NON-MOTORIZED TRANSPORTATION PLAN

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June 1,1998

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June 6, 2011

City of Port Townsend

City of Port Townsend
250 Madison Street
Port Townsend, WA
(360) 385-7212

VALUE STATEMENT

The citizens of Port Townsend wish to create a safe and pleasant environment for walking and bicycling by: maintaining existing pedestrian walkways and bikeways, extending the network through City-sponsored projects and private development, and prioritizing our efforts according to safety needs and affordability.

ACKNOWLEDGEMENTS

NON-MOTORIZED TRANSPORTATION ADVISORY COMMITTEE MEMBERS

Frank Brou - School Board representative
Carol Cahill - Community Member
Christine Cuzzetto - Community Member
Lisa Enarson - Planning Commission
Jeff Hamm - Jefferson Transit
Mike Marston - Parks and Recreation Commission
David McCulloch - Community Member
Dana Roberts - Community Member
Michelle Sandoval - Real Estate Community Representative
Richard Talbot - Community Member
Scott Walker - Community Member
Kate Jenks - Transportation Committee
Jean Camfield - Transportation Committee Alternate

CITY OFFICIALS

Julie McCulloch, Mayor

PLANNING COMMISSION

Lois Sherwood
Craig Johnson
John Boles
Karen Erickson
Cindy Thayer
Lisa Enarson

CITY COUNCIL

March Welch
Ian Keith
Ted Shoulberg
Kate Jenks
Forrest Rambo
Joe Finnie
Peter Bedame (Chair - Transportation Committee)
Jean Camfield (1997)
Diane-Perry Thompson (1997)
Sheila Westerman (1997)

CITY STAFF

David L. Peterson, City Engineer, Project Director
Daniel Haufschild, Project Manager and Principal Author

Robert Wheeler, Public Works Director
Tim McMahan, City Attorney
Gayle Koschnick, Engineering Administrative Assistant
Bruce Freeland, Building & Community Development Director
David Robison, BCD Director (1997)
Jeff Randall, Planner

CONTRIBUTING CONSULTANTS

Eric R. Toews, Eric R. Toews and Associates
SEPA checklist and policy review

David Fischer, Landscape Architect
preliminary draft, graphics, and workgroup facilitation

SUPPLEMENT ACKNOWLEDGEMENTS

NON-MOTORIZED TRANSPORTATION ADVISORY BOARD MEMBERS

John Bodger
Lys Burden
Sally Roxanne Chapin
Owen Fairbank
Marion Huxtable
Chris Jones
Lowell Jons
Peter Lauritzen
Andrew Reding
Pete Sexton
Pat Teal
David Thielk
Chauncey Tudhope-Locklear
Jolly Wahlstrom
Jane Whicher
Richard Williams
Bly Windstorm
Scott Walker

CONTRIBUTING CONSULTANTS

Sam Gibboney, ISE Consultants

CITY STAFF

David L. Peterson, City Engineer, Project Director
Mary Heather Ames, Project Manager and Principal Author

David Timmons, City Manager
Kenneth Clow, Public Works Director
John Watts, City Attorney
Kathy Howard, Engineering Administrative Assistant
Rick Sepler, Development Services Director
John McDonagh, Planner

CITY COUNCIL

Michelle Sandoval, Mayor
George Randels, Deputy Mayor
David King
Laurie Medlicott
Kris Nelson
Catharine Robinson
Mark Welch

PLANNING COMMISSION

Sarah Bowman
Cate Comerford
Steven Emery
Jerauld Fry
Gee Heckscher
Monica Mick-Hager
Julian Ray, Chair

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1. INTRODUCTION

VISION

This excerpt from the community direction statement of the Comprehensive Plan is the foundation on which this Non-Motorized Transportation Plan was developed. It describes a community that invites us to walk or ride a bicycle to its many desirable destinations.

Through the extensive community involvement surrounding the development of the City's Comprehensive Plan it became clear that an extensive, integrated, and safe non-motorized system was a high priority for the residents of Port Townsend. This plan endeavors to respond to the values and desires of the community by establishing the framework for this system.

PURPOSE

The purpose of this Non-Motorized Transportation Plan is to guide and promote the development of improved facilities for pedestrians (including those in wheelchairs), bicyclists, and transit users. It is first and foremost a transportation plan that seeks to identify a network of pedestrian walkways, and bikeways to connect neighborhoods with parks, schools, commercial areas, and other destinations. Enhancement of recreational opportunities is a secondary benefit that accrues from this Plan. The Plan is intended to be broad in scope addressing the needs of residents and visitors, workers and recreational users.

~Vision Statement~

"Anywhere in town we are only a convenient bike ride or walk from work, classes, dining, entertainment, or home. Parks, gateways, and walkways are rich with historical monuments and public art. Buses, trails, and bikeways provide useful transportation options for workers, shoppers, and visitors; and dependence upon the automobile is diminished."

"The city is pedestrian oriented and neighbors greet one another as they walk by for work, play, or exercise. The city's tree-lined walks, trails, and streets provide shade and habitat and reinforce Port Townsend's network of green spaces…Port Townsend's elderly and special needs populations are appreciated for making valuable contributions to the life of the community and are afforded convenient access to transportation and other human services."

A walk connects the waterfront with a larger network of trails that lead to surrounding districts and residential neighborhoods. This loop also unites an extensive system of parks and open spaces, including...areas that provide significant wildlife habitat."

-Excerpt of the Community Direction Statement
from the 1996 Comprehensive Plan

The Committee members, who helped draft this Plan, recognized that we all rely to some degree on the automobile. The intent of this plan is to provide a broader range of transportation choices and to make roadways safer for everyone. The street system and the non-motorized network must work in parallel. Among the benefits of an improved non-motorized system are: reduced traffic congestion, reduced need to expand roadway systems, reduced environmental impacts, and improved health, safety, and tourism.

Over ten years have passed since the 1998 Non-Motorized Transportation

Plan was adopted by the Port Townsend City Council. This plan provided the impetus to build a system of non-motorized (active) transportation facilities in Port Townsend that serve residents' and visitors' needs, making Port Townsend an ideal place for walking and bicycling for both transportation and recreation.

Even the best plan needs to be updated, and it was deemed prudent to provide a mid-cycle assessment and refinement of the plan. The plan as updated here proposes additional facilities to be constructed during the next ten years. Use of the non-motorized facilities will be tracked with surveys and promoted as part of the plan.

This addition to the plan recognizes the city's progress in providing a walkable and livable community for residents of all ages and abilities. It identifies new issues, provides further information to the plan, and describes new approaches for improving the walking and bicycling experience, taking into account new and emerging issues such as climate change, increased knowledge of the Americans with Disabilities Act and experience with traffic calming measures.

The supplemental information affirms the importance of the vision, goals and projects listed in this plan.

COMPREHENSIVE PLAN DIRECTION

As the vision statement was taken from the Comprehensive Plan, so too are the goals for the Non-Motorized Transportation Plan. They are taken directly from three Comprehensive Plan sections: the overall transportation goal, the open space and trails goal, and the non-motorized goal itself.

The Comprehensive Plan includes extensive policy and discussion related to non-motorized issues. This Non-Motorized Transportation Plan seeks to incorporate this direction, and to create an implementation plan that reflects its Comprehensive Plan heritage. Specific Comprehensive Plan policies are cited related to non-motorized facilities are included in Appendix E. The following list summarizes overall direction given by the Comprehensive Plan .

- Provide pedestrians and bicyclists with a system of facilities, incentives, and services, that fully support trip-making connections between residential areas, employment centers, shopping, recreational facilities, schools, public transit and other public services

- Support trip-making by developing an integrated City-wide sidewalk/pathway plan including on and off-road trails to establish safe bicycle and pedestrian circulation.

- Develop a safe and convenient environment for walking and bicycling by physically separating pedestrian and vehicle traffic

~Goals~

"To develop a safe, integrated, multi-modal public and private transportation system for the efficient movement of people of all ages and abilities and goods, with cost-effective facilities and minimum environmental impact."
-Overall Transportation Goal

"To create a safe and convenient environment for walking and bicycling through the construction of pedestrian and bicycle facilities which are integrated with roads and other transportation facilities."
-Non-Motorized Transportation Goal

"To develop a comprehensive open space and trails plan and implementation program which protects the natural environment and significant cultural resources, provides passive recreation opportunities, is integrated with the non-motorized component of the Transportation Element, and is designed to link neighborhoods with parks, significant open spaces, schools, shoreline access areas, mixed use centers and employment centers."
-Open Spaces & Trails Goal
excerpted from the 1996 Comprehensive Plan

- Provide for safe and convenient bicycle and pedestrian use on all public streets and rights-of-way.
- Establish non-motorized transportation links between public facilities, commercial areas, and higher density residential areas.
- Design the trail system to link neighborhoods with parks, significant open spaces, schools, cultural resources, shoreline access areas, and employment centers.
- Provide safe and convenient non-motorized access to bus transportation.
- Prepare a "Safest Route to School" map to ensure that safety and accident prevention for pedestrian and bicycle travel to school receives the highest consideration.
- Design trails to be accessible to people with disabilities where topography will allow.
- Identify existing unopened street rights-of-way, utility corridors, and drainage corridors for use in developing the trails system.
- Locate trails in areas that are important to preserve as open spaces, such as wooded areas, drainage corridors, shorelines, and scenic vistas.

- Walkways and bike lanes should be required in proximity to all arterials, collectors, and streets near multi-family and commercial development.

- Require new development and redevelopment to incorporate transit-supportive and pedestrian-friendly design elements.

- Establish and adopt design and maintenance standards as part of the Non-Motorized Plan to ensure that the implementation and maintenance of nonmotorized improvements are coordinated and consistent in design and construction.

NON-MOTORIZED TRANSPORTATION AND CLIMATE CHANGE

In 2007 the City Council and Board of County Commissioners passed a joint resolution to "Commit to Addressing Energy Use and Climate Change/Global Warming" (City 07-022 and County 44-07). With this resolution, the City and County committed to policies and measures to achieve a community-wide reduction of greenhouse gas emissions to levels 80% lower than 1990 levels by 2050.

Motorized transportation is the source of 39% of greenhouse gases in Jefferson County, making transportation the greatest single contributor of greenhouse gases (Inventory of Energy Usage and Associated Greenhouse Gas Emissions, Adopted by City Resolution 09-002, County 06-09). Substituting walking and bicycling in some combination with carpooling and transit for single-occupancy motorized transport will help the city reach its goals. As such the following is and additional goal of the Non-Motorized Transportation Plan:

- Promote and continue to develop the non-motorized transportation system as a means to reduce greenhouse gases.

SCOPE OF THE PLAN

Where?

The Non-Motorized Transportation Plan describes a city-wide transportation system that links residential neighborhoods with commercial districts and recreational facilities. Connections to facilities outside the city limits are also included. Key features that were considered include: access to Fort Worden, walk routes to school, improved facilities on major arterial and collector streets, the urban waterfront, existing off-road trails, and open space corridors. Access to and along the waterfront is of particular interest and requires coordination with the Port of Port Townsend. Opportunities also exist to coordinate routes and amenities with the Jefferson Land Trust along the proposed wildlife corridor and other open space areas.

The plan considers the future development of new commercial retail and mixed-use centers to serve neighborhoods and anticipates additional traffic volumes on many roads as the population of the City expands in the next 20 years.

For Whom?

The Non-Motorized Transportation Plan seeks to accommodate a broad range of users including bicyclists, pedestrians, transit users and both residents and visitors. The plan addresses the needs of those who walk or bike as part of their daily routine, those who are more occasional or recreational users, and those who walk or bike to public transit. The skill level and abilities of users are considered with particular attention given to the needs of children and less able individuals.

On Whose Land?

This plan identifies existing, as well as future corridors, for pedestrian and bikeway connections. A primary consideration in outlining the plan was the availability of public rights-of-way. Port Townsend is fortunate to have extensive rights-of-way dedicated through the historical platting of land. Approximately 30 per cent of the total land area in the City is platted as public rights-of-way. Where possible the connections proposed in this plan are located in these rights-of-way. The plan indicates rights-of-way that are to be preserved for non-motorized use. While these are desired routes to remain unopened to vehicles, it is recognized that property owners have a right to access their property and rights-of-way to be preserved for trails cannot block access to a property. The City will work with property owners to minimize the intrusion of roads into the off-road non-motorized network.

In some instances, the proposed non-motorized network shows connections across private land: notably in the large parcels of unplatted land at the westernmost limits of the city. Where connections are shown across private property they are intended to indicate desirable links to be preserved if the parcel were subdivided. Bikeways and/or walkways will not be developed across private land without the owner's consent or a pre-existing easement. In situations where proposed connections are shown to cross private property a variety of approaches may be used to establish access in the future:

"Walking is not an 'alternative' mode of travel, it is the primary mode"
-Non-Motorized Transportation Committee Member

- Purchasing key segments
- Working with property owners to allow public access easements
- Working with new development to explain the benefits of incorporating bicycle and/or pedestrian connections
- Establishing pedestrian and/or bikeway connections as a mitigating measure for the impacts of property development

How long will it take?

This Plan presents a long-term vision for the development of a logical and comprehensive non-motorized transportation network. It will take many years to see the full results of this planning effort. The overall vision of the Plan is designed to mesh with the city-wide buildout in 40 years or more at densities established by the Comprehensive Plan and Zoning Code. This Plan sets the framework for a city-wide non-

motorized system, but also recognizes that needs and conditions will change over time.

While this Plan includes a detailed list of non-motorized needs as identified by the non-motorized committee, specific facility improvements recommended in this plan are aimed at a 10-year implementation period. As many of the facilities envisioned are related to the development of private property, incremental development of facilities will continue over a much longer period. The City will endeavor to act as a catalyst by providing key pieces of the system. Though the system will develop gradually, a major goal of the participants in the planning process is to see some immediate and visible outcomes of the plan.

The development of some parts of the non-motorized system will be dependent on the degree of interest and commitment expressed by the community.

How will it be implemented and who will pay?

The City will pursue a number of approaches to implementing the plan. Small scale projects such as sidewalk infill, curb ramp installations, and spot improvements will be done with City funds dedicated to non-motorized improvements as outlined in this plan. Larger scale projects that have broad appeal or solve safety concerns will most likely be funded through grant funds. The City has been successful in acquiring pedestrian improvement grants, particularly for walk routes to school.

For many projects the City will rely on volunteer efforts. By making a clear commitment to supporting volunteers the City hopes to encourage greater participation in both the construction and maintenance of facilities. The City's aim is to encourage and support citizens by putting the tools in place which can help them to participate in creating the network. In this way, the development of some parts of the non-motorized system will be dependent on the degree of interest and commitment expressed by the community.

Private property development will also play a role in the development of a non-motorized network. Individual homeowners may be required to install or repair sections of sidewalk. Some improvements could come through the formation of Local Improvement Districts (LIDs). Larger development projects may include pedestrian walkways or bikeways as an amenity or to mitigate the impact of the development. For the private developer, the walkway and bikeway system plans give guidance on how their project will connect to, and form part of a larger non-motorized system.

RELATIONSHIP TO OTHER PLANS

The Non-Motorized Transportation Plan builds on a rich heritage of community participation in the planning process. This plan considers and is intended to integrate with existing plans which have some bearing on pedestrian or bicycle issues. The following is a summary of plans and facilities which have provided direction for this plan.

Port Townsend Comprehensive Plan (1996)
The Comprehensive Plan establishes the community vision and provides the overall policy direction for the development of the Non-Motorized Transportation Plan. It includes a land use plan that guides future development and identifies potential open space corridors along which trails may follow. The Comprehensive Plan defines the character, scale and relationship of uses that support walking and bicycling as a form of transportation.

Official Zoning Map
The zoning map, adopted in conformance with the City's Comprehensive Plan, is a vital element in the consideration of a non-motorized network. The map designates commercial, manufacturing, mixed-use, and high density residential areas which may be candidates for non-motorized transportation improvements.

Urban Waterfront Plan (1990)
This plan was developed to provide urban design guidelines in an area of rapid change and growth. The plan addresses use of public and private space, height and bulk of structures, housing, open space, pedestrian and vehicular circulation, and connections to adjacent neighborhoods.

A major component of the plan is the Waterwalk. The goal of the Waterwalk, as stated in the plan, is to "provide and maintain a safe, convenient, community-oriented public access way along the water's edge. The Waterwalk is a coordinated system of connected pathways, sidewalks, passageways between buildings, and shoreline access points that increase the amount and diversity of opportunities for walking and chances for personal discoveries along Port Townsend's Urban Waterfront."

Port Townsend Gateway Development Plan (1993)
This plan defines a vision for the Sims Way Corridor. In addition to improving the visual quality and enhancing the economic vitality of the area, one of the primary goals of this plan is "to provide a safe corridor to and through the community for motor vehicles, pedestrians, and bicycles."

Key non-motorized improvements envisioned by the Gateway Plan include:

- Development of existing highway shoulders into bike lanes
- Creating pedestrian pathways separated from traffic with vegetative buffers

- Consolidating vehicular access lanes to minimize traffic crossing and improve safety conditions
- Installing signals at busy street intersections
- Installing pedestrian oriented lighting and signage along the corridor
- Creating a pedestrian "hillclimb" in the unopened Jefferson Street rights-of-way from Kearney to Walker Street

Jefferson Transit - City of Port Townsend Route Map
Jefferson Transit provides fixed-route bus service within the City of Port Townsend, and provides connections to the Quimper Peninsula and beyond. This Non-Motorized Transportation Plan seeks to promote convenient access to all transit stops.

Draft Arterial Street Plan (1994)
The Arterial Street Plan proposes street classifications and locations of future roads. Street classifications will impact the location and types of non-motorized facilities associated with city streets. The Arterial Street Plan was adopted within the transportation element of the Comprehensive Plan, except for the northwest quadrant of the city where streets rights-of-way are to be preserved on an interim basis for potential future arterials.

Engineering Design Standards (1997)
In response to the Comprehensive Plan, a set of Engineering Design Standards has been adopted. The Non-Motorized Transportation Plan makes recommendations for modifications to some of these standards.

Preliminary Draft Comprehensive Non-Motorized Transportation Plan (1993)
A preliminary draft of a Non-Motorized plan was prepared in 1993, but was never adopted. Much of the work in that draft was incorporated in the Comprehensive Plan Policy.

Larry Scott Memorial Park
The Larry Scott Memorial Park will connect Port Townsend with the greater Quimper Peninsula, and the Olympic Discovery Trail. The first phase of the park was built in 1998, along the abandoned railroad line between Mill Road and the Boat Haven. Access to the Boat Haven is provided by an easement granted by the Port of Port Townsend. The Non-Motorized Transportation Plan recognizes the linear park as an important transportation and recreation link to Jefferson County, and seeks to provide convenient access and connections to the trail.

Quimper Wildlife Corridor - Jefferson Land Trust
The Wildlife Corridor Project identifies a series of wetlands and open space in the northwest area of the city that provide critical habitat for native flora and fauna. Jefferson Land Trust seeks to protect these areas through a number of strategies that would minimize disturbance of the wildlife corridor. The Non-Motorized Transportation Plan seeks to harmonize its objectives with the goals of the Quimper Wildlife Corridor Project. Facilities will be planned to be compatible and of low impact and some areas of the corridor will be avoided entirely. This plan attempts to minimize the number of paths crossing the corridor.

Comprehensive Parks and Recreation Plan (1991)
The Comprehensive Parks and Recreation Plan inventoried existing parks and recreation resources, and made specific recommendations for proposed park development and maintenance of facilities. Among its many references to the need for trail facilities, the plan summarizes that, "The City must plan for a comprehensive trail system to accommodate the recreational and safety needs of all. This system will connect neighborhoods with each other, recreational areas, viewpoints, commercial districts, and regional trail systems, while limiting conflict between different users. Greenways respecting wildlife will be incorporated wherever possible."

Kah Tai Lagoon Master Plan
In the early 1980's a master plan for Kah Tai lagoon had as one of its components the provision of walking and jogging trails compatible with the wildlife habitat, and the provision of handicap access to some of the eastern perimeter of the lagoon. A 1983 IAC grant allowed for construction of these facilities which are maintained by the City of Port Townsend Parks Department.

Shoreline Master Plan (2007)
The Shoreline Master Plan encourages public access for pedestrians, bicyclists, and people with disabilities. It promotes a public pedestrian walkway system along the Historic Waterfront and Urban environments.

Jefferson County Non-Motorized Transportation and Recreational Trails Plan (2002, Updated 2010)
This plan was prepared to fulfill the purpose of the Jefferson County Comprehensive Plan Transportation Element and is Comprehensive Plan Parks, Recreation, and Open Space Element. These two elements contain goals, policies, and strategies aimed at providing a safe, accessible, and convenient non-motorized transportation system and County-wide trail plan. Port Townsend's Non-Motorized Transportation Plan seeks to strengthen the interconnection between county and city active transportation networks.

Port Townsend Transportation Plan (under development 2010)
Both the Transportation Plan and the Non-Motorized Transportation Plan draw guidance from the Comprehensive Plan and support the same goals.

PARK PLAN SURVEY

The Park and Recreation Functional Plan (1997) was developed concurrently with the Non-Motorized Plan. The Park Plan establishes potential locations for new parks that will need non-motorized access. A survey conducted as part of the parks plan reinforced the desire of the citizen's of Port Townsend for improved pedestrian and bicycle facilities. There was a positive response to financially supporting open space and trails. A summary of this survey is outlined below. A full description of the survey methodology can be found in the Parks and Recreation Functional Plan.

What facilities do you use most often?

The survey found that the most commonly used facilities in town were: Chetzemoka Park, Kah Tai lagoon, Pope Marine Park, and Terrace Steps. Residents in the northwest of the City also valued the Winona and Levinski wetlands and the numerous trails in this area.

What are the most important walking/bicycling improvements?

The highest rated improvement was for continuous trails around the city. Next came sidewalk additions and improvements followed by on-street painted bicycle lanes.

What non-motorized activities are important to you?

Over 78% walk, jog, or hike for recreation daily or weekly. Almost 30% of respondents used a bicycle for recreation on a daily or weekly basis. The largest percentage of walking commuters was found in the older areas of town where higher densities and facilities exist.

What recreation activities are important to you?

Beach combing, walking, hiking and bicycling scored high as important activities.

What is your general satisfaction with existing recreation facilities?

Satisfaction was expressed with developed beach access, and neighborhood parks and trails for walking. The highest dissatisfaction was with existing bike lanes.

Of all parks and recreation facilities, what are the top priorities for further development?

The weighted scores show more trails for walking and exercise as the clear leader, in spite of a high satisfaction level. Wildlife corridors, bike lanes (corresponding to a high dissatisfaction level), and bicycling trails all follow closely.

RELATIONSHIP TO OTHER AGENCIES

The comprehensive nature of the Non-Motorized Transportation Plan suggests that coordination with affected agencies will be important. The implementation of this plan also requires coordination between the various departments within the City, including public works, planning, and the parks department. Affected agencies include:

- Department of Natural Resources (DNR)
- Jefferson County
- Jefferson Transit
- Jefferson Land Trust
- Port Townsend School District
- Port of Port Townsend
- Washington State Ferries
- Washington State Department of Transportation (WSDOT)
- Washington State Parks

THE PLANNING PROCESS

A plan that responds to the needs and desires of the community could not have been developed without the help of the non-motorized committee. This committee met bi-weekly for nearly a year to bring this plan to completion. The following paragraphs summarize the key stages in the development of the Plan.

April 7, 1997 - Non-Motorized Transportation Planning Advisory Committee Appointed

The Non-Motorized Transportation Advisory Committee was appointed by the Mayor on the recommendations of the Transportation Committee. The 12 member committee was composed of citizens at large who had responded to newspaper advertisements; individuals representing affected organizations such as the School District, realtors and Jefferson Transit; Council members; and a Planning Commissioner.

April 30, 1997 - Public Scoping Meeting

At this meeting, the committee and the general public identified a list of non-motorized transportation issues. The product of this meeting was a set of questions that the Non-Motorized Committee would attempt to address.

May 14, 1997 - Background Information

Comprehensive Plan Policies and Objectives were outlined at this meeting. The Park Plan survey and Engineering Design Standards were presented to the Committee

May 28, 1997 - Non-Motorized Transportation Issues Tour

A tour of 34 locations which represented non-motorized transportation issues in Port Townsend was conducted to prepare the committee for a design charrette.

May 31, 1997 - First Design Charrette

The first design charrette was an all day public workshop during which the committee followed the methodology described in Chapter 2 to establish a non-motorized transportation network concept. The committee defined user groups, evaluated existing conditions, identified destinations, established a network concept, and developed a draft system plan.

June 25, 1997 - Bicycle System Plan

During this meeting the committee identified a system of streets, that would eventually include bike lanes and improved shoulders, to serve as the Bikeway System.

September 10, 1997 - Sidewalks

At this meeting the committee evaluated the costs and benefits of sidewalks as a major part of the pedestrian system plan, and formulated policy language that would require sidewalks in more dense residential areas but would provide flexibility in how and when they where installed.

September 27, 1997 - Second Design Charrette

A second all day public workshop allowed the committee to finalize the non-motorized network plan, develop project lists, and identify priority projects.

October 8, 1997 - Project Prioritization
This meeting was devoted to reviewing the project list and refining project priorities.

November 12, 1997 - Downtown Business District
During this meeting the Committee discussed issues and opportunities related to creating a pedestrian and bicycle friendly Downtown.

THE SUPPLEMENT PLANNING PROCESS

Late in 2006 the Non-Motorized Transportation Advisory Board (NMTAB) became concerned that the recommendations in the 1998 Plan were intended for a 10 year period. During that period, projects had been completed and new ones should now be added. An update and supplement to the Plan would be needed. After conferring with city staff in November 2006, a subcommittee of the Non-Motorized Transportation Advisory Board began the process of supplementing the plan.

