation, similar to that for cities, of 1967 gave counties authority to regulate and license bicycles. Also, in 1967, legislation (RCW 47.39) provided that planning and design standards established for highways in the Scenic and Recreational Highways System could include provision for bicycles and regulations of their use.

In 1970 and 1971 two additional laws important to bicycle operation were passed. The first of these formally established the Washington State Recreation Trail System that was to be composed of trails to be designated by the Inter-agency Committee for Outdoor Recreation (RCW 67.32). The other directed the Department of Highways, under specific conditions, to develop facilities for pedestrians, equestrians, and bicyclists (RCW 47.30). In 1972 RCW 47.30 was amended to direct the Department of Highways to make technical assistance and advice available to cities, towns, and counties; to recommend construction standards for trails and paths; to provide a uniform method of signing for trails and paths; and, along with cities and counties and under specified conditions, to spend each fiscal year a minimum of one half of one percent of the net state gas tax.

Legislation adopted in 1974 (RCW 47.26) enabled cities and counties eligible for Urban Arterial Trust Funds to establish a system of bicycle routes to be developed in connection with arterial projects. These routes are to be developed in accordance with standards adopted by the Urban Arterial Board. That same year RCW 47.30 was again amended to make it compatible with Federal legislation, and except for certain conditions, to remove the restriction that the route be within normal highway rights-of-way for expenditure of net state gas tax funds. In 1979, RCW 47.30 was further amended to require the Washington State Department of Transportation (WSDOT) to spend three-tenths of one percent of all construction funds (State and Federal) for trails and paths. (See Appendix II for excerpts from the applicable statutes.)

1.5.3 The State's Present and Past Activities: WSDOT's response to State and Federal legislation began in 1973. This response has included development of the Department Master Plan of Statewide Bicycle Corridors. This Master Plan was fully coordinated with the recreational trail corridors of the

Washington State Recreation Trails Program developed by the Interagency Committee for Outdoor Recreation as part of the Statewide Comprehensive Outdoor Recreation Plan (SCORP).

State highways, where bicycles can legally be ridden, are indicated in the WSDOT's "Bike Book," that also describes general, legal, safety, and bike route class information. Another WSDOT publication, the "TripTik," contains, for individual route segments, such information as topography, road surface condition, camping and recreation facilities, and bike repair shops.

TripTiks are available for 89 individual route segments. Bike routes are selected on the basis of need and the suitability of the highways for bicycle travel. Design standards for trails and paths have been developed, incorporated into the WSDOT Design Manual, and made available to other agencies. Trail and path signing is based on the Uniform Manual of Traffic Control Devices.

Region 10 of the Federal Highway Administration, covering Alaska, Idaho, Oregon and Washington, received 50 project proposals for the Bikeway Demonstration Program established in 1974. Of these, 27 were from Washington (both state and local). Ten projects were selected by Region 10 and recommended for consideration for funding at the national level. These ten recommended proposals included four from Washington, two of which were eventually funded: one in King County and one in Clark County. Federal grant funds for the two projects amounted to slightly over \$400,000. The project in King County involved an Interurban Trail of approximately sixteen miles between Tukwila and the King/Pierce County line. The Clark County Project was approximately 7.3 miles long between Fort Vancouver and Salmon Creek Park near Hazel Dell.

The U.S. Department of Transportation in 1979 conducted a survey to investigate bicycle transportation for energy conservation, as required by the National Energy Conservation Act of 1978. The purposes of the study was to assess the potential of bicycling to conserve energy, identify obstacles to bicycle use, and develop a comprehensive program for increasing bicycle use for transportation.

WSDOT's expenditures for maintenance, which can be identified specifically for trails and paths, have averaged \$10,000 per year for 1974 through 1978. In fiscal year 1978 WSDOT's costs for shoulder maintenance beneficial to bicycle operations were \$1,839,000 statewide, including \$167,000 for sweeping and flushing. Safety improvements, including those which are bicycle-related, are usually included in the WSDOT pavement replacement and highway construction program. These costs are not readily isolated from total construction costs. WSDOT's total expenditures of State and Federal dollars for trail and path purposes were \$4,469,619 for the period 1974 through 1978, and are estimated to be \$1,735,600 for the 1979-1981 biennium.

Local agencies across the state are continuing to plan and implement facilities for bicycles. While no data are available on local costs for maintenance, safety improvement, and construction statewide, total net state gas tax funds mandated (by RCW 47.30) for expenditure by local agencies for trail and path purposes ranged from \$202,144 in fiscal year 1974 to \$347,851 in fiscal year 1978, and were estimated to be \$373,036 for fiscal year 1979. The larger amounts for fiscal years 1978 and 1979 are due mainly to passage in 1977 of the "Variable Gas Tax."

It is noted that RCW 47.30 is not specifically designated for bike trails but can include pedestrian or equestrian trails. Also, cities whose share of 1/2 of 1% of the gas tax apportionment is less than \$500 are exempt as are counties whose share is less than \$3,000. Total receipts in fiscal year 1980 for Grays Harbor entities were as follows:

	<u>Fiscal Year 1980</u>
Grays Harbor County	\$5,539
Aberdeen	1,309
Hoquiam	<u>713</u>
TOTAL	\$7,561

Federal sources of funding available to local agencies for safety improvements and incorporates in State Aid projects, which could be beneficial to bicycle operations include pavement markings, mitigation of high hazard locations and roadside obstacles, and railroad grade crossing projects. Federal funds available to local agencies for these projects have averaged about \$1,110,000 per year statewide.

Responding to the possible use of Urban Arterial Trust Funds for bicycle routes, the Urban Arterial Board funded one pilot bike route project in Everett and one in Pullman. The Urban Arterial Board has adopted bicycle route standards developed through the assistance of WSDOT. (See Section 5).



## 2. GOAL AND PLAN FRAMEWORK

The goal of this plan is to provide a framework upon which may be based the incremental pursuit of a comprehensive bicycle network which will increase recreational amenities and enhance the capability of bicycling as an effective and safe means of transportation in Grays Harbor County.

To achieve this goal the plan will identify the considerations which should be given to designation, design, and the development of bicycling routes and related programs and activities. These considerations will be applied in this plan to various areas of the region to establish a recommended system of bicycle routes which will, when fully developed and designated, meet the demand described in Section 1. The considerations identified here should also aid local planners and engineers in evaluating modifications or new additions to the system proposed here.

The routes proposed in this plan are identified on the basis of the appropriateness of existing road systems for bicycling, and, as such, it is hoped that the designation of these routes will be of assistance to the bicycling public in their individual trip planning. This plan also seeks to implement its goal by identifying the recommended design characteristics of safe bicycle routes and corridors. Finally, this plan will recommend several activities to integrate bicycling into related planning programs.

### 3. CONSIDERATIONS

#### 3.1 Route Location Considerations:

- The network of routes should provide access to all sections of the County.
- Routes should provide access to recreational resources by connecting parks, playgrounds, open spaces, and other recreational resources.
- Routes should connect and provide access between various urban activities such as schools, shopping areas, employment centers, recreational centers, and residential areas.
- Routes should provide access to areas of natural beauty or special interest as may be possible.
- Consideration should be given to avoiding high traffic volume streets whenever practical.
- Consideration should be given to locating routes to take advantage of corridors that are available. (As an example, powerlines, railroads, pipelines, or street rights-of-way.)
- For interim purposes, route selection should consider the adequacy of existing roadways to accommodate bicycles safely along with other vehicles.

#### 3.2 Route System Considerations:

- Designated routes as a whole should constitute an interconnected system.
- The system should be coordinated between existing and potential Federal, State, or local designated corridors.
- Routes should interconnect or form loops of reasonable length which do not dead-end unless unique circumstances exist.
- Routes should avoid barriers or hazards if possible.

#### 3.3 Design Standard Considerations:

- Development of bike routes should follow, but not be limited to, minimum construction standards. (See Section 5 for standards.)
- Consideration should be given to providing signing which clearly marks bicycle routes.
- Bike route capacity should be considered in order to accommodate the intensity of use anticipated.
- Consideration should be given to providing rest stops along bike routes while utilizing existing public facilities wherever possible.

- Bike racks and similar devices to secure bicycles should be available at major destination points such as shopping centers, public buildings, and work areas.

#### 3.4 Safety and Security Considerations:

- Bicycle safety programs should be encouraged, especially in schools.
- Consideration should be given to eliminating hazards to safe bicycling wherever possible.
- Consideration should be given to reviewing bicycle regulations as they pertain to safety and other legal requirements.
- Consideration should be given to improving bicycle parking facilities.

#### 3.5 Funding Considerations:

- Consideration should be given to applying for State and Federal funds where and when available.
- Consideration should be given to encouraging private efforts and donations.
- Bicycle system improvements should be considered in conjunction with other improvement projects.

#### 4. PROPOSED REGIONAL BIKE ROUTE NETWORK

4.1 Selection Criteria: The selection of bicycle routes was based upon the cyclist's demand and need using the following criteria: trip length, trip purpose, work trips, school trips, shopping trips, recreational trips, coordination of these uses between geographic areas, and the considerations discussed in Section 3.

Whatever the purpose of a bicycle trip, utilitarian or recreational, there is a "cut-off" distance beyond which only a small percentage of the cyclists continue. This distance is generally 3 to 6 miles (4.83 km. to 9.66 km.). Inclusive of other factors, this value can be applied to defining a potential service area of a generator of activity center. Figure 4.1 presents time/distance comparisons with other transportation modes.

Network bike system planning essentially connects service areas and is not restricted by reasonable distances between such areas. The "cutoff" distance as described above will not apply because cyclists' trips on a network overlap throughout the length of the bikeway depending on trip purpose and generators.

Utilitarian and recreational cyclists have a purpose for using a bike facility. In determining route locations, this purpose must be identified. Employment, school, store, business center, or even a newspaper route are the objectives of the utilitarian cyclists. Recreation cyclists tend to use bike routes for touring, exercise, social purposes, or as a sport. Utilitarian trips generally have a greater frequency rate than the recreational, although in some areas the reverse may be true. Some utilitarian trips may also have a recreational purpose as well, such as cycling to employment for exercise.

Work trips are utilitarian and are very sensitive to travel time. Consideration of trip length and relative travel time is a prime factor in identifying trips which could be served by bike routes. As indicated on Figure 4.1, bike routes of 5 to 6 miles (8.05 km. to 9.66 km.) in areas of urban activity are competitive with motor vehicles in travel time. Work trips to suburban employment centers within 3 to 4 miles (4.83 km. to 6.43 km.) are also potential candidates for cycling. See Figure 4.2 for cost comparisons of the various modes of travel.

School trips are utilitarian and have the most probability of being served by bicycle travel. Many school trips are within easy bicycling range. In addition, students below mid-high school grades generally do not have the option to travel by motor vehicle. On college campuses the bicycle is a particularly attractive mode, as it eliminates the need to compete for scarce and expensive parking spaces. For elementary school children riding a bicycle to school is a positive status symbol. For college students it is at least neutral but becoming positive. Only among junior high and high school age groups is riding a bicycle for transportation perceived as a negative status symbol although this could diminish as costs increase for autos. For all youth below driving age, the bike is a primary means of independent personal mobility. Virtually all school trips can be regarded as potential candidates for bike travel although heavy traffic, busing, school policy and parental judgment may serve to reduce this potential.

FIGURE 4.1  
TRAVEL TIME COMPARISONS

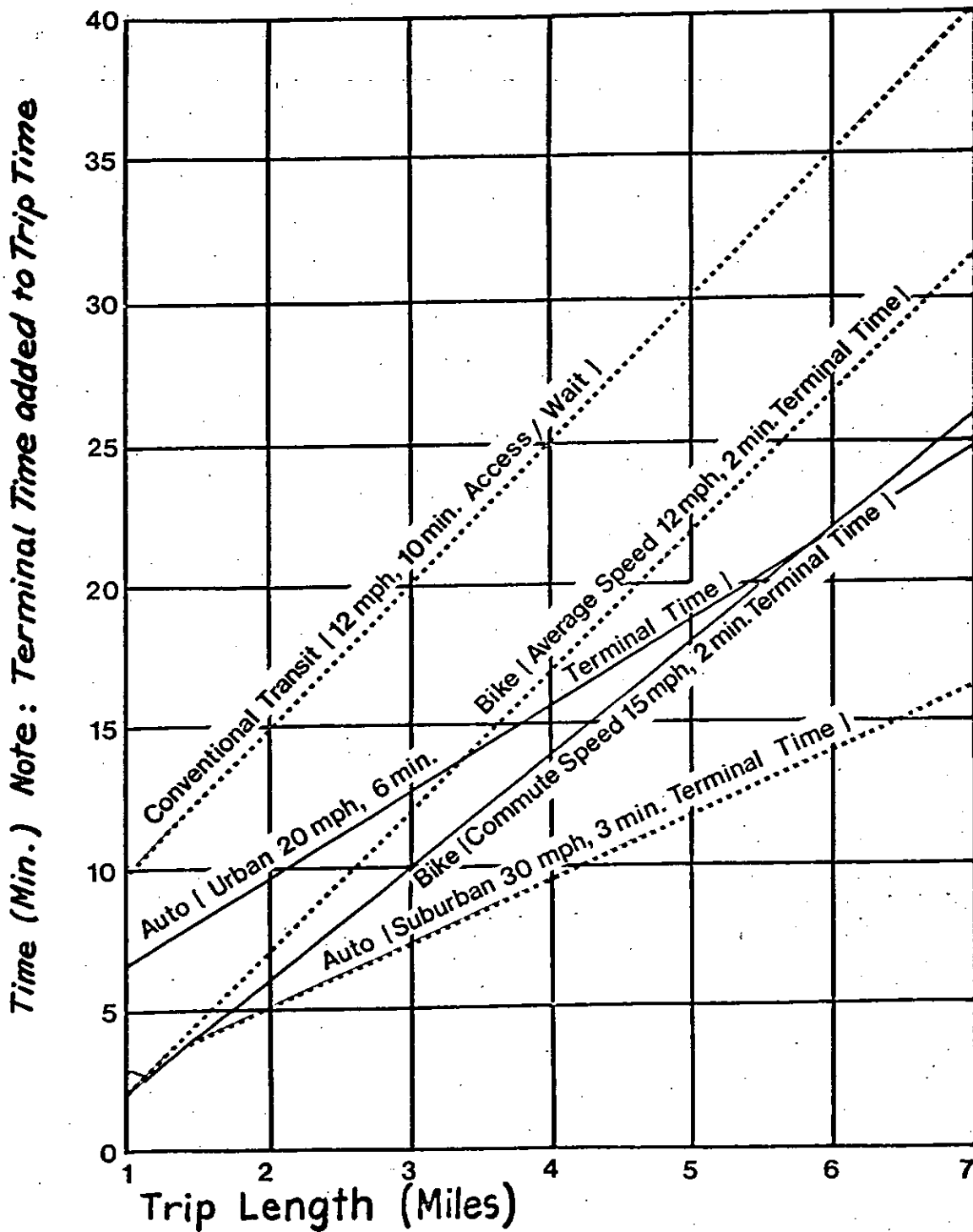
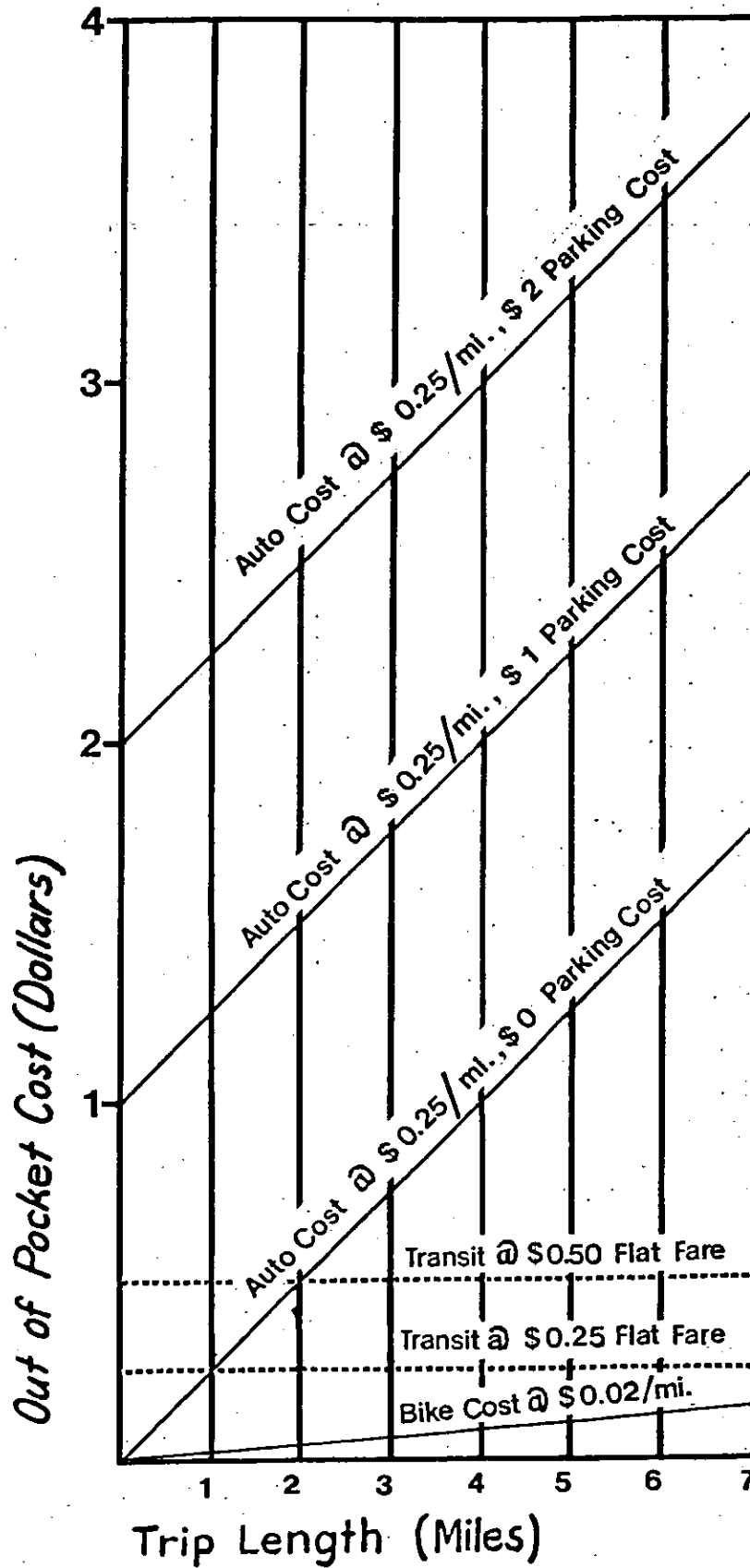


