



THE Dalles **Bicycle Master Plan**

Prepared by
David Evans and Associates, Inc.

for the
City of The Dalles
Wasco County
Port of The Dalles
Northern Wasco County
Parks and Recreation District

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ACKNOWLEDGMENTS

Preparation of The Dalles Bicycle Master Plan began in 1989 as a cooperative effort by Wasco County, the City of The Dalles, and the Northern Wasco County Parks and Recreation District. The Bicycle Master Plan is a natural outgrowth of and complement to The Dalles Riverfront Plan which was completed in October of 1989.

The dedicated members of The Dalles Bicycle Advisory Committee which met regularly to ride their bikes over all of the proposed routes and assemble recommendations for The Dalles Bicycle Master Plan include:

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SUMMARY**Background**

Bicycle planning is a part of the overall transportation planning undertaken by all levels of government. This document provides The Dalles with a comprehensive, bicycle-specific transportation plan that aims to promote bicycle use.

Bicycles are an attractive option to an automobile-dominated system that has reached the limits of our ability to sustain it and threatens community livability. Various new transportation guidelines at the State and Federal levels provide further impetus to bicycle planning as a means to lessen energy demands, reduce pollution, and make options available to those who do not drive an automobile (about half the population). Notable among these guidelines are the State Transportation Planning Rule and the Federal Intermodal Surface Transportation Efficiency Act.

The Dalles has much to offer bicyclists. Although bicycle use is currently low, the potential for substantial increase is high due to the compact community and existing road system. Also, the surrounding rural areas and Columbia River frontage have great recreational potential.

Previous bicycle planning efforts have pointed to the need for a safe, continuous east-west route, for better access to the Columbia River, and for improved facilities on many existing roads. The Riverfront Plan stresses how bicycling can contribute to a more prosperous, accessible and livable area.

Highlights**Priorities**

A successful bicycle program must embrace not only facilities construction but also maintenance, community awareness, education, and enforcement. The most appropriate agency to maintain a strong and active bicycle program should be determined. A staff Bicycle Coordinator should be the focal point for program efforts, and an appointed Bicycle Advisory Committee should oversee all efforts.

Bicycle system priorities

-
- Bike path along Columbia River and creeks.
 - Bike lanes on arterials and collectors.
 - Shoulder bikeways on highways.
 - Shared roadways on residential streets.
 - Direct routes that minimize travel distances between residential areas and employers, businesses, schools, and recreational sites.
 - Elimination of hazards, including speeds or amounts of automobile traffic that discourage local bicycle travel.
 - Convenient and secure parking at destinations.
 - Regular sweeping, patching and maintenance.
 - Active education and enforcement programs.
 - Bicycle Coordinator and Bicycle Advisory Committee to coordinate efforts.
-

Adoption and Implementation

In order for this Bicycle Master Plan to be effective both for obtaining funds and improving bicycle use, it must be formally adopted into the Transportation Element of The Dalles Comprehensive Plan. The prioritized list of bikeway projects should be placed on the Transportation Improvement Plan and appropriate

projects included on the Six-Year Capital Improvement Plans in order to improve the chances for obtaining State and Federal funding.

The bicycle plan will be implemented through the codes, ordinances and standards that are the working documents referenced by planners, engineers and developers. These documents should reflect the needs of bicyclists so that bicycle facilities are routinely considered during project application, review, approval, and design.

The entire bikeway system of about 37 mi will take many years to complete. By scheduling 2 to 3 mi each year, the system can be finished in about 15 years. This should keep pace with a gradual conversion from an automobile-dominated system to one that incorporates more cycling and walking for short-range trips.

Funding

Bicycle facilities and programs can be funded through a broad combination of local, state, federal and private sources. By State law, bikeways must be created whenever City, County, State or Federal roads are built or reconstructed. Arterials and collectors require bike lanes. The Dalles should ensure that any road project in the area is built to bikeway standards for the street classification and that costs are included as a normal part of the project.

Standards

The Oregon Bicycle Plan contains detailed standards based on the AASHTO Guide. It contains many excellent and comprehensive recommendations for all types of bikeways and situations. Prominent features are a hierarchical system of bikeways tied into the existing road grid, bicycle parking requirements, and a focus on maintenance.

Projects

Existing roads, with relatively minor improvements, can change character from poor bikeways to good ones. Often, this is a simple matter of overcoming a few obstacles such as dangerous intersection design, or giving riders more space through striping of bike lanes. Several highly needed bikeway projects are identified (see summary below), along with other useful and less expensive spot improvements.

Trails along the Columbia River and its drainages, as described in the Riverfront Plan, present an excellent opportunity for the community to develop an off-road bikeway framework. A multi-use trail, offering walking and bicycling paths, nature observation, and pleasant scenery, could be a recreational centerpiece for the community as well as an important part of the non-motorized transportation system.



Project summary

Facility Type	Length, mi	Projects
Bike Path	9.2	3
Bike Lane	11.7	14
Shoulder Bikeway	3.2	5
Shared Roadway	13.7	6

INTRODUCTION

Purpose

This document provides a bicycle-specific planning guide to the City of The Dalles and Northern Wasco County. It is intended to meet the needs of the residents and to pursue the vision of the Oregon Bikeway and Pedestrian Program:

Oregonians envision the day when they will be able to bicycle safely, conveniently and pleurably to all destinations within five miles of their homes. All streets and roads will be "bicycle friendly" and well-designed to accommodate both motorized and nonmotorized modes of transportation.

Goals

The Bicycle Master Plan has four primary goals:

- Integrate bicycle planning into the community's overall transportation planning.
- Provide and maintain a comprehensive system for safe and convenient bicycle access to all destinations within the City.
- Promote bicycling as a viable form of transportation for all ages and trip purposes.
- Increase bicycle use within the City every year until 10 percent of all trips are made by bicycle.

Each of these goals—integration, provision, promotion, and use—is consistent with The Dalles' vision of a prosperous and liveable community.

Highlights

- This document addresses the unique characteristics of The Dalles in providing a comprehensive and bicycle-specific plan.
- A Bicycle Advisory Committee shall coordinate the Plan.
- The area poses numerous challenges to cycling but shows great potential as well.

Objectives

Objectives to meet the goals are:

Integration

- Adopt the goals and policies of this Plan by the City Council as part of the City's Transportation Plan. (This will be needed to satisfy the State's Transportation Planning Rule.)
- Adopt implementing ordinances, codes and standards necessary to carry out the Plan.
- Appoint a Bicycle Coordinator and Bicycle Advisory Committee, possibly in conjunction with Wasco County.
- Develop dependable funding sources and actively seek additional sources.
- Encourage land uses that give priority to pedestrians and bicyclists.
- Integrate with the proposed Riverfront Trail in The Dalles Riverfront Plan.

Provision

- Improve access and mobility by identifying routes that penetrate barriers, avoid bottlenecks and obstacles, and minimize travel distances.
- Designate and develop bikeways connecting neighborhood, school, commercial, industrial and recreational centers.

- Eliminate hazards, including speeds or amounts of automobile traffic that discourage local bicycle travel.
- Provide convenient and secure parking and commuter facilities at destinations.
- Conduct regular sweeping, patching and maintenance.
- Review project scheduling and implementation annually and amend the project list as needed to respond to changes in funding opportunities, demographics and development.

Promotion

- Enhance the quality of the bicycling experience by identifying attractive routes with desired amenities and support services.
- Provide guidance to educational and enforcement agencies to enhance cyclists' safety and effectiveness.
- Maintain public awareness and support of the Plan.

Use

- Establish benchmarks to measure progress.
- Collect and analyze data annually to increase bicycle usage and to improve the system's safety and efficiency.

Authority

The Dalles Bicycle Master Plan is in accordance with the City's Comprehensive Plan, the Riverfront Plan, and the State Transportation Planning Rule, all of which require city-wide bicycle planning.

A broad range of planning, public works, enforcement, and promotional activities are described in the Bicycle Master Plan. To coordinate these efforts, there shall be a Bicycle Advisory Committee. The Committee shall be

perpetual with the responsibility of monitoring the continuing achievement of the Plan.

The Committee should primarily include cyclists, but should also include other concerned persons such as law enforcement personnel, city and county administrative personnel, and persons with route maintenance and design expertise.

Challenges

In recent years there has been an increased interest in bicycling as healthy, clean, cost-effective transportation in urban settings. Various new transportation policies, plans and standards at the State and Federal levels provide further impetus to bicycle planning as a means to lessen energy demands, reduce pollution, and make options available to those who do not drive an automobile.

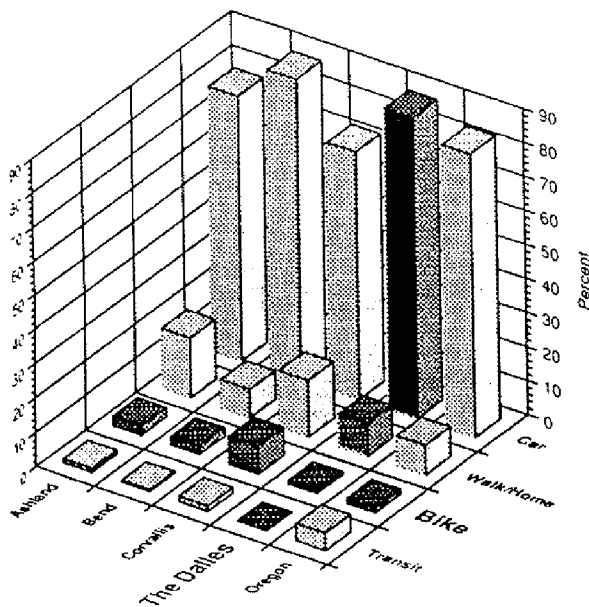
The development of a quality bikeway system is a prerequisite to promoting bicycling. The Dalles has much to offer cyclists despite a lack of bicycle-specific facilities. Although bicycle use is low, the potential of bicycling in the area is high.