Sources of Ideas and Suggestions for the Supplement
Ideas and suggestions have come from many sources. Input was gathered from the following:

- NMTAB members
- Responses to a request published in the City's Utility Newsletter
- Visitors who have attended NMTAB meetings
- People who stopped by the NMTAB booth at Earth Day gatherings
- City Staff
- Board of DASH (Disability Awareness Starts Here)
- City of Port Townsend Police Department Staff
- Port Townsend School District

2. DEVELOPING THE NON-MOTORIZED PLAN

INTRODUCTION

This chapter describes the methodology used to develop the plan for a city-wide non-motorized transportation network. Since the plan endeavors to respond to the unique attributes of this community, it is important to understand the people the system will serve, the types of destinations they wish to access, the state of existing facilities, and the community's vision of how the city should develop. The planning process to address these issues included the following steps:

- Create a vision of the future system
- Define users
- Identify destinations
- Evaluate existing conditions
- Establish a network concept
- Define the types of facilities needed
- Identify and prioritize project needs
- Define a funding and implementation program

USER GROUPS

To establish the framework for a non-motorized transportation system it is important to first understand whom the system will serve. User groups were defined and used during the planning process as a means to evaluate whether the needs of the individual user were being met. The map of planned facilities was evaluated from the perspective of each of the user groups to determine where an overlap of needs occurred, and where gaps in the system existed.

> *Provide pedestrians and bicyclists with a system of facilities, incentives, and services, that fully support trip-making connections between residential areas, employment centers, shopping, recreational facilities, schools, public transit and other public services within the City.*
> *-Comprehensive Plan Policy 5.3*

The user groups considered were: commuters, recreational users, utilitarian users, and school children. Users were defined in relation to their motivation for making a trip rather than by their chosen mode or skill level. A commuter may walk to work on one day or may elect to ride a bike on another. Whether the user is disabled or not makes little difference in the need for a safe and comfortable journey to work. The type, location, and characteristics of facilities must take into account the needs of these groups. Table 2.1 summarizes the user groups, needs, and destinations.

Recreational Users

Recreational users are those who use facilities for pleasure or exercise. They include mountain bikers, joggers, naturalists, dog walkers, casual walkers, boaters, and campers. Recreational users choose routes through quieter areas, where possible, away from major roads or activity centers. Their destinations include parks and open space, running and biking trails, and sports facilities.

Recreational users tend to seek a more varied experience than commuters or utilitarian users. Scenic vistas, points of interest,

and topographic change add to the quality of experience for a recreational user. Hikers, joggers, and exercisers seek out routes with a moderate challenge. Others, such as naturalists, will seek places of relative quiet in forested, wetland, or coastal natural areas. Recreational users are able to share facilities with other non-motorists, although clear definition of bicycle and pedestrian lanes may be necessary in shared-use situations. Recreational users may require access to bus stops and transit facilities.

Commuters

Commuters are those who travel from home to work or school. Their needs tend to be for direct routes with little interruption by stops or route changes. Arterial streets with bike lanes and uninterrupted pedestrian walkways serve them well if they connect directly to major destinations. Because streets usually provide even surfaces and the most direct routes, bicycling commuters typically share roadways with motorists. Pedestrian commuters appreciate sidewalks along the busy streets on which businesses are typically located. Commuters may also seek pathways that are separated from streets and may choose less busy routes if convenient facilities and direct routes exist. Pedestrian and bicyclist commuters both require convenient access to transit facilities.

Utilitarian Users

Utilitarian users are motivated by a variety of purposes, including: shopping, personal errands, entertainment trips, and visiting friends. Their needs are for facilities within their neighborhoods that provide easy access to neighbors, bus stops, and commercial areas. Like commuters, utilitarian users usually choose direct routes for shopping and errands. They may often choose side streets or quieter routes for less pressing errands and to visit friends. Bicyclists desire a well-defined separation of bicycles and motor vehicles on arterial and collector streets or they may travel on side roads or paths. Utilitarian users are willing to accept some out of direction travel to avoid perceived hazards or to take a more pleasant route.

School Children

School children walking or biking to school need safe routes. Short distances to school are needed with little out of direction travel. Typically, young children will walk up to ½ mile to school if safe facilities are provided. Their needs are for a high degree of separation from automobile traffic, safe and simple street crossings, clearly marked routes, walkways with consistent and even surfaces, and signals and lighting where necessary.

TABLE 2.1 USERS, NEEDS, AND DESTINATIONS

RECREATIONAL USER *Examples: mountain bikers, fitness bikers, joggers, dog-walkers, naturalists, boaters, campers,and walkers*

NEEDS	DESTINATION
•clearly marked routes	•parks/ open space
•uninterrupted through routes away from roads	•beach access
•varied experience (topography, views, environment, and trail types)	•sports facilities
	•City and County trails

UTILITARIAN USER *Eamples: transit users, people on shopping trips, personal errands, entertainment trips and visiting friends*

NEEDS	DESTINATION
•neighborhood sidewalks and/or pedestrian walkways	•neighborhoods
•through-block access	•shopping / retail areas
•access to transit stops	•public buildings
	•entertainment facilities

COMMUTER *Examples: workers using walking or biking as a primary mode of travel*

NEEDS	DESTINATION
•direct routes	•schools
•few stops or route changes	•commercial areas
•even, paved lanes, sidewalks and/or pedestrian walkways	•public buildings
•access to transit	•County

SCHOOL CHILDREN *Examples: school children of all ages*

NEEDS	DESTINATION
•direct, safe, and simple routes	•schools
•separation from traffic or off-road access	•parks
•smooth sidewalks and/or pedestrian walkways, free of obstructions	•neighborhoods
•simple, safe, intersections	

DESTINATIONS AND EXISTING CONDITIONS

Identifying major destinations throughout the city establishes what the trip generators are and where transportation links are needed. The inventory map, Figure 2.1, illustrates major destinations in Port Townsend. The following sections describe the various types of destinations and the condition or availability of non-motorized facilities in their vicinity.

Schools

Schools witness a concentration of vehicular and non-motorized traffic. The Port Townsend School District includes two elementary schools, a middle school, and a high school. Each of them is located along a primary collector or arterial street. Non-motorized users in school zones include students, teachers, and other employees. High vehicular traffic volumes occur during the pickup and drop off of school children. Providing better non-motorized facilities has been shown to encourage more children to walk to school. For safety reasons, children should have physical separation from high volume vehicular traffic.

The extent of walkways and bikeways in school zones vary from site to site. Blue Heron Middle School recently saw improved pedestrian access with the installation of sidewalks and raised crosswalks along San Juan Avenue. A trail now connects from 49th Street to an entrance behind the school. Access problems remain however, particularly from the East and from south of F Street. Center Street has no pedestrian facilities and the crossing on Cherry Street is problematic. Sidewalks end just north of the school and south at F Street. There are problems at the intersection of Hastings and Discovery, the curve on Discovery near San Juan, F Street, and San Juan south of F Street.

The streets surrounding the High School have a patchwork of sidewalks. Blaine Street sees high student traffic both in vehicles and on foot and has poor facilities for non-motorized users. Fir Street has sidewalks from F Street but a poor road edge north of F Street.

At Mountain View Elementary, Cherry Street, Blaine Street and Walker Street have few or no facilities. Cherry Street has only a rudimentary foot path. Kearney Street has an asphalt sidewalk on one side, but there is no separated walkway along 19th Street west of Kearney.

At the Grant Street Elementary School there are few pedestrian facilities for children to walk to school on. Sidewalks exist in front of the school but not enroute. Children who walk to school do so on use paths. There is a path along Discovery Road and a crossing mid-block. Sheridan Street between 19th and Hastings is scheduled for sidewalk improvements on one side in 1998.

Parks & Open Space

Port Townsend's open space includes a number of City and County parks, a state park, lagoons, a municipal golf course, public beaches, wetlands, environmentally sensitive areas, and large parcels of undeveloped land. Distributed throughout the city, parks and recreational facilities vary in size and character from the small Pope Marine Park along the urban waterfront to the Port Townsend and Point Hudson Marinas to the 443 acre Fort Worden State Park. Open spaces are important destinations for pedestrians and bicyclists, and can also serve as through routes. Kah Tai Lagoon is a destination as much as it is a through route between Uptown and the Sims Way commercial area. Improved non-motorized access can help to improve the overall experience and can reduce parking needs in parks. Considering potential through routes in parks or open space can provide an attractive alternative to walking along the street.

Commercial Areas

Commercial areas in Port Townsend lie primarily along the Sims Way Corridor, Kearney Street, Uptown, the Historic Downtown District and Point Hudson and the Boat Haven. The Boat Haven and Point Hudson are centers for marine related commercial activity. In addition, three satellite commercial areas are envisioned by the Comprehensive Plan to serve the developing neighborhoods in the city. A health care related commercial zone is located along Sheridan Street adjacent to the hospital.

The character of existing commercial areas vary. The Sims Way Corridor (SR 20) is automobile oriented with retail services such as hardware, lumber, auto-parts, groceries, and fast food. High vehicular traffic volume, long street crossings, extensive parking lots, and the lack of walkways, or bike lanes make it a problematic area in which to walk or bike. The lack of traffic lights makes it difficult to cross the street. Evidence that the adopted Gateway Plan is being implemented can be seen in the gradual development of pedestrian walkways and landscaping in the corridor. There are many single-family and multi-family neighborhoods adjacent to this corridor.

The Downtown Historic District has a scale and mix of uses which is pedestrian oriented. However, inappropriate parking, decaying sidewalks and infrastructure, difficult intersections,

and gaps in the sidewalk network on Washington Street and some side streets, detract from a potentially pedestrian friendly area. Non-motorist users include visitors, commuters, shoppers, and the recreational user. The City has adopted the Gateway Plan and the Urban Waterfront Plan which serve as guides for pedestrian improvements in this commercial area.

The Boat Haven and Point Hudson are employment areas and see a large number of commuters. Many commute to work by bike or on foot along sparsely developed facilities. Non-motorist users in these areas are potentially numerous and are in particular need of improved walkway facilities and access to transit. The Port of Port Townsend has been steadily improving facilities at the Boat Haven since 1994.

The paper mill, while not within the city limits, is a major employer and destination point. Discovery and Sims Way are major streets connecting to Mill Road, and neither has significant pedestrian or bicycle facilities. The Larry Scott Trail will greatly improve access between the Boat Haven and the mill.

The Ferry Terminal is a major destination and a large generator of pedestrian and bicycle traffic. While pedestrian access to the Historic Downtown is developed, poor links to the commercial areas west on Sims Way and the Park-and-Ride discourage bicycle and pedestrian traffic due to comfort and safety concerns. The remarkably short distance to Sims Way and Kearney is not realized by pedestrians because of the unpleasant walking environment.

Residential Neighborhoods

Distinct residential neighborhoods can be identified throughout the town (Figure 2.2), giving the town an interesting and varied character. Bicycle and pedestrian facilities in most residential areas are minimal, and non-motorists depend on local access streets and informal trails. Sidewalks exist in the more established sections of the uptown neighborhood but are not continuous, requiring pedestrians to use a combination of streets and sidewalks. Informal trails exist throughout the city, though they are mostly unimproved, unmarked, and serve a limited range of users.

EXISTING FACILITIES

The locations and condition of existing facilities were inventoried to determine what links already exist and whether they are adequate. The Inventory Map, Figure 2.1, identifies existing facilities in Port Townsend. The map highlights sidewalks, bikeways and trails. Table 2.2 provides a summary listing of these facilities. The following is a brief description of existing facilities.

Sidewalks

Only 6% of Port Townsend's roads have sidewalks along their frontage. It can be seen from Figure 2.1, that most of the sidewalks are in the Historic District. Even in this district the existing sidewalk network is often discontinuous and fragmented. Most residential areas have no sidewalks, although they may have some improved or informal trails. Few

sidewalks have ADA curb ramps, though the City has made a concerted effort to install them at intersections in Uptown and in the downtown commercial area.

Trails

Figure 2.1 illustrates the existing trails network, both formal and informal. One of the charms of Port Townsend is the innumerable paths that people have created wherever the need arose. Recognizing established paths is an important consideration in developing this plan: it is much easier to provide a facility where people already walk than to estimate where they might walk. Though there are many informal trails in town, many trails lack continuity, and are often rugged, limiting the range of users and season of use. Many of the informal trails are on or adjacent to city rights-of-way; however, in some cases the trails cross private property.

Developed trails have become an increasingly important part of development projects. Recent development projects that incorporate trails include: the Business Park, Rosewind, Fowler's Park, and Hamilton Heights.

Road Shoulders

In the absence of pedestrian walkways, the shoulders of roads are used by pedestrians. The mowing and scraping schedule for roadway edges does not factor pedestrian needs. Consequently, pedestrians must often cope with encroaching vegetation and uneven walking surfaces.

Bicycle Facilities

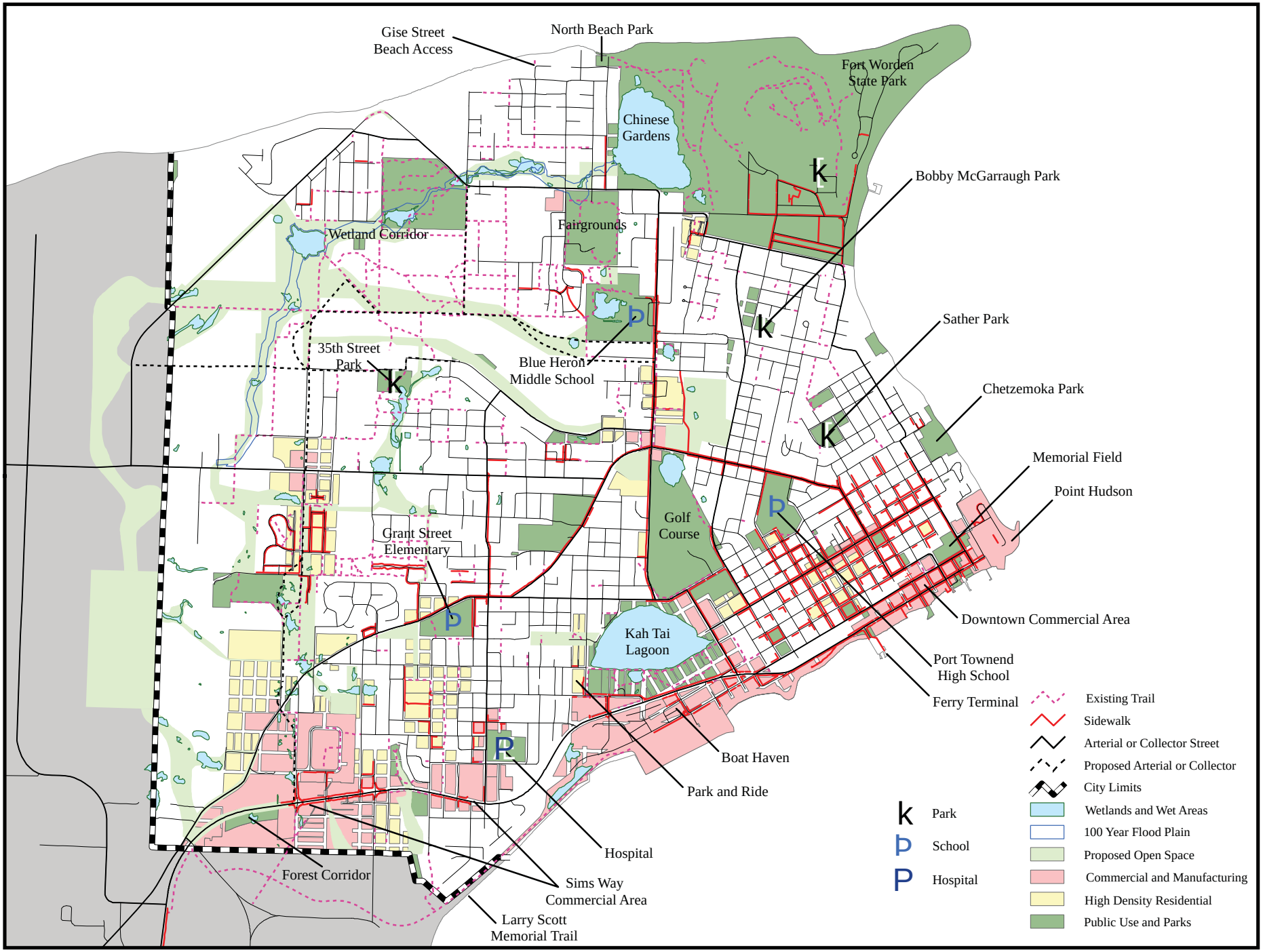
Although bike lanes have been developed on several streets including 19th Street, Howard Street and part of San Juan Avenue, in general the arterials and collectors in town have poor shoulders, no bike lanes and are not bicycle friendly. Notable bicycle problem areas exist along Sims Way, Discovery, F Street, Hastings Avenue, Water Street, 49th Street, Washington Street and San Juan Avenue.

Non-Motorized Support Facilities

Amenities which support and encourage non-motorized use include such items as benches, bike racks, trash receptacles, pedestrian oriented lighting, or directional information. These facilities exist in places, though there is no consistent treatment or standard throughout the city

Bicycle parking facilities have become more evident lately in both public and private locations. Parking facilities include those at City Hall, at schools, at the Park-and-Ride, the Boat Haven and Shipyard, Safeway, Seafirst, and Henery Hardware. The Printery and InterWest Bank provide some of the few covered bicycle parking facilities. The Post Office and Jefferson County Courthouse conspicuously lack bicycle parking.

FIGURE 2.1 INVENTORY



Streets

Street designations in Port Townsend include a major arterial (Sims Way / SR 20), a network of minor arterials and collector streets, and a grid system of local streets. Arterial and collector streets are highlighted on the Inventory Map for their potential as bicycle lanes or routes. Many of these streets, however, are in need of improved pavement width and shoulders to accommodate bicycles. Also on this map are new streets proposed as part of the Arterial Street Plan. Many street rights-of-way in Port Townsend are currently unopened. Approximately 30% of Port Townsend's land is in rights-of-way, offering tremendous opportunities for the development of non-motorized facilities that are separated from the street if some of the streets are not opened to automobile travel.

Transit Facilities

Port Townsend is served by Jefferson Transit which provides public bus transportation in the city, county, and to connecting services from other cities such as Seattle and Port Angeles. Existing bus routes connect Port Townsend's commercial areas, parks, and public facilities along arterial and collector streets. Bicycle racks and wheelchair lifts are available on all routes.

Ferry service from Port Townsend to Whidbey Island is provided by Washington State Ferries. Priority boarding and unloading is given to pedestrians and bicyclists. There are bicycle parking areas at either end of the ferries and covered waiting areas for pedestrians.

TABLE 2.2
INVENTORY OF EXISTING FACILITIES
(Not including Fort Worden)

Street Network	1998	2010
Principal Arterial	3.0 miles	no change
Minor Arterial	10.0 miles	no change
Collectors	9.0 miles	no change
Bike Ways		
Bike lane	1.8 miles	7.7 miles
Bike Routes	—	—
Pedestrian Walkways		
Sidewalks	12 miles	26.3 miles
% of streets with sidewalks on either side		
Major Arterial Streets	6%	42%
Arterial Streets	28%	64%
Collector Streets	21%	23%
Neighborhood Streets	7%	10%
Pathways		
Developed	1.0 miles	8.7 miles
-Includes asphalt and gravel surfaces		
Undeveloped use paths	19.0 miles	16.5 miles*
-Paths with original surface		

*Decrease due to upgrade to developed conditions – *total* pathways have increased

EXISTING USE

In order to establish baseline data for documenting changes in non-motorized transportation use over time, volunteers have performed several surveys. Summaries of the survey results are briefly described in Table 2.3, and the detailed survey results can be found in Appendix E: Non-Motorized Use Surveys. Surveys should be conducted on a regular interval to monitor changes in usage due to new facilities, increases in safety, climate change initiatives, or other factors.

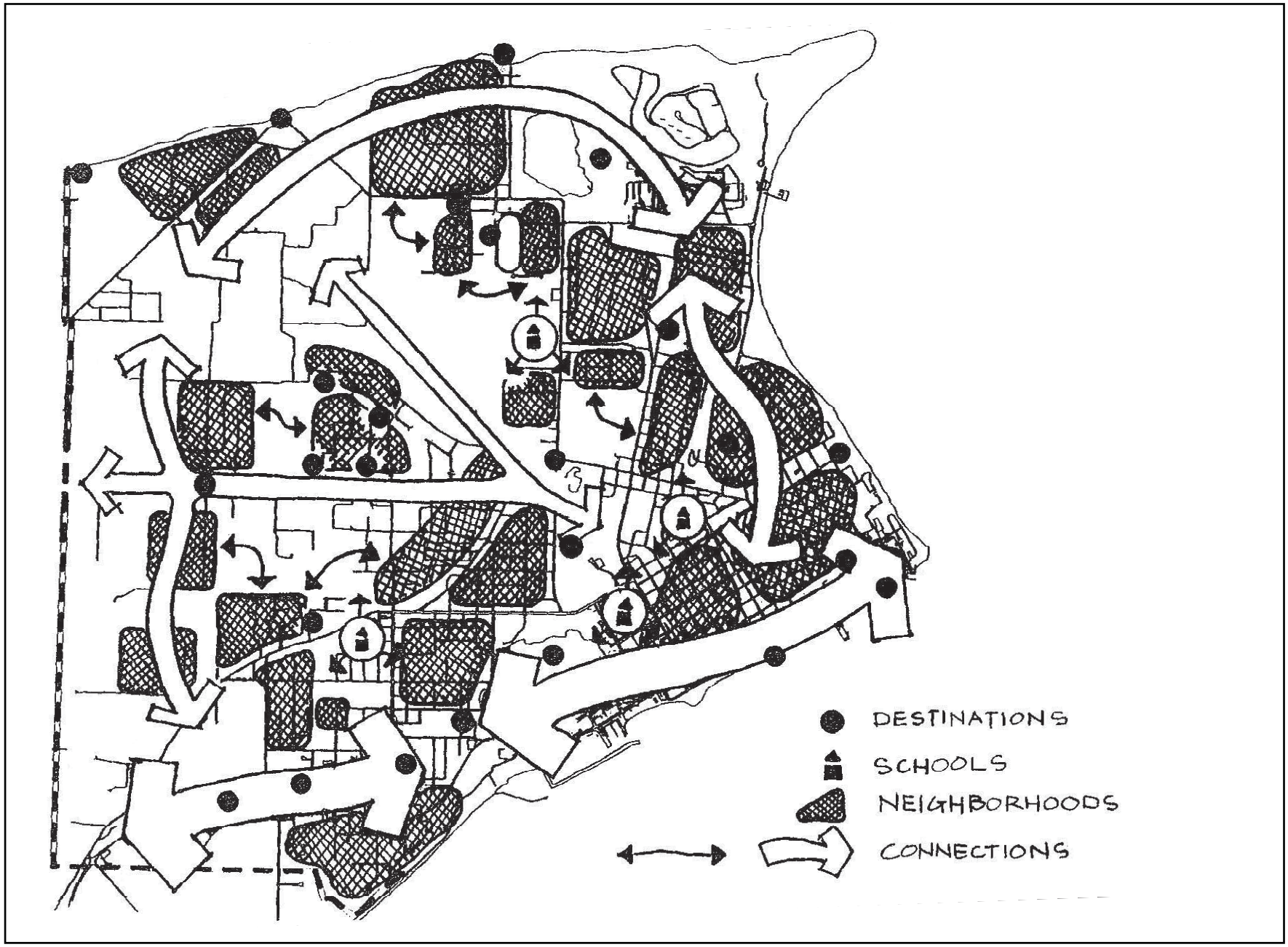
TABLE 2.3 NON-MOTORIZED USE SURVEY SUMMARIES

DATE	DESCRIPTION	SUMMARY RESULTS	COMMENTS
2002 August	Bicycle Parking Survey	Of 56 locations surveyed, 43 had racks, with a total parking capacity of 173 bicycles.	Most racks are of non-funtctional types. Many railings are inappropriately used as bike racks.
2003 July – August	Downtown On-Street Bicycle Parking Use	Average of 11 bikes parked. 34% parked on racks during 18 day survey.	A severe shortage of bike racks in downtown causes most bikes to be parked inappropriately.
2003 October	Commuting Survey of Downtown Employers	Of 30 employers having 323 employees: 12% bicycle, 14% walk, 3% ride transit.	Significant numbers commute by bicycle of walk. Transit use is limited by operating hours vs. downtown business hours.
2007 September	Bicycle and Pedestrian Count; Discovery & Hastings, Kearney & Blaine	59 pedestrians & 78 bicyclists counted during 4 hour period. 64% of bicyclists wore helmets.	Non-motorized traffic is higher on streets with sidewalks and bike lanes. Helmet use is low.
2007 October	Bicycle Parking Survey	Of 117 locations surveyed, 78 had racks, with a total parking capacity of 271 bicycles.	The City has installed many new racks but numerous businesses, schools and parks still lack suitable racks.
2008 July – August	Downtown On-Street Bicycle Parking Use	Average of 21 bikes parked, with many days considerably higher. 59% parked on racks.	With the installation of new racks, more people are using those racks to park their bikes.
2010 April	K-8 Student Transportation Mode Tally	Of students who live within 2 miles of school, 2.5% ride a bicycle, while 7.7% walk. The majority rely on a single family vehicle or school bus for transportation.	Students are riding bikes and walking at very low rates.

NETWORK CONCEPT

The network concept, Figure 2.2, illustrates destinations, neighborhoods, and conceptual links between destinations. This diagram was developed during the non-motorized charrette when the committee was asked to think in terms of important linkages rather than specific routes, and to consider options beyond existing streets. The network concept gives overall guidance on how a non-motorized network should function. The concept drawing illustrates a main objective of the plan: to design a network of non-motorized facilities which provide circulation and linkages throughout the city. The various sizes and direction of the graphic arrows suggest a hierarchy and order within the system. Various neighborhoods are identified as distinct areas to be linked within the non-motorized system.