FIGURE 4.2  
TRAVEL COST COMPARISONS



Shopping trips pose mixed potential for bike activity. A relatively few "convenience" type trips involving the purchase of a few small items are apt to be made by bicycle. Service to major shopping centers can be served on routes primarily planned for other trip purposes.

Bicycle transportation to recreation sites must be considered separately. Generally the type of bicyclist and the trip purpose is different from the utilitarian. Some grades or indirect routing will be accepted by cyclists using recreation centers whereas on trips to school or employment the rider is sensitive to any situation causing an expenditure of time or effort.

4.2 Route Identification: Concurrent with the determination of potential bike route usage generators is the identification of travel corridors and any barriers to bicycle travel. Routes were screened in order to identify reasonable candidates for bicycle facilities of all types. All corridors have continuity and provide important linkages, and all geographic areas in Grays Harbor County were included in this endeavor. Areas of known problems (i.e. extreme slope and terrain, congested traffic conditions) were identified and were avoided or minimized with alternate routes selected if at all possible. It is noted that certain physical barriers cannot be avoided in order to provide continuity of routes. The most obvious of these are rivers where the bicycle must use a highway bridge to get from point A to point B, regardless of traffic or other considerations. This is of particular importance in the urban area of Aberdeen and Hoquiam. The only fully safe way to cross most of these rivers would be for the bicyclist to use the pedestrian crossing provisions. This, however, is currently prohibited by legislation in both cities.

The following thirteen maps display these route selections. Each route is coded as follows:

Bicycle Corridor, state designated: These routes follow the Washington State designated system and provide the main linkage for the entire bike route network for both utilitarian and recreational purposes. These routes would be developed in accordance with the standards for bicycle lanes (See Section 5).

Bicycle Corridor, locally designated: These routes, like those above, would serve as the main linkage points for the bike route system and extend the State designated system to several areas of the region. These first two classifications serve a purpose similar to the arterial highway classification system. Ideally, most of these routes would be developed in accordance with bicycle lanes, as specified in Section 5, depending upon local conditions. However, availability of funds will limit implementation of this idea. "Interim" measures (such as signing and marking) to improve the safety of these corridors should be encouraged.

Bicycle Course: These systems serve a local, or specialist interest; for example, to a park or recreational area, or to a school or employment center. Efforts have been made to loop all such routes and most are designated for multiple bicycle purposes. All bike courses tie into the bicycle facility network. This type of route could be constructed as a bike lane or as a bikeway depending upon local, and changing, traffic volumes and street conditions. See Section 5 for construction standards.

**Bike Path:** Bike paths are off-highway specially constructed routes. Few were selected as construction costs would probably be prohibitive. Most of these type of facilities are designed primarily for the recreationist and, again, link with the entire bicycle route system. See Section 5 for construction standards for bike paths.

See individual maps, 4.2-4.13, for route locations within the various entities, and for more details for some of these routes.



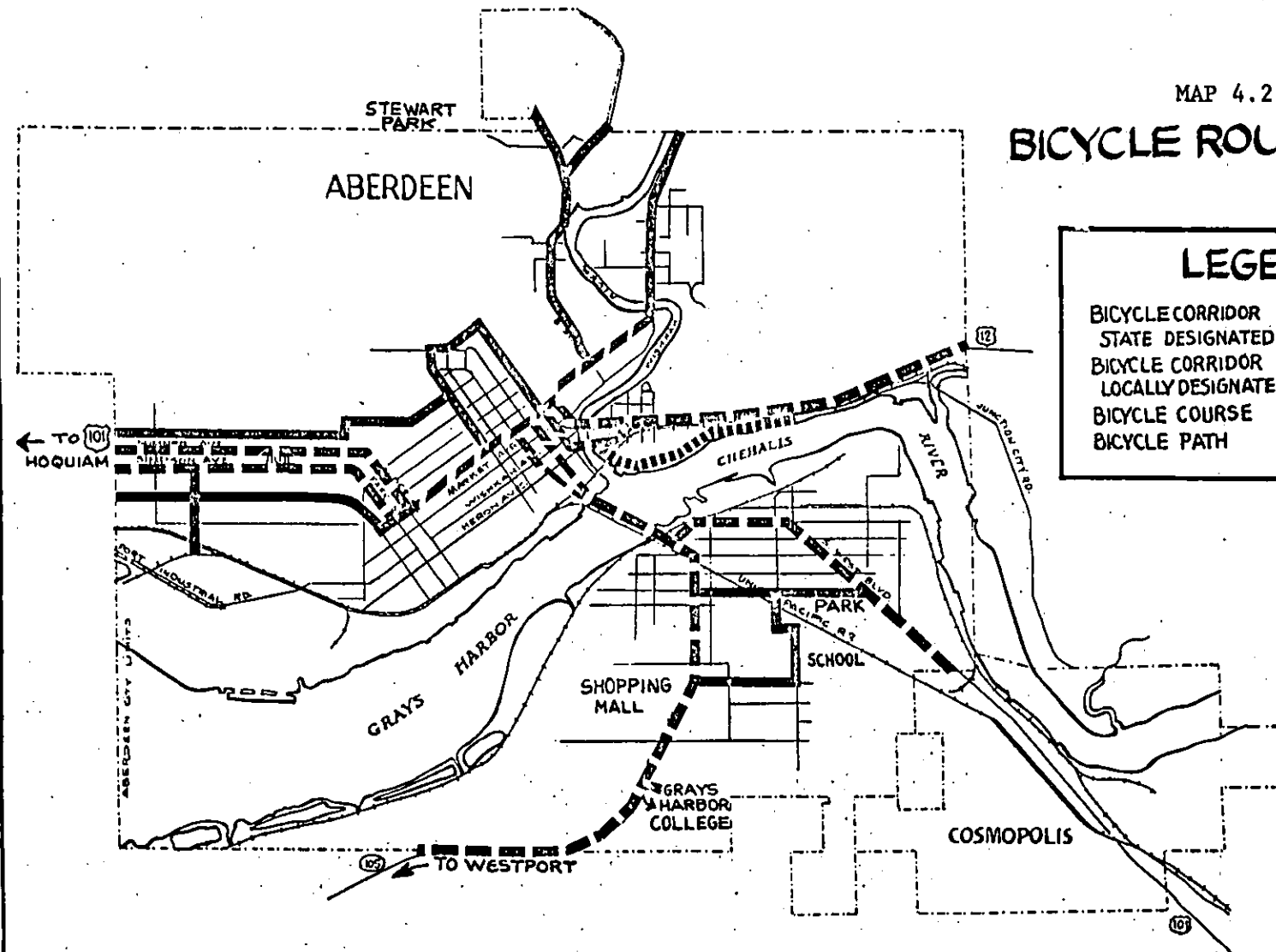


MAP 4.2

# BICYCLE ROUTE PLAN

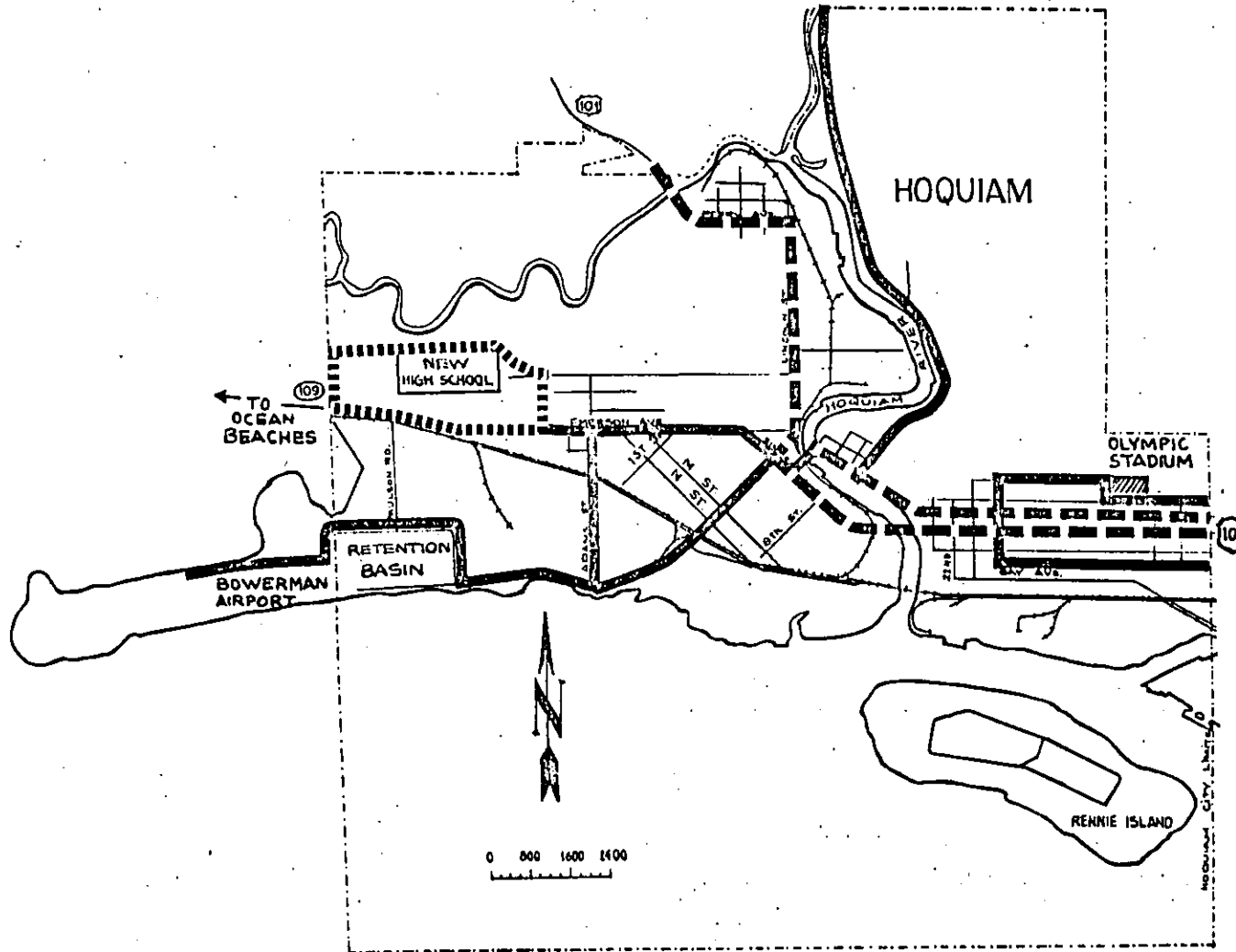
## LEGEND

BICYCLE CORRIDOR	
STATE DESIGNATED	— — — — —
BICYCLE CORRIDOR	
LOCALLY DESIGNATED	— / — / — / — / —
BICYCLE COURSE	— — — — —
BICYCLE PATH	