The Dalles faces some challenges in developing a bikeway system:

- The city is located in a topographically difficult area for cycling because of fairly steep hills and abrupt cliffs, which limit available and reasonable routes for cycling. The Columbia River Gorge is also noted for its high winds which can affect The Dalles.
- The street layout and width does not present ideal conditions for convenient and safe bicycle routing, nor for the most part in providing separated bike lanes without taking space from motorists. Thus, nearly all the local routes are currently shared roadways. Sixth St. (U.S. 30) from the Chenoweth bridge to Webber St. (about 1.5

- mi) is the only striped, signed bike route in The Dalles.
- Clearly designated bike routes connecting neighborhoods, schools, commercial, industrial and recreational centers do not exist.
- Very few bicycle parking racks and other facilities exist.
- The City has been cut off from recreational and transportation access to and along the Columbia River by construction of Bonneville Dam, the railroad, and the I-84 Freeway.
- The transportation system is dominated by the automobile (see Figure 1). In particular, single-occupancy automobile use ranks in the top third among cities in Oregon at 70.7%.

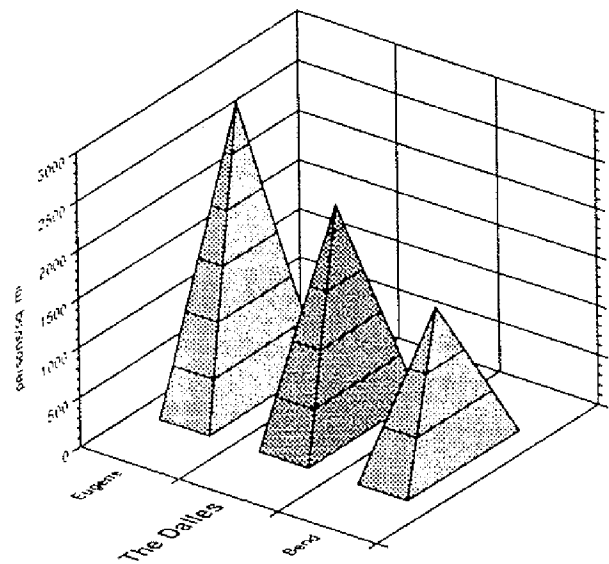
Figure 1. Transportation in The Dalles is dominated by automobiles



Source: 1990 Journey-to-Work data

Despite these negatives, there are strong opportunities for improving the cycling environment and increasing ridership. The restrictive topography has also limited sprawl, so that urban destinations are always close. Indeed, The Dalles has a moderate density, compared to some other popular cycling cities (see Figure 2), which makes cycling attractive.

Figure 2. The Dalles has moderate density



Source: 1990 Census data

...just as an ecological system is healthiest when it displays great diversity and differentiation, so too is a transportation system most healthy and robust when diverse modal options are available to those moving people and goods. A transportation system dependent on only one or two modes of transport is far more susceptible to disruption and system failure.

Transportation coordinator and author
Michael Replogle

The City wraps around a bend in the Columbia River, providing a strong community identity. A central downtown is within easy bicycling distance of the adjacent residential neighborhoods (see Figure 3). Scenic, historical and recreational attractions bring visitors and contribute to the community's vitality. A mild climate generally favorable to cycling is due to the river's moderating influence and the low elevation.

Organization

The following chapters delve into the range of bicycling issues and recommend actions to create a comprehensive bikeway system. Additional information is included in the Appendices, and a foldout map of the bikeway system is attached.

Chapter 2 provides background information, including a review of applicable documents.

Chapter 3 summarizes proposed bikeway projects.

Chapter 4 discusses how to implement a bicycle program.

Chapter 5 details the suitability criteria used to select bicycle routes.

Chapter 6 describes bikeway standards.

Chapter 7 discusses supplementary facilities.

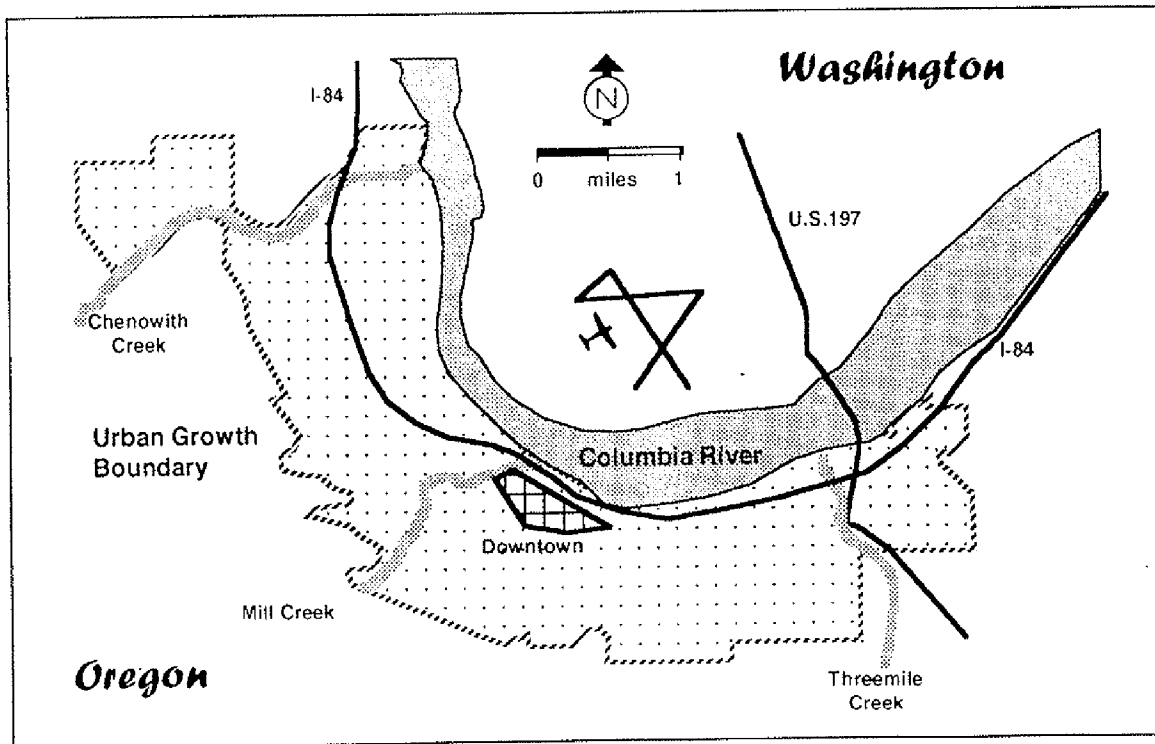
Chapter 8 deals with education.

Chapter 9 deals with law enforcement.

Chapter 10 covers operation and maintenance issues.



Figure 3. The Dalles area



PLANNING BACKGROUND

Bicycle planning is an integral part of the overall transportation planning undertaken by local, State and Federal government. Transportation agencies are unique in their ability to determine the nature of the roads and how bicycles fit in.

Municipal planning undertaken by The Dalles has identified local bicycle needs, established priorities, and put forth solutions as described below.

State and Federal transportation planning has also acknowledged the bicycle as an attractive option for urban travel. Various new transportation policies, plans and standards have been created that draw on a wealth of bicycle-related experience. The relevant documents are summarized below.

Bicycle Planning in The Dalles

Several planning efforts in The Dalles specifically endorse improved bicycle conditions. Together, they provide a clear statement that the community would like a safe and functional bikeway network and decreased dependence on the automobile.

Riverfront Plan

The Dalles Riverfront Plan, adopted in October 1989, is the community's vision for a 9-mile length of the Columbia River. Given the importance of the River in the area's past and future, the Plan touches on nearly all aspects of the community, including transportation. The Plan recommends:

- Existing plans establish the need and desire for an improved bicycle system.
- State and Federal guidelines provide standards and funding sources.
- The Riverfront Plan features several multiuse paths that could form the backbone of a city-wide bikeway system.
- The Dalles Bicycle Master Plan Task Force has coordinated research and provided an avenue for public participation.

- A City-County bikeway plan and system to provide safe, pleasant ways to ride from home to schools, parks, other community facilities, business areas, and the riverfront.
- The Riverfront Trail and greenway trails along Mill and Chenoweth Creeks, for bicycling and walking to and from neighborhoods, parks, schools, other community facilities and business areas throughout the community.
- Coordinated transportation and recreation planning among local agencies to develop bikeways and trails.
- Incorporation of bikeways into public and semi-public capital improvements and routine construction, improvement and maintenance of sidewalks, streets, utilities and other corridors.
- Subdivision and site plan regulations and review that encourage incorporation of trails, bikeways and walkways for transportation.

The Riverfront Plan also identified:

- Bicycle lanes on:
 - E. 2nd St.
 - W. 6th St./3rd Pl./4th St.
 - W. 10th St.
 - U.S. 197
 - Brewery Grade and overpass

Cherry Heights Rd.
 Court St. (S. of 4th)
 Hostetler St.
 Old Dufur Rd./Fremont St.
 Scenic Dr.
 Washington St. (N. of 4th)
 Webber St.