FIGURE 2.2 NETWORK CONCEPT



FACILITY TYPES

This plan seeks to develop a transportation system that meets the needs of all users and that builds on the routes, networks and facilities that are already used. This section describes the basic components that comprise the proposed non-motorized network. The pedestrian and bicycle elements of this plan describe them in more detail and provide typical cross-sections. Figure 2.3 provides a profile of how these components relate to one another.

Major Streets with Bicycle and Pedestrian Facilities

Arterial and collector streets are main thoroughfares that will ultimately include pedestrian and bicycle facilities.

Neighborhood Connectors

Neighborhood connectors are intended to provide routes across town to the identified destinations and links between and within neighborhoods. Neighborhood connectors may be sidewalks or pathways adjacent to streets or pathways on alignments separate from streets, within unopened street rights-of-way. Pathways will generally be shared facilities serving walkers and bicyclists.

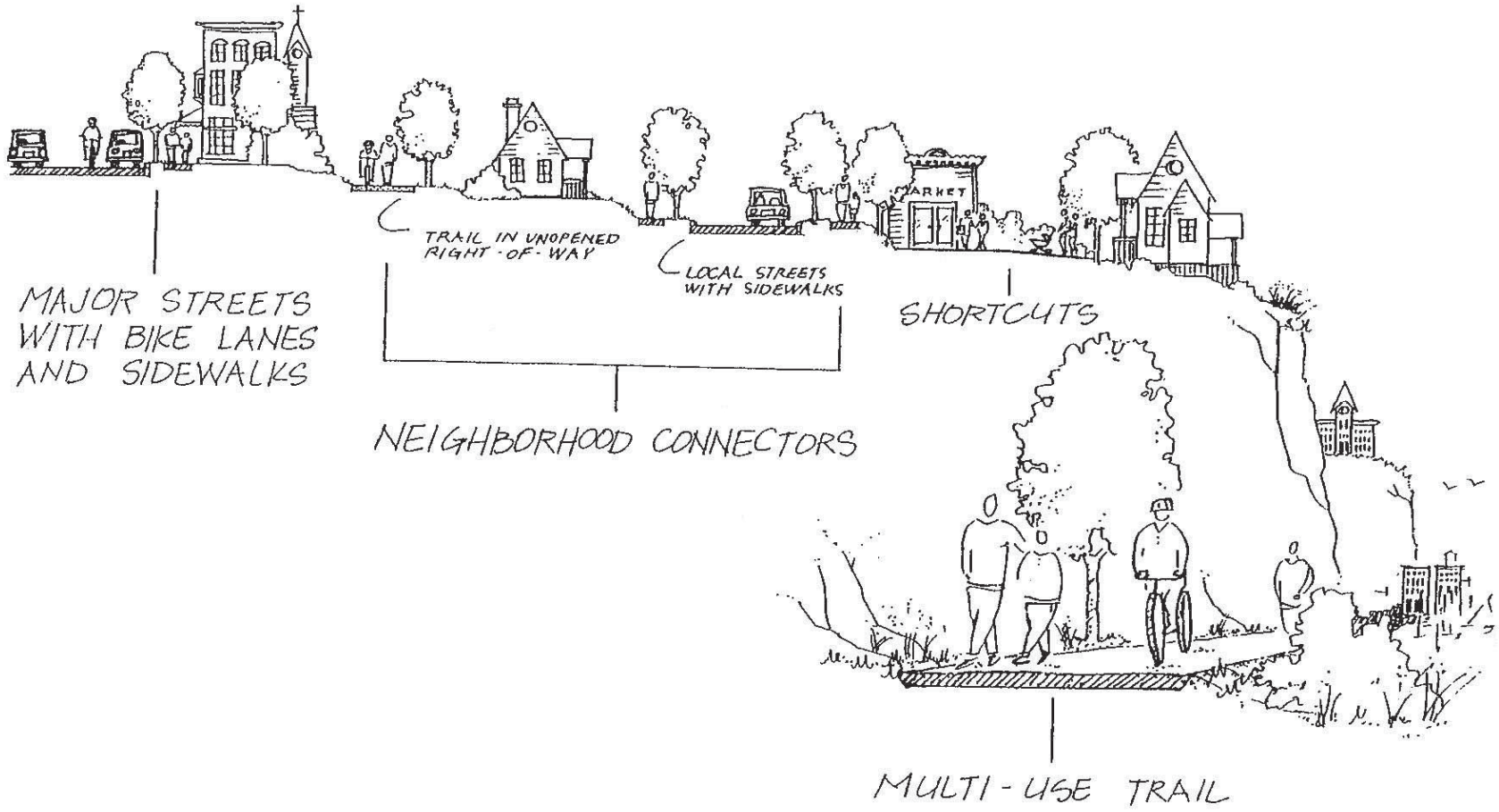
Shortcuts

Shortcuts are typically one-block pathways on unopened rights-of-way that connect between streets. They are often unimproved, but are envisioned to be signed and cleared.

A Multi-Use Trail

The multi-use trail is a wide, arterial trail generally separated from city streets. Its purpose is to provide non-motorists the greatest variety of experience and the least amount of conflict with motorized traffic. It is routed, wherever possible, through parks and potential open spaces, adjacent to drainage corridors, and along existing trails and unopened street rights-of-way. It is located adjacent to streets in as few places as possible, and only where it is necessary to provide continuity. The multi-use loop is routed on slopes with moderate grades to accommodate a wide range of users. It will serve all user groups and will accommodate bicyclists, pedestrians, and in some cases equestrians.

FIGURE 2.3 FACILITY TYPES



3. PEDESTRIAN ELEMENT

INTRODUCTION

This chapter outlines a comprehensive network of pedestrian routes and facilities that provide access and mobility throughout the town. One of the primary goals of this plan is to define the policies and standards that will lead to a program to maintain and enhance the walkability of Port Townsend. The need and desire for a pedestrian friendly town was expressed strongly in the community discussion surrounding the development of the Comprehensive Plan. This plan also focuses on preserving connections people have established with informal trails, and identifies routes for the establishment of new walkways.

WHY PEDESTRIAN FACILITIES?

We are all pedestrians. Whether walking or in a wheelchair, this is the most basic form of transportation. At some point each day we are likely to go somewhere without using an automobile. We go to a friend's house, to the video store, to work, or to a bus top. Even when driving we begin and end each trip as a pedestrian.

Pedestrians are the most vulnerable road user; they are less protected from the weather, less visible, much slower, and are more likely to be injured in a collision with an automobile. For safety concerns, they should be separated from automobiles and protected at points of intersection.

Some people in the community tend to walk more than others, particularly the poor, the young, and the elderly.

The young and the elderly account for 41% of Port Townsend's population*. Port Townsend

The young and the elderly account for 41% of Port Townsend's population

~Pedestrian Vision~

The pleasant walking environment of the city encourages people to walk within and between neighborhoods as perceived walking distances are diminished. Port Townsend's elderly and special needs populations are afforded convenient access to transportation and other human services. Sidewalks are smooth and are separated from traffic with landscaped planting strips. Ramps and crosswalks exist at intersections to allow safe and comfortable street crossing.

Convenient sidewalks and paths provide safe routes for children to travel to and from school and reduces their reliance on their parents or busing. Children can walk safely to parks, recreation areas, and their friends' houses. Access to transit facilities is along smooth sidewalks and well maintained trails. The combination of pedestrian facilities and transit connections results in a high degree of access and mobility that makes walking and transit a realistic alternative to automobile trips. Residents walk for errands or to neighbors rather than relying on the automobile.

The Waterwalk provides people with a system of interconnected pathways along the shore of Port Townsend Bay, tying the City's shoreline together from the Olympic Discovery Trail to the Point Hudson Marina, with continued beach access to Fort Worden State Park and North Beach. The walk connects the waterfront with a larger network of trails that lead to surrounding districts and residential neighborhoods. This multi-modal loop also unites neighborhoods with an extensive system of parks and open spaces, including many environmentally sensitive areas that provide significant wildlife habitat.

All trips begin and end with a walk

has a greater percentage of elderly than the state average. Senior citizens are at particularly high risk. People over the age of 65 make up 13% of the American population, but they account for 23% of all pedestrian deaths.** As the elderly are steadily becoming a larger segment of the population, the need for safe and convenient pedestrian facilities becomes more pronounced.

*1990 Census, under 15 and over 65

**Source: Surface Transportation Policy Project in May / June 1997 Alternative Transportation Newsletter

For those unable or unwilling to drive an automobile, the ability to walk safely about the community contributes directly to their independence: children need not be reliant on their parents for trips to school, and the elderly can move about freely. The American Automobile Association (AAA) estimated that the costs of owning and operating a new car in 1993 averaged $4,705 if driven 10,000 miles. Elderly citizens, on fixed incomes, may be able to forgo this added cost if they can walk safely to their destinations or a bus stop.

"For those unable or unwilling to drive an automobile, the ability to walk safely about the community contributes directly to their independence."

Being able to walk anywhere in town is part of the charm of living in Port Townsend. Most destinations are relatively close and the neighborhoods are pleasant to walk through. With new development this pattern has started to change. In recent years, commercial uses have become more segregated: large, automobile-oriented, commercial establishments exist along Sims Way, while entertainment uses and specialty shops tend to locate Downtown. Residential neighborhoods may be close to some types of commercial destinations but not others. The construction of pedestrian oriented facilities has not kept up with new development.

The ability to walk comfortably about the community is a measure of the quality of life. When walking we are more in touch with our community because we see and experience more as we move along the street. A sense of community is developed as people see and recognize their neighbors. People on the streets makes the town a more lively and safe place to live. Enabling people to walk by providing safe facilities can only increase the livability of the town.

A 1994 study on the impact of greenways on house prices and public safety in the Denver area found that trails are an amenity to the neighborhoods around them and increase the desirability of the property. The study was conducted by the Conservation Fund, Colorado State Trails Program. Major findings of the study were: of the real estate agents interviewed, 73% believed a home adjacent to a trail would be easier to sell and 55% agreed the home would sell for more than a comparable home in a different neighborhood. These figures fell to 64% and less than 10% respectively for homes located one block away from the trail. Public safety was not an issue according to residents and patrol officers.

Pro Bike News, April 96

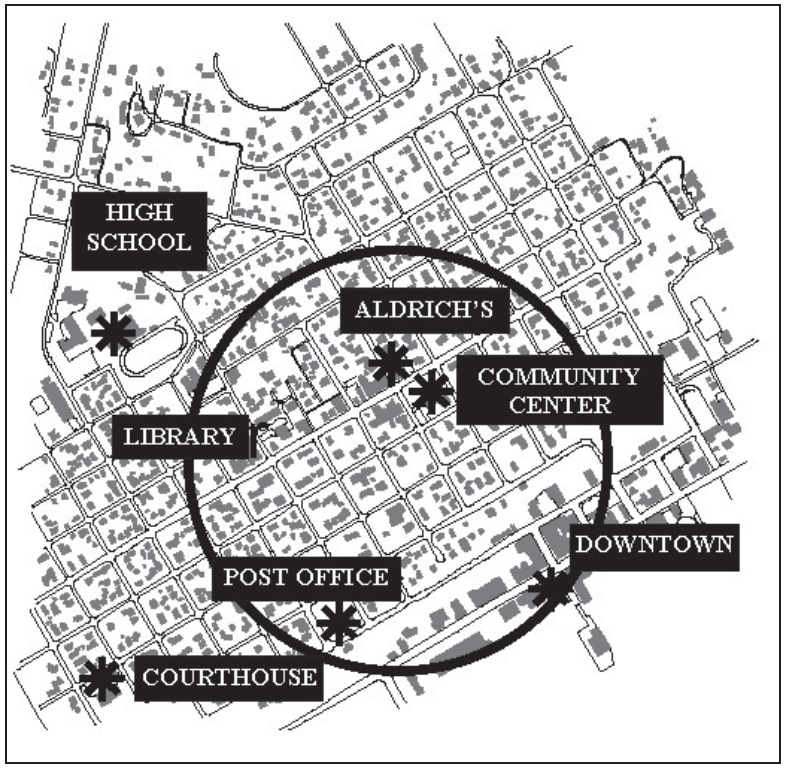


FIGURE 3.1 APPROXIMATE 5 MINUTE WALKING RADIUS

As a tourism destination, the ability to walk around town contributes to Port Townsend's economy. Walking tours take in the scenic vistas and historic landmarks. The pleasant and varied walking experiences in town attract tourists who appreciate the small town scale and character.

The distances we can and do walk can be surprising. It is not unusual for a person to walk two miles while in a shopping center. Pedestrians are likely to travel up to one mile on a commute trip (Approx. 20 minutes). According to the 1990 National Personal Transportation Survey, 27% of all travel trips are less than one mile in length, suggesting that pedestrian travel can replace a significant number of automobile trips.

With more people walking traffic congestion, noise and air pollution, and wear and tear on roads can all be reduced

Some trips, especially short utilitarian trips up to ¼ mile, can be more convenient or even faster on foot. For utilitarian trips, pedestrians are typically willing to walk a ¼ mile (5 minutes). Under normal conditions the mobility impaired are limited to trips under 750 feet. The walking environment affects perceived walking distances. The distance people are willing to walk is increased when safe, secure and comfortable facilities are provided.

Walking can benefit the individual and the community as a whole. A person who routinely walks to work is also exercising. Walking contributes to a more efficient transportation system by eliminating the need for unnecessary automobile trips. With more people walking traffic congestion, noise and air pollution, and wear and tear on roads can all be reduced.

Research shows that well-designed, compact communities with pedestrian facilities can promote good health by reducing car crashes, promoting exercise, reducing air pollution, and improving social ties that buoy health. A walkable community

allows its residents to forego the ownership of a motor vehicle with all its attendant costs of operation, maintenance, and insurance. The residents of a walkable neighborhood also have reduced health care costs from the increased physical activity they get. Property owners realize an average of 12% in increased property sale prices over areas without pedestrian facilities. The higher property values improve public wealth through property taxes, benefitting the whole community.

Because we are all pedestrians, facilities should be free of barriers for pedestrians of different abilities. One way to achieve this is by building new facilities and refurbishing old in conformance with the prevailing Americans with Disabilities Act Accessibility Guidelines. This plan recommends installing or replacing sidewalk curb ramps as appropriate at individual locations as an incremental, low cost method to provide a continuous travel surface for pedestrians.

MOBILITY VS. ACCESS

Mobility can be defined as the ability to travel between areas. Connections that link neighborhoods with shopping centers, employment areas, and other neighborhoods provide this ability. As these imply a form of thoroughfare they are high pedestrian traffic volume corridors that form direct links between areas.

Access refers to shorter distance connections within neighborhoods or commercial areas. These connections tend to cover shorter distances, but are more comprehensive. In a commercial district, for example, sidewalks would provide access to and between businesses. Because of the variety of potential destinations, access facilities need to form a dense grid.

Access trips can include: trips from the house to a bus stop, from a parking lot to a shopping center, between adjacent businesses, and to connections with the larger pedestrian network.

THE WALKWAY SYSTEM PLAN

Figure 3.2 presents the Walkway System Plan for the city. The system plan is a vision for a logical and comprehensive transportation network for pedestrians. It has a hierarchy of pedestrian facilities that function similar to arterial, collector and local streets. As with the street system, local access facilities feed into neighborhood connectors, which in turn feed into a major arterial trail or a street with walkways. The system forms a comprehensive grid that provides both access and mobility throughout the city.

The walkway system includes and builds on the street system. Sidewalks and pedestrian pathways have distinct roles that complement each other. Sidewalks have advantages for on-street pedestrian travel: they provide separation from vehicle traffic, have the lowest maintenance costs, and offer the highest level of accessibility for disabled citizens, and people with baby

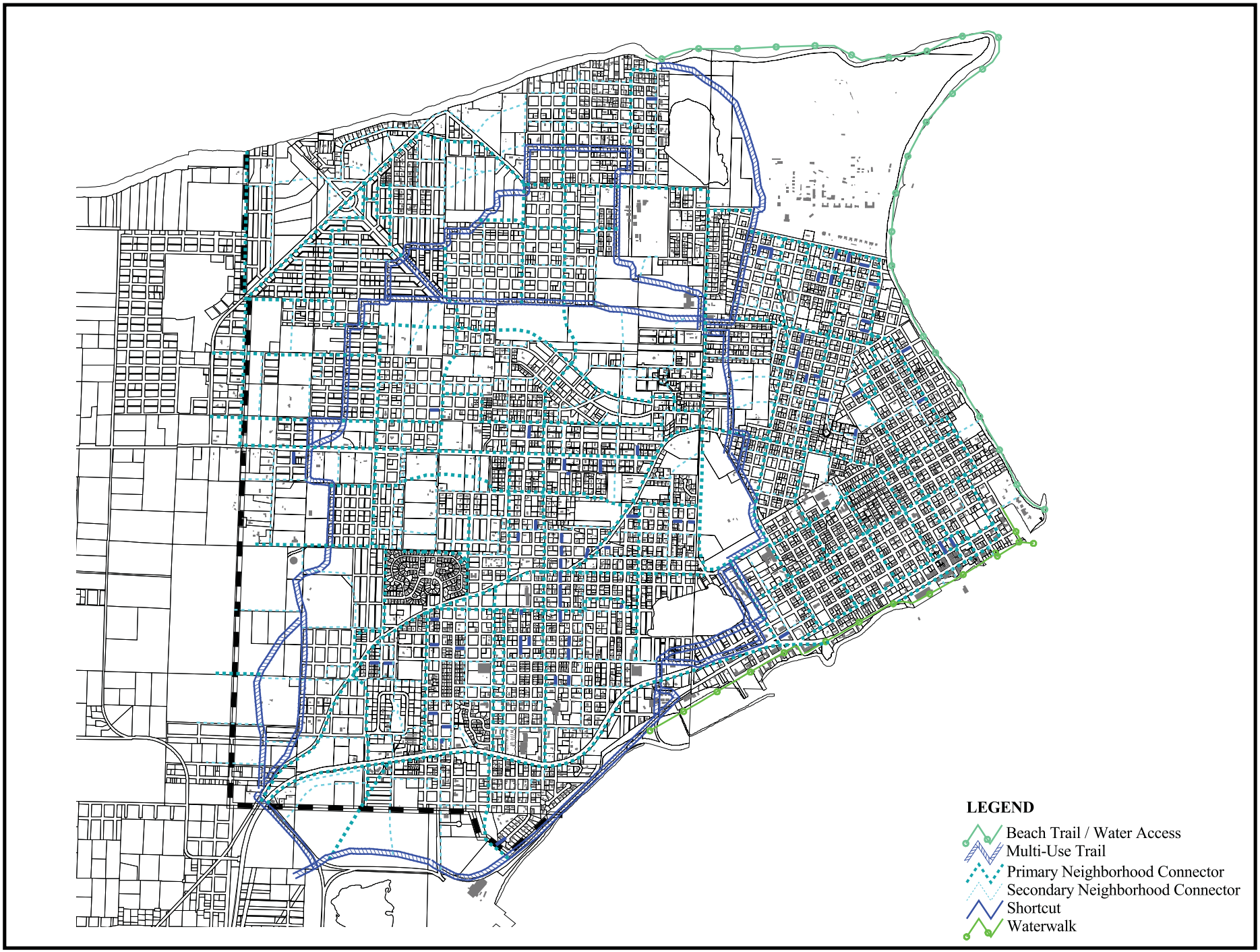
strollers. Unpaved pathways require a great deal more maintenance than sidewalks, but they are less expensive to install and when designed correctly will be strategically placed to provide greater mobility—resulting in higher traffic volumes that will help to keep the trail clear of encroaching vegetation.

The map of the Walkway System Plan (Figure 3.2) does not distinguish between facilities located on streets and those on separate alignments. It intends to show important connections that can be sidewalks or pathways located on the street frontage, or pathways separate from a roadway.

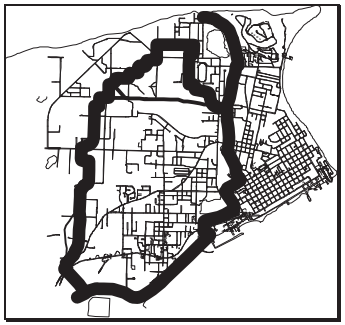
The Walkway System Plan indicates to the City and the private developer pedestrian connections that need to be established or protected. For the City, the walkway plan serves to emphasize important connections that the City may actively pursue. For the private developer, the Walkway System Plan gives guidance on how their project connects to, and forms part of a larger pedestrian system. The walkway alignments shown in the plan indicate preferred routes. The actual alignment of the walkway may vary when actually proposed or constructed depending on local conditions; however, the functionality of the routes indicated on the map need to be preserved. The following sections describe the features of the walkway system plan in more detail.

Objective: Implement the Walkway System Plan *The policies in this table are summaries intended to highlight key policies, the full text of implementing policies may be found in Chapter 10	**Timing**		
	Adopt with plan	<5 years	5-10 years
Policy Summary			
♦ Preserve designated rights-of-way for non-motorized use	√		
♦ Adopt Engineering design standards that incorporate the policies of this plan	√		
♦ Require new development to establish pedestrian connections in conformance with the Walkway System Plan	√		
♦ Ensure that the walkway network is available 24 hours per day	√		
♦ Streets should not be opened across walkway alignments where an alternative access to the property exists	√		
♦ Preserve existing trails and connections where possible	√		
♦ Walkways should be built on public land or dedicated easements	√		
Directed Actions			
♦ Work with volunteers to establish and maintain pedestrian pathways		√	√
♦ Develop a checklist to guide staff review of project proposals	√		
♦ Develop a coordinated sign program which provides a user friendly guide to the location of pedestrian walkways		√	
♦ Review and update the Walkway System Plan			√
♦ Provide pedestrian links to new park facilities	√		

FIGURE 3.2 THE WALKWAY SYSTEM PLAN

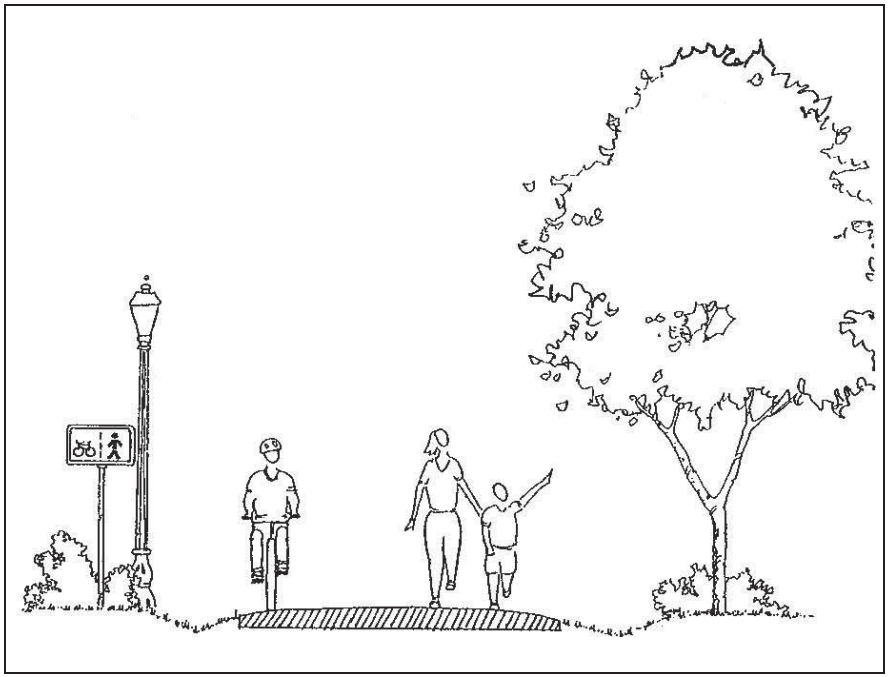


MULTI-USE LOOP TRAIL



This "all-purpose" non-motorized trail is a unifying loop that circumnavigates the city, connecting neighborhoods and major commuter and recreational destinations. The trail, when completed, will provide all user groups with a variety of experiences and few potential conflicts with cars. The loop trail can enhance pedestrian mobility by providing more direct routes or a more pleasant walking environment than the street system. It will also serve bicyclists as it is considered a bike path.

The multi-use trail is typically on an alignment separate from streets, which minimizes the cross flow of motorized traffic. The trail corridor is to be preserved with minimal street crossings. It is routed, wherever possible, through parks and potential open space, adjacent to drainage corridors, and along existing trails and unopened streets.



The following list summarizes the criteria for establishing and implementing the multi-use trail.

- Alignment separate from the roadway
- Minimize street crossings
- Minimize grade changes
- Connect major destinations
- Locate along open space, drainage corridors, and through parks where possible
- Connect to Larry Scott Park and Fort Worden
    - Provides a route to school

Since the multi-use trail will function as a major non-motorized transportation arterial about the city, neighborhood connectors and Planned Unit Development (PUD) walkways may connect to the trail to access distant destinations. This multi-use trail can also act as a catalyst for the development of other pathways; developers may

be more interested in including walkways in their site design if they feel they make logical connections to a greater area.

Surfacing material and trail widths will vary according to anticipated use and the location in the city. A trail that is on native soil but is cleared and signed may be a first step in developing the multi-use trail. In the short-term, work on developing the trail may focus on acquiring and developing the trail route. The more urban and heavily used portions of the trail would ultimately be paved asphalt and wider, while the more rural areas may be a narrower crushed rock (quarry fines) trail.

The Portage Trail

The easternmost section of the multi-use trail follows a series of wetlands that were once used by Native Americans as a portage route between Port Townsend Bay and the Strait of Juan de Fuca. This section of the trail could serve to emphasize the natural and cultural history of the corridor and could provide an opportunity for public education.

The Portage Trail winds its way through the varied terrain of the lowlands, connecting the County and Larry Scott Memorial Park with the Park-and-Ride, shopping areas, the Boat Haven, the golf course, schools, Chinese Gardens and Fort Worden State Park. The trail serves people leisurely touring the city, residents making specific trips, and children on their way to school.