MAP 4.3

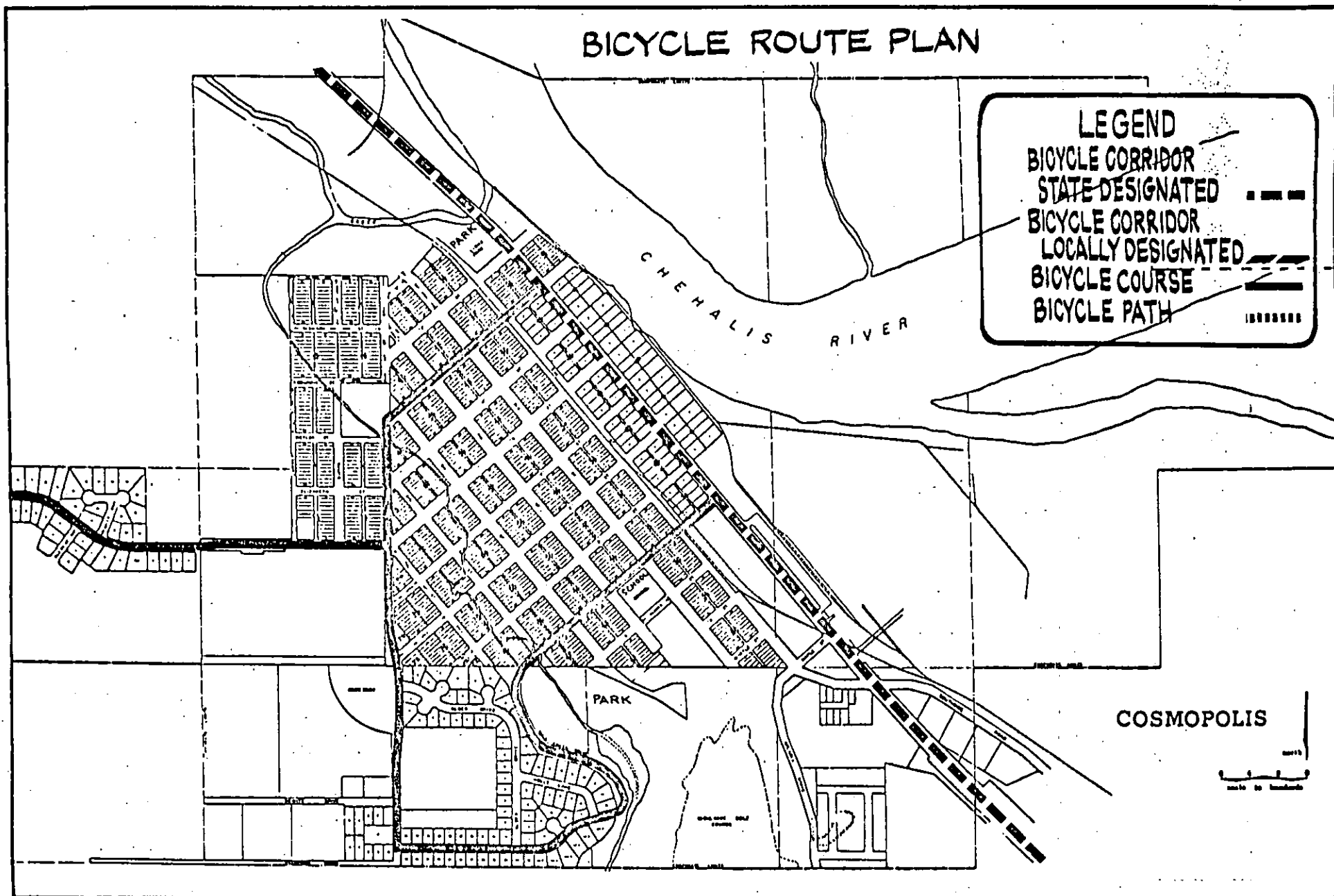
# BICYCLE ROUTE PLAN



**LEGEND**

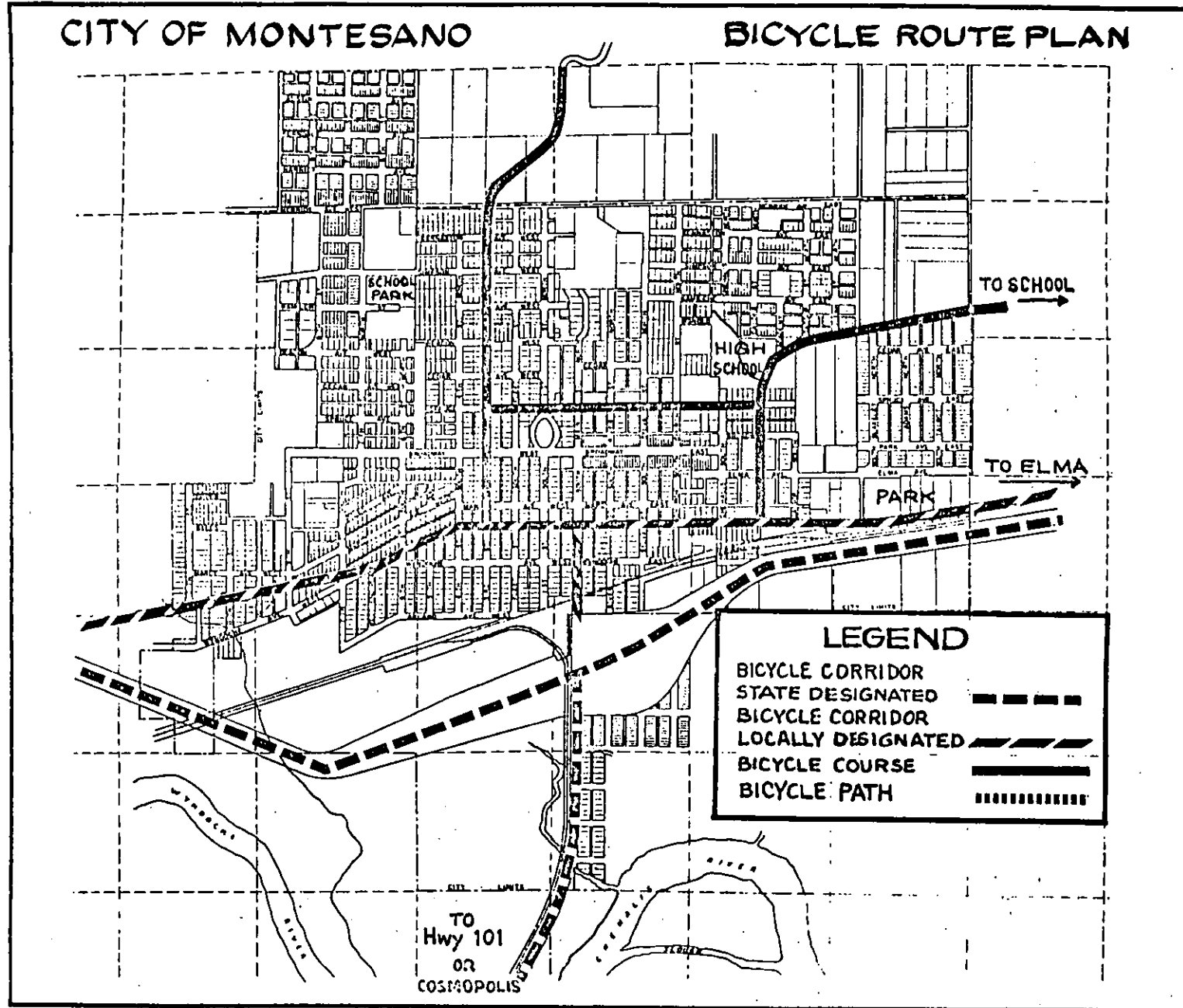
BICYCLE CORRIDOR	---
STATE DESIGNATED	---
BICYCLE CORRIDOR	- . - . -
LOCALLY DESIGNATED	- . - . -
BICYCLE COURSE	———
BICYCLE PATH	.....

MAP 4.4







# CITY OF MONTESANO

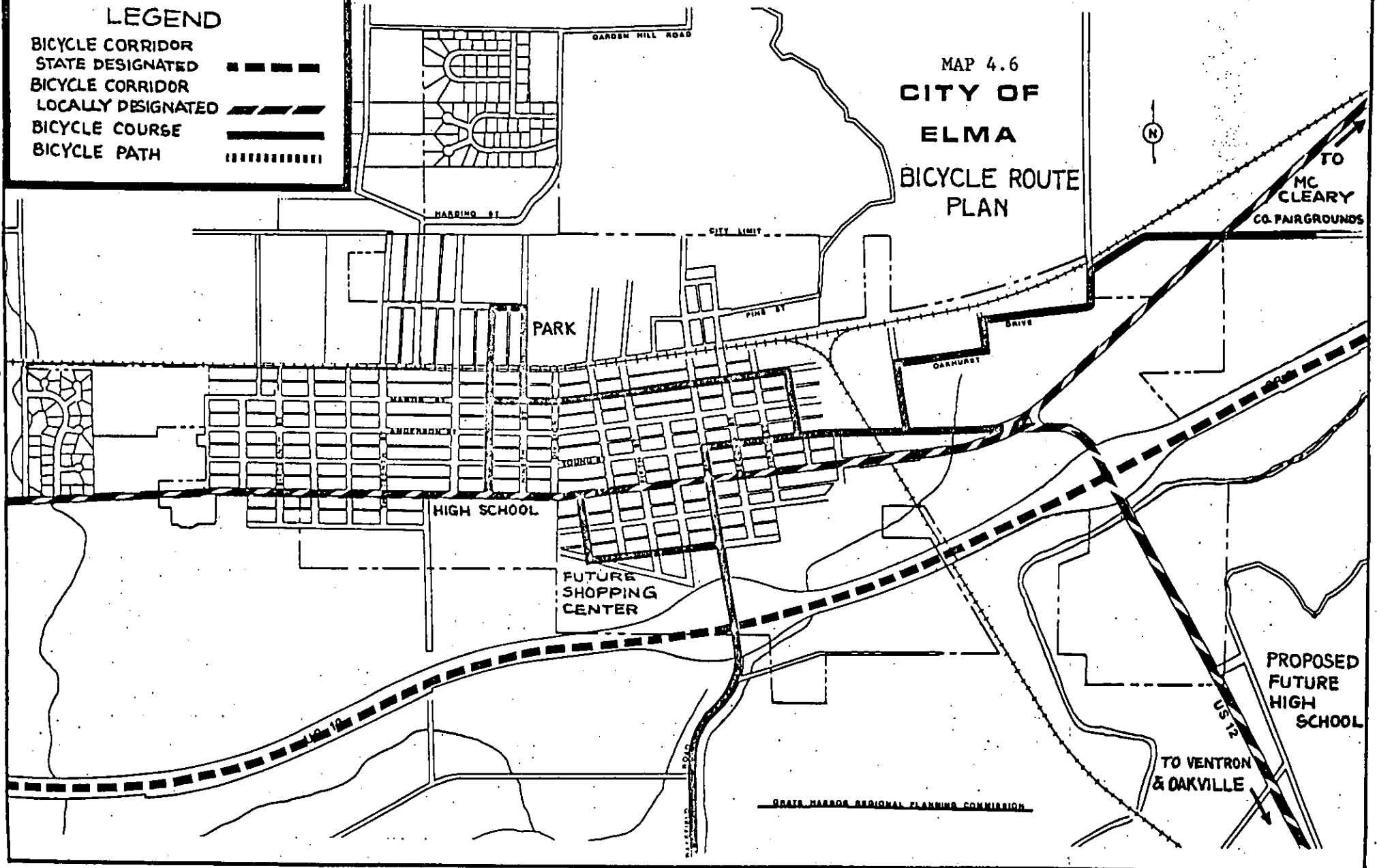
# BICYCLE ROUTE PLAN



# LEGEND

- BICYCLE CORRIDOR  
STATE DESIGNATED    
- BICYCLE CORRIDOR  
LOCALLY DESIGNATED    
- BICYCLE COURSE    
- BICYCLE PATH    