The Riverfront Trail would serve as a centerpiece of a bikeway system. Besides the aesthetic attractions, there are over 1,300 people presently employed near the Riverfront from The Dalles Dam on the east to the Mountain Fir Chip Mill on the west. To this will be added additional employees in the Port Industrial Center plus many recreational users as the Interpretive (Discovery) Center is built.

Bicycle Master Plan Task Force

The Bicycle Master Plan Task Force first met in March 1990 to develop a bicycle plan in accordance with the Riverfront Plan and with the State of Oregon Bicycle Master Plan. They reviewed the efforts of other communities, discussed options, examined routes, surveyed riders, held a public hearing, and made a list of recommendations that are the foundation of this plan.

A rider survey, extensive route evaluations, and other efforts of the Task Force are summarized below.

The written *rider survey*, conducted in August 1990, received 81 responses. The results are summarized in Appendix A. Some of the results are:

- The respondents are predominantly male (70%), over 16 years of age (90%), and recreational or fitness riders (87%).
- Over 64% ride more than 10 mi per week with 17% riding over 50 mi per week.

- Many (88%) feel that signed bike routes are a good idea and would encourage them to ride more often (69%).
- The only existing bike lane (on W. 6th St.) is rated only 5.5 for safety (10 being very dangerous). The street is rated 7.2 without the bike lane.
- The most important factor in choosing a route is traffic volume, with surface material and width being of second highest importance. Directness of route does not rate as highly.
- Respondant comments tend to focus on poor road maintenance and conflicts with cars (especially due to narrow streets).

This survey provides a snapshot of a subset of existing cyclists. While not representative of all cyclists, much less of the average citizen, the survey provides useful information from a group that knows the local riding conditions. They reiterate the primary concerns expressed by cyclists in many communities about inadequate maintenance, poor bike lane design, and discomfort with high traffic levels on shared roadways.

The *route evaluations* are aimed at identifying primary routes to be signed and secondary routes to be included only on a map. The signing is intended to help cyclists find the primary routes and to alert motorists to expect cyclists on the roadway. In most cases, existing conditions (road surface, intersections, traffic volume, lane width, etc.) are used to determine the safest routes. Elevation gain (or 'energy output'), directness, continuity, and destinations are also considered. The Task Force is well aware of the tradeoffs involved in choosing one route over another and that not everyone will agree with the choices.

The resulting recommendations from the Task Force are a system of primary and secondary routes that provide several options for east-west and north-south travel. While occasionally devious, these routes are a useful synthesis of the committee's experience with local streets.

The Committee also studied plans from other communities, and members attended State-sponsored conferences for bicycle advisory committees. This research broadened their perspective by seeing how other communities have responded to similar needs and how the State plays a key role in providing guidance and funding. The critical contribution of maintenance, education and law enforcement in creating a safe and attractive environment for cyclists became apparent to the Committee, and these concerns are incorporated into the Plan.

Community Profile

A community profile, *Pioneering The Dalles: Exploring the Trail to 2020*, was produced in January 1993. This included an analysis of the community and an "attitudes and values" survey.

The analysis pointed out how highway development and increased use of the automobile caused the City to grow away from the river. Reestablishment of the river connection is a high priority. A *bikeway and pedestrian plan* to provide safe access throughout the community is seen as a way to support planned growth and to encourage economic development. Gradual population growth between 1% and 2% is predicted.

A survey of 1500 randomly-selected households in The Dalles was conducted to help guide community development. A supplemental survey of high school students was also conducted. A variety of questions were asked to determine community values and priorities. Several questions touched upon transportation and access:

- Bicycle and pedestrian pathways are important to The Dalles (77% of households and 69% of students agreed).
- The city should place more emphasis on paving and maintaining streets (63% of households and 70% of students agreed).
- More and better access to the river will benefit residents and visitors (79% of households and 72% of students agreed).
- The Dalles should implement the Riverfront Master Plan (74% of households and 69% of students agreed).
- There is a need for public transportation in The Dalles (58% of households and 59% of students agreed).

The survey indicates that improvements in bicycle facilities as well as other nonmotorized modes are a high priority among residents.

Prior Planning

Bicycle planning in The Dalles dates back to at least 1976 when C. Dennis Kramer, Wasco County Surveyor, wrote *A Guide for Bikeway Development in The Dalles and Vicinity*, a 14-page document with map attachment. It argued for the need to service and promote bicycling, summarized the facility design standards available at the time, and recommended a system of developed bicycle routes not much different from the ones chosen by the Task Force in 1990.

The City of The Dalles Comprehensive Plan, December 1982, recognizes the bicycle as a desirable mode of transportation, establishes basic standards, and directs that bikeways be considered.

Existing Road System and Constraints

The Dalles is craddled between the south shore of the Columbia River and the nearby hills (see Figure 4). Urban destinations are scattered throughout the area, and several roads lead into the surrounding country. There are few east-west through routes, and the north-south routes are hilly. Two major east-west highways, I-84 (Columbia River Hwy.) and U.S. 30 (Mosier-The Dalles Hwy.) traverse the city. U.S. 197 (The Dalles-California Hwy.) passes through the east end of the city and provides the only nearby river crossing.

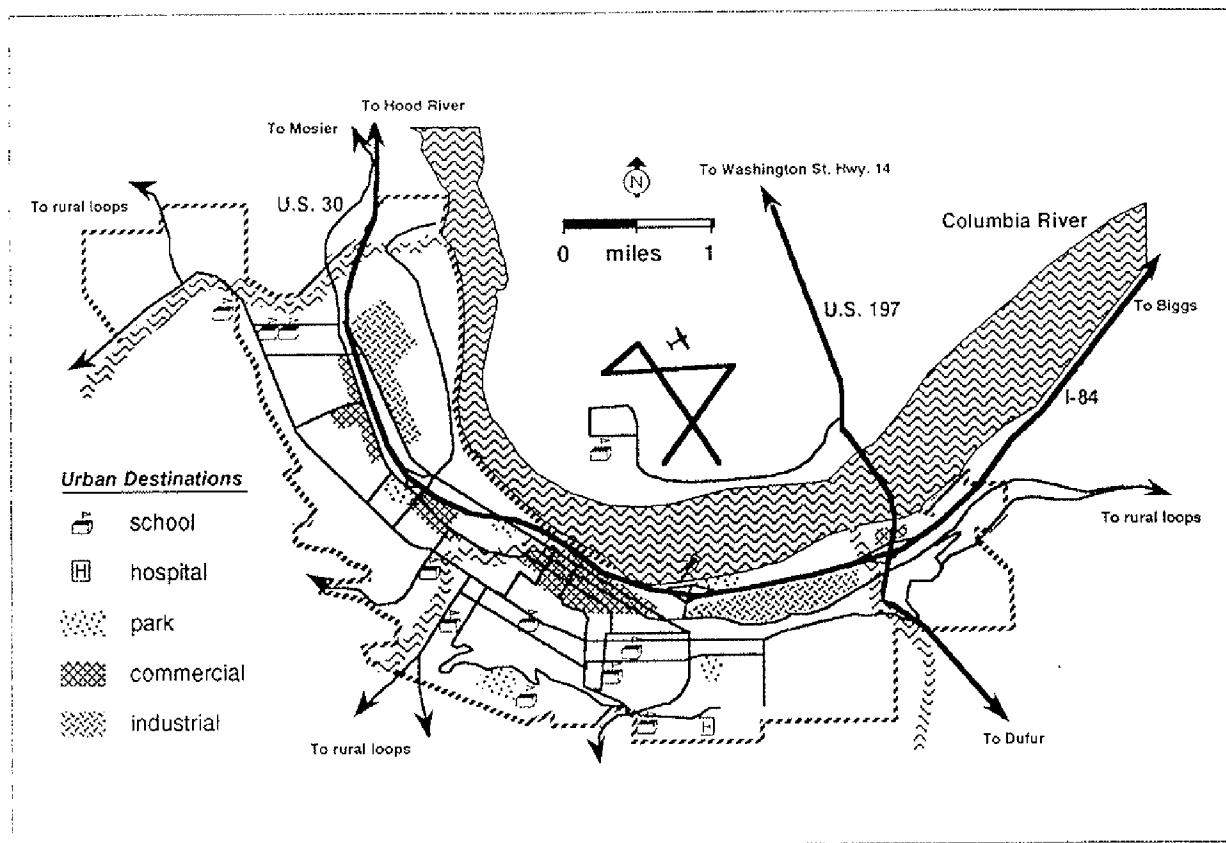
Roadway Classifications

The Dalles Transportation Plan is being updated. The existing functional classification map of the urban area shows the following arterials and collectors:

East-west trending urban arterials:

- 2nd-3rd St. couplet (U.S. 30)
- 6th St. (U.S. 30) (the only bike lane is along this street)
- Chenoweth Rd./10th St./Old Dufur Rd./Fremont St.
- Seven Mile Hill Rd.
- Hostetler St.

Figure 4. The Dalles area



East-west trending urban collectors:

1st St.
 4th St.
 9th St. (east of Dry Hollow)
 12th St. (east of Kelly)
 13th St. (west of Kelly)
 Scenic Dr.
 19th St.

North-south trending urban arterials:

Cherry Heights Rd.
 Mt. Hood St. (south of 10th)/Mill Creek Rd.
 Skyline Rd.
 Union St. (north of 10th)
 Court St. (north of 10th)
 Washington/7th/Kelly
 Brewery Grade/Dry Hollow Rd.