Objective: Construct key segments of the Multi-use Trail *The policies in this table are summaries intended to highlight key policies, the full text of implementing policies may be found in Chapter 10	**Timing**		
	Adopt with plan	<5 years	5-10 years
Policy Summary			
♦ Preserve designated rights-of-way along the trail alignment	√		
♦ Require development to provide connections to the multi-use trail where appropriate	√		
Directed Actions			
♦ Work with volunteers to construct portions of the trail	√		
♦ Work with property owners to acquire easements	√		
♦ Work with the Land Trust and the parks department to establish a trail near Winona and Levinski wetland	√		
♦ Actively pursue grants to develop the "Portage component of the Multi-use trail	√		
♦ Establish links between the Waterwalk and the multi-use trail		√	
♦ Develop an interpretive program for the trail			√
♦ Coordinate with Jefferson Transit to ensure that the park-and-ride facilities are functioning as a multi-modal station linking directly to the non-motorized network	√		
♦ Work with Jefferson County and the Port to integrate the multi-use trail with Larry Scott Park	√		

The Waterwalk

The Waterwalk is a coordinated system of connected pathways, sidewalks, passageways between buildings, and shoreline access points that increases the amount and diversity of opportunities for walking and chances for personal discoveries along Port Townsend's Urban Waterfront. The Waterwalk--conceived as an element of the Urban Waterfront Plan and partially developed--forms an important link between the Downtown, the ferry terminus, and the Portage Trail.

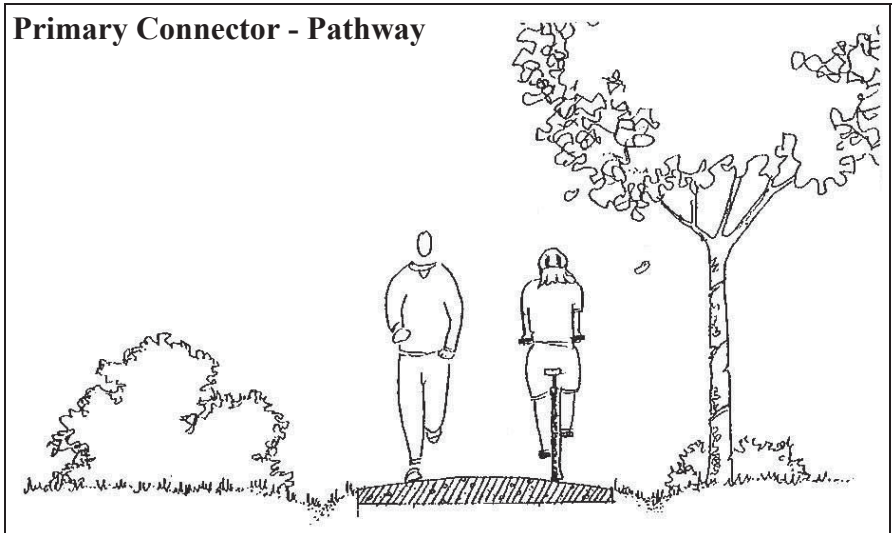
NEIGHBORHOOD CONNECTORS

The Walkway System Plan shows a system of primary and secondary neighborhood connectors which function as major and minor collectors for pedestrians. The purpose of delineating these neighborhood routes is so that the connectivity that they provide can be seen throughout the city and preserved. The walkway network includes sidewalks and pathways along streets and pathways separate from a street. The preferred facility is a pathway separate from a street on a dedicated rights-of-way. Primary connectors provide through routes covering longer distances between neighborhoods and major destinations. Secondary connectors are shorter connections which address access within a neighborhood. The following sections discuss sidewalks and pathways and provide typical cross-sections.

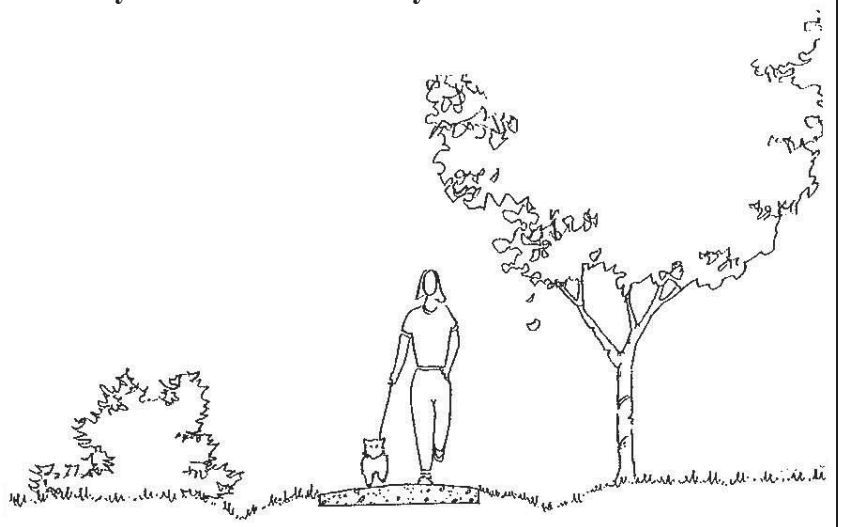
Off-Street Pathways

The road network does not always provide the most direct connection to a destination. Because pedestrians do not tolerate the same out-of-direction travel as automobiles, there is a need to seek more convenient links. The off-street pathway system seeks to support the street system by providing: more direct connections, greater separation from traffic, and a more pleasant walking experience. Pedestrian pathways are the preferred facility when on undeveloped rights-of-way. This plan seeks to expand opportunities for off-street pathways by reserving street rights-of-way for non-motorized use and by requiring new subdivisions to include a walkway plan.

Primary Connector - Pathway



Secondary Connector - Pathway

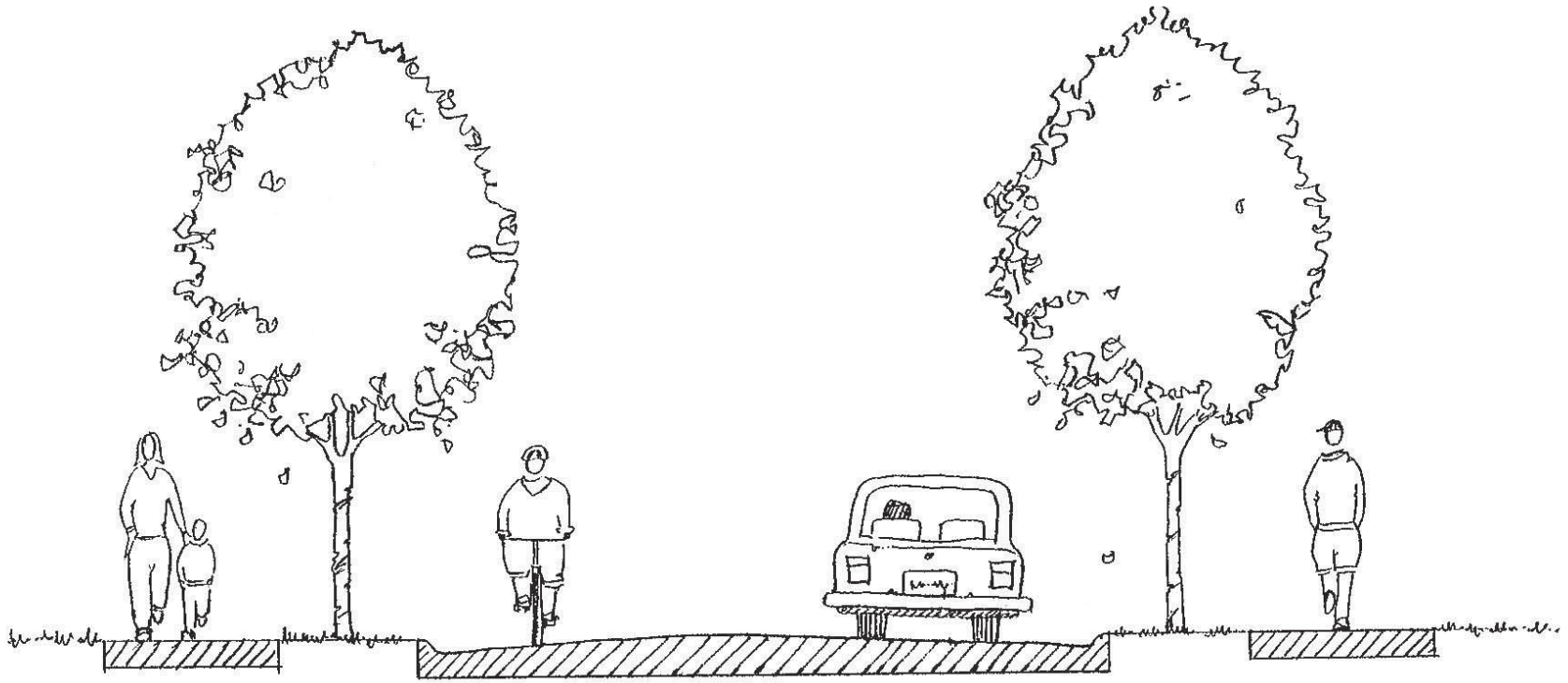


Objective: Establish a system of neighborhood connectors		**Timing**	
*The policies in this table are summaries intended to highlight key policies, the full text of implementing policies may be found in Chapter 10	Adopt with plan	<5 years	5-10 years
Policy Summary			
♦ Preserve designated rights-of-way for neighborhood connectors	√		
♦ Require new development to establish neighborhood connectors in conformance with the Walkway System Plan where appropriate	√		
♦ Provide off-street pathways as neighborhood connectors where possible	√		
♦ New development should preserve the functionality of designated neighborhood connectors	√		
♦ Streets should not be opened across walkway alignments where an alternative access to the property exists	√		
♦ Preserve existing trails and connections where possible	√		
Directed Actions			
♦ Establish pathways in unopened rights-of-way		√	√

Sidewalks and Pedestrian Pathways on Local Streets

Sidewalks or pathways may be provided for neighborhood connectors along the street frontage where there is no alternative for a separated walkway. Neighborhood connectors may alternate between sidewalks or pathways on streets and pathways that are not associated with a street. Sidewalks or pathways adjacent to streets would occur in places where it was not possible to maintain the unopened rights-of-way.

Neighborhood Connector - Street with Walkways



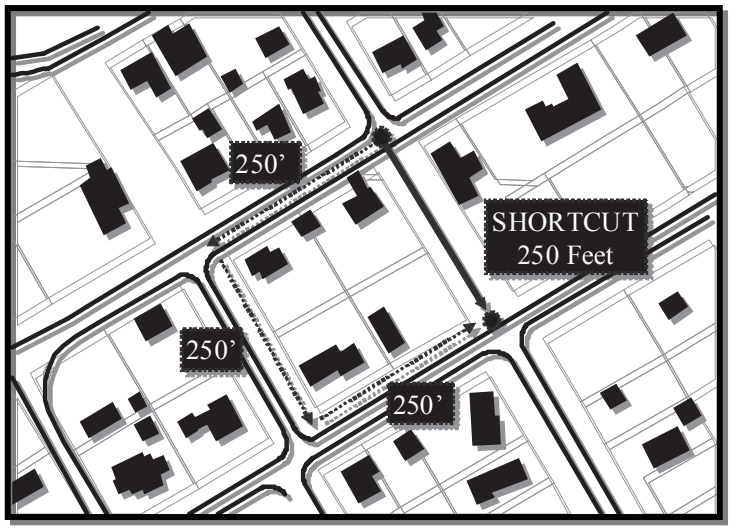
TRAILS NEAR CONSTRUCTION SITES

While construction is occurring on property adjacent to a public trail, accommodations should be made for the trail to remain open. As with city streets, if a trail must be blocked during construction, signage should be provided by the developer or property owner to clearly indicate directions to an alternate route.

SHORTCUTS

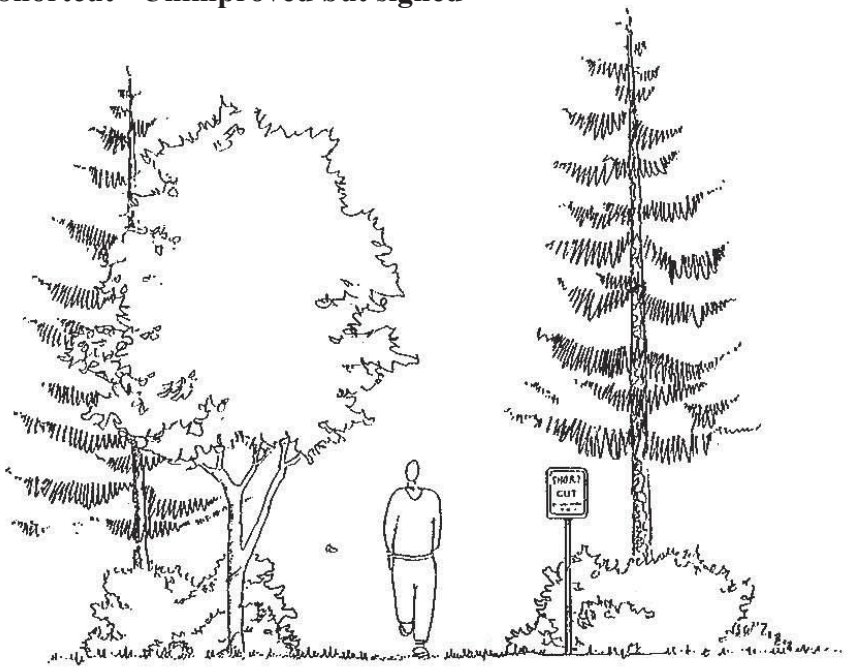
Shortcuts can be a simple, inexpensive way to improve pedestrian access where the road system does not provide the most convenient route. In most instances, a shortcut will need improvement such as signing it as a public way and occasional clearing. There are numerous existing shortcuts in the city. Officially designating these paths not only helps to indicate that they are for public use, but also protects them from development or encroachment. New shortcuts may be established in areas to improve access. Though shortcuts have a way of establishing themselves, in some instances a logical connection may not be made because the link appears to be private or is overgrown. The City can help to blaze trails and to clarify where public land is available.

The more popular shortcuts in town are virtually self-maintaining. They are mainly on native soil and are very narrow. A typical through block access is a distance of 250 feet compared to the 750 feet required to walk around the block via the street. A shortcut that replaces a walk around a single block reduces the overall trip by 500 feet or 2 minutes for each block that the trip is shortened by. If pedestrians are likely to walk within a ¼ mile zone (5 minutes) for utilitarian trips, a shortcut that reduces the trip distance to a commercial area by even 500 feet can greatly increase the likelihood of making the trip on foot.



Typical Distance Reduced by a Shortcut

Shortcut - Unimproved but signed



Shortcut - Improved and Signed

Objective: Preserve existing shortcuts and develop new shortcuts as part of the Walkway System Plan *The policies in this table are summaries intended to highlight key policies, the full text of implementing policies may be found in Chapter 10	**Timing**		
	Adopt with plan	<5 years	5-10 years
Policy Summary			
♦ Preserve unopened rights-of-way along shortcuts where possible	√		
♦ Restrict parking at access points to shortcuts	√		
Directed Actions			
♦ Identify existing shortcuts to protect	√	√	√
♦ Work with volunteers to establish shortcuts		√	
♦ Sign existing shortcuts		√	
♦ Encourage new development to include shortcuts as part of their walkway plans	√		

SAFEST WALK ROUTES TO SCHOOL

Walk routes to school are where pedestrian facilities are most needed and the most likely to be used heavily. Approximately 1/3 of pedestrian miles traveled in the United States are for school-related purposes by people 14 years and older. When younger children are included this proportion is even higher.

The streets adjacent to the schools become the most congested and dangerous at precisely the time that children are present

Improving the safety of the walk routes to school is a key goal of this plan. Children ages 5 to 14 constitute only 14 percent of the American population, yet they were involved in 27% of the pedestrian/automobile collisions during 1988. Young pedestrians, under 15 years of age, experience a pedestrian/automobile collision involvement rate twice that of all pedestrians.

Children walking to school not only eliminates the need for driving or bussing the children to school, but also enhances the safety of the school zone. Some of the highest traffic volumes of the day occur near schools as parents pickup and drop off children. The streets adjacent to the schools become the most congested and dangerous at precisely the time that children are present. Mountain View Elementary estimates that at least 1/3 of their students are chauffeured to school. Providing better non-motorized facilities will help to separate children from the high volume of vehicular traffic and may ultimately reduce these volumes as more children walk to school.

Safest walk route to school plans typically cover a one-mile radius from the school. A recent study done by the City of Tacoma suggests that students within a half mile of school are likely to walk if they have a reasonably safe route. The perceived safety of the route has as much to do with facility design and the presence of sidewalks, as it does with the perception of the neighbor hood. Developing safer access to school includes not only the physical facilities but is also dependent on education, enforcement, and an operation plan--traffic control and/or supervision.

The City and the School District have already worked together to develop a safest route to school map. This map was distributed to students and advertised as the safest walk route to school.

The desired Safest Walk Route to School Map (Figure 3.3) envisions a network of pathways and streets with sidewalks or pathways providing the most direct and convenient access to schools. Development adjacent to these routes are required to install sidewalks as per the City's Engineering Design Standards.

FIGURE 3.3 SAFEST WALK ROUTES TO SCHOOL

Objective: Make designated walk routes to school safer and continuous *The policies in this table are summaries intended to highlight key policies, the full text of implementing policies may be found in Chapter 10	**Timing**		
	Adopt with plan	< 5 years	5-10 years
Policy Summary			
♦ Adopt the walk route to school map which will indicate where sidewalks or pathways are required	√		
Directed Actions			
♦ Pursue grants in conjunction with the schools for sidewalk infill		√	
♦ Develop off-street pathways as alternative routes to school		√	
♦ Give the highest priority to City projects that are on walk routes to school	√		
♦ Work with the school to update the preferred route to school map		√	√

SHARED STREETS

The Non-Motorized Transportation Committee discussed the concept of shared use of local access streets, where pedestrians use the vehicle lane. It was felt that in some instances streets could be safe for pedestrians, such as: short dead-end streets, streets on a broken grid with limited through streets, street with alternate pathways, streets with low traffic volumes, or streets with traffic calming.

The Committee did not make specific recommendations on shared streets for the following reasons:

- Existing Engineering Design Standards provide guidance on creating shared streets
- The city has little experience with traffic calming and the results of traffic calming can be unpredictable
- The safety of low volume or calmed streets can change as development occurs
- Traffic calming could be relatively expensive on narrow local streets
- Traffic calming can be problematic for cyclists

LOCAL STREETS AND SIDEWALKS

One of the difficult issues the Non-Motorized Transportation Advisory Committee addressed was the need for sidewalks on local access streets. The Committee concluded that sidewalks on local access streets are an important component of pedestrian facilities in town. As the town grows future pedestrian needs must be anticipated. Although many residential areas in town do not have the densities that support the need for sidewalks, future development will change this. Experience has shown that retrofitting sidewalks into neighborhoods can be problematic.

Why Sidewalks?

The following are some of the benefits attributed to sidewalks. Sidewalks provide distinct separation between pedestrians and vehicles and an area reserved for pedestrian use only. As such, they are an inherently safe pedestrian facility. Because they can be built adjacent to any street, a sidewalk system can provide the same accessibility that roads provide and are fully accessible to people of all abilities.

Sidewalks are the most cost effective pedestrian facility because of their durability. In Port Townsend, sidewalks were first built in the late 1880s. A city sidewalk tax was established to construct approximately five miles of sidewalk in the Uptown area. In the 1930's, Roosevelt's New Deal prompted construction of an additional three miles of sidewalk. These sidewalks are still in use 60-100 years later and have required minimal maintenance.

Sidewalks provide a high level of safety by separating pedestrian and vehicle traffic. While traffic calming and narrow local streets help to reduce speed, making the street safer, their effectiveness tends to be highly variable. Local conditions on a particular street are dependent on a number of factors that are

difficult to control for any period of time. Resident parking habits, landscaping, maintenance and how the local street connects to the greater area will affect how safe the street is.

Sidewalks are particularly effective at meeting the needs of children. At street corners they have an edge at which to "stop, look and listen". They have a refuge from which to assess the situation, and a clearly defined safe place to walk towards. Even if children play in the street they have somewhere to retreat to if a car approaches.

Sidewalks can help reduce pedestrian/vehicle accidents rates. Twice as many collisions with pedestrians occur on streets without sidewalks compared to those with sidewalks*. In Port Townsend, of the 22 accidents involving pedestrians in the last 10 years, 10 occurred on local streets. For children and the elderly, the majority of deaths and injuries as result of collisions with automobiles occur on streets in or near residential areas. Most children are killed or injured not far from their homes, up to 200 feet for 0-3 year olds, up to half a mile for 14 year old children.

*Source: Pedestrian Planning and Design Training Manual. Florida DOT

Sidewalks help to define pedestrian space. Drivers are more aware of where to expect walkers, especially at corners with sidewalks. The curb prevents automobiles from infringing on pedestrian space as they round a corner. In inclement weather, and in the winter when it is dark earlier in the day, sidewalks separate pedestrian from drivers whose visibility is reduced. The hard surface and edge of a sidewalk helps people with visual impairment to navigate.

Between 80-90% of all journeys begin and end at the home

Between 80-90% of all journeys begin and end at the home. Access to a house can be as important as providing access between commercial establishments. In commercial areas, sidewalks serve a great number of people but they do not serve the individual's needs in returning home. To make walking a viable transportation option, access to the home is critical.

Maintaining small town character and the use of sidewalks are not necessarily incompatible concepts. Small town character can be maintained by landscaping between the sidewalk and the roadway. Landscaping helps to reduce the visual impact of the width of the street, and makes for a more pleasant walking experience. Early photographs of Port Townsend reveal pastoral views of streets with sidewalks and rows of majestic trees with a green canopy arching over the street.

Sidewalks can increase the value of an individual's property. Though Jefferson County does not place a specific assessed value on sidewalks, they are viewed as a desirable facility that contributes directly to the overall assessment of a neighborhood. Neighborhoods with sidewalks tend to receive a higher valuation than areas without sidewalks.

The American Association of State Highway and Transportation Officials (AASHTO) guidelines recommend that "sidewalks used for pedestrian access to schools, parks,

shopping areas and transit stops and placed along all streets in commercial areas should be provided along both sides of the street. In residential areas, sidewalks are desirable on both sides of the street, but need to be provided on at least one side of all local streets."

Non-Motorized Transportation Committee Considerations

[The following section includes minor revisions suggested by the Planning Commission. Major revisions were not recommended, and the intent and direction of this section may be inconsistent with policy change recommendations made by the Planning Commission]

This section provides detail on some of the issues the Non-Motorized Transportation Committee considered as background to understanding the role of sidewalks. The Committee discussed the issue of sidewalks on local streets at length, and the majority came to agree on the need for sidewalks. Some of the questions they considered are listed below.

Sidewalks are envisioned on local access streets where densities are 4 houses per acre or greater (ie. 4 houses along a street). Flexibility is provided in the design guidelines to support the rational development of sidewalk facilities. Where densities do not currently warrant sidewalks a deferral may be granted by the signing of a No Protest Agreement between the City and the developer for the future installation of sidewalks. In existing neighborhoods, sidewalks could generally be installed as part of a street redevelopment under an LID.

We are all young and able, someday we won't be
-Committee Member

Can it be safe and comfortable for people to walk on local streets?

The committee agreed that while they felt comfortable walking on most local streets they did not feel it was always appropriate for children or the elderly. A committee member commented "we are all young and able, someday we won't be". They acknowledged that if 40% of the City's population was under 15 and over 65, there was a large number of people that would benefit from sidewalks.

Can trails be a substitute for sidewalks?

People with baby buggies, in a wheelchair, or simply walking, benefit from the smooth surfaces sidewalks provide in all weather. Trails must be properly constructed and well maintained to provide a surface condition comparable to sidewalks. If a pathway is not maintained by someone it will lose its existence. The City cannot afford to maintain trails on all local streets, and maintenance agreements with individual property owners would be problematic. A committee member observed "a trail may be in the best interest of a property owner right now, but it may not be in the best interest of the neighborhood in the long-term."

Why require sidewalks at a density of 4 units per acre?
The Institute of Transportation Engineers (ITE) recommends sidewalks at this threshold. In addition, sidewalks support the use of mass transit and transit service is generally understood to be effective at 4 units per acre or greater.

"My association of sidewalks is with a sense of neighborhood and community. The lack of sidewalks I associate not so much with rural towns, but with suburbia"
-Committee Member

Why not have sidewalks on just one side?
Sidewalks should generally be placed on both sides of a street. For development review, coordinating which side of the street the sidewalk should be on becomes complicated. With a sidewalk on only one side it is no longer clear who pays for it or who maintains it. A sidewalk on only one side prompts walkers to cross the street, increasing the possibility of a collision with an automobile. With sidewalks on only one side there is the possibility of two additional crossing conflicts*, or a person staying on the roadway when they cannot cross.
*Source: Handbook for Walkable Communities. Dan Burden and Michael Wallwork

How can we be flexible on when sidewalks are installed?
By allowing a deferral if there are no sidewalks in the area and where densities are lower than 4 units per acre, sidewalks would only be built when they are warranted.

How can we make the cost of a sidewalk less of a burden on the individual property owner?
Sidewalks are the least expensive pedestrian facility for the City in the long-term. An LID can help to reduce the initial cost of a sidewalk and to amortize it over 20 years. Because of mobilization costs in some cases it may be more efficient to build full blocks of sidewalks than 100 feet of sidewalk. By forming an LID the property owner can pay for the sidewalk in small payments over a number of years.

How can we avoid having 100 foot sections of sidewalk that go nowhere?
By allowing individual property owners a deferral, sidewalks would generally be built when there are other sidewalks in the vicinity. In some cases, sidewalks may be added 50 or 100 feet at a time when there is a likelihood of a connection that will be developed.