## MAP 4.6 CITY OF ELMA BICYCLE ROUTE PLAN

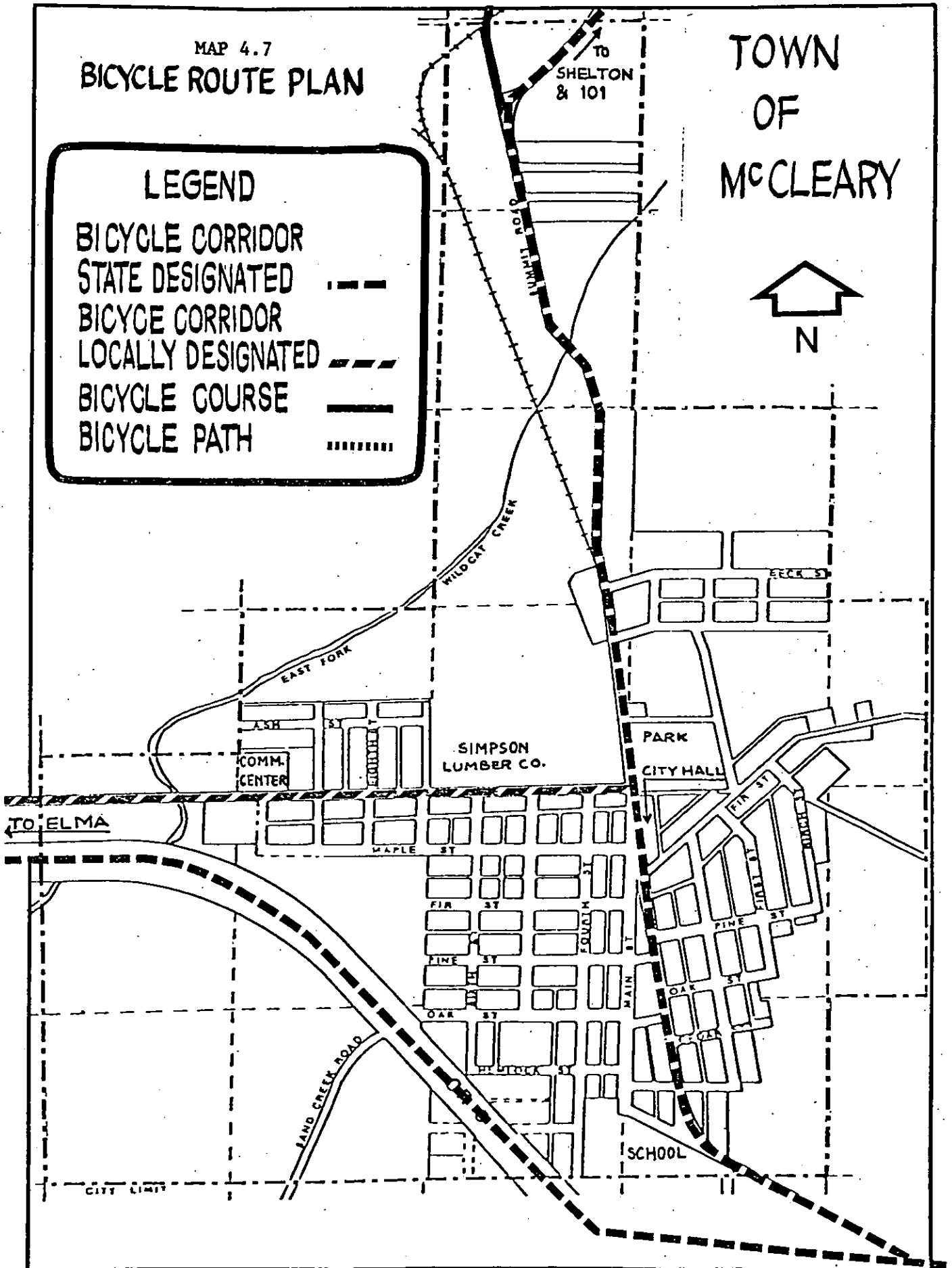


MAP 4.7  
BICYCLE ROUTE PLAN

TOWN  
OF  
McCLEARY

LEGEND

- BICYCLE CORRIDOR
- STATE DESIGNATED
- BICYCE CORRIDOR
- LOCALLY DESIGNATED
- BICYCLE COURSE
- BICYCLE PATH

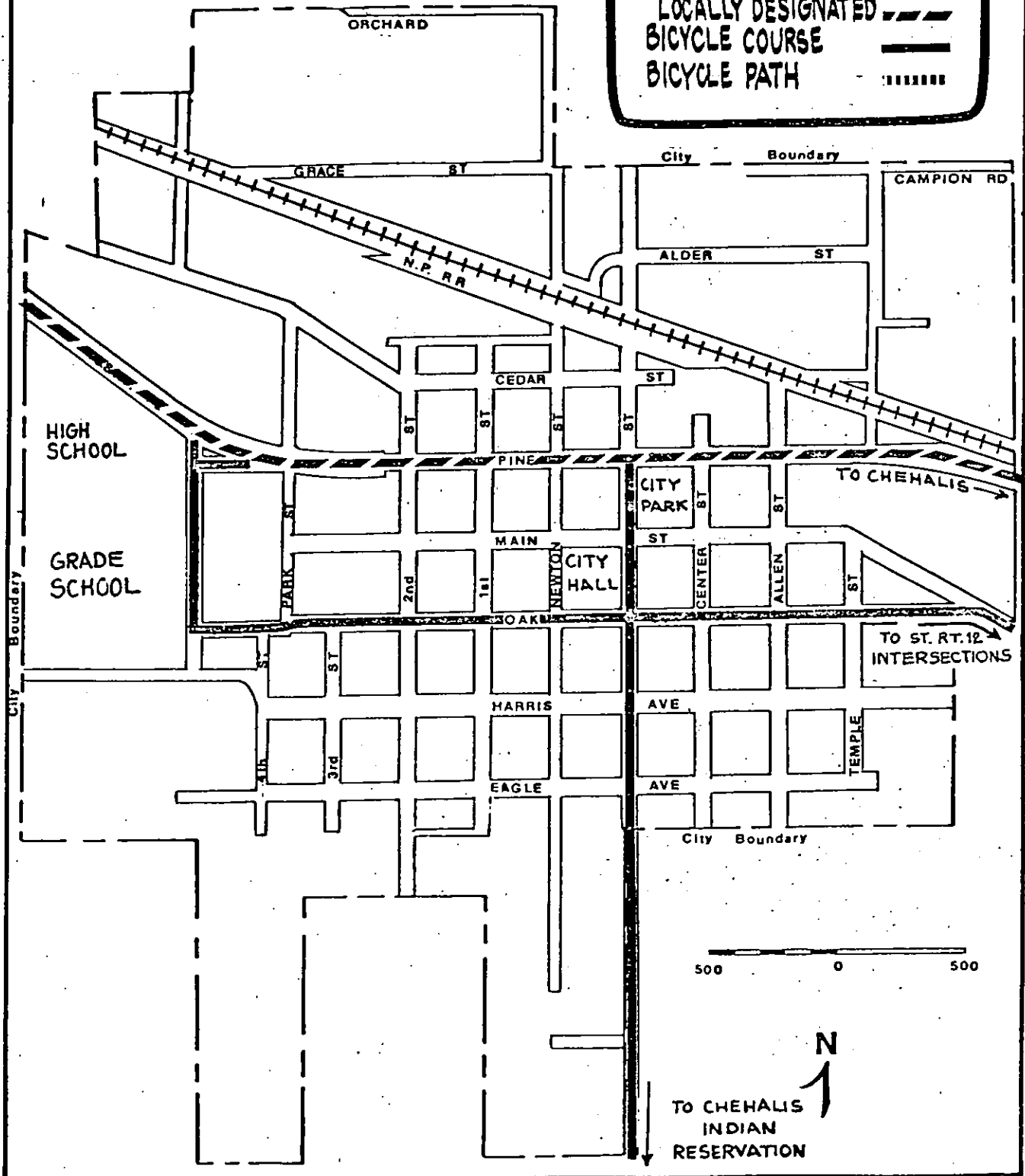


# CITY OF OAKVILLE BICYCLE ROUTE PLAN

MAP 4.8

## LEGEND

BICYCLE CORRIDOR STATE DESIGNATED	---
BICYCLE CORRIDOR LOCALLY DESIGNATED	- - -
BICYCLE COURSE	———
BICYCLE PATH	





MAP 4.9

CITY  
OF  
OCEAN SHORES

*BICYCLE ROUTE PLAN*

LEGEND

- BICYCLE CORRIDOR
- STATE DESIGNATED
- BICYCLE CORRIDOR
- LOCALLY DESIGNATED
- BICYCLE COURSE
- BICYCLE PATH



North Bay

PROPOSED  
AIRPORT

PARK

SCHOOL

SHOPPING / MOTELS

COMMUNITY  
CLUB

MARINA

GRAYS  
HARBOR

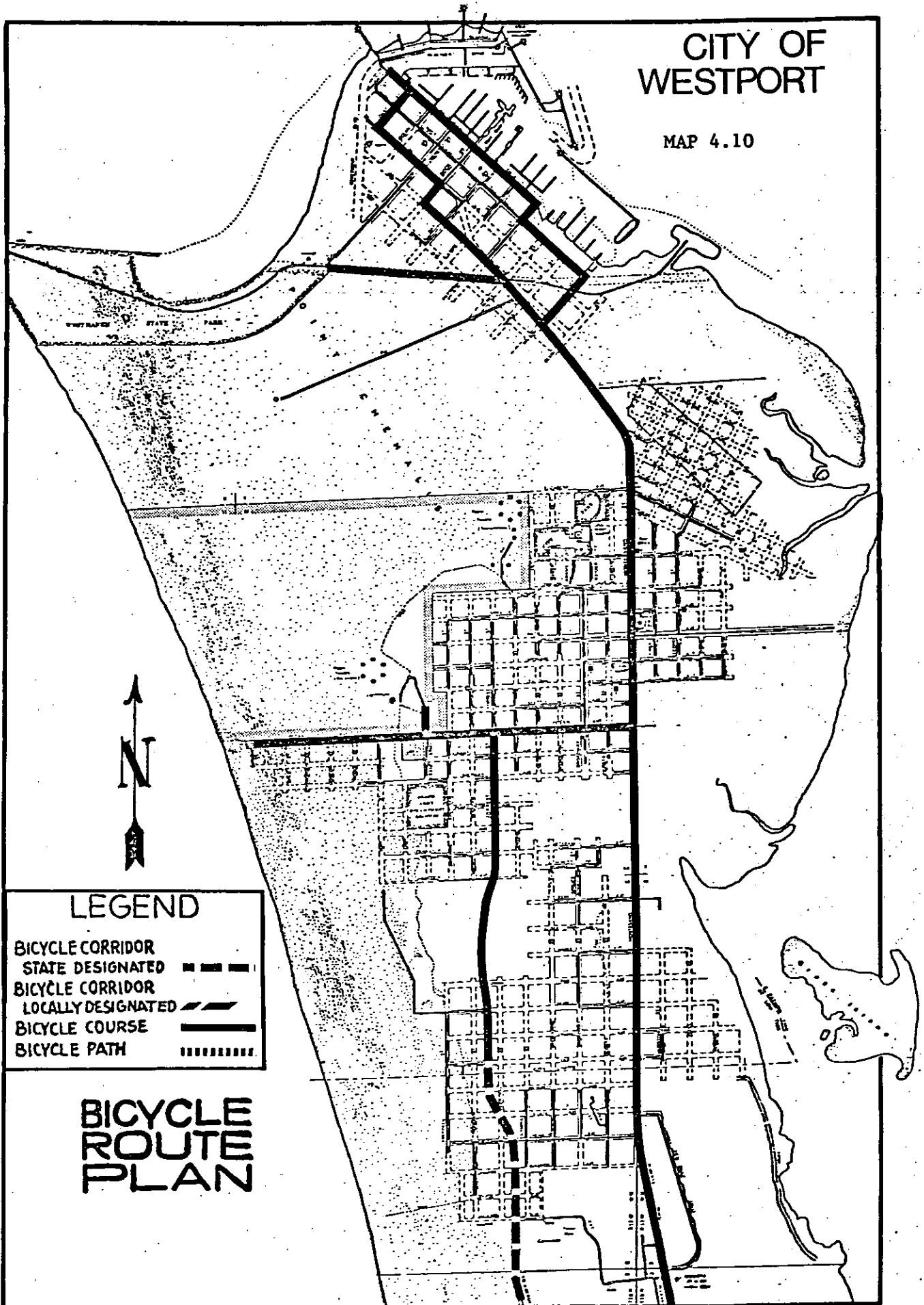
WASHINGTON  
STATE GAME DEPARTMENT  
HUNTING AREA

PACIFIC

OCEAN

# CITY OF WESTPORT

MAP 4.10



## LEGEND

BICYCLE CORRIDOR  
STATE DESIGNATED ————  
BICYCLE CORRIDOR  
LOCALLY DESIGNATED - - - - -  
BICYCLE COURSE —————  
BICYCLE PATH .....  
BICYCLE ROUTE PLAN

BICYCLE  
ROUTE  
PLAN

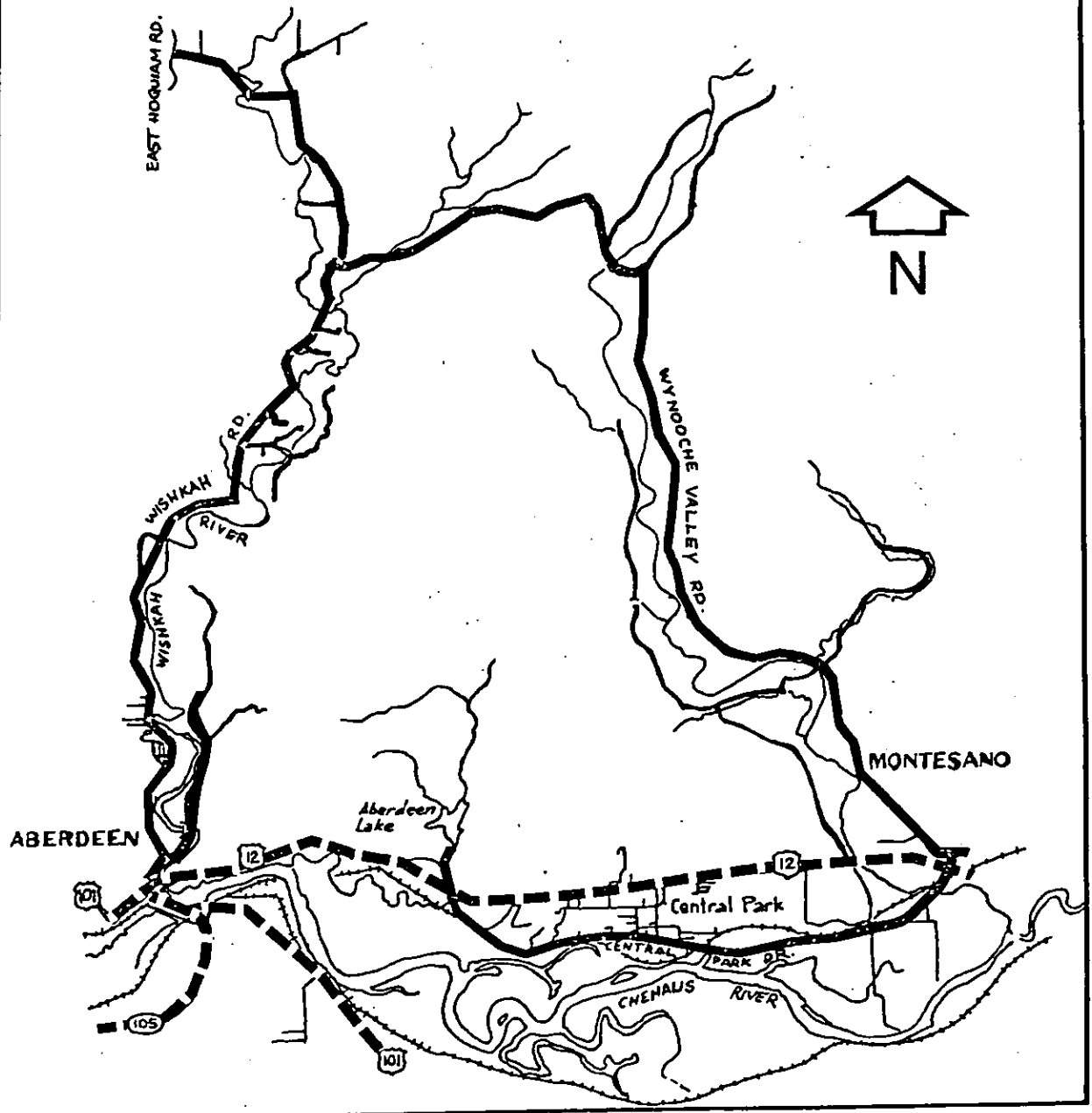
ABERDEEN-WISHKAH  
WYNOOCHE  
CENTRAL PARK

*BICYCLE ROUTE PLAN*

MAP 4.11

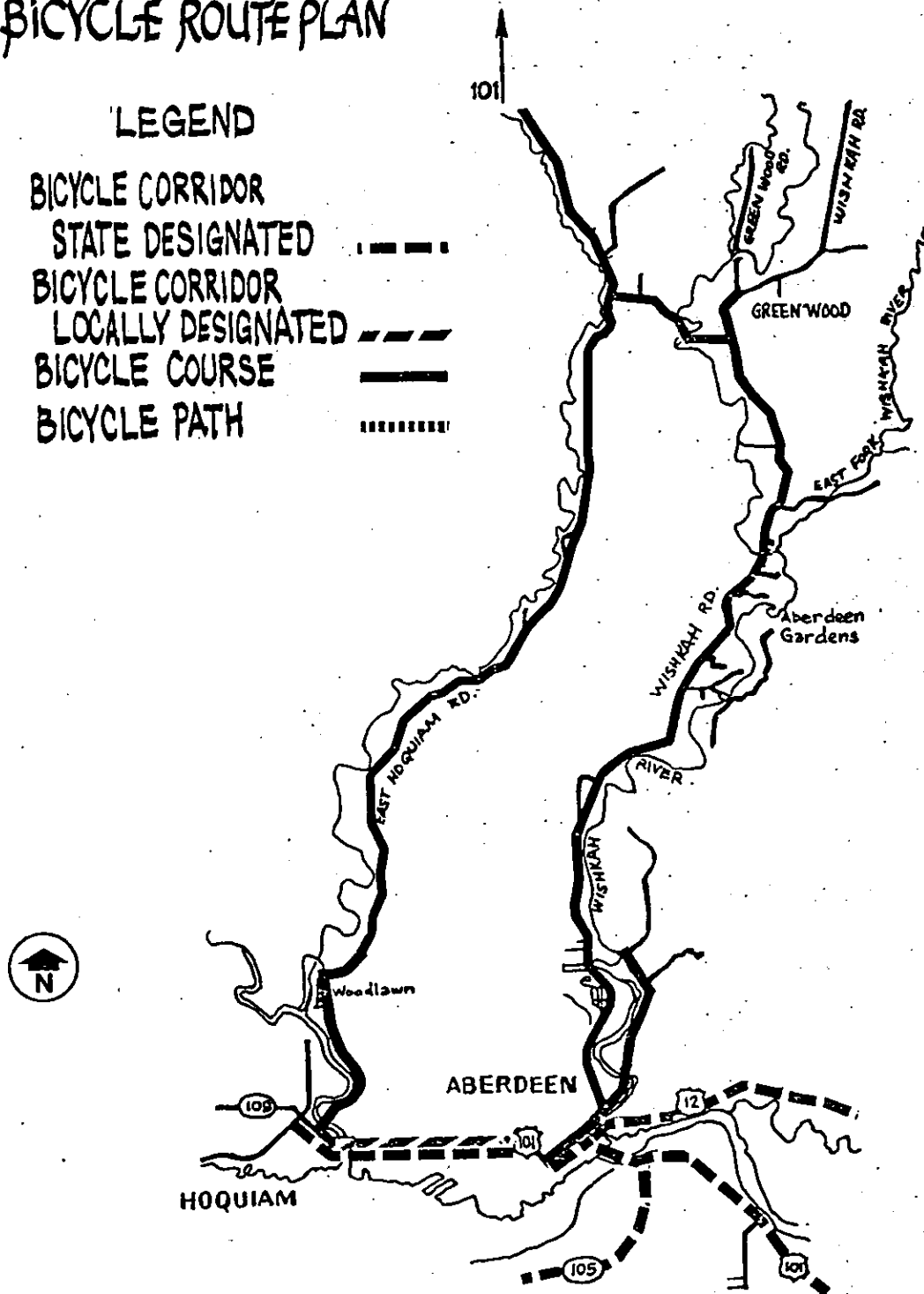
LEGEND

BICYCLE CORRIDOR	
STATE DESIGNATED	-----
BICYCLE CORRIDOR	
LOCALLY DESIGNATED	////
BICYCLE COURSE	=====
BICYCLE PATH	



# BICYCLE ROUTE PLAN

BICYCLE CORRIDOR  
STATE DESIGNATED     ---  
BICYCLE CORRIDOR  
LOCALLY DESIGNATED    - - -  
BICYCLE COURSE        \_\_\_\_\_  
BICYCLE PATH         .....