North-south trending urban collectors:

Snipes St.
 Walnut St.
 Webber St.
 Trevitt St.
 Liberty St. (1st to 2nd)
 Union St. (10th to 13th)
 Federal St. (2nd to 4th)
 Laughlin St. (2nd to 4th)
 Jefferson St. (2nd to 4th)
 Madison St. (1st to 4th)
 Quinton St. (north of 12th)
 Thompson St.
 Richmond St.

Except for a section of bike lane on W. 6th St., all these facilities are shared roadways with a few short segments of shoulder bikeway (refer to Chapter 6: Bikeway Design Standards for definitions of bikeway types).

Bicycle Counts

The limited bicycle data that are available show mixed bicycle use in The Dalles. Journey-to-work data, which includes only work trips made by those over 17 years of age, is a meager 0.9%. However, a 1990 bicycle count at W. 6th St. (along the U.S. 30 bike lane) yielded an ADT (average daily traffic) of about 40. Pedestrian counts taken in 1992 showed many streets exceeding 100 ADT, which implies that bicycle use is probably over 20 ADT at those locations (based on experience in other communities). While not high, these numbers show that bicycle use continues despite obstacles and little encouragement.

Central City

The central city is built on a tight grid (approximately 300 ft) with ample sidewalks. Curb-to-curb width varies but 38 ft is typical. Most streets allow parking on both sides (even Liberty St. which is only 32-ft wide). There is some diagonal parking downtown. The major physical impediments to bicycling (and walking) are the hills to the south, Mill Creek which has limited east-west crossings, and U.S. 30 which is difficult to cross.

Bicycle travel is complicated by inconsistent street widths, extensive on-street parking, traffic congestion on the main through routes, little space allocation to bicycles, and scarce bicycle parking.

Access to the river is limited due to the multiple barriers of I-84 and the parallel railroad tracks.

State and Federal Bicycle Planning

Oregon is fortunate in having a long-standing and supportive state program. Oregon was one of the first states to appoint a bicycle program manager and to establish a dependable funding source. Much of what Oregon pioneered is now reflected in new Federal legislation that applies to all states. The following sources provide the framework from which local bicycle programs are designed.

State Policies

Oregon has long led the way in bicycle planning in the U.S. It provides cities with clear and strong directions about bicycle provisions.

• Bicycle Program

Oregon has had a State-wide program for over 20 years that is supported by the 1971 "Oregon Bicycle Law" that mandates a minimum 1% gas-tax expenditure on bicycle and pedestrian facilities (refer to *Chapter 4: Implementation*). The Oregon Bicycle Plan (1992) describes how the program "serves the needs of bicyclists within the State by supporting bicycling as a form of transportation and recreation that enhances the livability of Oregon." The Oregon Bicycle Plan provides extensive information about the program, facility standards, and design issues that are directly applicable to The Dalles.

• Transportation Planning Rule

The Oregon Transportation Planning Rule (1991), OAR Chapter 660, Division 12, implements Statewide Planning Goal 12 (Transportation). The rule requires cities and counties to plan for non-automotive choices, including bicycling and walking, through various measures. The Rule states:

1. Local governments shall adopt land use or subdivision regulations for urban areas and rural communities to require:
 - a. *Bicycle parking facilities* as part of new multi-family residential developments of four units or more, new retail, office and institutional developments, and all transfer stations and park-and-ride lots.
 - b. *Facilities providing safe and convenient pedestrian and bicycle access* within and from new subdivisions, planned developments, shopping centers and industrial parks to nearby residential areas, transit stops, and neighborhood activity centers, such as schools, parks and shopping. This shall include:
 - Sidewalks along urban arterials and collectors.
 - Bikeways along arterials and major collectors.
 - Where appropriate, separate bike or pedestrian ways to minimize travel distances within and between the areas and developments listed above.
 - c. Routes shall be:
 - Reasonably free from hazards, particularly types or levels of automobile traffic which would interfere with or discourage pedestrian or cycle travel for short trips.
 - Provide a direct route of travel between destinations.
 - Meet travel needs of cyclists and pedestrians considering destination and length of trip.
2. Local governments shall identify improvements to facilitate bicycle and pedestrian trips to meet local travel needs in developed areas. Appropriate improvements should provide for more direct, convenient and safer bicycle or pedestrian travel within and

between residential areas and neighborhood activity centers (i.e., schools, shopping, transit stops). Specific measures include, for example, constructing walkways between cul-de-sacs and adjacent roads, providing walkways between buildings, and providing direct access between adjacent uses.

The Rule has a goal of no increase in metropolitan automobile trips in the first 10 years, a reduction of 10% in 20 years, and a reduction of 20% in 30 years.

• **Oregon Transportation Plan**

Oregon has also created a 20-year Transportation Plan in 1992 to meet the requirements of Goal 12 and the ISTEA. The Plan stresses that people must have choices and that transportation systems must support land-use plans. This includes improved circulation systems for bicycles and pedestrians whereby housing, daycare, schools, commercial areas and employment can be reached easily and safely.

• **Model Bicycle Ordinances**

The Oregon Chapter of the American Planning Association developed the Model Bicycle

Ordinances (1993) to recommend specific ordinances for use by Oregon municipalities when implementing bicycle plans. These are designed to meet the requirements of the Transportation Planning Rule.

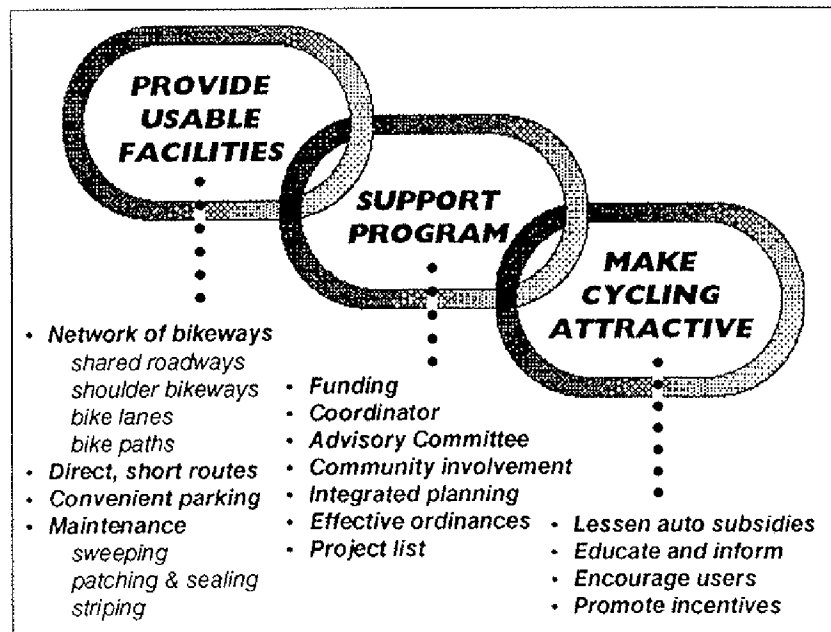
Federal Policies

The Federal government has recently taken a strong stand in promoting bicycles as an alternative to automobiles.

• **National Bicycling and Walking Study**

The Federal Highway Administration conducted the National Bicycling and Walking Study to explore various issues and present existing data in a way that local agencies can use. Many studies have been completed, and the results provide useful insight into the benefits of bicycle transportation and the means required to promote bicycle use. For example, successful bicycle programs have been found to address three basic goals: provide usable facilities, establish program support, and make cycling attractive (see Figure 5).

Figure 5. Essential links in a bicycle program



- **ISTEA**

The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 set new Federal policy. It establishes bicycling and walking as legitimate forms of transportation and provides support to the widespread development of bicycle and pedestrian facilities. States and metropolitan areas are required to develop multimodal transportation systems that maximize mobility while minimizing fuel consumption and pollution.

ISTEA stresses a wide range of transportation options rather than just highways and automobiles. It requires States to staff a bicycle and pedestrian coordinator, requires metropolitan areas to plan for bicycles, and makes available funds to the States for a variety of bicycle projects.

Because the Federal highway classification system is being revised and new funding categories developed, The Dalles will need to keep close watch on how these changes will affect bikeway projects. The funding aspects of ISTEA are discussed in *Chapter 4: Implementation*.

- **Facility Standards**

Local bicycle plans depend heavily on two Federal documents:

- *Guide for the Development of Bicycle Facilities (1991)*, American Association of State Highway and Transportation Officials, Washington, D.C. establishes national standards for the planning, design and operation of bicycle facilities. The AASHTO Guide recognizes that bicycle planning must be conducted in conjunction with planning for other transportation modes and should be consistent with overall community goals. It breaks down the planning process into three steps: inventory of existing conditions, analysis of improvements, and selection of facilities. It was adopted and supplemented by the Oregon Bicycle Plan.
- *Manual on Uniform Traffic Control Devices (1988)*, Federal Highway Administration, Washington, D.C. the MUTCD establishes basic national standards for the signing and marking of bikeways. It, too, was adopted and supplemented by the Oregon Bicycle Plan.



RECOMMENDATIONS

Introduction

Bikeways are the basic framework of a bicycle system, but they must be accompanied by other facility improvements such as parking, site access, changing areas at employers, and rest rooms in public areas. The bikeways themselves need not be expensive, compared to other road projects. Many of the projects described below are simple adjustments of the right-of-way space.

As discussed in later chapters, well-designed facilities are only one aspect of a successful bicycle system. People must be shown how to use the facilities safely and efficiently and be encouraged to do so. Transportation planning then becomes linked to other municipal functions such as land-use planning, redevelopment, education, law enforcement, and taxation.