How can we require sidewalks on local streets when there are hardly any on arterial streets?
The City will work towards installing sidewalks on priority routes and arterial and collector streets. Because many of the arterial streets are developed the City may need to contribute to sidewalk improvements. By requiring sidewalks on more dense local streets the City hopes to avert a long-term potential cost of

Will we be losing our small town character?
The Uptown District is the heart of old Port Townsend and it has the most sidewalks. Sidewalks would only be required at densities that approximate the Uptown. Lower densities, in outlying areas would not have sidewalks. A committee member commented "My association of sidewalks is with a sense of neighborhood and community. The lack of sidewalks I associate not so much with rural towns but with suburbia".

Will property owners be responsible for the repair of sidewalks in front of their house?
The repair and maintenance of sidewalks is already the property owner's responsibility by city ordinance.

How will an LID be formed?
In developing areas when densities reach 4 units per acre the City will move towards forming an LID. If the City is not prepared to move forward, or an LID is not viable, the builder will be granted a deferral.

If someone builds a house can they build a sidewalk and not participate in an LID?
An LID can only assess a property owner for a benefit they accrue. If they already have a sidewalk in front of their house they would not need to pay more.

Will we need an LID administrator?
The City is already considering moving towards the use of LIDs for street improvements. If this program continues, sidewalk LIDs become the responsibility of city staff administrating the LIDs.

How can a local neighborhood have input on how sidewalks are built or propose alternative to sidewalks?
The standards will include a provision for local input. Sidewalk locations can be adjusted and alternatives to sidewalks can be proposed. Forming an LID involves a negotiation process between the City and residents. The City will work with residents towards what is appropriate for the area and provides equivalent pedestrian access and safety. However, cost of installation should not be a criterion for deviation from the standard.

Will people on arterial or collector streets be paying for a facility that everyone uses?
Many people living on arterial streets access their house from an adjacent local street. As with anyone else they would pay for the improvement along the local street. Is some cases, such as with the recent project on San Juan Avenue, the city will build sidewalks as part of road construction.

What about corner lots?
Corner lots are generally more desirable and already have higher assessments. However, to ease the burden it is proposed that the City pay ½ the cost of a sidewalk needed on the additional side of a corner lot.

Port Townsend Municipal Code (PTMC) 12.12.030
It shall be the responsibility of every occupant or owner of property abutting upon a public sidewalk to maintain the sidewalk at all times in a condition that is fit and safe for purposes of public travel and is free of any and all obstructions or defects, including, but not limited to, snow, ice, and mud.

4. BICYCLE ELEMENT

INTRODUCTION

This section provides detail on the Bikeway System Plan that comprises a major component of the overall non-motorized network. Though bicyclists will continue to have access to all streets, the Bikeway System Plan identifies a network of roads and trails that will serve as principal routes for bicyclists. It also defines policies and standards that will enhance the safety of bicycling in Port Townsend.

~Bicycle Facility Vision~
Bicycle Facility Vision Statement developed by
the Non-Motorized Transportation Committee

In the City of Port Townsend the bicycle is a viable transportation option. Users of all abilities feel comfortable riding a bicycle to destinations in town. An interconnected network of bike lanes, routes and trails links neighborhoods and destinations throughout the city, as well as points outside the city. Bicycle parking is conveniently located at all destinations. Commuters can leave their bicycles unattended in secure facilities that are protected from the elements.

Streets designated for bicycle travel have smooth surfaces, safe shoulders, and are regularly swept free of debris. All school children receive basic education on bicycle safety. Bicycle riders transfer conveniently onto buses, ferries and other public transit connecting to destinations in the state. Visitors and residents alike welcome the clear signage and street markings.

WHY BICYCLE FACILITIES?

Bicycling is the most efficient form of transportation known, and can be a credible alternative to the automobile. A typical bicyclist is able to bike 3-5 miles in 15-25 minutes. Nationally, approximately of 63% all commuting trips--for both bicyclists and motorists--are within 5 miles* of home. The average commute time a person will tolerate--by any mode--has consistently been between 20 and 30 minutes. Bicycling, therefore, can be a realistic commuting option throughout Port Townsend where commuting distances within the city are less than 2 miles.
*Creating Bicycle Transportation Networks: A Guidebook

Bicycle commuting is gaining favor nation-wide. The number of people commuting by bike nationally doubled between 1980 and 1993. Approximately 3.2 million Americans were riding to work in 1993.* A bicycle properly outfitted with waterproof carriers and lights can easily accommodate most utilitarian and commuting trips. A bike can safely hold at least two bags of groceries, and can carry work material and a change of clothes for commuters.
*King County Non-Motorized Plan

Children are among the largest groups of bicycle users nationally. Perhaps as a result of large numbers and relatively low skill levels, children aged 16 and younger account for approximately half of bicycle fatalities according to the National Highway and Traffic Safety Administration. Well designed bicycle facilities can help improve the safety of children. Safety concerns extend to local streets as well, emphasizing the need to make all streets safer for the bicyclist.

Bicycles can serve a greater portion of the population than the automobile because children are included as users, and not just passengers. More bicycles are sold each year than automobiles*, suggesting that bicycles are almost universally available. The fact that we do not see more extensive bicycle use is not due to limited availability of bicycles or the range of users, but to people's perception of the bicycle as a credible transportation mode. This plan seeks to outline a bikeway system plan that will help stimulate a culture of bicycle use. In Davis, California, 25% of all trips are made by bike. Part of this success can be attributed to the fact that 1/3 of all streets in Davis have bike lanes. In addition, Davis has numerous trails and parking facilities that support bicycle use.

*King County Non-Motorized Plan

Bicycling benefits not only the bicyclists but the larger community as well. The universal benefits of bicycling include: reduced traffic congestion, reduced noise and air pollution, reduced wear and tear on roads, reduced crashes and property damage, reduced need for additional roads and parking, and increased healthiness. All of these benefits contribute to the livability of a community.

The Bicycle System Plan recommends improvements in the widths and striping of particular streets. Improvements in the road surface benefit both the motorist and the bicyclist. A bicycle lane or shoulder reduces the number of cars that drive over the edge of pavement, which helps to maintain the integrity of the road edge. Smoother and better maintained roads make for a more pleasurable and safer driving experience for both the motorist and the bicyclist. Bicycling helps to make the transportation system more efficient by minimizing unnecessary automobile trips.

"a good transportation system minimizes unnecessary transportation"

Bicycle tourism contributes directly to Port Townsend's economy. Its scenic beauty and strategic location on the Olympic Peninsula make Port Townsend a natural destination for tourists. The Washington Department of Community, Trade and Economic Development places bicycle tourism as one of their top ten requests for information on their hotline during summer months. While no specific numbers are available for individual tourists, some significant events and tour groups pass through Port Townsend. The 1997 "AIDS Ride For Reason" saw 700 bicyclists and 200 support staff journey through Port Townsend. The MS Ride had a similar turnout. The Backroads tour group routinely brings bicycling tourists to Port Townsend during the summer months. Good bicycle facilities can help to support and promote bicycle tourism.

~Port Townsend Municipal Code (PTMC) 10.20.030~
adopted by ordinance 623.3 in 1897

No person shall throw or deposit or cause to be thrown or deposited on any bicycle path any coal, stones, mortar, shells, tacks, glass, or wire, or any solid or liquid vegetable substance of such character as to be liable to injure a bicycle, or any part thereof, or to impede the progress of a bicycle.

Adams Hardware, late 1800s, Water Street between Tyler and Polk Streets

Port Townsend has a history of being a bicycle friendly place, as you can see from the photo at left, taken in the late 1880s. Bicycles were the transportation method of choice in the years when Port Townsend was being established.

In May 2008, Port Townsend was awarded the Bicycle Friendly Community Bronze Level by the League of American Bicyclists, citing investment in bicycle facilities as a major factor in Port Townsend's achievement.

CLASSIFICATION OF BICYCLISTS

An effective bicycling network must accommodate a wide range of user abilities. Bicyclists vary in their skill levels and in the purpose of their trip. Chapter 2 outlines non-motorized users in broad terms. The following table summarizes user needs specific to bicycles. The Federal Highway Administration (FHWA) skill level equivalent is indicated for each user group to generalize user ability.

TABLE 4-1 - CLASSIFICATION OF USERS

User	Skill	Needs
Recreational User	♦ Variable skill level	♦ Route markings ♦ Desire off-road facility or quiet, scenic streets
Commuter (Group A - Advanced Bicyclist)*	♦ Highest skill level ♦ Will often share vehicle lane	♦ Direct, high speed routes ♦ Few stops and cross-traffic ♦ Desire sufficient roadway width or shoulder area on which to ride ♦ Prefer access to all streets
Utilitarian User (Group B - Basic Bicyclist)*	♦ Intermediate skill level ♦ Basic knowledge of traffic laws ♦ not comfortable sharing vehicle lane	♦ Desire well-defined separation of bicycles and motor vehicles on arterial and collector streets ♦ Prefer low-speed, low volume streets ♦ Willing to accept some out of direction travel to avoid perceived hazards
School Children (Group C - Children)*	♦ Low skill level ♦ Not always aware of hazards ♦ May choose routes unsuitable to ability	♦ Prefer safe, low volume, low speed local streets, or separated pathways ♦ Older children may take advantage of bike lanes on arterial and collector streets ♦ Shortest routes ♦ Few street crossings

* Approximate FHWA equivalent

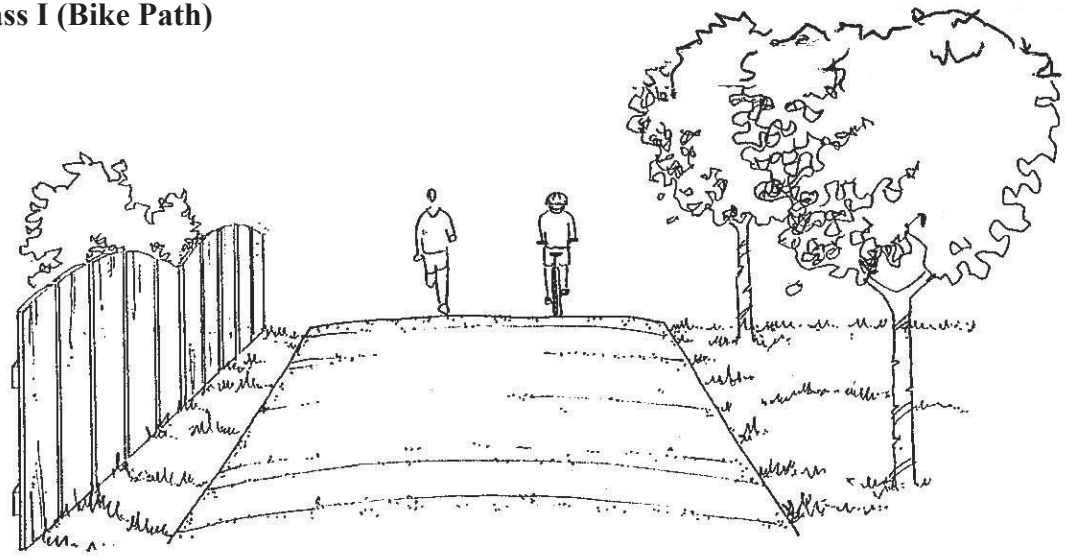
TYPES OF BIKEWAYS

The following bikeway designations are adopted by the City and are based generally on the Washington State Department of Transportation (WSDOT) design manual guidelines. Typical roadway sections that illustrate these designations accompany the description.

Class I (Bike Path): is typically a paved facility separated from the roadway that is dedicated to the exclusive use by bicycles and pedestrians. This facility may form part of the multi-use trail. The Class I bike path should be designed so as to minimize intersections with motorized traffic. A bike path adjacent to the roadway is rarely a suitable replacement for bike lanes on arterial or collector streets: numerous cross-streets, driveways, and unsignaled intersections may prove to be a hazard. In areas of high pedestrian traffic, wider path widths or separate facilities may be required.

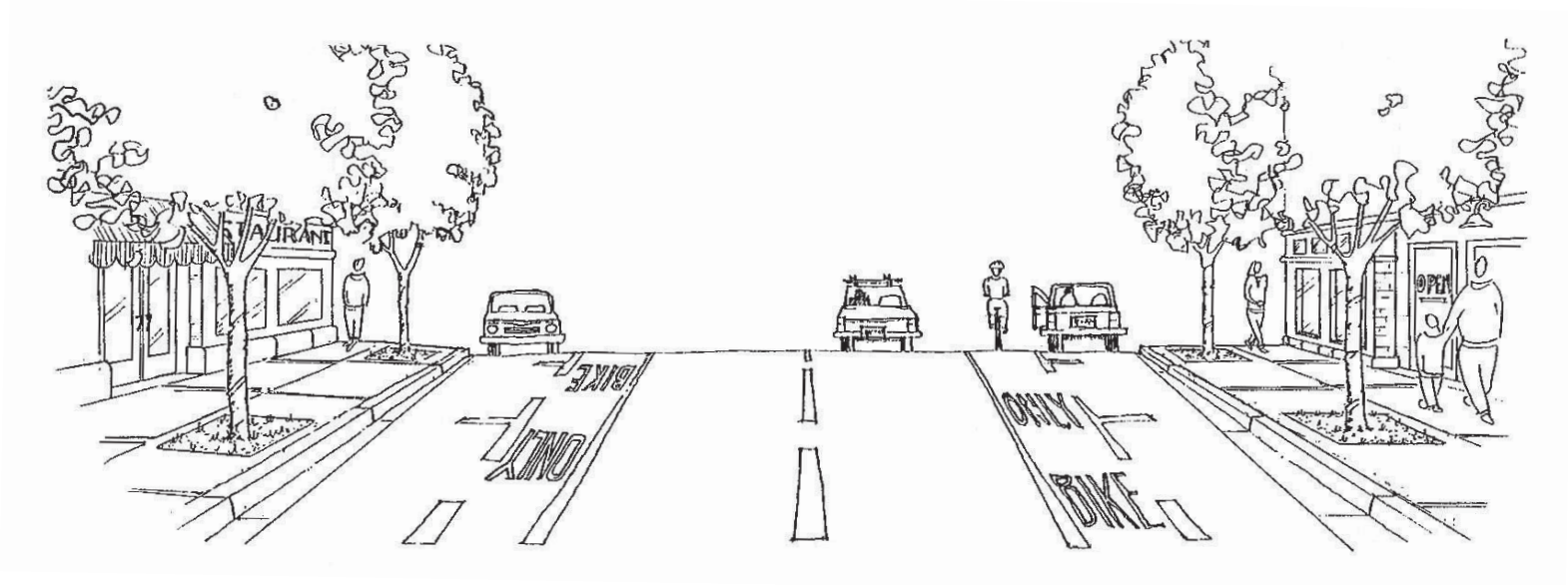
Class II (Bike Lanes): are areas of the roadway that are striped and signed for preferential use by bicyclists. Bicycle lanes promote orderly traffic flow by specifying lines of demarcation between bicycles and motor vehicles. Bicycle lanes are appropriate on high traffic volume streets where a greater separation between modes is desired. A dedicated lane allows cyclists to pass stopped traffic and provides a greater buffer from passing or parked cars. Bicycle lanes typically have pavement markings indicating a reserved lane and flow direction. They are often marked to help guide the cyclist through intersections.

Class I (Bike Path)

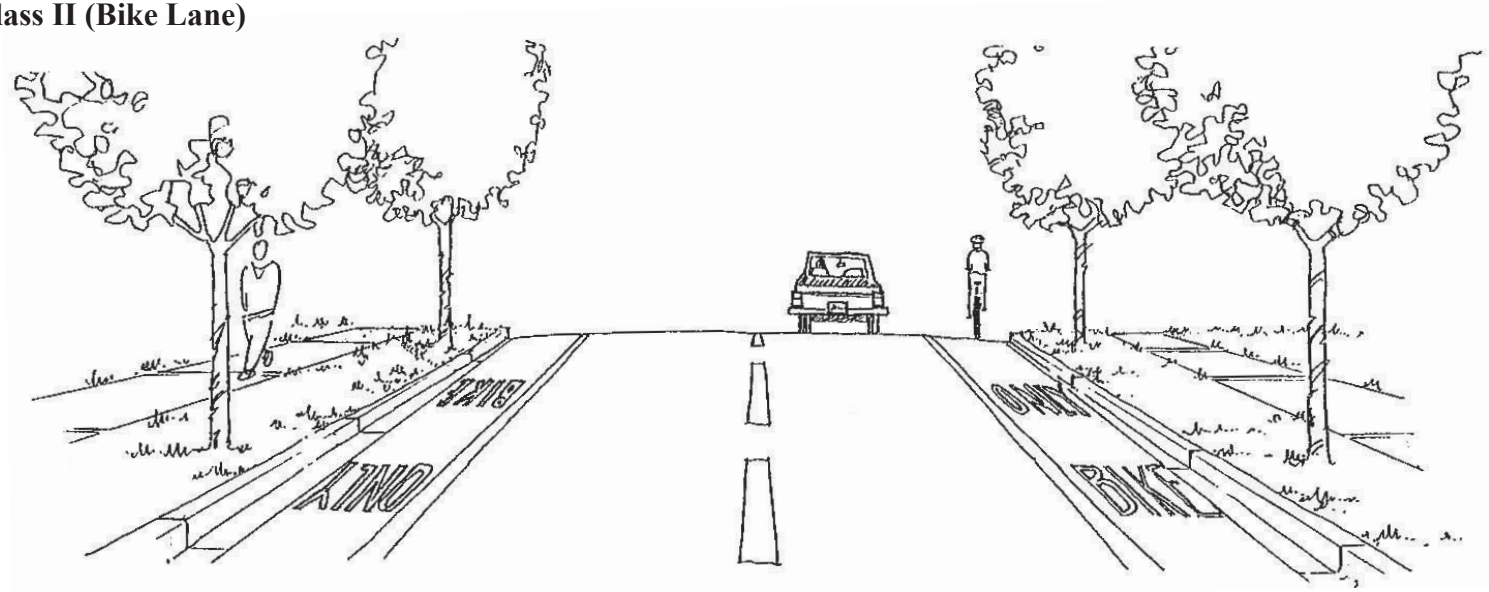


In addition to striping, the Class II designation suggests improvements such as augmented sweeping programs, more stringent maintenance requirements, and special signal facilities. Bike lanes also serve to advertise the bicycle network. Users become aware of advantageous routes, while drivers are made aware of the presence of cyclists.

Class II (Bike Lane)



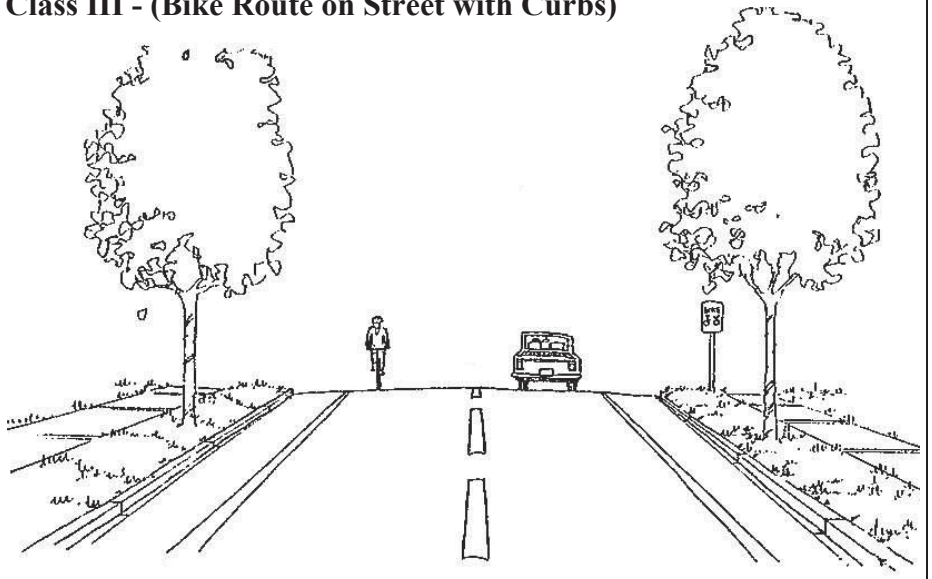
Class II (Bike Lane)



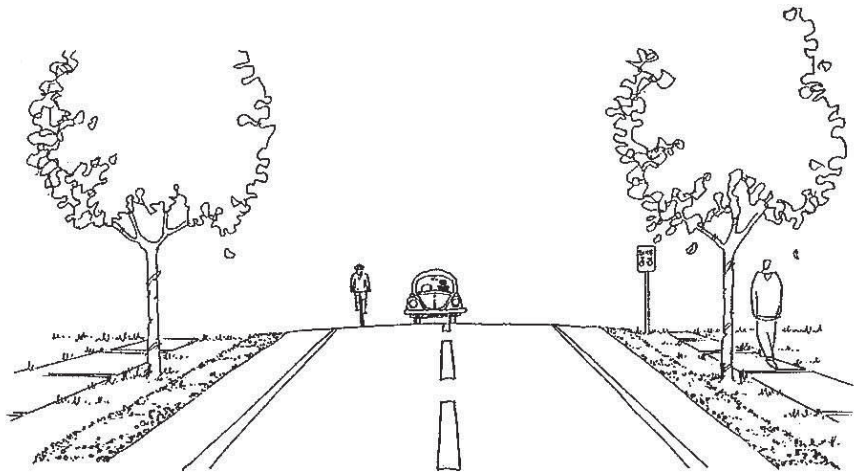
Class III (Bike Routes): are roads on which cyclists share the travel lane with motor vehicle traffic. They provide continuity of the bikeway system in areas where roadway widths limit the ability to provide bike lanes, or where the situation does not warrant them. The main purpose of a bike route is to connect destinations along convenient or scenic corridors.

The routes will be signed and mapped to let residents and tourists know of the existence of a particularly advantageous route, and to alert motorists to the presence of bicycles on the roadway. The non-motorized committee recommends that bike routes have fog lines with 2 to 4 feet of paved roadway outside the fog line plus a 2 foot shoulder where possible.

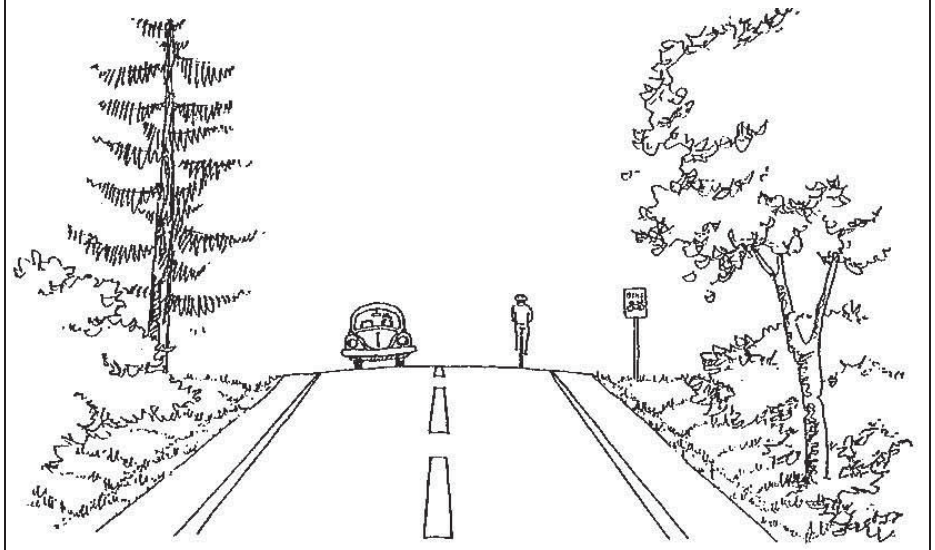
Class III - (Bike Route on Street with Curbs)



Class III (Bike Route on Street with Paved Shoulder)



Class III - (Bike Route on Street with Constraints)



Signage of the existing bike routes is essential for their ease of use and availability to all users. The routes should be given route-specific names or other designations, such as an indication of key destinations, which should be posted on signage to provide recognition and encourage additional usage.

Class IV (Shared Roadway): is a roadway that has been identified and mapped as a satisfactory place to ride and that connects some destination points. The streets typically have lower traffic volumes, or may have constraints that limit other bikeway facilities. No signing or special striping is provided.

Trails: Many of the neighborhood connectors outlined in the previous chapter are envisioned to be shared facilities for pedestrian and bicycle use. Should bicycle use cause either conflicts with pedestrians or degradation of the pathway**,** the facility may need to be upgraded to accommodate both uses.

BIKEWAY SYSTEM PLAN

The Bikeway System Plan for the City is illustrated in Figure 4.1. Both existing and planned bikeways are shown. Typical cross-sections are illustrated with the description of the facility type in the previous section and street-by-street recommendations are included in Table 4-2. While the Bikeway System Plan represents a long-term goal for each of the designated streets, short-term improvements are also recommended to ameliorate the most critical road conditions.

> *Where practical, the City will redevelop or upgrade existing primary City roadways to include bicycle facilities consistent with the Bicycle System Plan*
> *-Comprehensive Plan Policy 5.11*

The Bicycle System Plan seeks to meet the needs of all users. Commuters and Utilitarian users will appreciate the comprehensive network of roads with bicycle facilities that link major destinations. School children will find pathways and bicycle lanes in proximity to their schools. Recreational users can follow scenic routes, with signs indicating destinations and distances.

A cyclist-based approach was used by the Non-Motorized Committee to develop an overall bicycle route plan. While developing the Bicycle System Plan Map, the Non-Motorized Committee members evaluated: user needs, bikeway classifications, general route selection criteria (WSDOT design manual), location criteria in policy 5.15 of the Comprehensive Plan, and personal preferences.

As the bicycle is considered a vehicle by Washington State law with distinct rights to use the roadway, the street system forms the backbone of the system plan.

The extensive network of bike lanes envisioned is based on the desire for a high degree of separation between modes to allow all segments of the cycling population access to major destinations through a variety of routes.