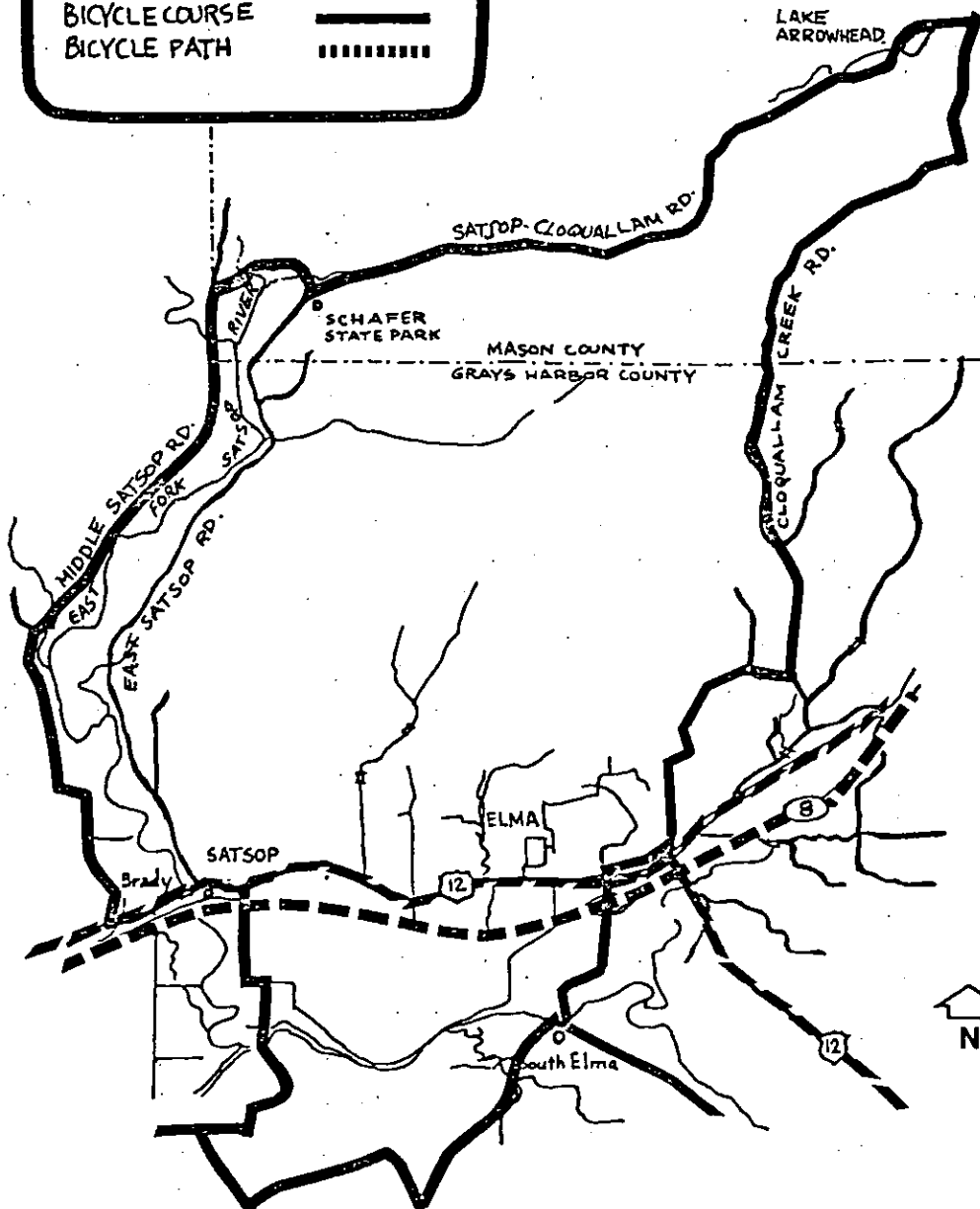


# SATSOP - SCHAFER STATE PARK - ELMA

## LEGEND

- BICYCLE CORRIDOR  
STATE DESIGNATED ————
- BICYCLE CORRIDOR  
LOCALLY DESIGNATED ————
- BICYCLE COURSE ————
- BICYCLE PATH ————

## BICYCLE ROUTE PLAN



## 5. STANDARDS

5.1 Introduction: A bicycle network ideally will be constructed to standards which will ensure safety for the rider, provide adequate traffic separation from other vehicles, and provide good quality surfaces for smooth, efficient cycling. This section will identify the design standards which, if implemented, will achieve these conditions. Since the construction of these facilities is expensive and bicycle facilities will of necessity have to compete with many other programs for increasingly limited public financial resources, it is expected that these standards will be implemented on the proposed routes quite gradually.

The following standards which appear in this plan are those adopted as of May 1980 by the Washington State Department of Transportation. They are subject to revision, and, prior to construction, consultation with the Department of Transportation is necessary to ensure conformance to the most current guidelines.

5.2 Types: Different needs exist for bicycle systems in urban areas than exist in rural areas. The amount, composition, and speed of vehicular traffic will have a bearing on the type of system that should be provided. Three basic types of facilities for bicycles to be considered are: bicycle ways, bicycle lanes, and bicycle paths. (Refer to Figures 5.1, 5.2, and 5.3.)

5.2.1 Bicycle Ways: These are facilities that allow a mixture of motorized vehicle and bicycle traffic in the same lanes, and are relegated to use in areas where low motorized vehicular volumes and low operating speed differentials are prevalent.

5.2.2 Bicycle Lanes: As bicycle and motorized vehicle traffic volumes and differential operating speeds increase, it becomes necessary to provide separate lanes for each mode of travel. In rural areas, a paved shoulder, at least 5' wide, with proper delineation and pavement marking is normally adequate to be designated as a bicycle lane. In urban areas, the prohibition of parking may be required to develop the bicycle lane concept.

5.2.3 Bicycle Paths: A point is reached where motorized vehicular volumes and operating speeds become too great to permit the operation of bicycles and motorized vehicular traffic immediately adjacent to each other. As speeds and volumes go up, greater separation must be provided. The alignment of a bicycle path need not necessarily parallel the alignment of the highway and should generally conform to the topography when possible to do so. Specific aesthetic and recreational needs or barriers, might also dictate the need to develop a bicycle path.

### 5.3 Bicycle Operating Characteristics:

- **Balance:** Balance is a function of speed and steering and requires more lateral space in proportion to vehicle width than does an automobile.
- **Speed:** Speed is a function of weight and endurance of the rider coupled with the gear ratios available in the drive train. Average speeds are rarely in excess of 20-25 MPH and are extremely sensitive to grade.

- **Comfort:** Bicycles lack a suspension system and have high pressure tires that create much higher unit contact pressures with the road surface than an automobile. Surface smoothness, density, freedom from chuckholes and loose material are critical for safe efficient operation.
- **Braking:** Brake systems in bicycles are inferior to those on automobiles. Bicycles require provision for greater relative stopping distances.
- **Safety:** Bicycles offer no protection or restraint from the rider in the event of impact with other vehicles or obstacles. The roadway itself can become an impact point in the event of an abrupt deceleration.
- **Alignment:** Due to lower operating speeds and greater maneuverability, the horizontal alignment need not be as restrictive as that required for highway traffic.
- **Purpose:** Alignment of routes should be keyed to the type of usage anticipated. If the primary function is for commuter traffic, then the design would be of a utilitarian nature with preference given to straight alignment and level grades, rather than to scenic outlooks and other amenities.
- **Clearance:** These can be psychological limitations that affect behavior. Clearances are restricted with the use of side slopes, curbs, walls, a line of densely parked cars and insufficient vertical and lateral clearing of vegetation. These should be avoided where possible so that emergency escape routes are assured.
- **Traffic:** Air turbulence created by large fast moving vehicles can easily upset the balance of the bicyclist when a facility is located adjacent to the traffic stream. Composition of the traffic should be considered when designing the various types of bicycle facilities.
- **Road Surface Condition:** A number of surface conditions can cause operation problems for the bicyclist. Chuckholes, gouges, ruts, grates, railroad tracks, ridges, oil, water, loose gravel, and broken glass all can cause erratic action by the bicyclist in his attempt to avoid discontinuities in the paved surface. It is important to design the cycle facilities to avoid these problems.

**5.4 Design:** The first goal in design should be to provide the maximum of safety and aesthetic amenities to both the motorist and the trail user by initially considering the provision of separated facilities or the bicycle path concept. Analysis of advantages and disadvantages of total separation initially should lead a prudent designer to the optimum design type suitable for each specific location. From a practical standpoint many facilities built may be of the bicycle lane or bicycle way concept, after evaluation of such variables as impact on adjacent properties, public involvement, limited funding, or other equally important attributes. In the development of bicycle lanes, the first consideration should be the provision of a one-way lane on each side of the traveled way. Use of two-way bicycle lanes on the roadway requires written approval from the Roadway Development Engineer.

The design of any bicycle facility should allow for these rider and operating design criteria:

- The maximum grade should not exceed 10%. The route selected or path design should present a vertical alignment that will attract users. A grade of 6% may be optimum in a hilly region but totally unacceptable in areas with level terrain. Generally, the longer the grade, the flatter it should be.
- Vehicle-bicycle speed differential plus vehicle, bicycle, or pedestrian volumes affect the safety of the facility to such a degree that they may well be the governing factors in route selection or design.
- All designs should be durable, accessible, and sufficiently wide to allow maintenance vehicles to keep a clean, smooth surface.
- Intersections are one of the most critical design features. Especially in urban areas the design should allow left-turn, right-turn and thru movements, where legal, with a minimum of potential vehicle conflict. In rural or low volume areas, the problem is lessened but should not be ignored.
- Signing for all bicycle facilities should be in conformance with Manual on Uniform Traffic Control Devices.
- Where bridge rail or other protective railings are used, the top element should be at least 4' 6" high. Refer to Figure 5.4 for additional railing height suggestions.

The design features applicable to each of the basic types of bicycle facilities are described below. If significant pedestrian traffic on the facility is expected, the criteria for design should be correspondingly adjusted.

5.4.1 Bicycle Ways: In this shared roadway concept vehicular speeds should generally not exceed 35 MPH and traffic volumes should be below 1,000 ADT/lane. Also, if existing or estimated bicycle volumes are high enough to cause traffic disruptions, a bicycle lane or path is desirable. As depicted in Figure 5.1, bicycle ways are generally applicable in urban and suburban areas where traffic speeds and volumes are low and where the ability for cyclists to maneuver at intersections is essential.

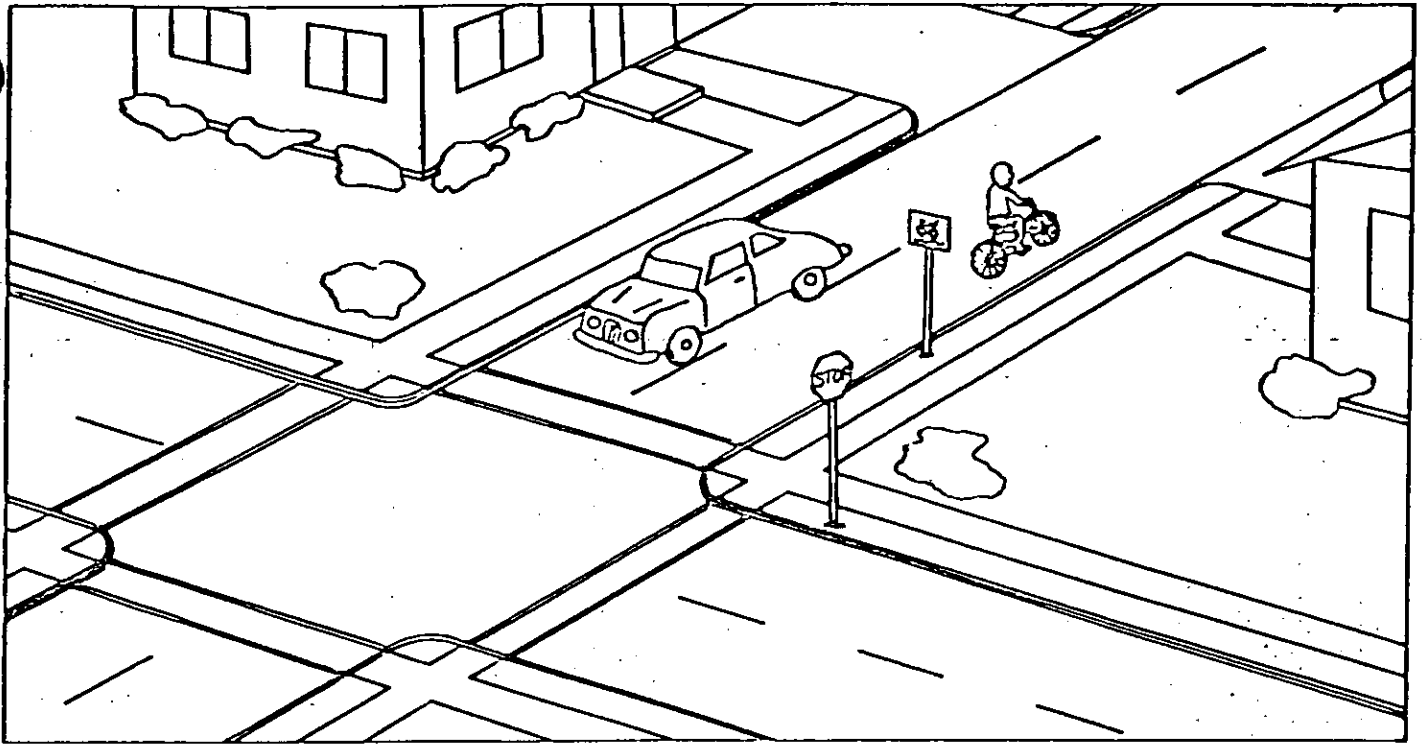
5.4.2 Bicycle Lanes: Bicycle lanes can co-exist with relatively heavy traffic volumes since the bicycles travel next to, rather than mixed with, the motor vehicles. (See Figure 5.2). Bicycle lanes perform especially well along roadways with few or low volume cross-streets. At busy intersections the numerous conflict points are a major safety consideration for the cyclist. These conflicts are intensified by vision problems if the bicycle lane is located between the parking lane and the sidewalk. Consequently, the configuration is seldom desirable. For the design of bicycle lanes at intersection, see Guide for Bicycle Routes, American Association of State Highway and Transportation (AASHTO).