The considerable work of the Bicycle Master Plan Task Force was used as a foundation for the bikeway recommendations described in this chapter. Their knowledge of the local area and its residents is invaluable. To this was added bicycle planning techniques that have been successfully applied in other communities and strategies employed to meet the Oregon Transportation Planning Rule.

The resulting recommendations are more extensive than those originally proposed by the Task Force two years ago. There are several good reasons for this:

- Residents in The Dalles have shown a desire to return to the freedom of access and mobility that only bicycling and walking can provide.

- With minor improvements, the present roadway system provides direct and cost-effective routes suitable for bicycling.
- Arterials and collectors with high traffic loads should have bike lanes; other high-traffic roads should have shoulder bikeways.
- Multi-use paths along the Columbia River and its drainages will provide enhanced facilities when tied into the roadway system.

- The State-mandated reduction in automobile use can only be achieved by, among other things, an aggressive promotion of bicycling for short-range trips.
- Recent changes in federal and state guidelines increase the emphasis on enhanced bicycle facilities, especially on major roads.
- New funding opportunities require a long-range bicycle plan that is integrated with a community's transportation planning.
- The signing of bike routes without other improvements has been shown to have negligible effect on bicycling's safety and promotion.

Considerations

The criteria considered in choosing routes is described in *Chapter 5: Suitability Criteria*. Additional considerations used to determine the type of bikeway are described below. Funding strategies are discussed in *Chapter 4: Implementation*.

Categorization of Bikeways as Class I, II or III has given way to a more descriptive classification scheme that includes bike paths, bike lanes, shoulder bikeways, and shared roadways. Each of these bikeway types has specific application and design criteria (refer to *Chapter 6: Bikeway Standards*).

Traffic is a primary consideration in facility designation and ADT (average daily trips) of all vehicles is the unit of measure. For the purposes of this Plan, traffic is estimated as light, medium, heavy, and very heavy per Table 1. The appropriate bikeway type considering the traffic volume is given in the table.

Table 1. Traffic volume and bikeways

Traffic Volume	Average Daily Traffic (ADT)	Appropriate Bikeway
Light	Less than 2,000	Shared roadway or shoulder bikeway
Medium	2,000-5,000	Bike lane considered
Heavy	5,000-10,000	Bike lane
Very heavy	More than 10,000	Bike lane

The appropriate bikeway on a medium traffic street must be judged on a case-by-case basis. Some Oregon cities in which cycling is encouraged, such as Eugene and Corvallis, use an ADT of 3000 for striping a bike lane. However, a road with good shoulders or wide travel lanes may offer comfortable cycling if other conditions are suitable, such as moderate speeds and limited truck traffic. Excessive curb cuts may also argue against bike lanes.

Even on a medium-traffic street, bike lanes should be considered because traffic may reach the heavy level in the near future. When the traffic volume exceeds 5000 ADT, bike lanes should be considered mandatory.

Project Summary

In The Dalles, the road grid is contained by the hills to the south and the Columbia River to the north. It is interrupted by the railroad tracks to the north. U.S. 30 and 197 are the prominent corridors; such *highways should typically offer shoulder bikeways in rural settings and bike lanes in urban areas.*

All roadways in The Dalles are open to bicycles and should be designed, constructed and maintained with bicyclists' needs in mind. In particular, designated arterials and collectors are natural bicycle routes because they generally provide for the most direct and unimpeded path to destinations. *As arterials and collectors are built to full standards or become congested, bike lanes should be added.* Some arterials and collectors, due to their particular characteristics, have been identified as the most desirable bicycle routes and should receive special consideration for increased maintenance and for improvement projects as noted.

The river and its drainages present the opportunity to create a system of separated bike paths that interconnect many urban destinations. *This system could form the backbone of a bikeway system* if properly designed and adequately connected to arterials and collectors. It would attract not only recreational riders and local commuters, but would provide a safe training ground for new cyclists.

To serve recreational riders, the urban system should have links to popular rural routes and destinations in the region. These destinations include the Columbia River, Riverfront Park, Sorosis Park, and rural roads in all directions. Access and parking at schools, employers and commercial businesses also need attention.

At present traffic levels many streets, including some arterials and collectors, function adequately as shared roadways. Recommendations for shared roadways involve primarily spot improvements (modified grates, outside lane width, etc.) and maintenance. However, these routes should be monitored for *upgrade to bike lanes when traffic levels increase.*

The bikeway projects are organized by type. Table 2 summarizes the projects and their relative priorities. More detailed descriptions are given below. Priorities are judged to be high, medium or low:

Table 2. Bikeway project summary

Project	From-To	Miles	Cost	Priority
Bike Paths (9.2 mi)				
Chenowith Creek Trail	W. 6th to W. 10th	1.1	\$180,000	Low
Mill Creek Trail	W. 2nd to W. 13th to Cherry Heights	1.1	\$150,000	High
Riverfront Trail	W. to E. urban boundaries	7.0	\$980,000	High
Bike Lanes (11.7 mi)				
→ W. 2nd St. (U.S. 30)	Webber to Lincoln	0.9	\$16,000	High
→ W. 6th St. (U.S. 30)	Chenowith Creek to Cherry Hts	1.9	\$1,300	High
W. 6th St. (U.S. 30)	Cherry Heights to 3rd	0.6	\$11,000	Low
→ W. 10th St./Chenowith	Cherry Heights to Murray Dr.	2.6	\$48,000	High
E. 19th St.	Dry Hollow to Thompson	0.9	\$16,000	Low
Brewery Grade overpass	Riverfront Park to E. 2nd	0.3	\$5,400	High
→ Cherry Heights Rd.	6th to 10th	0.2	\$3,600	Medium
Chenowith Loop	6th to 10th	0.6	\$75,000	High
Dry Hollow Rd.	9th to 19th	0.8	\$14,000	Medium
Hostetler St.	6th to 10th	0.6	\$125,000	Low
Kelly Ave. & 16th Place	7th to Dry Hollow	0.8	\$11,000	Medium
Mt. Hood St.	10th to Skyline	0.5	\$9,000	Medium
→ Snipes St.	6th to 10th	0.5	\$70,000	High
→ Webber St.	River Rd. to 10th	0.5	\$9,400	High
Shoulder Bikeways (3.2 mi)				
E. 2nd St. (U.S.30)	Taylor to U.S. 197	1.3	\$150,000	High
U.S. 197	E. 2nd to Fremont	0.5	\$55,000	Low
Columbia View Dr.	U.S. 197 to Summit Ridge	0.5	\$40,000	Low
Fremont St.	Old Dufur to U.S. 197	0.2	\$25,000	High
Old Dufur Rd.	Thompson to Richmond	0.7	\$90,000	Low
Shared Roadways (4.2 mi listed, 13.7 mi total)				
W. 10th St.	Cherry Heights to Union	0.8	resurface	Medium
E. 10th St.	F St. to Lewis	0.5	widen	Low
Brewery Grade	2nd to 9th	0.2	wide uphill	High
Laughlin St.	7th to 12th	0.3	resurface	Low
Liberty St.	2nd to 6th	0.2	resurface	Low
Scenic Dr. and Trevitt	10th to Kelly	2.2	fix grates	High

Costs are estimates for comparison. They do not include administration, mobilization, special grading and fill operations, or major contingencies. See text for complete project descriptions.

- High—removes significant barrier, eliminates hazard, provides important link, or greatly improves access. May be difficult to accomplish immediately due to magnitude of the task and funding constraints, but should be pursued.
- Medium—less critical element of bikeway system that can await future improvements, often in conjunction with an arterial or collector that will be reconstructed. Also includes projects that will improve overall conditions and attract cyclists.
- Low—completes a final segment of the bikeway system that has low current use or need for improvement.

Bike Paths

Separated paths work best along routes with few intersections. Three such opportunities along waterways exist in The Dalles, totalling about 9.2 mi in the urban area and 12.2 mi total.

1. Chenowith Creek Trail (1.1 mi)
Proposed recreational trail along Chenowith Creek from Riverfront Trail to 10th St. with a crossing of 6th St.
- 2a. Mill Creek Trail—W. 2nd to W. 10th (0.7 mi)
Proposed recreational trail along west bank of Mill Creek with several potential access points from residential streets.
- 2b. Mill Creek Trail—W. 10th to W. 13th to Cherry Heights (0.4 mi)
Proposed extension to recreational trail along Mill Creek to Cherry Heights and 13th along N. Boundary Cemetery.
3. Riverfront Trail (approx. 7 mi in urban area and 3 mi outside)
Proposed recreational trail along Columbia River. Access points at Chenowith Creek, Webber St., and Riverfront Park.

Bike Lanes

Preferential lanes on high-volume streets are the backbone of a bikeway system. Bike lanes on arterials and collectors provide cyclists with direct and inviting routes to all city destinations, as they do for automobiles. The following streets are candidates for lanes. The total length is about 11.7 mi.

- ④ W. 2nd St. (U.S. 30)—Webber to Lincoln (0.9)

Arterial, commercial, very heavy traffic, 35 mph, 12-14 ft lanes (54-64 ft width), shoulder good but generally has excessive debris, little on-street parking. Destinations: swimming pool and north end of Mill Creek. Link to Webber. Recommend striping 6-ft bike lanes. Cost: about \$16,000.