Bicycle routes were employed to connect discontinuous segments of bike lanes, in areas where roadway limitations prevented the use of bike lanes, or where traffic volumes did not warrant them. On some hilly sections a combination of features is envisioned for the uphill segment: a Class II climbing lane and a Class III bikeway on the downhill portion.

Off-road bicycle facilities complement the street system. The goal of the off-road system is to provide separation from the roadway with few street crossings. Off-road pathways can provide more convenient or comfortable connections than the street system allows. Existing informal trails are found throughout the city. Popular bike trails can be found in: Kah Tai Lagoon Park, Cappy's Trails, and Fort Worden State Park. Proposed off-road bikeways will be shared with pedestrian traffic. The multi-use trail accommodates high volumes of pedestrian and bicycle traffic with wide paths and stable surfacing.

Objective: Develop bicycle network that meets the needs of all users *The policies in this table are summaries intended to highlight key policies, the full text of implementing policies may be found in Chapter 10	**Timing** Adopt with plan	< 5 years	5-10 years
Policy Summary			
♦ Adopt the bikeway system map	√		
♦ Provide class II bike lanes on all new arterials and collectors	√		
♦ Require new development to provide bikeway facilities that implement the Bikeway System Plan	√		
Directed Actions			
♦ Revise engineering standards to include the recommendations of this plan	√		
♦ The City will work to upgrade existing primary roadways to complete the short-term proposals of the Bikeway Plan		√	√
♦ Establish a budget line item for bicycle facility improvements and maintenance		√	
♦ Install share the road signs on class III bikeways		√	
♦ Install bicycle route signs on class III bikeways		√	
♦ Work with WSDOT to install bike lanes on SR20		√	

FIGURE 4.1 BIKEWAY SYSTEM PLAN

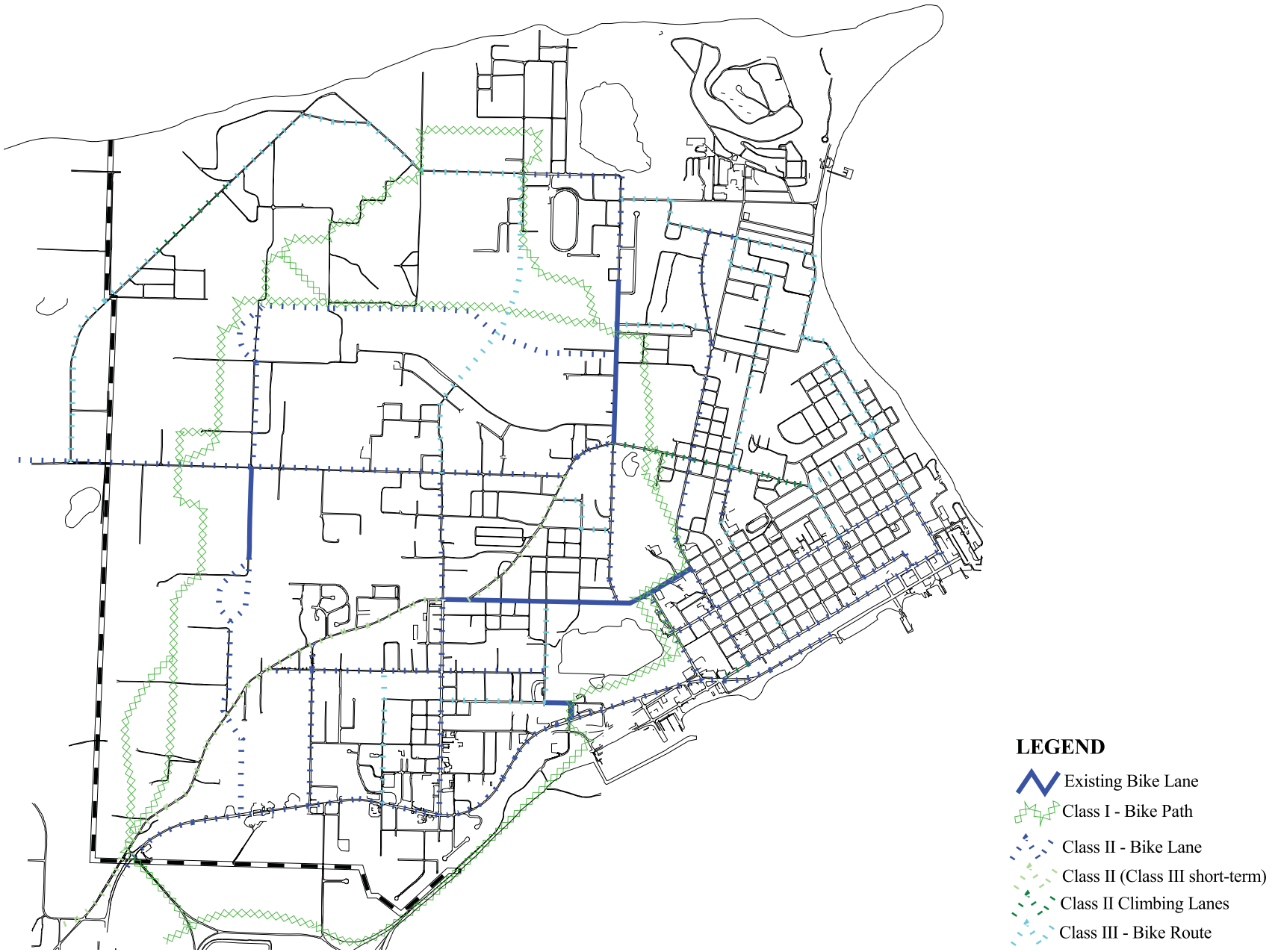


FIGURE 4.2 BIKEWAY SYSTEM INVENTORY

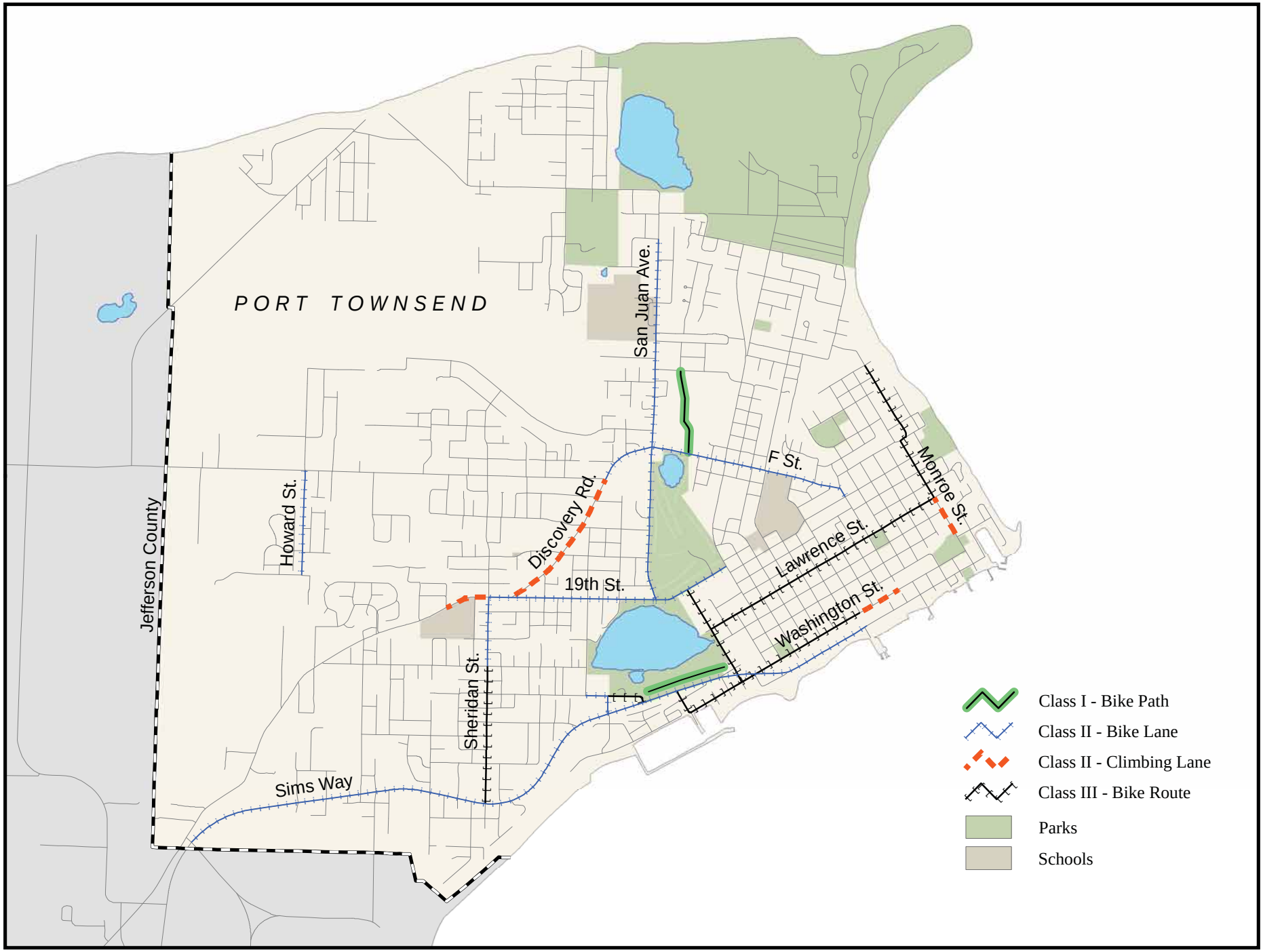


TABLE 4-2 BIKEWAY PLAN - SPECIFIC STREET DETAIL

Street	Future Class	Short-term < 5years	Long-term >5 years	Comment
Lawrence Street	II	Improved shoulders / bike lanes		
Cherry Street	III	Fog lines	Improve paved shoulder to 3' min	
Sheridan Street *Sims Way to 19th Street*	II	Stripe bike lanes		
Sims Way *Bluff Corridor*	II	Restrict parking	Bike lanes	Access management, On-street parking issue, *Gateway Plan
Sims Way *Sheridan to Landes*	II	Improved shoulder	Bike lanes	
San Juan *F to 19th*	II		Improved shoulder	
F Street *San Juan to Tyler*	II/III	Restrict parking Improve road edge	Climbing lane Downhill shoulder	Uphill Class II
Washington Street	II uphill	Stripe uphill bike lanes		
Cook Avenue *Peary to City limit*	III	Fog lines	Climbing lane, 2-3 foot shoulder	
49th Street *Cook Ave. to San Juan Avenue*	III	Fog lines	Widen shoulder	Traffic calming may be used on narrowest portion
Discovery Road *Hastings to San Juan*	III	Improved shoulder		Improve angle of intersection for sight distances
Discovery Road *19th to City limits*	II		Improved shoulder / Bike lanes	Class III as first stage
Walnut and Jackson Street *Monroe to Reed*	II		Bike lanes	Two streets form a one-way couplet
14th Street and 12th Street *Sheridan to Landes*	II/III		Climbing lane Downhill shoulder	12th as class III downhill 14th as class II uphill
Landes Street *12th to 19th Street*	III	Stripe fog lines		
Hastings *Sheridan to Discovery*	II	Stripe fog lines	Improved shoulder	
Kearney Street	II		Improved shoulder / bike lanes	

INTERSECTIONS

Intersections pose a challenge for bicyclists: they are typically areas with confusing signals, striping, and automobile behavior. Not surprisingly, the majority of bicycle-vehicle accidents occur at intersections. Experienced cyclists may feel comfortable jousting with automobile traffic. However, the majority of users are uncomfortable moving through intersections. The following techniques can be used to make intersections safer and more comfortable for cyclists:

- Striping to help the cyclist safely navigate the intersection.
- Traffic signal loop detectors that can be activated by bicyclists will help facilitate the crossing.
- Reduced use of free right turn lanes (slip lanes)

In Port Townsend, a number of intersections pose special problems for cyclists and are in particular need of redesign or bicycle striping to make them safer for cyclists. A number of these are identified in the project list in Appendix D.

Objective: Improve Intersection Safety for Bicyclists *The policies in this table are summaries intended to highlight key policies, the full text of implementing policies may be found in Chapter 10	**Timing** Adopt with plan	<5 years	5-10 years
Policy Summary			
♦ Ensure that all demand actuated traffic signals are capable of detecting bicycles , and that they are placed and striped according to WSDOT design guidelines	√		
♦ Utilize AASHTO and WSDOT standards in the design of intersections	√		
Directed Actions			
♦ Identify problem intersections and redesign to improve bicycle safety		√	√

BICYCLE PARKING FACILITIES

Bicyclists, like motorists, require convenient and safe parking at their destination. As the bike network develops and ridership increases, the need for adequate parking facilities should also increase. Bicycle facilities are important not only to encourage use by bicyclists, but also to avert problems associated with improvised parking. Bicycles placed against walls, trees, windows, and on the ground may prove hazardous to pedestrians, automobiles and private property. In addition, bicycles that are improperly parked will be more prone to theft and vandalism. At places of employment, such as the Boat Haven, or anywhere that bicycles may be parked for extended periods, efforts should be made to provide covered parking of some kind.

Comprehensive Plan Policy 5.8

Encourage bicycling as an alternative to single-occupancy automobile travel by promoting employer provision of bicycle facilities at employment sites and bicycling access to and on transit facilities.

The best bicycle parking facilities are proximate to the destination's entrance and covered to protect from inclement weather.

Bicycle parking facilities throughout Port Townsend were surveyed in 2002 and 2007 (Appendix E). Downtown parking is plentiful, while other areas still lack sufficient parking. Also some racks are of a type that many cyclists avoid. These racks should be replaced with a more desirable design.

Objective: Ensure bicycle parking and support facilities are available at destinations *The policies in this table are summaries intended to highlight key policies, the full text of implementing policies may be found in Chapter 10	**Timing** Adopt with plan	<5 years	5-10 years
Policy Summary ♦ Require bicycle parking facilities in new public, commercial and multi-family development	√		
Directed Actions ♦ Complete the inventory of existing bike rack locations	√		
♦ Work with existing employers to provide bicycle parking		√	
♦ Install bike racks at all city facilities		√	

For a detailed review of bicycle parking needs see *Appendix F: Bicycle Parking*.

5. PRIORITY PROJECTS

This chapter provides a list of priority projects that address the most critical needs in the non-motorized network. The tables and maps of projects are intended to guide where and how City resources are used to improve the non-motorized transportation system. The project list considers financial constraints and attempts to establish realistic expectations of how much the City can accomplish over a 10-year planning horizon. The focus of this chapter is on city sponsored projects and does not include non-motorized facilities that will be installed in conjunction with private development.

PROJECT IDENTIFICATION AND VISUALIZATION

The Non-Motorized Transportation Committee met for a one-day charrette to develop an action plan for implementing the non-motorized system. The Committee reviewed the proposed pedestrian and bicycle connectors on a neighborhood basis and identified key improvements needed immediately and in the longer term.

Projects that were identified by the committee addressed the following issues:

- known safety concerns
- problem intersections
- key connections that need to be made, particularly for routes to school
- projects that would provide an immediate or visible impact
- improvements needed in terrain and materials

Appendix C provides the complete list of project needs as identified by the Non-Motorized Committee.

PROJECT PRIORITIZATION

Since the deficiencies of the existing system and the needs of the proposed pedestrian and bicycle network far outweigh currently available resources, an attempt was made by the committee to prioritize projects. This prioritization was first accomplished using a "dot voting" method by the committee participants whereby each person allocated a total of 20 votes to the projects they considered to be the most important. The projects were then ranked based on the total number of votes earned.

The project identification and prioritization was done on a subjective basis with committee members using the following criteria to evaluate the proposed improvements:

- provides for multiple modes (pedestrian and bike)
- addresses existing safety concerns
- forms part of the safest route to school network
- implements other plans (e.g. Gateway, Urban Waterfront)
- provides a demonstrable improvement
- demonstrates a low-cost / high gain ratio

- connects to other facilities
- serves high density, multi-family, commercial or,
- serves high vehicular or pedestrian volume areas

To further refine the project priority list, financial limitations were included. Staff attributed unit costs to each of the projects in the project list in order to calculate total project costs for each of the implementing time periods (i.e. 0-5 years, 5-10 years and >10 years). Two funding scenarios were developed to serve as targets for facility improvements. Anticipated base level funding was projected over a 10-year period to a total of approximately $1 million. An additional $1.5 million in facility improvements ($2.5 million over ten years) was considered in order to assess the impact of an exceptional funding source. Chapter 7 discusses funding in more detail. Project priorities were reviewed and adjusted by the Committee and staff to match these funding scenarios.

PRIORITY PROJECTS

Figure 5.1 illustrates the base level funding program and project priorities, with the exceptional funding added in Figure 5.2. The priority projects are listed in the tables at the end of this chapter. These projects are intended to be a guide for the City and/or volunteer groups as to where to invest the limited resources of time and money and which major projects to take on first.

The full project list is included in Appendix C and identifies approximately $8 million in needed improvements. The funding source "other" in the tables signifies the projects to be implemented if exceptional funding becomes available.

SUPPLEMENT PRIORITY SETTING

As the board looked toward priorities for the next phase of plan implementation, the first step was assembling a list of potential projects. Projects were gathered from the existing plan, and from the sources listed in The Supplement Planning Process (Chapter 1). After the potential projects were identified, projects were ranked using numerical values associated with each criterion listed on page 55-56. The board members ranked the projects anonymously on a scale of 1 through 5 suing online spreadsheet software. Then city staff assembled the results into an initial prioritized list. Finally, during a meeting of the NMTAB on October 15, 2009 the Board discussed the list, made adjustments, and adopted it as the NMTAB Top 20 Prioritized Project List.

The list follows, as amended January 7, 2010:

1. *Hastings Avenue*
   Provide non-motorized facilities from Discovery Road to City Limits. Bike lanes both sides, sidewalk one side.
2. *Sheridan Street*
   Provide sidewalk on both sides from Sims Way to 19th Street.

3. *Discovery Road*
   Upgrade/provide non-motorized facilities from Sherman Street to City Limits.
4. *Landes Street*
   Provide non-motorized facilities from 12th to 19th. Bike lanes both sides, sidewalk one side.
5. *Quincy & Jefferson*
   Provide sidewalk connection from downtown to uptown.
6. *ADA in Historic Downtown*
   Upgrade intersections and sidewalks as needed to conform to ADA standards.
7. *Admiralty Avenue*
   Provide non-motorized facilities.
8. *Lawrence Street to Port Office*
   Provide ADA accessible non-motorized facilities from Lawrence Street to the Post Office.
9. *Sheridan Street at 23rd Street*
   Provide bicycle facilities on both sides.
10. *Lawrence Street*
    Upgrade sidewalks and bike lanes between Kearney and Monroe.
11. *Center to Cedar*
    Obtain easement from Center to Cedar for use in the Portage Trail.
12. *9th Street*
    Provide non-motorized facilities from Sheridan to McPherson.
13. *Washington Street*
    Upgrade sidewalk between Quincy and Adams, north side.
14. *Cherry Street*
    Provide non-motorized facilities from F Street to Fort Worden.
15. *East End of 39th Street to San Juan Avenue*
    Provide a trail connection from "behind" Blue Heron to San Juan Avenue.
16. *Kearney Street*
    Provide bike lanes on both sides.
17. *Larry Scott Trail to Park & Ride*
    Connection from Larry Scott Trail to Haines Street for pedestrians and bicyclists.
18. *Multi-Use Trail*
    Hastings to Discovery Multi-Use
    Multi-use trail between Hastings and Discovery Road/Sims Way.
    Westside Loop
    Finish multi-use trail connections between Hastings and North Beach.
19. *Fort Worden to Chetzemoka Park*
    Provide on-road non-motorized facilities.
20. *Bishop Park to Larry Scott Trail*
    Provide non-motorized facilities, including trail and a passage under Sims Way.

For a map of this list, see Figure 5.3, Priority Projects 2010.

IGPs

The Non-Motorized Transportation Advisory Committee identified several projects that could be implemented with minimal time and effort and that would have a meaningful impact and add visibility to the City's pedestrian and bicycle facility improvement efforts. These projects, affectionately known as "instant gratification projects" are contained in Table 5.3. Some of these projects are also included in the detailed project tables.

UNIT COST

The following unit costs were used for the planning-level estimate of construction costs for the various non-motorized facilities. Construction and total project costs are shown. They represent construction costs and do not include ongoing maintenance. Requirements and cost estimates for maintenance are discussed in Chapter 6. Total project costs include engineering, project management, and contingencies. Lump sum costs have also been estimated for certain categories of improvements, such as intersections, without defining explicitly what may be done. The costs provided below are based on recent construction projects completed in the city. These are generalized planning-level estimates that were used in establishing overall project priorities. Detailed project level estimates will be needed for planning site specific improvements.

Construction Costs: Labor and Materials

Cleared Path*	$1/ft
Developed Trail**	$7/ft
Asphalt Path	$12/ft
Sidewalks (concrete)***	$15/ft
Multi-use trail	$18/ft
Paint Stripes****	$0.20/ft

Total Project Costs: Labor, Materials, Engineering, Project Management and Contingencies

Sidewalk (concrete)***	$20/ft
Asphalt Multi-use Trail	$25/ft
Paved Shoulder (both sides)****	$50/ft

Lump Sum Costs

Intersection Improvements	$50,000
ADA ramp / Bulbouts	$10,000/corner
Traffic Signal	$200,000
Speed Table	$30,000

* compacted earth
** surfaced with quarry fines over a compacted base
*** no curb or gutter included
**** retrofit to existing pavement

TABLE KEY

Funding Sources:

City	- City funds (principally Real Estate Excise Tax (REET))
Shoulder	- City street funds designated for shoulder improvements
Vol.	- City funds used to seed volunteer efforts
DOT	- Washington State Department of Transportation improvements on SR20
Other	- Exceptional funding source

TABLE 5.3 IGPS

♦ Publish maps of the walkway and bikeway system
♦ Place curb stops to prevent automobiles encroaching on the sidewalk at: the pope marine building, the high school, and other locations
♦ Acquire tools for trail building and make them available to the public (McCleod, Pollaski)
♦ Move boxes that block crosswalk at the post office
♦ Improve access to Baby Buggy trail
♦ Establish the Jefferson Hillclimb as an undeveloped shortcut
♦ Scrape road edge on San Juan between 19th and F Street
♦ To be Completed

TABLE 5.1 MULTI-USE TRAIL PROJECTS

Segment Description of Actions	Funding Source Lead	 Other	Timing 0-5yrs	 5-10yrs	Length (Ft.)	Project Cost	Comments (Other considerations)
Portage Trail - F Street to Ft. Worden							
Prepare information on the vision for the trail	City		X				
Pursue grant funding	City		X				
F Street to Center Street							
Secure property or easement through valley	Other	Dev.	X			$100,000	Funding source needed
Clear path and sign	Vol.		X		1,500	$750	
Install trail and sign	City		X		1,500	$10,500	
Install multi-use trail	Other	City/Dev.		X	1,500	$30,000	
Center to W Street							
Install trail and sign	City			X	3,000	$21,000	
Install multi-use trail	Other	City/Dev.		X	3,000	$60,000	
Fort Worden							
Install multi-use trail	Other			X	4,000	$80,000	
Larry Scott Trail to Golf Course (19th Street)							
Larry Scott to Park-and-Ride							
Develop Route through Port	Grant	Port		X	1,000	$20,000	Work with Port of PT
Park-and-Ride to Kearney							
Install multi-use trail	City		X		2,500	$50,000	
Improve connection to park and ride	City		X		150	$3,000	
Install signage at park and ride	City		X		4	$1,000	
Kearney to 19th Street							
Install multi-use trail	City			X	2,000	$40,000	

TABLE 5.1 MULTI-USE TRAIL PROJECTS

Segment Description of Actions	Funding Source Lead	 Other	Timing 0-5yrs	 5-10yrs	Length (Ft.)	Project Cost	Comments (Other considerations)
Golf Course (19th Street) to F St.							
Kearney to Cherry Street							
Identify and clear golf course route	Vol.		X		1,800	$900	
Install multi-use trail and sign	Grant			X	1,800	$36,000	
Cherry to F Street							
Identify and clear golf course route	Vol.		X		1,800	$900	
Install multi-use trail and sign	Other			X	1,800	$36,000	
Winona Creek Trail (49th to Hastings Ave.)							
49th Street to Winona							
Crushed rock overlay and sign along sewer easement	Vol.		X		3,500	$12,250	
Improve access along Willamette and East Sapphire	Vol.		X		1,500	$5,250	
Winona to 35th Street							
Clear path and sign	Vol.			X	3,500	$1,750	
Install trail	Vol.			X	3,500	$12,250	
35th to Hastings							
Research access issues							
Clear path and sign	Vol.			X	2,200	$1,100	
Blue Heron to 52nd							Route to school
Install multi-use trail	Grant	Dev.	X		3,000	$60,000	
North Beach Loop (Fort Wordn to 49th)							Improve existing route
Clear path	Vol.		X		3,500	$1,750	
49th to Winona Creek							
Clear path and sign	Vol.			X	2,000	$2,000	

TABLE 5.2 NON-MOTORIZED IMPROVEMENTS PROJECT LIST

Segment Description of Actions	Funding Source Lead	 Other	Timing 0-5yrs	 5-10yrs	Length (Ft.)	Project Cost	Comments (Other considerations)
Sims Way							
City limits to Downtown							
Stripe bike lanes	DOT			X	29,000	$5,800	
Access management (curbs, temporary improvements)	DOT						Work with DOT
Ferry to Park-and-Ride							
Sidewalk on south side	Other	Grant		X	3,500	$70,000	
Kearney intersection							
Redesign intersection	City	DOT	X		1	$50,000	
Longer crossing times	City		X				
Consider pedestrian crossing with traffic stopped	City		X				
Bluff Corridor							
Restrict parking	City		X				Gateway Plan
Sheridan to Howard							
Sidewalks on south side	Other	DOT/City		X	3,600	$72,000	
Sheridan to Landes							
Improve shoulder	DOT		X				
Howard to City limits							
Clear path on south side and sign	Vol.		X		3,500	$1,750	Gateway Plan
Improve intersections and ped crossing zones							
Traffic light at Howard	Dev.		X			$200,000	
Crossing at Hancock	Other	City		X		$50,000	
Crossing at Sheridan	Other	Dev.		X		$50,000	
Crossing at Benedict to Boast Haven	Grant		X			$50,000	
Discovery Road - San Juan to Hastings							Route to school
Improve visibility	City		X				Clearing
Bike climbing lane (widen shoulder)	Shoulder		X		1,000	$25,000	
Trail on one side	Vol.		X		1,000	$3,500	