The width of bicycle lanes should be at least five (5) feet and desirably eight (8) feet. Two-way bicycle lanes should be at least eight (8) feet wide



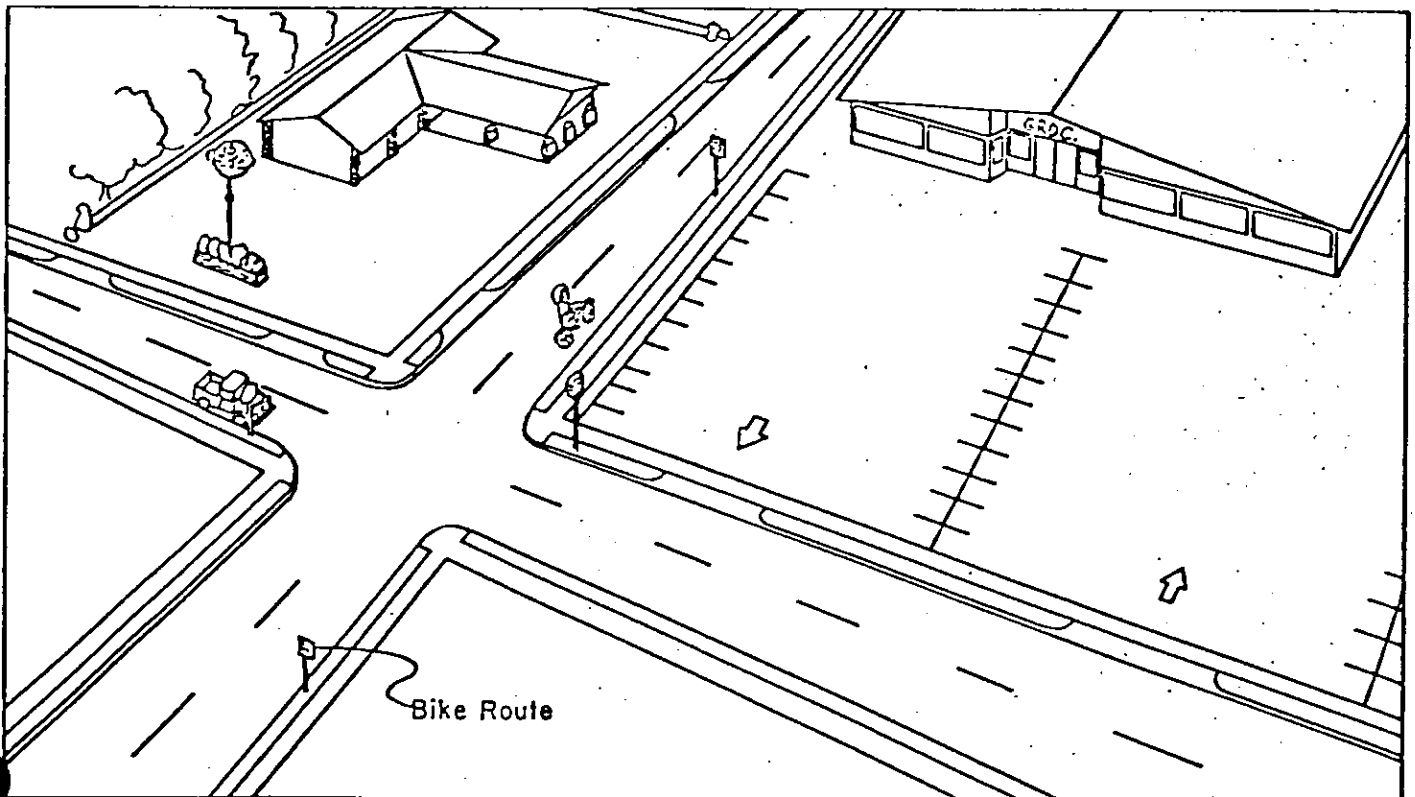
# GUIDELINES FOR BIKEWAYS

FIGURE 5.1



## SUBURBAN ROUTE

Characterized by low volume, low speed local traffic.  
Route selection should minimize steep grades.

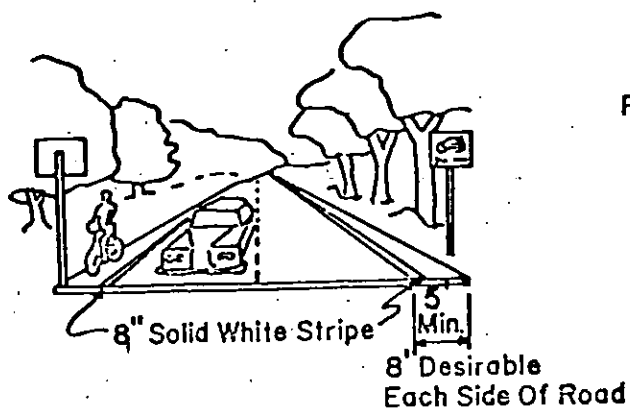


## URBAN ROUTE

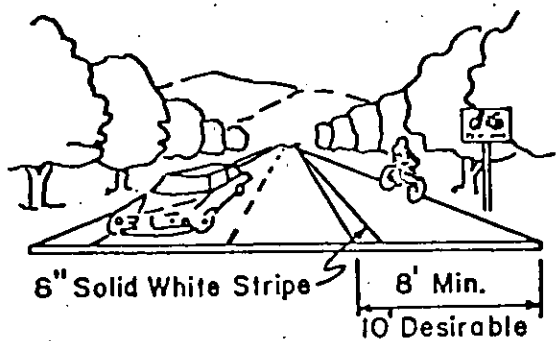
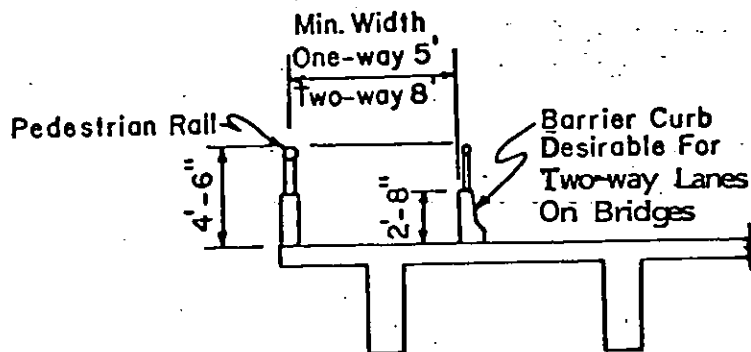
Characterized by low speeds and multiple intersections and access points.  
Bicycle way provides maneuverability within the traffic lane.

# GUIDELINES FOR BIKE LANES

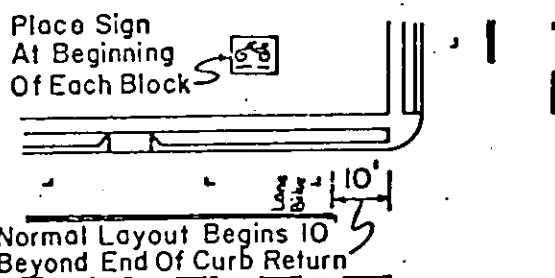
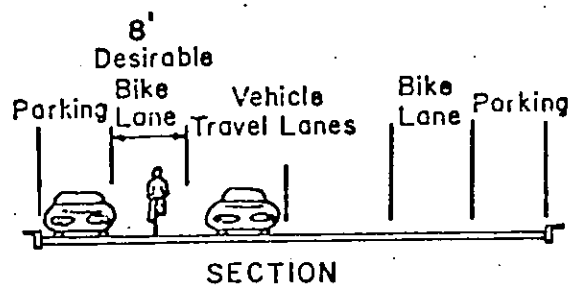
FIGURE 5.2



ONE-WAY BIKE LANE



TWO-WAY BIKE LANE



with a desirable width of ten (10) feet. All stationary objects should be at least two (2) feet from the bicycle lane (except one foot to the edge of signs if a curb and gutter section is present). A 10-foot vertical clearance is desirable with 8.5 feet being minimum. All clearance must be sufficient to accommodate anticipated maintenance equipment.

Delineation of the bicycle lanes on roadway shoulders consists of a painted white line at least 8 inches wide. Mountable curbing should generally be avoided in that it provides a barrier to bicycle maneuverability while providing virtually no protection from the motor vehicles.

5.4.3 Bike Paths: While the necessary clearances of a bike are the same for both a bike path and a bike lane, width requirements of the path are less due to the absence of motor vehicular side friction. A bike path, as shown in Figure 5.3, has a 3.5 foot minimum width and a 4-foot desirable width for one-way operation. A two-way path should be at least 7 feet wide, with an 8-foot desirable width. When possible, the path should be located at least 30 feet from the edge of the motor vehicle traveled way.

The speed for which a bicycle path is designed will vary with its purpose and its vertical alignment. For a primarily recreational-scenic route, a design speed of 15 MPH may be appropriate. For a commuter or other direct access route, a design speed of 20 MPH is reasonable, but may have to be increased to as much as 30 MPH if lengthy downgrades are encountered. As the design speed of a bike path increases, wider paths should be favored and up to two feet of widening on the inside curves for two-way bike lanes may be needed for curves with a radius less than 100'.

Design speed also affects horizontal curvature. Radii of less than 35 feet should be avoided, and the range used above this curvature is dependent on pavement condition, anticipated speed, and superlevation. The superlevation may vary from 0.02 to 0.08 foot per foot, but should not exceed 0.05 per foot where pedestrians are also expected to use this path. The choice of a given radius must be made on the basis of engineering judgment at the particular location under consideration. Similar judgment must be used in selecting the minimum stopping sight distance. Generally a sight distance of between 100-250 feet is necessary.

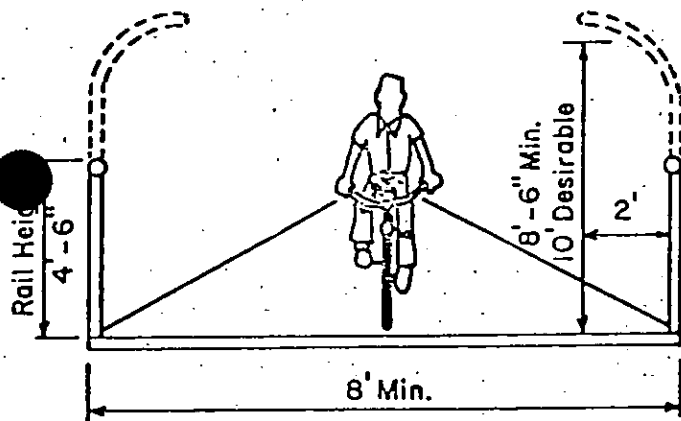
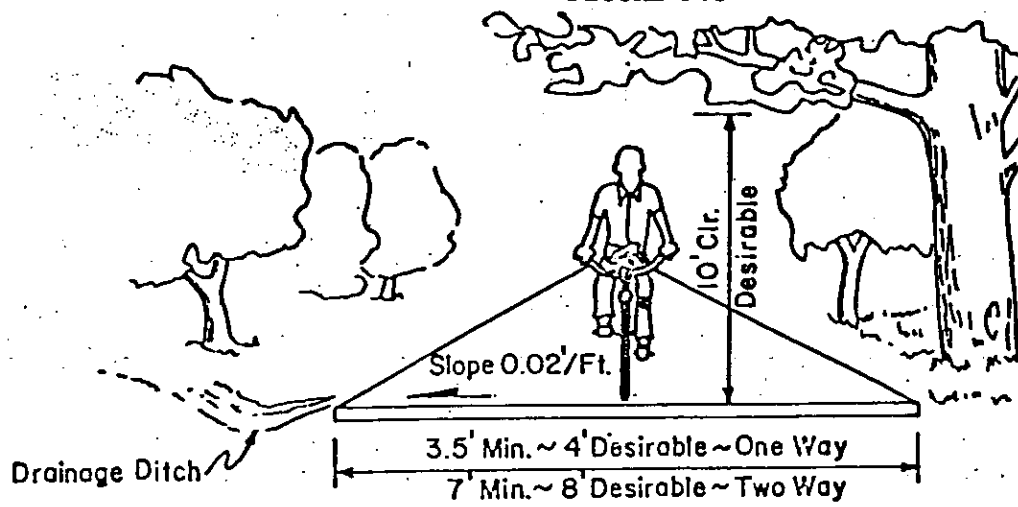
The capacity of a bicycle path will seldom be the governing criteria. Approximately 1,500 bikes/hour can be accommodated on a one-way or two-way bike path.

The pavement type and depth as shown in Figure 5.5 should be in relation to the subgrade "R" value, which will be determined by the District Soils Engineer on each project. These sections are believed to be minimal and some adjustments may be required in the future on the basis of field investigations. This data should be considered as a guide only and each trail section should be determined by an economical and functional evaluation and/or by the specific site conditions. Experimentation of alternatives to the conventional sections is encouraged on a project by project basis.