- ④a. W. 6th St. (U.S. 30)—Chenowith Creek to Cherry Heights (1.9 mi)

Arterial, commercial, heavy traffic, 35 mph. Existing bike lane both directions, signed, striped (the only one in the city). Destinations: commercial uses and Kramer Field. Link to Webber and industrial area. Recommend better maintenance and debris removal. Intersections at Webber and Cherry Heights are confusing to cyclists and motorists. Bike lane appears to end and become a right turn lane for cars. Recommend bike lane striping to left of turn lane to stop bar (Webber to Cherry Heights is 64-ft wide with no parking). See Chapter 8 of the Oregon Bicycle Plan for basic turn-lane configurations. Cost: about \$1300.

- 5b. W. 6th St. (U.S. 30)—Cherry Heights to West 3rd & Lincoln (0.6 mi)

Arterial, commercial, heavy traffic, 25 mph, 12-ft lanes, heavy on-street parking, road surface good, old style storm sewer

drains should be replaced. Width (42 ft) will not allow a bike lane without elimination of on-street parking on one side. Bridge crossing Mill Creek narrow and in disrepair. Destinations: commercial uses. Direct route from west-side commercial area to downtown; access to dead-end road along Mill Creek and potential trail. Recommend striping 6-ft bike lanes (discontinued at bridge) with parking on one side (6-11-11-6-8 ft). Cost: about \$11,000.

- 6a. W. 10th St.—~~Chenowith Creek~~^{Murray Dr.} to Cherry Heights (2.1 mi)

Arterial, residential, medium traffic, 35 mph, wide lanes with good paved shoulder (44-ft pavement). Destinations: County Shops, Nursing Home, Kramer Field, and St. Mary's Academy. Link to Chenowith Rd. Recommend striping 6-ft bike lanes. Cost: about \$38,000.

- 6b. Chenowith Rd.—W. 10th to Murray Dr. (0.5 mi)

Arterial, residential, medium traffic (24-ft pavement). Continuation of W. 10th St. to subdivision and rural recreational routes. Recommend striping 6-ft bike lanes as street is widened. Cost: about \$10,000.

7. E. 19th St.—Dry Hollow to Thompson (0.9 mi)

Collector, residential and commercial, dead ends east of hospital. Destinations: Dry Hollow School and hospital. Eventual link to Thompson. Recommend striping 6-ft bike lanes when street is extended. Cost: about \$16,000.

8. Brewery Grade overpass—Riverfront Park to E. 2nd (U.S. 30) (0.3 mi)

Arterial, heavy traffic, bridge spanning railroad yards and I-84, 30-ft width plus sidewalk. Destinations: Riverfront Park and proposed Riverfront Trail. Recommend striping 5-ft bike lanes (10-ft travel lanes). Cost: about \$5400.

9. Cherry Heights Rd.—6th to 10th (0.2 mi)

Arterial, commercial, heavy traffic, 35 mph, wide lanes and paved shoulder (44-ft width), little on-street parking. Destinations: commercial uses. North-south connector leading to residential area and recreation riding route south of town; nearby 9th St. crossing of Mill Creek. Recommend striping 6-ft bike lanes and center turn lane (6-11-10-11-6 ft). Cost: about \$3600.

10. Chenowith Loop—6th to 10th (0.6 mi)

Commercial and residential, medium traffic, 35 mph slowing to 20 mph past schools, 12-ft lanes with paved shoulder except between 6th and 7th, little on-street parking. Destinations: Wahtonka High School and Chenowith School. Connection between 6th and 10th. Recommend constructing 6-ft bike lanes. Cost: about \$75,000.

11. Dry Hollow Rd.—9th to 19th (0.8 mi)

Arterial, residential with commercial area at 12th Street, 25 mph, heavy traffic, medium on-street parking 9th to 14th and no on-street parking from 14th to 19th, 4-way stops at 10th and 12th, 52-ft wide up to 14th, 42-ft wide to 19th, hill. North-south connector to residential areas, schools, hospital, Scenic Dr., and recreational rides south of town. Recommend striping 5-ft bike lanes and center turn lane (5-11-10-11-5 ft). Cost: about \$14,000.

12. Hostetler St.—6th to 10th (0.6 mi)
Arterial, commercial and residential, medium traffic, narrow. Destinations: Wahtonka High School and Chenoweth School. Connection between 6th and 10th. Recommend 6-ft bike lanes when road is reconstructed. Cost: about \$125,000.
13. Kelly Ave. and 16th Place—7th to Dry Hollow (0.8 mi)
Arterial, residential with commercial area from 10th to 12th, 25 mph, medium to heavy traffic, medium on-street parking, 10-12 ft lanes with paved shoulder, variable width (28 to 44 ft), hill. North-south connector to residential areas, schools, hospital, Scenic Dr., and recreational rides south of town. Bike lanes possible except north of 9th if on-street parking removed. Recommend striping 6-ft bike lanes south of 10th (0.6 mi). Cost: about \$11,000.
14. Mt Hood St.—10th to Skyline (0.5 mi)
Arterial, residential, medium traffic, 25 mph, 13-ft lanes with good shoulder (42-ft pavement to 21st). Light on-street parking. Hill southbound. Link to Skyline Rd, Mill Creek Rd., and recreational rides south of town. Recommend 6-ft bike lanes with parking on one side (6-11-11-6-8 ft). Cost: about \$9000.
15. Snipes St.—6th to 10th (0.5 mi)
Collector, commercial and residential, light traffic, 35 mph, 12-ft lanes with paved shoulder except between 9th and 10th, little on-street parking. Destinations: commercial uses. Connection between 6th and 10th. Recommend construction of 6-ft bike lanes. Cost: about \$70,000.
- 16a. Webber St.—River Rd. to 2nd (0.2 mi)
Collector, industrial, heavy traffic, 35 mph, RR Crossing with tracks at 90 degree angle representing only minor hazard to bicyclists, wide lanes (44-ft pavement), good surface, no on-street parking. Destinations: industrial uses and proposed Riverfront Trail. Link to industrial uses and River Rd. Recommend striping 6-ft bike lanes. Cost: about \$3600.
- 16b. Webber St.—2nd to 6th (0.1 mi)
Collector, commercial, heavy traffic, 35 mph, 12-ft lanes with paved shoulder (44-ft pavement), no on-street parking. North-south connector between 2nd and 6th and to proposed Riverfront Trail. Recommend striping 6-ft bike lanes. Cost: about \$1800.
- 16c. Webber St.—6th to 10th (0.2 mi)
Collector, commercial, light traffic, 25 mph, wide lanes with little on-street parking except during ball games at Kramer Field. Destinations: Kramer Field and nursing home. Connection between 6th and 10th. Recommend striping 6-ft bike lanes with possible event parking (convertible signs). Cost: about \$4000.

Shoulder Bikeways

A paved shoulder is a typical bicycle facility on rural highways and minor urban arterials. It provides a margin of safety for both motorists and bicyclists, as well as increasing road life. There are several such routes in The Dalles, totalling about 3.2 mi.

17. E. 2nd St. (U.S. 30)—Taylor to U.S. 197 (1.3 mi)
Arterial, commercial, heavy traffic, 40 mph, 12-14 ft lanes (nominal 38-ft width), shoulder condition fair and narrow (1-4 ft), rocks and other debris on shoulder, minimal access from driveways, westbound shoulder is better but still needs more frequent cleaning. Link to Old Mill District, Columbia View Heights, and rural recreation rides. Recommend maintenance and widening of shoulder to 5 ft. Cost: about \$150,000.
18. U.S. 197—E. 2nd to Fremont (0.5 mi)
Connect commercial area of Old Mill District with residential areas of Columbia View Heights and Old Dufur Rd. area on east side. Recommend maintenance and widening of shoulder to 5 ft. Cost: about \$55,000.
19. Columbia View Dr.—U.S. 197 to Summit Ridge (0.5 mi)
Residential, hill. Connection to U.S. 197 and Fremont for residents of Columbia View Heights. Recommend shoulder bikeway with 5-ft shoulder uphill. Cost: about \$40,000.
20. Fremont St.—Old Dufur Rd. to U.S. 197 (0.2 mi)
Arterial, residential, medium traffic, 35 mph, hill, narrow lanes (10 ft), no shoulder, curves with poor visibility. Link to Columbia View Heights and U.S. 197.

Recommend shoulder bikeway with 5-ft shoulder uphill. Cost: about \$25,000.

21. Old Dufur Rd.—Thompson to Richmond (0.7 mi)
Arterial, residential, medium traffic, 35 mph, 10-12 ft lane width, poor shoulder condition (not paved), pavement condition poor, no on-street parking. Good scenic view and important east-west residential connection route. Link to Fremont St. and Columbia View Heights. Recommend resurface of road and paving 4-ft shoulders. Cost: about \$90,000.

Shared Roadways

Most residential streets and low-traffic rural roads are adequate with shared lanes. This may also be acceptable on congested downtown streets where traffic speeds are low and there is adequate outside lane width. The following shared roadways, totalling about 13.7 mi, are considered to be of special importance to a bicycle system.