TABLE 5.2 NON-MOTORIZED IMPROVEMENTS PROJECT LIST

Segment Description of Actions	Funding Source Lead	 Other	Timing 0-5yrs	 5-10yrs	Length (Ft.)	Project Cost	Comments (Other considerations)
Sidewalk on one side	Other			X	1,000	$20,000	
Discovery Road - Hastings Intersection							Route to school
Add crossing island and crosswalk	Other			X	1	$50,000	
Consider one way queuing for traffic flow	City			X			
Consider alt. route for ped and bikes	City			X			
Discovery Road - Hastings to 19th							
Intersection improvements for ped. crossing							
Discovery Road - Sheridan to Howard							
Speed table at Grant Street School crossing	Grant		X			$30,000	
Speed table at Hancock	Grant			X		$30,000	
Towne Pointe to Howard							
Sidewalk on one side	Other			X	2,300	$46,000	
Town Pointe to Sheridan							Route to school
Trail on north side	Grant		X		2,500	$17,500	
Sidewalk on one side	Other			X	2,500	$50,000	
Intersection improvements for ped xing and transit							
Cherry Street - Walker Street To W Street							Route to school
Trail on one side	City			X	6,000	$42,000	
Sidewalk on one side	Other			X	6,000	$120,000	
Direct traffic to Fort Worden	City			X			
Jackson/Walnut (and alternative routes)							
Clear Chestnut and sign	Vol.		X		1,500	$750	
Improve and sign Madison shortcut	Vol.		X		500	$1,750	
Evaluate one-way couplet, Roosevelt to Reed	City			X			
Walnut							
Trail on one side	City		X		2,500	$17,500	

TABLE 5.2 NON-MOTORIZED IMPROVEMENTS PROJECT LIST

Segment Description of Actions	Funding Source Lead	 Other	Timing 0-5yrs	 5-10yrs	Length (Ft.)	Project Cost	Comments (Other considerations)
F Street - Fir to Tyler							Route to school
Improve shoulder on south side and restrict parking	City		X		1,500	$37,500	
Improve trail on south side	City			X	750	$5,250	
Sidewalk on north side	City		X		1,500	$30,000	
Install sidewalk to Blaine one side	Grant		X		300	$6,000	
F Street - San Juan to Fir							Route to school
Improve shoulder	Shoulder		X		2,200	$55,000	
Trail on one side	City		X		2,200	$15,400	
Sidewalk on one side	Other			X	2,200	$44,000	
Sidewalk on one side	Other			X	2,200	$44,000	
Evaluate alt. bike/ped route	City			X			
Sheridan							Route to school
Hastings to 19th							
Sidewalk on south side	Grant	City	X		2,400	$48,000	
Crosswalks at Hastings	City		X		1	$400	
Fog lines	City		X		4,800	$960	
Hastings to Umatilla							
Sidewalk on one side	Other			X	2,000	$40,000	
Hastings - Sheridan to Discovery							Route to school
Trail on one side	City			X	2,300	$16,100	
Fog lines	City		X		4,600	$920	
Sidewalk on one side	Other			X	2,300	$46,000	
Harrison at Post Office							
Move newspaper boxes	City		X				
Install bike racks	City		X		2	$600	
Add 250 feet of sidewalk (Clay to Fanklin)	City			X	250	$5,000	
Lawrence							Route to school
Infill sidewalks on north side	City	Grant	X		1,500	$30,000	
Bike lane striping	City	Grant	X		3,000	$600	

TABLE 5.2 NON-MOTORIZED IMPROVEMENTS PROJECT LIST

Segment Description of Actions	Funding Source Lead	 Other	Timing 0-5yrs	 5-10yrs	Length (Ft.)	Project Cost	Comments (Other considerations)
Improve missing shoulder for bike lane	City	Grant	X		1,000	$25,000	
ADA retrofits and bulbouts in commercial area	City	Grant		X	4	$40,000	
19th - Walker to Sheridan							Route to school
Add crosswalk at Landes	City		X		1	$400	
Traffic Calming at Xwalk at San Juan	Other		X		1	$30,000	
Sidewalk on one side	Other			X	5,000	$100,000	
Sherman Street - Sims to 16th							Route to school
Trail in unopened rights-of-way	City		X		3,000	$21,000	
Walker Street - Blaine to Lawrence							Route to school
Sidewalk on west side	Grant		X		1,500	$30,000	
Taylor and Water Intersection							
Bulbouts on north side	City			X	2	$20,000	
4-way stop	City		X		1	$400	
Quincy, Adams and Jefferson							
Improve baby buggy trail and approaches	City			X	250	$1,750	
ADA accessibility at intersection and around corner	City			X	4	$40,000	
Crosswalk at Jefferson and Taylor	City		X		1	$400	
San Juan - Blue Heron to 49th							
Fog lines	City		X		4,000	$800	
Signage	City		X		4	$2,000	
Trail on one side	City			X	2,000	$14,000	Route to school
Sidewalk on one side	Other			X	2,000	$40,000	
Center - San Juan to Cherry							Route to school
Trail on one side	City			X	1,600	$11,200	
Sidewalk on one side	Other			X	1,600	$32,000	

TABLE 5.2 NON-MOTORIZED IMPROVEMENTS PROJECT LIST

Segment Description of Actions	Funding Source Lead	 Other	Timing 0-5yrs	 5-10yrs	Length (Ft.)	Project Cost	Comments (Other considerations)
Point Hudson - Jackson Street							
No thru traffic on Jackson and sign	City			X			
San Juan - F to 19th							Route to school
Improve shoulder	Shoulder			X	6,000	$150,000	
Fog lines	City			X	6,000	$1,200	
Trail on one side	Grant		X		3,000	$21,000	Route to school
Sidewalk on one side	Other			X	3,000	$60,000	
12th Street - McPherson to Haines							
Trail on one side	Grant			X	5,200	$36,400	
Sheridan - Sims to 19th							Route to school
Stripe bike lanes	City		X		8,000	$1,600	
Sidewalks - Hospital to Sims Way	Grant			X	1,000	$20,000	
Sidewalk - Hospital to 19th (east side)	Other			X	3,000	$60,000	
Crossing - Hospital to 9th Street	City			X	1	$400	
Hastings - City Limit to Howard							
Fog lines	City		X		5,000	$1,000	
Hastings - Howard to Sheridan							
Fog lines	City		X		7,000	$1,400	
Sidewalk on one side	Other			X	3,500	$70,000	
Landes - 12th to 19th							
Fog lines	City		X		3,600	$720	
Howard - Hastings to 35th							
Improve surface for bikes and pedestrians	City			X	2,000		
Umatilla - San Juan to Silver							
Fog lines	City		X		6,400	$1,280	
Consider one-way loop with Woodland	City			X			

TABLE 5.2 NON-MOTORIZED IMPROVEMENTS PROJECT LIST

Segment Description of Actions	Funding Source Lead	 Other	Timing 0-5yrs	 5-10yrs	Length (Ft.)	Project Cost	Comments (Other considerations)
Umatilla							
Silver to 35th street park							
Trail on one side	City			X	3,000	$21,000	
San Juan to Sheridan							
Sidewalk on one side	Other			X	3,200	$64,000	
Blaine Street							
Walker to Tyler							Route to school
Sidewalk on one side	Other			X	2,600	$52,000	
Tyler to Monroe							Route to school
Sidewalk on one side	Other			X	1,500	$30,000	
Cooke Avenue							
Fog lines	City		X			$1,500	
Washington Street - Sims Way to Walker Street							
Bike climbing lane	City		X		500	$100	
49th - San Juan to Cook Avenue							
Sidewalk on one side	Other			X	3,800	$76,000	
Fog lines	City		X			$760	
Jefferson Hillclimb							Gateway Plan
Trail in unopened rights-of-way	Vol.		X		300	$1,050	
23rd St. - Sherman to Rosecrans							
Trail in unopened rights-of-way	Vol.			X	1,000	$3,500	
Gise St. - 14th to 9th							
Trail in unopened rights-of-way	Vol.			X	1,400	$4,900	
10th Street - to Grant Street School							
Trail in unopened rights-of-way	Vol.		X		1,000	$3,500	

FIGURE 5.1 PRIORITY PROJECTS WITH ANTICIPATED FUNDING

FIGURE 5.2 PRIORITY PROJECTS WITH EXCEPTIONAL FUNDING

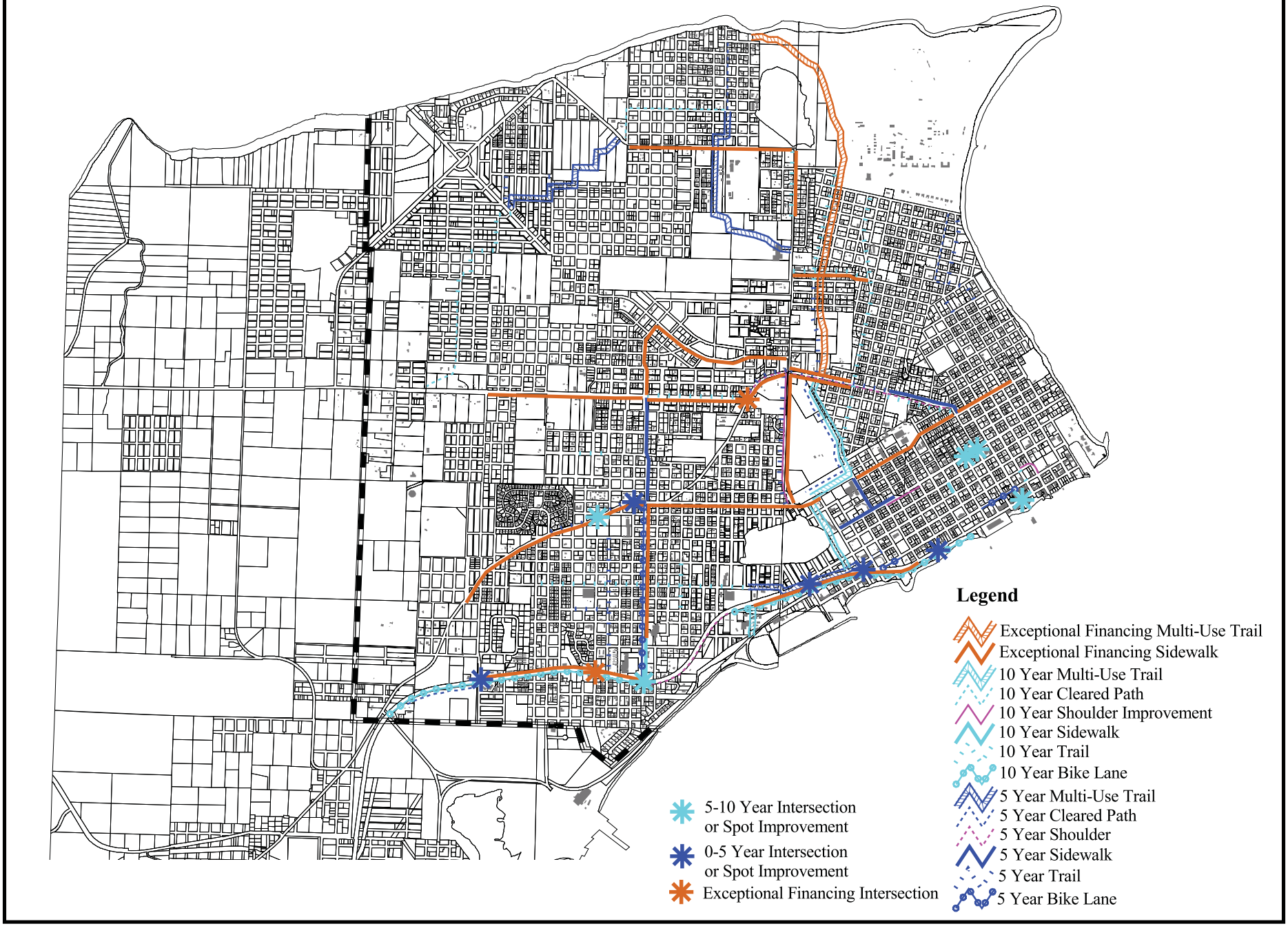
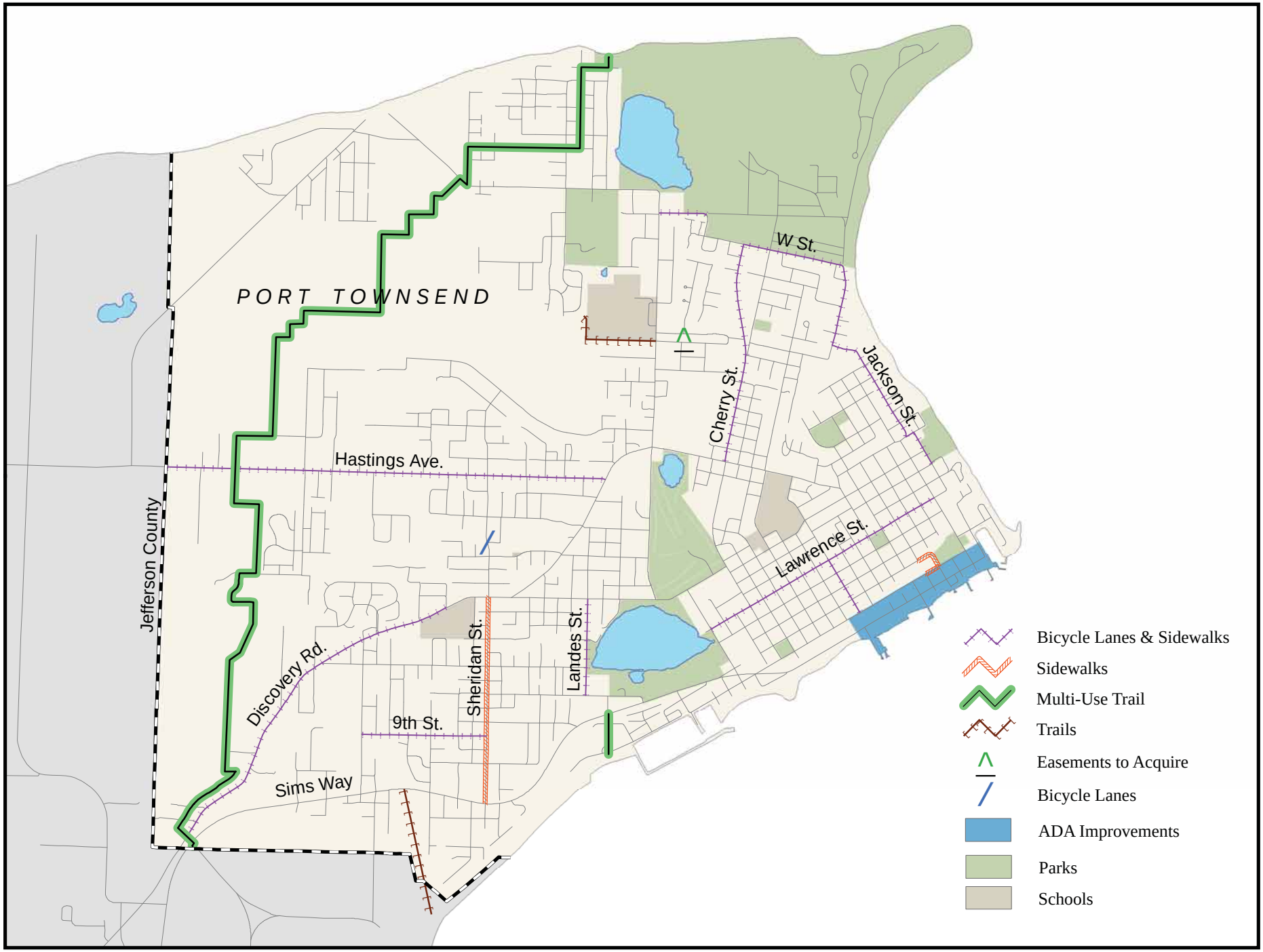


FIGURE 5.3 PRIORITY PROJECTS 2010



6. MAINTENANCE

Maintenance is often the hidden cost associated with the expansion or construction of any new facility, but the usefulness of a non-motorized system will be contingent on regular and appropriate maintenance. Maintenance practices should reflect the need to maintain non-motorized facilities as transportation corridors accessible in all weather conditions to all people. As the non-motorized transportation system expands, maintenance activities and budgets must be considered.

Maintenance costs can be reduced by establishing design standards for walkways and bikeways that consider maintenance needs. The material and method of construction play a significant role in how frequently facilities will require attention. There are many examples in town where poor construction techniques have resulted in facilities that are not used. For example, some gravel trails installed as little as two years ago are overgrown with weeds, while concrete sidewalks installed at the turn of the century are still functioning with very little maintenance. Poorly maintained facilities not only discourage use but can be more costly in the long run if the facility degrades to the point where it requires complete replacement.

WHO MAINTAINS?

Maintenance of the non-motorized network will require a partnership of city staff, residents, and business owners. Bikeways on streets will be maintained by the City. Much of the maintenance associated with bicycle lanes will be a simple expansion of the care given to the vehicular portion of the roadway. Some additional costs may be incurred by more frequent sweeping and additional road striping.

Off-street bikeways and pathways installed by the City will also be maintained by the City. Volunteer groups will be encouraged to adopt unpaved pathways to help reduce the City's maintenance costs.

Many of Port Townsend's trails are the product of volunteer efforts. The focus of trail construction and maintenance should continue to be to encourage neighborhood groups and work party efforts to establish new trail connections. The same neighborhood support should be solicited and encouraged for on-going maintenance. The City should continue to provide materials and tools needed to complete these tasks along with occasional engineering advice or design for trails on difficult terrain.

The maintenance of the Larry Scott Memorial Trial is defined in an interlocal agreement between the Port, the County and the City. The Port of Port Townsend maintains walkways in the Boat Haven, Point Hudson and other areas that fall within its jurisdiction.

Some parts of the walkway system will be maintained by private individuals or associations. The maintenance and repair of sidewalks constructed along the street frontage is, by existing City ordinance, the responsibility of the adjacent property owner.

Facilities installed in a subdivision or PUD may be required to be maintained by the developer or homeowner association. In recent years the City has moved towards more stringent maintenance requirements for new development. Some existing, privately maintained walkways in town include:

- The Business Park
- Bell Street
- Rosewind
- Hamilton Heights

TYPICAL MAINTENANCE REQUIREMENTS

Bicycle lanes

Bicycle lanes require periodic sweeping, restriping and surface repair. Though much of the maintenance associated with bicycle lanes will be a simple expansion of the care given to the vehicular portion of the roadway, adding a bike lane does increase maintenance time. Car traffic generally keeps the roadway clear of gravel and leaves, however, the material swept away by cars will end up in the bicycle lane at the edge of the roadway, where it will remain in place unless a regular sweeping program is followed. Bicycles are also more susceptible than the automobile to uneven surfaces. Bicycle lanes will require the extra care and attention of the road crew.

Bicycle lanes require repainting similar to vehicular traffic lanes. Painting of the white lines for the bike lanes or fog lines is usually necessary once per year. Some lines or symbols that do not receive high traffic volumes may be painted less frequently.

Sidewalks

Concrete sidewalks can be the most cost-effective pedestrian facility in the long-term because of their low maintenance requirements. Though they are initially more expensive than a crushed rock path, sidewalks can last 50 years or more with very little maintenance.

Routine maintenance on sidewalks is limited to clearing the edges of brush, and mowing the planting strip. As the sidewalk wears the occasional repair of cracks will be needed. Neglected repairs can lead to growth of vegetation which will further break up the sidewalk, possibly resulting in entire sections needing to be replaced. Buckled sidewalks may require grinding, or may need to be replaced. Most severe sidewalk damage is a result of tree roots and can be reduced by proper tree selection.

Existing sidewalks in poor condition are routinely marked by City crews. Many of Port Townsend's sidewalks are over 100 years old and some are now in need of repair. As an interim safety measure, uneven walking surfaces should be marked. When time allows, raised surfaces may be ground to reestablish a uniform walking surface.

By City ordinance, the maintenance and repair of sidewalks is the responsibility of adjacent property owners. This includes clearing the sidewalk of vegetation, mud, snow and ice which

can impede many otherwise serviceable sidewalks. Long-term maintenance costs could be greatly reduced if problems were taken care of before they became severe.

Road Shoulders
Regular mowing and scraping of roadway edges will provide for pedestrian access in areas where walkways are unavailable.

Pathways and Trails
The maintenance costs for unpaved pathways, as a transportation system, will tend to be higher than recreational trails because of the need for all weather and universal access. On all except the most highly used pathways, pedestrian volume may not be sufficient to maintain a clear pathway. Even on highly traveled pathways, the cleared surface tends to be reduced to a single file path approximately 2 feet wide. Maintenance requirements on pathways will be determined by the selection of materials and the construction techniques used. Compaction of the base, the use of a geotextile, and proper drainage can help to reduce erosion and weed intrusion problems on the pathway. Proper maintenance can reduce long-term costs by deferring the need for surface renewal.

Unpaved pathways are susceptible to erosion problems. Improper drainage will cause low spots that fill with water and become muddy, or will create troughs. Troughs can funnel water along the pathway surface causing it to erode rapidly. Proper initial grading is important to prevent problem spots from arising. As an example, several locations on the Business Park trail had water ponding. Drainage solutions were improvised by creating drainage trenches along sections of trail. Though the drainage problem was solved, the surface of the trail is now very uneven.

Another important aspect of pathway maintenance is vegetation control. Grass, weed, and tree roots adjacent to the pathway can quickly ruin the pathway surface. The installation of a weed barrier (geotextile) can help to reduce maintenance needs.

CONSTRUCTION PRACTICES TO REDUCE MAINTENANCE COSTS

Driveways and Gravel Streets
Gravel on the road from driveways and gravel streets can be a hazard to bicyclists and pedestrians. Paved aprons reduce the likelihood of gravel being swept onto the roadway; reducing the maintenance needed and making the street safer. On existing driveways without an apron, property owners should be encouraged to sweep away gravel that has washed into the roadway.

Unpaved walkway junctions with roads may also benefit from the installation of an apron. The apron would help to define the access point to the walkway and would reduce the amount of debris on the roadway.

Pathway and Trail Construction

The following description is a summary of trail building guidelines found in "Trails for the 21st Century". The base preparation for trails is similar to that of sidewalks.

The difference between a smooth trail and a rough trail is not so much the material used to surface that trail, but rather the ground preparation. There are three components in trail construction: the subgrade, the subbase, and the trail surface.

The subgrade is the native soil mass of the landscape; the subbase is a manmade layer of stone and rock constructed on top of the subgrade; the trail surface is the material installed on top of the subbase. As a unit, the structural qualities of these three individual components determine the strength and quality of a trail.

Vegetation: The trail surface and foundation must be protected from the damage caused by vegetation. Vegetation should be cleared and stumps and roots removed along each edge of the trail for at least 5 feet. This helps to prevent roots and later growth from eventually encroaching on the trail subgrade, subbase, or trail surface. However, small shrubs and goundcover will still be needed to stabilize the soil.

Subgrade: The subgrade is the trail's foundation. The suitability and structural properties of the subgrade will determine how the subbase and trail surface must be designed and constructed. A trail may traverse a number of different soil types. Ideal soils are firm and well-drained.

Four soil qualities are important considerations in trail construction: susceptibility to freezing, permeability, bearing strength, and shrink and swell. Fine-grained soil particles can be pushed towards the surface by frost disrupting the trail surface. The permeability of the soil will determine how well it drains. Poorly drained soils will cause the trail surface to develop water ponds. Unsuitable native soil may need to be replaced by coarser material. Saturated soils cannot support as much weight as well-drained, moist soils. Low bearing strength can cause a trail to rut under normal usage. Expansive soils can expand and contract causing the surface of a trail to crack.

Drainage: Proper drainage of surface and subsurface water must be considered in the design and construction of a trail. Surface water runoff moves on top of the ground, creating rills and troughs. Subsurface runoff moves through the soil horizontally or vertically depending on the soil type and permeability. The design objective is to maintain the water-flow level that existed before the trail was developed.

Surface water runoff can be mitigated using three methods: swales, ditches, and sheet flow. For subsurface drainage four approaches can be used: pipe to carry off excess water, French drains, trenches filled with permeable material that collect water and route it toward a detention area, and sloped or contoured underground drainage channels, where subsurface water is encourage to flow through the trail cross section unimpeded.

Subbase: The purpose of the subbase is to transfer and distribute the weight from the trail surface to the subgrade. The subbase serves a vital drainage function, preventing water from

migrating up from the subgrade into the trail's surface. It also allows natural cross drainage to flow through the trail.

The thickness of the subbase is dependent on the subgrade. As a general rule the subbase should be 4 to 8 inches thick. Four inches is sufficient if the subgrade is in excellent condition; up to 8 may be necessary if the subgrade is of poor quality. The base should be compacted with a roller that weighs at least as much as the anticipated load.

Geotextile: Geotextile is placed between the subgrade and subbase and maintains the integrity of the subbase by preventing it from migrating into the subgrade. It also helps to reduce the growth of weeds through the trail surface and improves drainage.