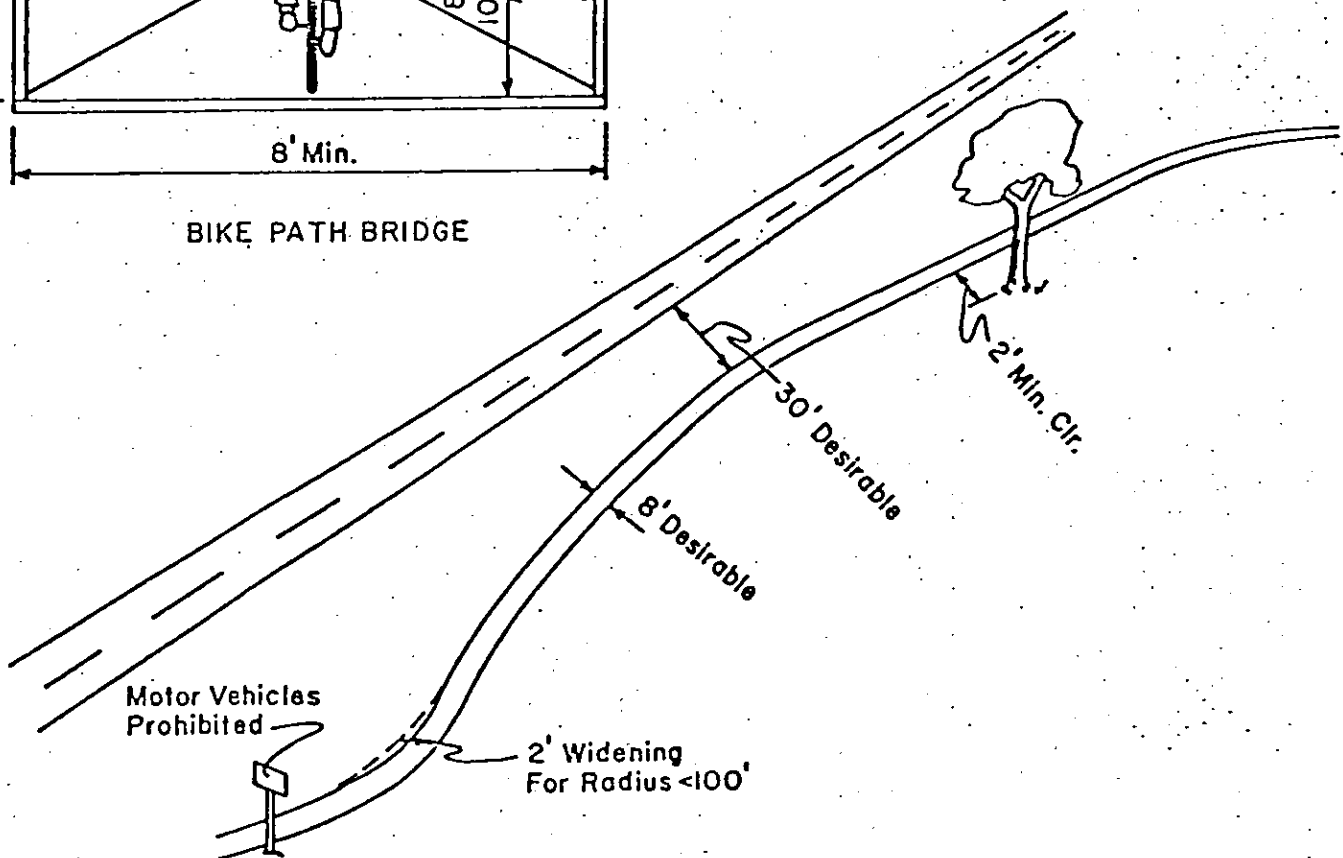
As part of the original construction, an approved herbicide should be placed under the ACP and BST pavements, and an approved pavement seal should be applied to all ACP. Spraying to prevent moss growth in areas where the paths are separate from the roadway should be considered. Frequency of maintenance and special equipment requirements should be considered in the design phase.

# GUIDELINES FOR BIKE PATHS

FIGURE 5.3



BIKE PATH BRIDGE



SOURCE: DOT, May 1980

FIGURE 5.4  
RAILING HEIGHT GUIDELINES

	Pedestrians Only	Bicycles Only	Bicycles & Pedestrians
Basic Rail Ht.	3'6"	4'6"	4'6"

*Special Sites\* All uses, provide screening with curved top. 8'6" minimum vertical clearance.*

*\* A special site would include:*

- 1. An overpass near a school, a playground, or elsewhere where it would be expected that the overpass would be frequently used by children unaccompanied by adults.*
- 2. Overpasses in large urban areas used exclusively by pedestrians and not easily kept under surveillance by police.*
- 3. Overpasses where experience on nearby structures indicates a need for screens.*
- 4. Locations, other than overpasses, that require a protective railing and fit the criteria of (1), (2), or (3) above.*

*NOTE: On a overpass when a barrier is desired between vehicular and bicycle traffic, a 2'8" concrete barrier with metal rail extension, providing a 4'6" rail height, should be used. SOURCE: DOT, May 1980*

FIGURE 5.5  
BICYCLE PATH PAVEMENT SECTIONS  
MINIMUM DEPTH OF CRUSHED SURFACING OR SELECT MATERIAL \*

Subgrade R Value 0-15' ACP		BST**
65+	0. ***	0.15' CS
40-64	0.15' Select Material	0.30' CS
Less than 40	0.35' Select Material	0.15' CS + 0.35' Select Material

*\* Select Material = clean, free-draining granular material with a sand equivalent of 50 min.  $R \geq 65$ .*

*\*\* Use of Class A prime coat with a Class E seal coat. Section 502.3(3) of the Standard Specifications.*

*\*\*\* Clean sand may require stabilization to prevent shoving during construction.*

SOURCE: DOT, May 1980

## 6. PLANNING RECOMMENDATIONS

In addition to its traditional roles in providing transportation and recreation, bicycling is beginning to assume a greater significance. Much of this significance is derived from its ability to provide an efficient yet energy independent mode of transportation. As such, it offers a significant potential in conservation efforts. Its role in being able to reduce congestion in urban areas is also becoming significant as funds to develop highway facilities become increasingly limited.

In order to fulfill these potentials, the activity of bicycling and its needs described in this plan should be incorporated into a range of related planning activities. Specifically, this includes:

- Incorporation of this plan into the regional comprehensive plan.
- Careful consideration of bicycling and bicycling facilities, especially those related to removing barriers on major routes, into street planning design and development.
- Incorporation of bicycling as a resource in energy conservation planning and programming.
- Consideration of bicycling as an alternative in energy contingency planning.
- Consideration of improving the ability to link transit system and programs with bicycling in transit planning and programming.
- Considerations related to bicycling needs should be considered in relation to land use patterns and land use developments.
- Coordination of bicycle planning and programming with the planning and development of recreation facilities and programs.

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## APPENDIX



## APPENDIX I

### Definitions

**Activity Occasions:** A standard unit of measure of recreation use consisting of one individual participating in one recreation activity during any reasonable portion or all of one day.

**Average Peak Day:** The amount of use occurring on the average weekend day of the peak month. This results in a factor used in recreational usage estimates.

**Bicycle:** A vehicle propelled exclusively by human power, having two wheels, in tandem or two rear wheels and a front wheel.

**Bicycle Corridors:** A trail route for a specific use or uses that now provides or will provide a continuous trail which: (1) connects urban centers to large federal trail systems, state trail systems, or local systems, or specific destination points; (2) provides a significant opportunity for a specific trail use; or (3) establishes a trail or trails in an outstanding recreational and/or scenic area where a recognized need or potential has been established. On the maps included herein, these routes are noted by "state" or "local" designations.

**Bicycle Course:** A bicycle route system of travelways designed to serve local, or specialist interests.

**Bicycle Facility:** Any and all devices, travelways, shelters, or any other construction designated for bicycling use.

**Bicycle Network:** A network of trails/paths, routes providing minimum driving time and/or distance from every "area" to every other "area" in the County.

**Bicycle Route:** A designated trail, path, lane, corridor, and/or course of travelways specified for bicycle usage either singularly or jointly with other modes of transportation.

**Bike Lane:** A designated bicycle route, separated from traffic by a painted line, curb barriers; sidewalks; utilizing a separate trail, etc. Such lanes are usually on highways.

**Bike Path:** Paths completely separate from road surface of existing streets and may/or may not be shared by pedestrians but with the express use being primarily of cyclists. As used in this Plan, such paths are generally recreationally oriented.

**Bikeway:** On street bicycle route normally shared with auto traffic with no physical barriers between uses.

**Participation Rate:** a recreation usage term expressed as an annual per capita rate for a particular activity.

**Pedestrian:** A person whose mode of transportation is on foot. Within this context a person "walking" a bicycle becomes a pedestrian.

### Definitions Continued

**Recreational Cyclist:** An individual(s) who uses a bicycle for the trip itself. Ultimate destination is of secondary importance.

**Travelway:** Any way, path, road or other travel facility used by any and all forms of transportation.

**Utilitarian Cyclist:** An individual who uses a bicycle primarily to reach a particular destination, e.g. school, work, etc.

**Wish to Use:** A factor established by recreation statisticians to estimate the number of persons who wish to use a facility, and would in fact use them if they were available. The State of Washington's Interagency Commission for Outdoor Recreation uses a factor of 60% for bicycling. Oregon uses a factor of 80%.

## APPENDIX II

### Applicable Statutes

#### Title 35 RCW: Cities and Towns

##### Chapter 35.75

##### STREETS—BICYCLES—PATHS

###### Sections

35.75.010	Authority to regulate and license bicycles— Penalties.
35.75.020	Use of bicycle paths for other purposes prohibited.
35.75.030	License fees authorized.
35.75.040	Rules regulating use of bicycle paths.
35.75.050	Bicycle road fund—Sources—Use.
35.75.060	Use of street and road funds for bicycle paths, lanes, routes and improvements authorized.

*Rules of the road, bicycles: RCW 46.61.750-46.61.780.*

**35.75.010 Authority to regulate and license bicycles—Penalties.** Every city and town may by ordinance regulate and license the riding of bicycles and other similar vehicles upon or along the streets, alleys, highways, or other public grounds within its limits and may construct and maintain bicycle paths or roadways within or outside of and beyond its limits leading to or from the city or town. The city or town may provide by ordinance for reasonable fines and penalties for violation of the ordinance. [1965 c 7 § 35.75.010. Prior: (i) 1899 c 31 § 1; RRS § 9204. (ii) 1899 c 31 § 2; RRS § 9205.]

**35.75.020 Use of bicycle paths for other purposes prohibited.** It shall be unlawful for any person to lead, drive, ride or propel any team, wagon, animal, or vehicle other than a bicycle or similar vehicle upon and along any bicycle path constructed within or without the corporate limits of any city or town excepting at suitable crossings to be provided in the construction of such paths. Any person violating the provisions of this section shall be guilty of a misdemeanor. [1965 c 7 § 35.75.020. Prior: 1899 c 31 § 3; RRS § 9206.]

**35.75.030 License fees authorized.** Every city and town by ordinance may establish and collect reasonable license fees from all persons riding a bicycle or other similar vehicle within its respective corporate limits, and may enforce the payment thereof by reasonable fines and penalties. [1965 c 7 § 35.75.030. Prior: 1899 c 31 § 4; RRS § 9207.]

**35.75.040 Rules regulating use of bicycle paths.** The license fee to be paid and the rules regulating the riding of bicycles or other similar vehicles within any city or town shall be fixed by ordinance, and the rules regulating the use of such bicycle paths or roadways constructed or maintained within its limits and the fines and penalties for the violation of such rules shall be fixed by ordinance. [1965 c 7 § 35.75.040. Prior: 1899 c 31 § 5; RRS § 9208.]

**35.75.050 Bicycle road fund—Sources—Use.** The city or town council shall by ordinance provide that the whole amount or any amount not less than seventy-five percent of all license fees, penalties or other moneys collected under the authority of this chapter shall be paid into and placed to the credit of a special fund to be known as the "bicycle road fund." The moneys in the bicycle road fund shall not be transferred to any other fund and shall be paid out for the sole purpose of building and maintaining bicycle paths and roadways authorized to be constructed and maintained by this chapter or for special policemen, bicycle tags, stationery and other expenses growing out of the regulating and licensing of the riding of bicycles and other vehicles and the construction, maintenance and regulation of the use of bicycle paths and roadways. [1965 c 7 § 35.75.050. Prior: 1899 c 31 § 6; RRS § 9209.]

**35.75.060 Use of street and road funds for bicycle paths, lanes, routes and improvements authorized.** Any city or town may use any funds available for street or road construction, maintenance, or improvement for building, improving, and maintaining bicycle paths, lanes, roadways, and routes, and for improvements to make existing streets and roads more suitable and safe for bicycle traffic: *Provided*, That any such paths, lanes, roadways, routes, or streets for which any such street or road funds are expended shall be suitable for bicycle transportation purposes and not solely for recreation purposes. [1974 ex.s. c 141 § 10.]

Chapter 35.77

**STREETS—PLANNING, ESTABLISHMENT,  
CONSTRUCTION, AND MAINTENANCE**

Sections

- 35.77.010 Perpetual advanced plans for coordinated street program—Six year program for arterial street construction—Expenditures—Bicycle, pedestrian and equestrian funds, expenditures.
- 35.77.015 Provisions for bicycle paths, lanes, routes, roadways and improvements to be included in annual revision or extension of comprehensive street programs—Exception.
- 35.77.020 Agreements with county for planning, establishment, construction, and maintenance.
- 35.77.030 Agreements with county for planning, establishment, construction, and maintenance—County may use road fund—Payments by city—Contracts, bids.
- 35.77.040 Agreements with county for planning, establishment, construction, and maintenance—Act is additional and concurrent method.

*Commission and board to coordinate long range needs studies: RCW 47.01.240.*

*Planning commissions: Chapter 35.63 RCW.*

*State highways in urban areas, allocation of funds, planning, bond issue, etc.: Chapter 47.26 RCW.*

*Urban arterials, planning, construction by cities and counties, urban arterial board, bond issue, etc.: Chapter 47.26 RCW.*

**35.77.010** Perpetual advanced plans for coordinated street program—Six year program for arterial street construction—Expenditures—Bicycle, pedestrian and equestrian funds, expenditures. (1) The legislative body of each city and town, pursuant to one or more public hearings thereon, shall prepare and adopt a comprehensive street program for the ensuing six calendar years and shall file the same with the director of highways not more than thirty days after its adoption. Annually thereafter the legislative body of each city and town shall review the work accomplished under the program and determine current city street needs. Based on these findings each such legislative body prior to July 1st of each year shall prepare and after public hearings thereon adopt a revised and extended comprehensive street program, and each one year extension and revision shall be filed with the director of highways not more than thirty days after its adoption. The purpose of this section shall be to assure that perpetually each city and town shall have available advanced plans, looking to the future for not less than six years as a guide in carrying out a coordinated street construction program. Such program may at any time be revised by a majority of the legislative body of a city or town, but only after a public hearing.

The six year program of each city lying within an urban area shall contain a separate section setting forth the six year program for arterial street construction based upon its long range construction plan and formulated in accordance with regulations of the urban arterial board. The six year program for arterial street construction shall be submitted to the urban arterial board forthwith after its annual revision and adoption by the legislative body of the city. The six year program for arterial street construction shall be based upon estimated revenues available for such construction together with

such additional sums as the legislative authority may request for urban arterials only from the urban arterial trust account for the six year period. The arterial street construction program shall provide for a more rapid rate of completion of the long range construction needs of major arterial streets than for secondary and collector arterial streets, pursuant to regulations of the urban arterial board: *Provided*, That urban arterial trust funds made available to the group of incorporated cities lying outside the boundaries of federally approved urban areas within each region need not be divided between functional classes of arterials but shall be available for any designated arterial street.

(2) On and after July 1, 1976, each six year program forwarded to the director in compliance with subsection (1) of this section shall contain information as to how a city or town will expend its moneys, including funds made available pursuant to chapter 47.30 RCW, for bicycle, pedestrian, and equestrian purposes. [1977 ex.s. c 317 § 7; 1975 1st ex.s. c 215 § 1; 1967 ex.s. c 83 § 27; 1965 c 7 § 35.77.010. Prior: 1961 c 195 § 2.]

Reviser's note: Powers, duties, and functions of department of highways transferred to department of transportation; see RCW 47.01.031. Term "director of highways" means department of transportation; see RCW 47.04.015.

Effective dates—Severability—1977 ex.s. c 317: See notes following RCW 82.36.010.