22. 1st St.—Liberty to Taylor (0.6 mi)
Collector, commercial. Destinations: transit station and Visitor's Center.
23. 2nd St. (U.S. 30)—Taylor to Lincoln (0.7 mi)
Arterial, commercial, very heavy traffic, 20 mph, heavy on-street parking, 40-ft pavement. One-way westbound through downtown. Destinations: downtown and commercial uses. Link to transit, swimming pool, north end of Mill Creek.
24. 3rd St. (U.S. 30)—Lincoln to Taylor (0.7 mi)
Arterial, commercial, very heavy traffic, 20 mph, 12-ft lanes (40-ft pavement), heavy on-street parking. One-way eastbound through downtown. Destina-

- tions: downtown and commercial uses. Link to transit; direct route to east side of town and connection to Brewery Grade overpass to Riverfront Park and proposed Riverfront Trail.
25. 4th St.—3rd to 9th (0.9 mi)
Collector, commercial, residential, medium traffic, 36-ft width (30-ft Madison to 9th), hill. Connector between H St. and downtown.
26. E. 7th St.—Washington to Kelly (0.2 mi)
Arterial, commercial, residential, heavy traffic, 25 mph, 12-ft lanes (40-ft width), medium on-street parking, hill. Destinations: commercial uses and library. Connector between Washington and Kelly.
- 27a. E. 8th St.—Laughlin to H St. (0.3 mi)
Residential, 25 mph, light traffic, medium on-street parking. Part of one east-west residential route which connects to Dry Hollow Rd. (see 26b and c); BIKE ROUTE, directional and destination signs are needed because of the many turns.
- 27b. H St.—8th to 9th (0.05 mi)
Residential, 25 mph, light traffic, low on-street parking. 8th Street does not go through to Dry Hollow so one possible route jogs up to 9th.
- 27c. E. 9th Street—H St. to Dry Hollow (0.4 mi)
Residential, 25 mph, light to medium traffic, medium on-street parking. Alternate to 10th as an east-west route to Dry Hollow Rd. Intersection at Dry Hollow is awkward because Brewery Grade approaches at a sharp angle from below the hill.
- 28a. W. 10th St.—Cherry Heights to Washington (0.9 mi)
Arterial, residential, medium to heavy traffic, 25 mph, medium on-street parking (36 to 40-ft pavement). Bike lanes could only be possible with elimination of parking on one or both sides. Road surface very rough to Union. Destinations: St. Mary's Academy and High School. Recommend resurfacing Cherry Heights to Union (0.8 mi).
- 28b. E. 10th St.—Washington to Dry Hollow (0.9 mi)
Arterial, residential, medium traffic, 25 mph, width narrows to 25 ft with parking on one side between F St. and Lewis. Link to Old Dufur Rd. Although it is possible for cyclists to avoid this narrow section by jogging over to 9th or 12th, neither of these options is as direct as 10th. If removing on-street parking entirely from the 0.5-mi section is impractical, it is recommended that it be widened to 36 ft or made one-way to cars (east bound) and two-way to bicycles (still with parking on one side only).
- 28c. E. 10th St.—Dry Hollow to Thompson (0.5 mi)
Arterial, residential, light to medium traffic, 25 mph, good-lane width (36 ft) and surface, light on-street parking. Link to Old Dufur Rd.
- 29a. Washington St.—10th to 11th (0.05 mi)
Arterial, residential, light traffic, 25 mph, school zone. 10th narrows (26 ft) east of Washington, so a jog one block south to wider 12th was examined (see 28b and c); BIKE ROUTE, directional and destination signs are needed because of the many turns.

- 29b. E. 11th St.—Washington to Federal (0.05 mi)
Residential, light traffic, 25 mph, heavy on-street parking. Possible east-west route along 10th jogs to 12th via Washington, 11th, and Federal to avoid hill on Washington.
- 29c. Federal St.—11th to 12th (0.05 mi)
Residential, light traffic, 25 mph, hill, light on-street parking.
30. 12th St.—Mt Hood to Thompson (2.1 mi)
Collector, residential, light to medium traffic, 25 mph, hills, medium on-street parking. Good width (36 ft) and road surface. Parallel alternate to 10th street with more elevation gain. Stop signs at Trevitt, Union, Washington, Kelly, and Dry Hollow. Destinations: High School, Jr. High School, J. G. Wilson School, and Quinton Ballpark.
31. W. 13th St.—Irvine to Emerson (0.6 mi)
Residential, light traffic, 24-ft wide. Link to Chenoweth Middle School from 10th.
32. Brewery Grade—2nd to 9th (0.2 mi)
Arterial, commercial and residential, 25 mph, heavy traffic, no on-street parking, 12-ft lanes, 3-ft shoulders, good surface, sidewalk, hill, encroaching trees. Link to 2nd St. and downtown. Recommend shared roadway downhill (14 ft) and shoulder bikeway (11-ft lane, 5-ft shoulder) uphill. Also maintain landscaping.
33. Court St.—2nd to 10th (0.4 mi)
Arterial, commercial and residential, medium traffic and on-street parking, 56-ft wide. Destinations: downtown, city offices, library, and high school.
34. Laughlin St.—7th to 12th (0.3 mi)
Residential, 25 mph, light traffic, medium on-street parking, 10-12 ft lanes, hill, rough surface. Low-traffic alternative to Kelly to connect downtown commercial district with 12th St. east-west route. Recommend improvement of road surface.
- 35a. Liberty St.—2nd to 6th (0.2 mi)
Commercial and residential, 25 mph, light traffic, medium on-street parking, 8-12 ft lanes, hill. Part of low traffic north-south route from 2nd to 10th. Part of one possible north-south route via Liberty and Pentland (see 35b and c); BIKE ROUTE, directional and destination signs are needed because of the many turns. Recommend improvement of road surface.
- 35b. W. 6th St.—Liberty to Pentland (0.1 mi)
Residential, 25 mph, low traffic, medium on-street parking. Part of one possible north-south route via Liberty and Pentland.
- 35c. Pentland St.—6th to 10th (0.2 mi)
Residential, 25 mph, low traffic, medium on-street parking, slight hill.
36. Scenic Dr., Trevitt—10th & Trevitt to Kelly Ave (2.2 mi)
Collector, residential, light to medium traffic, 25 mph, lane width (30-36 ft) and surface condition good. Steep hills, strenuous ride. Several hazardous sewer grates. Destinations: Col. Wright School, Sorosis Park, scenic overlook, and Oregon Baptist College. Recommend fix of sewer grates.

- 37. Thompson St.—10th to 12th (0.1 mi)
Collector, residential, light traffic, 25 mph, hill, 12-14 ft lane width, gravel shoulder. Link to Old Dufur, 10th and 12th east-west routes. If E. 19th is put through, Thompson north of 12th should be brought up to standard.
- 38. Union St.—1st to 12th (0.6 mi)
Arterial, commercial and residential, heavy traffic and on-street parking, 36-40 ft wide. Destinations: downtown, city offices, park, and high school.
- 39. Walnut St.—6th to 10th (0.2 mi)
Collector, commercial, light traffic, 25 mph, 24-40 ft wide. Destinations: Kramer Field. Connection between 6th and 10th.
- 40. Washington St.—2nd to 6th (0.2 mi)
Arterial, commercial, heavy traffic, 20 mph, 12-ft lanes (56-ft width), heavy on-street parking. Destinations: commercial uses and library. North-south connector between commercial and residential areas.

Additional shared roadways that leave the urban area as primarily recreational routes include:

- U.S. 30 (N. of Chenowith Creek)
- Sevenmile Hill Rd.
- Chenowith Rd.
- Cherry Heights Rd. (S. of 10th)
- Mill Creek Rd.
- Skyline Rd.
- Dry Hollow Rd. (S. of 19th)
- Three Mile Rd.
- Lower Eight Mile Rd.
- Columbia View Dr. (E. of Summit Ridge)
- U.S. 197
- Fifteen Mile Rd.



IMPLEMENTATION

Introduction

Many well-intended bicycle plans have languished in the files of agencies for lack of implementation. Any of several things may have gone wrong. The government agencies empowered to implement the plan may have not had the skills or interest. Enthusiastic politicians may have failed to gain public support. Competition for funding may not have been successful.

The following discussion deals with techniques for working within agencies, gaining the community's support and securing funding. Neglect of any of these can seriously harm a bicycle program.

Plan Adoption

In order for this Bicycle Master Plan to be effective both for obtaining funds and improving the bicycle use in The Dalles, it must be formally adopted into the Transportation Element of the City of The Dalles. The Goals and Policy section of the Comprehensive Plan should be updated to include the goals and policies included in this Bicycle Master Plan (refer to *Chapter 1: Introduction*), and the proposed bikeway system included in the Transportation Plan. It should be noted that this action will also bring the City into conformance with the bicycle requirements of the Transportation Planning Rule.

The prioritized list of bikeway projects should be placed on the Transportation Improvement Plan and appropriate projects included on the Capital Improvement Plan in order to improve the chances for obtaining State and Federal funding.

Codes, ordinances and standards used in The Dalles should be modified to reflect the contents

- Adopt the Bicycle Master Plan into the City's Comprehensive Plan and Transportation Element, and incorporate implementing ordinances.
- Assign a Bicycle Coordinator and Bicycle Advisory Committee to guide implementation.
- A variety of local, state and federal funding sources are available (projects should be on the local Capital Improvement List).

of the Bicycle Master Plan. In this way bicycle facilities can be routinely considered during development application, review, approval, and design. A set of model ordinances developed by the Oregon Chapter of the American Planning Association is included in Appendix B.

Responsibility for Implementation

A bicycle program touches many disciplines such as planning, engineering, public relations, recreation, education and law. It is often difficult to know where to assign responsibility to overall program implementation.

Bicycle programs in Oregon are found in various municipal and county departments including planning, public works, parks and recreation, police, and others. With so many interests involved, coordination and communications become highly important. Indeed, programs are often directed by an individual called a Bicycle Coordinator. Also, a bicycle advisory committee comprised of public representatives and department staff (often from several agencies) also contribute.