Severability—1967 ex.s. c 83: See RCW 47.26.900.

Highways, roads, streets in urban areas, urban arterials, development: Chapter 47.26 RCW.

Joint planning of urban arterial development: RCW 47.26.230.

Long range arterial construction plans, counties and cities to prepare: RCW 47.26.170.

Perpetual advanced plans for coordinated county road program: RCW 36.81.121.

Priority projects to be selected in preparation of six year program: RCW 47.26.220.

Urban arterial board: Chapter 47.26 RCW.

**35.77.015** Provisions for bicycle paths, lanes, routes, roadways and improvements to be included in annual revision or extension of comprehensive street programs—Exception. The annual revision and extension of comprehensive street programs pursuant to RCW 35.77.010 shall include consideration of and, wherever reasonably practicable, provisions for bicycle routes: *Provided*, That no provision need be made for any such route where the cost of establishing it would be excessively disproportionate to the need or probable use. [1974 ex.s. c 141 § 11.]

**36.75.240. Sidewalks and pedestrian paths or walks—Bicycle paths, lanes, routes, and roadways.** The boards may expend funds credited to the county road fund from any county or road district tax levied for the construction of county roads for the construction of sidewalks, bicycle paths, lanes, routes, and roadways, and pedestrian allocated paths or walks. [1974 ex.s. c 141 § 7; 1963 c 4 § 36.75.240. Prior: 1937 c 187 § 25, part; RRS § 6450-25, part.]

**36.81.121 Perpetual advanced plans for coordinated road program—Six year program for arterial road construction—Expenditures—Bicycle, pedestrian and equestrian funds, expenditures (as amended by 1975 1st ex.s. c 215).** (1) Prior to July 1, 1968, the legislative authority of each county with the advice and assistance of the county road engineer, and pursuant to one or more public hearings thereon, shall prepare and adopt a comprehensive road program for the ensuing six calendar years and shall file the same with the director of highways not more than thirty days after its adoption by the legislative authority. Annually thereafter each legislative authority shall review the work accomplished under the program and determine current county road needs. Based on these findings each legislative authority shall prepare and after public hearing thereon adopt a revised and extended comprehensive road program, and each one year extension and revision shall be filed with the director of highways not more than thirty days after its adoption by the legislative authority. The purpose of this section shall be to assure that perpetually each county shall have available advanced plans, looking to the future for not less than six years as a guide in carrying out a coordinated road construction program. Such program may at any time be revised by a majority of the legislative authority but only after a public hearing thereon.

The six year program of each county having an urban area within its boundaries shall contain a separate section setting forth the six year program for arterial road construction based upon its long range construction plan and formulated in accordance with regulations of the urban arterial board. The six year program for arterial road construction shall be submitted to the urban arterial board forthwith after its annual revision and adoption by the legislative authority of each county. The six year program for arterial road construction shall be based upon estimated revenues available for such construction together with such additional sums as the legislative authority of each county may request for urban arterials only from the urban arterial trust account for the six year period. The arterial road construction program shall provide for a more rapid rate of completion of the long range construction needs of major arterial roads than for secondary and collector arterial roads, pursuant to regulations of the urban arterial board.

(2) On and after July 1, 1976 each six year program forwarded to the director in compliance with subsection (1) of this section shall contain information as to how a county will expend its moneys, including funds made available pursuant to chapter 47.30 RCW, for bicycles, pedestrians, and equestrian purposes. [1975 1st ex.s. c 215 § 2; 1967 ex.s. c 83 § 26; 1963 c 4 § 36.81.121. Prior: 1961 c 195 § 1.]

Reviser's note: RCW 36.81.121 was amended twice by the 1975 first extraordinary session of the legislature, each without reference to the other.

For rule of construction for sections amended more than once during the same legislative session, see RCW 1.12.025.

Severability—1967 ex.s. c 83: See RCW 47.26.900.

Highways, roads, streets in urban areas, urban arterials, development: Chapter 47.26 RCW.

Joint planning of urban arterial development: RCW 47.26.230.

Long range arterial construction plans, counties and cities to prepare: RCW 47.26.170.

Priority projects to be selected in preparation of six year program: RCW 47.26.220.

Urban arterial board: Chapter 47.26 RCW.

**36.81.122 Provisions for bicycle paths, lanes, routes, roadways and improvements to be included in annual revision or extension of comprehensive road programs—**Exception. The annual revision and extension of comprehensive road programs pursuant to RCW 36.81.121 shall include consideration of and, wherever reasonably practicable, provisions for bicycle paths, lanes, routes, and roadways: *Provided*, That no provision need be made for such a path, lane, route, or roadway where the cost of establishing it would be excessively disproportionate to the need or probable use. [1974 ex.s. c 141 § 9.]

**36.82.145 Bicycle paths, lanes, routes, etc., may be constructed, maintained or improved from county road fund.** Any funds deposited in the county road fund may be used for the construction, maintenance, or improvement of bicycle paths, lanes, routes, and roadways, and for improvements to make existing streets and roads more suitable and safe for bicycle traffic. [1974 ex.s. c 141 § 8.]

## Title 47 RCW: Public Highways and Transportation

**47.26.300 Bicycle routes—Legislative declaration.** The state of Washington is confronted with emergency shortages of energy sources utilized for the transportation of its citizens and must seek alternative methods of providing public mobility.

Bicycles are suitable for many transportation purposes, and are pollution-free in addition to using a minimal amount of resources and energy. However, the increased use of bicycles for both transportation and recreation has led to an increase in both fatal and non-fatal injuries to bicyclists.

The legislature therefore finds that the establishment, improvement, and upgrading of bicycle routes is necessary to promote public mobility, conserve energy, and provide for the safety of the bicycling and motoring public. [1974 ex.s. c 141 § 1.]

**47.26.305 Bicycle routes—Establishment of system authorized and directed—Use of urban arterial trust funds.** Each city and county eligible for receipt of urban arterial trust funds is hereby authorized and directed to establish a system of bicycle routes throughout its jurisdiction. Such routes shall, when established in accordance with standards adopted by the urban arterial board, be eligible for establishment, improvement, and upgrading with urban arterial trust funds when accomplished in connection with an arterial project. [1974 ex.s. c 141 § 2.]

**47.26.310 Bicycle routes—Standards for designation of bicycle route systems.** Prior to July 1, 1974, the urban arterial board shall adopt:

(1) Standards for the designation of a bicycle route system which shall include, but need not be limited to, consideration of:

(a) Existing and potential bicycle traffic generating activities, including but not limited to places of employment, schools, colleges, shopping areas, and recreational areas;

(b) Directness of travel and distance between potential bicycle traffic generating activities; and

(c) Safety for bicyclists and avoidance of conflict with vehicular traffic which shall include, wherever feasible, designation of bicycle routes on streets parallel but adjacent to existing designated urban arterial routes.

(2) Insofar as is practicable to achieve reasonable uniformity, design standards for bicycle routes shall take into consideration the construction standards and signing system devised by the state highway department pursuant to RCW 47.30.060. [1974 ex.s. c 141 § 3.]

Reviser's note: Powers, duties, and functions of highway department transferred to department of transportation; see RCW 47.01.031. Term "state highway department" means department of transportation; see RCW 47.04.015.

**47.26.315 Bicycle routes—Revisions to long range arterial construction plans to include bicycle route system plans.** The revisions of long range arterial construction plans directed by RCW 47.26.170 shall include plans for a bicycle route system. [1974 ex.s. c 141 § 6.]

Chapter 47.30  
TRAILS AND PATHS

Sections

47.30.005	Definitions.
47.30.010	Severance or destruction of recreational trail—Alternative, construction or reconstruction required—Signing.
47.30.020	Facilities for pedestrians, equestrians, or bicyclists to be provided—Joint usage of rights of way.
47.30.030	Facilities for pedestrians, equestrians, or bicyclists authorized—Expenditure of available funds.
47.30.040	Establishing paths and trails—Factors to be considered.
47.30.050	Expenditures for paths and trails—Minimum amount.
47.30.060	Expenditures deemed to be for highway, road, and street purposes—Powers and duties of department of transportation—Restrictions on use of paths and trails.

*Recreation trails system: Chapter 67.32 RCW.*

47.30.005 Definitions. For the purposes of this chapter, "trail" or "path" means a public way constructed primarily for and open to pedestrians, equestrians, or bicyclists, or any combination thereof, other than a sidewalk constructed as a part of a city street or county road for the exclusive use of pedestrians. The term "trail" or "path" also includes a widened shoulder of a highway, street, or road when the extra shoulder width is constructed to accommodate bicyclists consistent with a comprehensive plan or master plan for bicycle trails or paths adopted by a state or local governmental authority either prior to such construction or prior to January 1, 1980. [1979 1st ex.s. c 121 § 4.]

47.30.010 Severance or destruction of recreational trail—Alternative, construction or reconstruction required—Signing. (1) No limited access highway shall be constructed that will result in the severance or destruction of an existing recreational trail of substantial usage for pedestrians, equestrians or bicyclists unless an alternative recreational trail, satisfactory to the authority having jurisdiction over the trail being severed or destroyed, either exists or is reestablished at the time the limited access highway is constructed. If a proposed limited access highway will sever a planned recreational trail which is part of a comprehensive plan for trails adopted by a state or local governmental authority, and no alternative route for the planned trail exists which is satisfactory to the authority which adopted the comprehensive plan for trails, the state or local agency proposing to construct the limited access highway shall design the facility and acquire sufficient right of way to accommodate future construction of the portion of the trail which will properly lie within the highway right of way. Thereafter when such trail is developed and constructed by the authority having jurisdiction over the trail, the state or local agency which constructed the limited access highway shall develop and construct the portion of such trail lying within the right of way of the limited access highway.

(2) Where a highway other than a limited access highway crosses a recreational trail of substantial usage

for pedestrians, equestrians, or bicyclists, signing sufficient to insure safety shall be provided.

(3) Where the construction or reconstruction of a highway other than a limited access highway would destroy the usefulness of an existing recreational trail of substantial usage for pedestrians, equestrians, or bicyclists or of a planned recreational trail for pedestrians, equestrians, or bicyclists incorporated into the comprehensive plans for trails of the state or any of its political subdivisions, replacement land, space, or facilities shall be provided and where such recreational trails exist at the time of taking, reconstruction of said recreational trails shall be undertaken. [1971 ex.s. c 130 § 1.]

47.30.020 Facilities for pedestrians, equestrians, or bicyclists to be provided—Joint usage of rights of way. Facilities for pedestrians, equestrians, or bicyclists shall be incorporated into the design of highways and freeways along corridors where such facilities do not exist upon a finding that such facilities would be of joint use and conform to the comprehensive plans of public agencies for the development of such facilities, will not duplicate existing or proposed routes, and that safety to both motorists and to pedestrians, equestrians, and bicyclists would be enhanced by the segregation of traffic.

In planning and design of all highways, every effort shall be made consistent with safety to promote joint usage of rights of way for trails and paths in accordance with the comprehensive plans of public agencies. [1971 ex.s. c 130 § 2.]

47.30.030 Facilities for pedestrians, equestrians, or bicyclists authorized—Expenditure of available funds. Where an existing highway severs, or where the right of way of an existing highway accommodates a trail for pedestrians, equestrians, or bicyclists or where the separation of motor vehicle traffic from pedestrians, equestrians, or bicyclists will materially increase the motor vehicle safety, the provision of facilities for pedestrians, equestrians, or bicyclists which are a part of a comprehensive trail plan adopted by federal, state, or local governmental authority having jurisdiction over the trail is hereby authorized. The department of transportation, or the county or city having jurisdiction over the highway, road, or street, or facility is further authorized to expend reasonable amounts out of the funds made available to them, according to the provisions of RCW 46.68.100, as necessary for the planning, accommodation, establishment, and maintenance of such facilities. [1979 1st ex.s. c 121 § 1; 1974 ex.s. c 141 § 12; 1972 ex.s. c 103 § 2.]

Severability—1972 ex.s. c 103: "If any provision of this 1972 amendatory act, or its application to any person or circumstance is held invalid, the remainder of the act, or the application of the provision to other persons or circumstances is not affected." [1972 ex.s. c 103 § 8.]

47.30.040 Establishing paths and trails—Factors to be considered. Before establishing paths and trails, the following factors shall be considered:

- (1) Public safety;
- (2) The cost of such paths and trails as compared to the need or probable use;

(3) Inclusion of the trail in a plan for a comprehensive trail system adopted by a city or county in a state or federal trails plan. [1972 ex.s. c 103 § 3.]

Severability—1972 ex.s. c 103: See note following RCW 47.30.030.

**47.30.050 Expenditures for paths and trails—**  
Minimum amount. (1) The amount expended by a city, town, or county as authorized by RCW 47.30.030, as now or hereafter amended, shall never in any one fiscal year be less than one-half of one percent of the total amount of funds received from the motor vehicle fund according to the provisions of RCW 46.68.100: *Provided*, That this section does not apply to a city or town in any year in which the one-half of one percent equals five hundred dollars or less, or to a county in any year in which the one-half of one percent equals three thousand dollars or less: *Provided further*, That a city, town, or county in lieu of expending the funds each year may credit the funds to a financial reserve or special fund, to be held for not more than ten years, and to be expended for the purposes required or permitted by RCW 47.30.030.

(2) In each fiscal year the department of transportation shall expend, as a minimum, for the purposes mentioned in RCW 47.30.030, as now or hereafter amended, a sum equal to three-tenths of one percent of all funds, both state and federal, expended for the construction of state highways in such year, or in order to more efficiently program trail improvements the department may defer any part of such minimum trail or path expenditures for a fiscal year for a period not to exceed four years after the end of such fiscal year. Any fiscal year in which the department expends for trail or path purposes more than the minimum sum required by this subsection, the amount of such excess expenditure shall constitute a credit which may be carried forward and applied to the minimum trail and path expenditure requirements for any of the ensuing four fiscal years.

(3) The department of transportation, a city, or a county in computing the amount expended for trails or paths under their respective jurisdictions may include the cost of improvements consistent with a comprehensive plan or master plan for bicycle trails or paths adopted by a state or local governmental authority either prior to such construction or prior to January 1, 1980. [1979 1st ex.s. c 121 § 2; 1972 ex.s. c 103 § 4.]

Severability—1972 ex.s. c 103: See note following RCW 47.30.030.

**47.30.060 Expenditures deemed to be for highway, road, and street purposes—**Powers and duties of department of transportation—Restrictions on use of paths and trails. For the purposes of this chapter, the establishment of paths and trails and the expenditure of funds as authorized by RCW 47.30.030, as now or hereafter amended, shall be deemed to be for highway, road, and street purposes. The department of transportation shall, when requested, and subject to reimbursement of costs, provide technical assistance and advice to cities, towns, and counties in carrying out the purposes of

RCW 47.30.030, as now or hereafter amended. The department shall recommend construction standards for paths and trails. The department shall provide a uniform system of signing paths and trails which shall apply to paths and trails under the jurisdiction of the department and of cities, towns, and counties. The department and cities, towns, and counties may restrict the use of paths and trails under their respective jurisdictions to pedestrians, equestrians, and nonmotorized vehicles. [1979 1st ex.s. c 121 § 3; 1972 ex.s. c 103 § 5.]

Severability—1972 ex.s. c 103: See note following RCW 47.30.030.