Bicycle Coordinator

The primary responsibility of the Coordinator is to maintain a strong and active bicycle program. Even the best of plans need knowledgeable staff to oversee implementation and see to

it that projects are completed. An agency spokesperson for bicycling matters is also important.

The Federal government recognized these needs in the new Transportation Act when it required States to staff a bicycle coordinator. Oregon's Bicycle Program is a part of the Department of Transportation.

The most appropriate agency in The Dalles to guide a bicycle program should be determined. Responsibilities of that agency and the assigned individual include:

- Coordinate the use and implementation of the Bicycle Master Plan among the different agencies, groups and special interests in The Dalles.
- Assure that Public Works and other government agencies plan for and apply the specifics of the Bicycle Master Plan; strive to institutionalize the consideration of bicycles into everyday government work.
- Review and update policy, planning and regulatory documents.
- Help train planners, engineers and staff in bicycle transportation planning.
- Ensure that transportation consultants hired by the City consider bicycle planning.
- Be cognizant of the Cities' bicycle funding, including the minimum 1% bicycle funds, and plan the allocation of those funds within the constraints of the budget.
- Apply for grants from the State Department of Transportation and other appropriate agencies to fund projects.
- Work with the maintenance departments of the City, County and State to correct problems, improve bicycling conditions, and maintain bicycle system quality.
- Research and recommend short and long-term projects to the City, County and State.
- Recommend bicycle facility designs to the Public Works Departments and to private developers.
- Assist the Planning Department in land-use decisions and planning that affect bicycle facilities or use.
- Monitor and analyze accident and enforcement data.
- Work with local businesses and government agencies to encourage bicycle races, rides, workshops and other events that promote bicycle use and safety.
- Help businesses with bicycle commuter and wellness programs.
- Keep abreast of current bicycle issues, facility designs, standards and practices both locally and globally.
- Be a point-of-contact on bicycling matters to citizens, government agencies and media.
- Establish and maintain contacts with community, business and government organizations and keep them apprised of bicycle issues.
- Respond to inquires and requests, both public and government, on bicycle matters.
- Report findings and recommendations to government agencies as requested.
- Work to improve the status of bicycling in the community and with government agencies.
- Keep the Department Directors apprised of the program's activities and needs.

The responsible individual should be knowledgeable of bicycling issues, roadway design, local government and the project development

process. It is expected that these duties would be only a part of the individual's job. In all likelihood, existing staff would need to be trained in some bicycling matters.

The importance of these functions in a developing community bicycle program cannot be overstated. Successful programs are multi-faceted efforts in planning, design, implementation, and community relations. There are many bicycle issues little understood by today's planners, engineers and developers who have been educated and employed in an automobile-dominated culture. Mistakes and oversights can be very long lasting and damaging. Until the community establishes a tradition of bicycling, it is essential that a dedicated Coordinator be utilized.

Bicycle Advisory Committee

An advisory committee comprised of public and agency members, including the Bicycle Coordinator, is an excellent means of gathering public input and maintaining continuity in the bicycle program. The committee should:

- Develop exclusive bicycle lanes as well as shared facilities, and provide signing to identify the most convenient routes for cyclists and to alert motorists of the likely presence of cyclists.
- Provide guidance for road maintenance personnel regarding need for replacement or repair of signs and roadways, the need for sweeping of cycling routes, and consultation with authorities on new roadways.
- Promote development of routes that provide safe, convenient alternative transportation for people employed both in town and along the Columbia Riverfront to conserve energy, help eliminate auto pollution, and provide a healthful alternative to motor vehicle transportation.
- Enhance recreational cycling by defining recreational sites, historical locations, and access to the adjacent countryside, and by pointing out the most convenient and safest routes, both within the city and to outlying areas.
- Promote improvement of present cycling routes and the development of additional routes that provide a safe, attractive experience which avoid conflict with motor vehicles, and which have desired amenities and support services. The Riverfront Trail and its connecting Mill Creek and Chenoweth Greenways plus a new interchange and underpass accessing the Riverfront are examples of such routes.
- Provide and plan for facilities such as bicycle racks, storage lockers, and public rest rooms at convenient locations which would encourage alternative bicycle transportation and provide secure, convenient storage facilities.
- Provide educational materials and opportunities to the community.
- Provide maps to guide both locals and tourists through town and to specific city, scenic, historic, and adjacent countryside locations.
- Be alert for problem traffic situations which might develop in the routes suggested, and recommend needed changes or improvements.
- Provide support, education materials, and assistance to law enforcement personnel in citing violations by cyclists and motorists, and in the use of bicycles for patrol.
- Seek Federal and State grants to develop bikeways and trailways throughout the area.

Public Participation

When it comes to transportation, it is often difficult to translate the planning and engineering principles into terms that the average citizen can grasp. Collectors, ADT's, mixed-use zoning and such are the jargon of the agencies and do not communicate to the public. This is unfortunate because the public must support successful efforts.

Lack of consensus has been the undoing of many plans. This usually happens when some interests have been left out of the planning process or when information has been flawed, withheld, or poorly presented.

Consensus can be easier to achieve when benchmarks are used to establish realistic expectations and a way to judge progress. Benchmarks not only give a basis on which to have constructive discussions, but they tend to keep the focus on long-term goals. They should be modified as the planning process progresses. When it is time for a final hearing on the bicycle plan, approval should be quick because all questions have already been addressed.

Useful benchmarks for bicycle use relate to the ratio of total trips taken by bicycle, the miles of bikeways created, and the number of bike racks installed. For example, The Dalles might use the following benchmarks:

- The trips within the three communities taken by bicycle will increase 1 percent a year until at least 10 percent is reached.
- At least 2-3 miles of bikeways will be added each year until all destinations can be reached by safe and convenient routes built to adopted standards.
- All public destinations, including government offices, community service centers, commercial businesses, places of employment, and recreational facilities, will have adequate bicycle parking within 10 years.

Funding Sources and Strategy

Bicycle facilities and programs can be funded through a broad combination of local, state, federal and private sources:

- **Local:** road construction and maintenance budget, the general fund, system development charges, and joint projects with utilities and other agencies.
- **State:** highway projects, 1% Bicycle Fund distribution, matching Local Assistance Grants, and support from other agencies.
- **Federal:** surface transportation, maintenance and air quality programs.
- **Other:** donations, grants, development costs, and miscellaneous.

By State law, bikeways must be created whenever City, County, State or Federal roads are built or reconstructed. Arterials and collectors require bike lanes. The Dalles should ensure that any road project in the area is built to bikeway standards for the street classification and that costs are included as a normal part of the project. Similarly, resurfacing of an arterial or collector is an excellent time to restripe for bike lanes at little additional cost. Bikeway maintenance should also be funded along with routine roadway maintenance.

Bikeways may be constructed or improved as a part of roadway repairs. For example, routine resurfacing of a shared roadway may be expanded to include new shoulder bikeways. In such cases, additional funding may be sought for the portion of the project that includes the bikeway improvements. Special projects such as separated bike paths, shoulders added to a road in good condition, and restriping for bike lanes also require unique funding.

It is advantageous to develop a consistent funding source for critical projects and maintenance, and to actively seek additional sources

for the remaining projects. Available money should be leveraged to the greatest extent possible by using it for matching grants and joint projects.

Footpaths and bicycle trails, including curb cuts or ramps as part of the project, shall be provided wherever a highway, road or street is being constructed, reconstructed or relocated.

—ORS 366.514

Local Government Funding

Bike lanes and shoulder bikeways, which make up the majority of a bikeway system, are usually placed within the standard roadway width and so add negligible cost to the road department's budget. As new arterials and collectors are constructed or old ones are reconstructed to current standards, bikeways are simply incorporated into the project designs. In this way, a bikeway system can develop incrementally over time in step with the road system for minimal cost.

In private developments, bicycle facilities are made a condition of approval, just as are the roads and parking lots. In some cases, system development charges can be imposed or, if the impact of a development on adjacent streets is not immediate, the developer may participate in future improvements through a Local Improvement District (LID).

Availability of funds may limit alternatives and delay projects, but lack of funds should not be an excuse for poorly designed, constructed or maintained facilities. The initial investment in a properly done facility will be more than offset by its durability, utility, attractiveness and

safety. Some communities earmark up to 10% of their road construction budget for bicycle projects because they realize that the return to the community will be manifold.

When a bicycle project steps beyond the normal road standards, other local government funding may be needed. Examples of expenses outside the normal road budget are construction of a separated path, widening a road to accommodate a bikeway, and building a bikeway to higher standards than required. Parks, recreation, tourism, transit and planning departments are often supporters of such projects and may have funds available. The general fund can also be tapped for special projects.

In all bikeway construction projects, it is important to coordinate with other road work so as to keep expenses—administration, material unit costs, mobilization, traffic control—to a minimum by sharing them with larger road projects. For example, a shoulder widening effort to accommodate bicycles along a popular route might be prohibitively expensive unless done at the same time as a scheduled pavement overlay; this can reduce bicycle-related costs by as much as half.

The Dalles should consider whether it wants to continue supporting automobile use far beyond what other forms of transportation, including bicycles, enjoy. Many cities have looked towards various user tolls, taxes and fees to cover automotive-related costs and provide more funds for other modes. Gas taxes and “wheel taxes” are the most common methods.

When considering this type of funding, it is important to remember that a shift from automobile use to bicycles, even of a few percent, translates into fewer dollars spent for road construction, maintenance, and repair.