ESTIMATED MAINTENANCE COSTS

Table 6.1 illustrates maintenance costs to be used for planning purposes. The figures assume a high level of maintenance suitable for a transportation

TABLE 6.1 ESTIMATED MAINTENANCE COSTS

Facility	Yearly Maintenance	Materials	Labor
		Resurfacing	FTE
Sidewalks	Property owner	N/A	N/A
Pathway	1,000 feet Twice a year - 2 person crew 40 hrs / year includes: mobilization, edge clearing, raking and weed removal, erosion repair, disposal of material, and garbage removal Monthly mowing and garbage removal 6 months of year 1 person crew 12 hrs / year assumes maintenance that provides surface conditions suitable to ADA requirements and somewhat comparable to sidewalks	$3,000/1,000 feet every 10 years assumes maintenance routine reduces resurfacing to every 10 years	0.028 FTE / 1,000 feet
Shortcut (native soil)	250 feet Twice a year - 2 person crew 8 hrs / year includes: mobilization, edge clearing, erosion repair, disposal of material, and garbage removal	N/A	0.017 FTE / 1,000 feet
Shortcut (developed)	250 feet Twice a year - 2 person crew 12 hrs / year includes: mobilization, edge clearing, raking and weed, removal, erosion repair, disposal of material, and garbage removal Monthly mowing and garbage removal 6 months of year 1 person crew 3 hrs / year	$500/100 feet every 10 years	0.032 FTE / 1,000 feet
Bicycle Lane	Painting - lines and symbols 3 person crew - 100 hrs. Sweeping - 4 times per year 1 person - 40 hours assumes 8 miles of bike lane, and pavement maintenance as part of street maintenance	$500/year	0.01 FTE / mile

corridor that is accessible in all weather conditions to all people. As the City becomes more familiar with maintaining non-motorized facilities, more detailed maintenance costs can be derived.

These figures can be used to evaluate the long-term maintenance commitment of proposed non-motorized improvements. Staff time needed for maintenance is estimated as Full-time Equivalent (FTEs) per unit.

Existing Maintenance

The Kah Tai Lagoon trail is the only pathway currently maintained by City of Port Townsend Parks department that is used as a transportation corridor. The compacted quarry fine surface is approximately 6 feet wide. High traffic volumes along the pathway help to minimize the maintenance requirements. The pathway was last resurfaced approximately 5 years ago.

10 Year Maintenance Estimate

The 10 year estimate of maintenance for proposed projects is 1.99 FTE. Much of the maintenance included in this figure can be attributed to trails that have been installed as interim facilities in place of sidewalks. In addition, the cost saving of trails to be built contingent on volunteer maintenance has not been included. The maintenance costs suggest that the City must closely monitor the maintenance implications of new facilities and must be creative in developing ways to reduce these costs. As the City becomes more familiar with maintaining non-motorized facilities, more detailed cost estimates can be used to reevaluate the project list.

Projects anticipated in a 5 year horizon include:	FTE
♦ 13,700 feet of trails	.38
♦ 3,500 feet of multi-use trail	.10
♦ 46,400 feet of the bikeway system.	.46
♦ 1,250 feet of developed shortcuts	.04
♦ 2,500 feet of undeveloped shortcuts	.04
Total	1.02

Projects anticipated in a 5-10 year horizon include:	FTE
♦ 26,900 feet of trails	.75
♦ 3,000 feet of multi-use trail	.08
♦ 6,000 feet of bikeway system	.06
♦ 1,250 developed shortcuts	.04
♦ 2,500 undeveloped shortcuts	.04
Total	.97

MAINTENANCE INITIATIVES

There exists a number of opportunities to support positive maintenance practices and to reduce maintenance costs.

Spot Repair Post Card Program
The Spot Repair Post Card Program would be used by citizens to help the Public Works Department identify local maintenance problems. Identified problems would be resolved as resources allow.

50/50 Sidewalk program
Through this program the City would help share the cost of repairing a deteriorated sidewalk with property owners on a 50/50 basis. Funding for this program will limited and will be administered according to location, need and condition.

Adopt-a-Trail Program and Community Supported Maintenance
Individuals and community groups can be encouraged to devote time to maintain specific trails. These groups include schools, community and service programs, and seniors. In addition, maintenance work could be used to fulfill the community service requirements of public offenders

Proposed Maintenance Program
The table insert outlines the proposed action items and guidelines for maintenance issues related to this Non-Motorized Plan.

Objective: To ensure adequate maintenance of existing and proposed facilities *The policies in this table are summaries intended to highlight key policies, the full text of implementing policies may be found in Chapter 10	**Timing**		
	Adopt with plan	< 5 years	5-10 years
Policy Summary			
♦ Establish a bikeway and walkway maintenance budget line item		√	
♦ Adopt design standards that minimize long-term maintenance	√		
Directed Actions			
♦ Establish a regular maintenance and sweeping program for bicycle facilities aimed at bicycle lanes, shoulders and separated paths		√	
♦ Encourage property owners to maintain and repair sidewalks		√	
♦ Work with property owners to repair sidewalks along important pedestrian connectors		√	
♦ Develop an adopt-a-trail program for volunteers to maintain trails.		√	
♦ Established a spot repair postcard program		√	
♦ Identify gravel driveways and intersections that cause shoulder debris problems and work with property owners to remedy the situation		√	
♦ Assist property owners with the repair of sidewalks to the extent that funds are available		√	
♦ Identify streets with shoulders that are used as important pedestrian connections and implement a shoulder maintenance schedule that meets the needs of pedestrians.		√	

7. FUNDING

This plan outlines an ambitious program to improve non-motorized facilities in Port Townsend. To construct and maintain these facilities will require a combination of existing operation and maintenance, capital funding sources, volunteers, state or federal grants, private developers, and careful coordination with related projects.

This chapter details current and potential funding options for implementing the Non-Motorized Transportation Plan.

Comprehensive Plan Policy 5.9
Earmark sufficient and dedicated funding for construction of non-motorized system improvements through programs such as the Capital Improvement Program (CIP), Local Improvement District (LID), Housing and Urban Development (HUD) Community Development Block Grants (CDBG), Neighborhood Enhancement Programs or as part of new residential or commercial development.

CURRENT FUNDING SOURCES

Non-motorized improvements are currently part of the transportation capital improvement program. The construction of non-motorized facilities has relied on four funding sources: existing City funds, road projects, developer impact mitigations, and State and Federal grants. Significant and active use of volunteers will be strongly encouraged to enhance available funding. In 1997, Washington cities typically received 67% of transportation funding from local sources, 10% Federal, and 23% from the State.

Real Estate Excise Tax (REET) The Comprehensive Plan includes a policy that 35% of REET money be dedicated to non-motorized projects. For the last several years the City has devoted approximately $55,000 a year, of the $150,000 total REET dollars, to pedestrian and bicycle projects. This fund has been used to complete projects throughout the city including: bulb-outs on Water Street, sidewalks on San Juan Avenue, and curb ramps downtown.

Road Projects

Road related facilities such as bike lanes and shoulders have been installed by the City as part of road construction or reconstruction. Because non-motorized facilities are part of the roadway standard, many of the funds directed towards roadway improvement also apply to non-motorized facilities. The city receives approximately $65,000 per year in arterial street funds from the State that are used for capital projects related to streets improvements.

Development Mitigation

Private development has helped to build the non-motorized transportation system in two ways: by constructing roads that include non-motorized facilities, and by providing walkways or bikeways as part of the overall site plan and for impact mitigation. The State subdivision act requires that a proposed subdivision include streets, alleys, "and other public ways" and include "sidewalks and other planning features" that assure safe walking conditions to school.

Bike lanes on Howard Street were installed by private development as were trails and pathways in several new developments. The City's Engineering Design Standards

require that bicycle and pedestrian facilities be included in new development.

Grants and Loans

The City of Port Townsend has been successful in acquiring a number of grants that improve non-motorized related facilities, including IAC grants for the reconstruction of Union Wharf and State pedestrian safety grants for improvements on safe walk routes to school. The federal ISTEA program has also provided major funding for street and sidewalk construction in Port Townsend. The following list highlights grants received in recent years:

Project	Grant	Amount
Union Wharf	IAC	$2,000,000
Safe Route to school	TIB	$70,000
San Juan Avenue	ISTEA	$413,000*
Kearney Street	ISTEA	$88,000
***includes street improvements**		

Grants usually require a local match so the City's funds can be leveraged with grant dollars. Considerable staff time is required in pursuing grants and in their administration. Targeting grants with a high probability of success will help to ensure a more cost-effective effort.

Coordinated Projects ("Piggy-Backing")

The City has been successful at coordinating projects to make funding go further. Projects that are related and compatible can often use a specific funding source to fulfill a number of different needs. For example, the stormwater utility fund was used for a neighborhood stormwater detention pond that also included a shortcut for Hendricks street residents.

Comprehensive Plan Policy 10.5
Thirty-five percent (35%) of the revenues generated from the (two) one-quarter percent real estate excise tax funds should be reserved for non-motorized projects.

POTENTIAL FUNDING SOURCES

The following sections describe local, State, and Federal options that are potential sources of additional funds to implement the Non-Motorized System Plan.

LOCAL OPTION

Real Estate Excise Tax (REET)

The City currently dedicates approximately thirty-five percent (35%) of the revenues generated from the (two) one-quarter percent real estate excise tax funds to non-motorized projects. Proposed budgets should be examined to see if this percentage could be increased to more rapidly implement the goals of the Comprehensive Plan related to non-motorized travel.

Street Vacation Fund

Comprehensive Plan Transportation Policy 9.6 directs that street vacation monies be earmarked for a reserved transportation system improvement account for the purchase of rights-of-way or transportation facility easements. These funds

could be used to obtain multi-use path corridors. It should be noted that part of the intent of this plan is to discourage street vacations that align with the proposed non-motorized network.

Voluntary Utility Billing Check Off

The City has considered a utility bill check off as a method to raise funds for parks and open space, but has yet to move forward with it. An additional check off could be added for utility customers to elect to contribute to non-motorized improvements. As an example, if 100 people a month contributed 5 dollars, the yearly total would be $6,000. A check off for non-motorized projects, however, would compete with other programs seeking to raise funds in this manner.

User Fees

A fee charged to users of the non-motorized system, such as a bicycle registration fee, would directly assess those who benefit from the proposed improvements. These fees have been supported by some bicycle advocates. Port Townsend currently requires bicycle registration. However, registration programs for bicycles have been unsuccessful due to the difficulty of enforcement and the high cost of administering such a program in comparison to the revenue it generates. Moreover, registration could go against the intent of Comprehensive Plan policy by discouraging the use of one alternative transportation mode

Road Impact Fees

Impact fees would require new development to pay its fair share for transportation improvements, based on its proportionate share of the impact. Comprehensive Plan Policy 10.2(g) directs the City to consider impact fees for roads. A street impact fee study, which should also consider non-motorized facilities, is needed to evaluate this option.

Local Option Fuel Tax and Vehicle License Fee

Jefferson County can elect to instigate a local option fuel tax or vehicle license fee. These funds could be used to fund general transportation improvements including non-motorized facilities. Washington State Law (RCW 47.30) requires cities and counties to set aside a minimum of 0.5 percent of their motor vehicle fuel taxes (half cent gas tax) for trails and paths.

Transient Accommodation Tax

In the past the use of these funds was limited to the visual arts, conference or sports facilities, stadium and coliseums. The legislature recently allowed for the use of these funds to be more at the discretion of the local jurisdiction. In addition, to promoting tourism, the proceeds of this tax have been used for a number of projects including the renovation of the Pope Marine Building, and to support the Golf Course Clubhouse**.** Several facilities listed in this plan provide services directly related to accommodating visitor needs such as: the Waterwalk, connections to the ferry, and the Portage Trail. These projects could be funded under this program if sufficient funds are available.

Local Street Utility Tax

Street utility fees were restricted by a Supreme Court ruling on the City of Seattle's street utility in November 1995. If a street utility is implemented the Comprehensive Plan recommends that at least 25% of the revenues generated from a utility tax should be earmarked for non-motorized transportation system improvements.

General Fund
A budget line item could be established to fund projects that have community-wide benefits. Non-motorized projects must then compete with other city needs for this type of funding.

Local Improvement District (LID)
LIDs are self-taxing districts in which property owners cooperate financially to improve facilities including streets and utilities. The cost of the improvement is shared equitably and assessed to the property tax. The costs of a project may then be amortized over 20 years.

General Obligation Bonds
A bond may be an option for specific projects that have community-wide appeal and value. These are tax-supported bonds used to finance government capital improvements. A bond would require a public vote for approval and will reduce the City's capacity to seek additional debt for other projects. The Non-Motorized Transportation Committee expressed keen interest in pursuing a bond for a specific program such as sidewalks on walk routes to school or a section of the Multi-use Trail.

Private Funds and Bequests
Some projects may be able to generate funding from individuals. The Portage Trail, for example, may be an attractive option for a private bequest. The City could work towards a program that would acknowledge private donations with such items as plaques, benches, engraved bricks etc.

STATE TRANSPORTATION FUNDS

IAC - Outdoor Recreation Grant Program
This grant program, administered by the IAC, provides funding for acquisition of land and development of facilities for outdoor recreation. Projects are eligible if adequate maintenance is guaranteed and they meet the priorities identified in the local parks plan**.**

Washington State Department of Transportation (WSDOT)
WSDOT may provide pedestrian and bicycle facility improvements as part of their state route improvement projects which would include SR20 to the ferry terminal. The City needs to work with the DOT to increase the priority and ranking of SR20 on the State's highway plan. Improvements along this corridor should be focus on implementing the recommendations of the Gateway Plan and on pedestrian and bicycle routes on the SR20 bridge crossing the Olympic Discovery Trail approaching the City limits.

Community Economic Strategies Fund (CESF)
The CESF provides resources to local and regional organizations for high priority economic development on a competitive basis. Non-motorized facilities related to commercial development may qualify for funding.

Urban Arterial Trust Account (UATA)
The Transportation Improvement Board (TIB) provides competitive grants, under the UATA program, "To alleviate and prevent traffic congestion." Projects that may qualify for this funding would include walk routes to school and projects in commercial areas.

Transportation Improvement Account (TIA)
The Transportation Improvement Board (TIB) provides competitive grants that serve as the required local match to obtain federal funding. The funds may be used, "To alleviate and prevent traffic congestion caused by economic development and growth."

Public Works Trust Fund
The Washington State Department of Community Development provides low-interest revolving loans to fund critical public works projects at the local level. This program makes up a very small percentage of Washington city revenue for transportation.

Tourism Promotion Program
This is a program by the Washington Department of Trade and Economic Development program that provides matching grants for tourism promotion and planning.

Coastal Zone Management Program
This is a Washington State Department of Ecology (WSDOE) program which provides grants for shoreline access projects including trails. Funding for recommended improvements in the Urban Waterfront Plan should be sought.

Aquatic Land Enhancement (ALEA)
This is a Washington Department of Natural Resources program to fund land acquisition and development for water-related activities including water access trails. May be suitable for Waterwalk projects. The program requires a 25% local match, with a maximum grant of $75,000 per project.

The Community Economic Revitalization Board
This agency provides grants and low-interest loans to "timber communities" for "projects that result in new or expanded manufacturing or tourism jobs." This should be applicable for projects to pedestrianize downtown or improve access to the ferry terminal. (e.g. sections of the Waterwalk from Kearney to the ferry dock.).

Community Development Block Grants (CDBG)
The Washington Department of Community Development provides grants that target communities and neighborhoods which are principally low and moderate income. Funds may be used for "street improvements" which presumably includes pedestrian facilities. The maximum grant awarded in a one-year period is $500,000. This program makes up a very small percentage of Washington city revenue for transportation.

FEDERAL TRANSPORTATION FUNDS

ISTEA

The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 provides an extensive array of funding sources for non-motorized facilities. Funding categories range from transit related items to recreational trails. NEXTEA and BESTEA are currently being considered as successors to ISTEA and may change the funding structure.

Land and Water Conservation Fund (LWCF)

This fund, managed by the IAC, allows local park and recreation departments to apply for grants up to $75,000 (with a 50/50 local match) for a wide variety of recreational projects that include bikeway facilities.

Objective: Provide adequate funding for non-motorized facility construction and maintenance. *The policies in this table are summaries intended to highlight key policies, the full text of implementing policies may be found in Chapter 10	**Timing** Adopt with plan	<5 years	5-10 years
Policy Summary			
♦ Continue to reserve 35% of REET money for non-motorized use	√		
♦ Coordinate projects, where possible, to maximize benefits "piggy-backing"	√		
♦ Give a higher priority to street improvement projects that also have bicycle or pedestrian benefits	√		
♦ Maximize the use of ISTEA and other State funds for non-motorized facility improvements	√		
Directed Actions			
♦ Actively pursue other funding sources for non-motorized facility improvements		√	
♦ Work with the WSDOT to have implementation of the Gateway Plan ranked higher in the state transportation funding list		√	
♦ Pursue an LID program for neighborhood projects		√	
♦ Continue to work with the Non-Motorized Committee to develop the 'exceptional' funding program		√	

PROPOSED FUNDING PROGRAM

Table 7-1 shows the proposed funding program for non-motorized projects. The table includes two categories of funding: (1) continued funding at historical levels which includes grant funding sources, and (2) new sources that could provide additional funds for more rapid implementation of the non-motorized network.

The "base level" funding scenario generates approximately $100,000 per year from a range of sources and matches the "base level" capital projects plan in Chapter 5 of $1 million dollars of new facilities over 10 years. To expand the Capital Improvement Program to include the 'exceptional' funding projects, additional funding sources must be developed through grants, bonds, additional gas taxes, etc. Table 7-1 lists potential new sources and what the potential income could be from these sources. To meet the expanded Capital Improvement Program in Chapter 5 of $2.5 million over 10 years, an average of an additional $150,000 per year in funding must be secured. It will be a task of the Non-Motorized Committee, after this plan is adopted, to continue to examine funding options and to develop recommendations for additional funding.

The insert box describes programs to implement the project funding portion of this plan.

TABLE 7.1 NON-MOTORIZED FACILITIES FUNDING PROGRAM

Funding Source	Basis	Average Yearly Funding Level *					
		1998	1999	2000	2001	2002	2003
Base Funding Level							
Real Estate Excise Tax (REET)							
Sidewalks	13% of REET (.13 * $155,000)	20,000	20,000	20,000	20,000	20,000	20,000
Bike / Pedestrian	23% of REET (.23 * $155,000)	35,000	35,000	35,000	35,000	35,000	35,000
General Fund (Parks)							
Trails construction **	General Fund Allocation		10,000	10,000	10,000	10,000	10,000
Arterial Street Fund (ASF)							
Shoulder Widening	30% of ASF (.30 * $65,000)	20,000	20,000	20,000	20,000	20,000	20,000
Grants							
State (TIB)	Oil Rebate Grant	68,000					
Federal (ISTEA)	Based on 6-year historical levels		20,000	20,000	20,000	20,000	20,000
Private Sector Development			?	?	?	?	?
TOTAL BASE FUNDING LEVEL		143,000	105,000	105,000	105,000	105,000	105,000
Potential New Funding Sources							
Utility Bill Voluntary Contribution	100 People @ $3/month			3,600	3,600	3,600	3,600
Grants							
ISTEA			30,000	30,000	30,000	30,000	30,000
IAC						40,000	40,000
Additional REET Funding	10% add'l REET		15,000	15,000	15,000	15,000	15,000
Local Option Fuel Tax &/or License Fee (Requires Jeff Cty Adoption)						40,000	40,000
Bond Issue	4000 houses @ $3.00 per month ($36 per year per household)			144,000	144,000	144,000	144,000
Impact Fees	100 new houses per year @ $100				10,000	10,000	10,000
New State Legislation					30,000	30,000	30,000
POTENTIAL NEW FUNDING SOURCES		$0	$45,000	$192,600	$232,600	$312,600	$312,600
NEW FUNDING SOURCE 'GOAL'				$150,000	$150,000	$150,000	$150,000

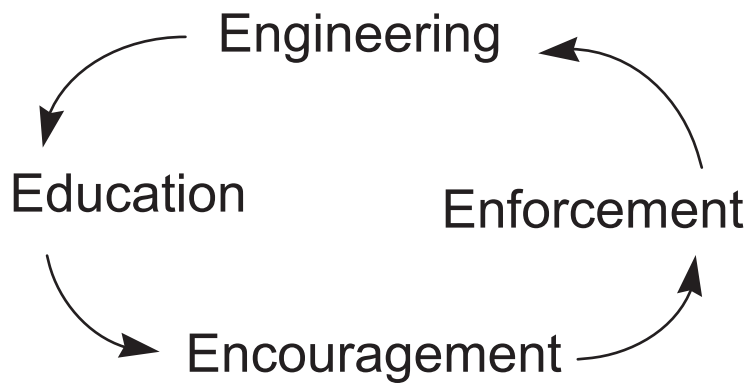
* All costs in 1998 dollars

** Seed money for volunteer efforts

Note: This table includes City sponsored projects only. Additional projects and facilities will be implemented by new development in conformance with this plan and the Engineering Design Standards.

8. EDUCATION, ENCOURAGEMENT AND ENFORCEMENT

Providing the facilities for non-motorized users comprises only one aspect of increasing bicycle and pedestrian use and safety. The attitudes and behaviors of both motorists and those walking or biking play a large role in determining the comfort and safety of non-motorists. Education, Encouragement, and Enforcement encompasses the human element of the non-motorized program.



If an intent of the Non-Motorized Plan is to get greater numbers of people to walk or bike, then there must be a concomitant effort to encourage the safe use of the facilities. For non-motorists to safely take advantage of new facilities and to avert potential conflicts that these facilities may create there needs to be emphasis on building a knowledge base and improving skill levels. For example, while the proposed multi-use trail will be designed to accommodate both bicyclist and pedestrian, there is still a need to establish an etiquette for sharing space.

The education, encouragement, and enforcement concepts tend to overlap. Education can help to diminish the need for enforcement, and helps to promote bicycling and walking. The need for enforcement can be often be as a result of inadequate education.

PEDESTRIAN ISSUES

Research shows that pedestrian accidents are not random, unrelated events. They are situations that occur over and over—situations in which the driver, the pedestrian, or both, make errors that threaten the pedestrian's life and safety. These are risky situations that could be avoided. For example, the following recurring events account for the majority of pedestrian accidents

- Darting out-usually between parked cars
- Dashing across an intersection—usually too late for a driver to stop
- Turning, merging, or backing up of a vehicle—usually the driver concentrates on maneuvering the car and doesn't see the pedestrian.
- Stopped bus—when the pedestrian walks in front of the bus and is hidden just before walking in to oncoming traffic
- multiple threat-usually one vehicle stops for a pedestrian and blocks the pedestrian from view of other oncoming traffic*

**Planning Community Safety Programs: USDOT*

BICYCLIST ISSUES

T-here are many bicyclists who know how to ride a bicycle, but relatively few bicyclists who are aware that Washington State Law considers bicycles to be a vehicle, and that they must follow the rules of the road. For example, Washington State Law requires the reporting of accidents, including bicycles, which involve more that $500 damage to any one party, injury or death. Knowing the rules of the road does not necessarily help a cyclist ride comfortably in traffic.

Pedestrians are often frustrated by cyclists riding on the sidewalk or passing them very quickly and closely without warning. Motorists are irritated by bicyclists who fail to stop at traffic signals, ride in the wrong direction, fail to signal or fail to yield.

MOTORISTS ISSUES

Like pedestrians, motorists and bicyclists have a fairly low regard for pedestrian laws. A recent AAA study, cited in Oregon's Bicycle and Pedestrian Plan, found that nearly 50% of motorists were unaware of basic pedestrian laws. In addition to the knowledge of the law, there is a need for common sense, or an awareness of pedestrian and bicycle needs and potential sources of conflict.

Motorists exceeding the speed limit are unlikely to consider the implications of this behavior on the likely outcome if they hit a pedestrian. Motorists sometimes turn without looking for pedestrians whose path they are crossing, particularly in right turn situations. They are often unaware of the need to yield or do not actively look for pedestrians in the roadway. Motorists do not always adjust their or caution in inclement weather or after dark when pedestrian and bicyclists are less visible.

Motorist and bicycle collisions occur primarily when the motorist turns left in front of an oncoming bicycle, motorist turns right in front of bicycle traveling the same direction, motorists running a stop sign or signal. Contrary to the cyclists fear very few motorist bicycle collisions occur with the motorist running into the back of a cyclist. The exception to this is when a bicyclist turns left from the right hand side of the road without scanning, yielding, signaling, and having correct lane positioning.

Basic and simple driving habits can make a significant improvement in bicycle and pedestrian safety and include:

- Being courteous to cyclists and pedestrians
- Looking for cyclists before opening a car door
- Expecting a cyclist to be present on the roadway particularly in corners
- Waiting behind a cyclist until adequate passing roadway width is available.
- Understanding that cyclist have the right to take the lane because of inadequate road width to permit passing or because of conditions that are unsafe for the cyclist to ride on the right side of the road.

- Driving slower
  - -speed makes little difference in travel time within the limited range of the city
  - -more reaction time to avoid accident and fatality
- Expecting pedestrian on the roadway and yielding

WHAT HAS BEEN DONE

A number of activities and initiatives have taken place in Port Townsend that both educate and encourage non-motorized users. Enforcement has tended to variable

Education

- The Ped Bee program is a State supported program that promotes pedestrian safety. It was first brought to Port Townsend as part of the Key City Challenge, and include the support of the Police Department. The Ped Bee program was used as a publicity tool to raise awareness, and did not include the full educational element of the program.

- In 1996 the City of Port Townsend worked with the School district to establish Safest Routes to School. This plan builds on the concern for student safety by working towards desired safe routes to school.

- The Port Townsend Bicycle Association in conjunction with the City of Port Townsend Recreation Program, Summer Enrichment camp helped to provide helmets and hold bike safety sessions every week of camp in 1995, 1996, and 1997.

- The Kiwanis has held bicycle Rodeos to teach safety and riding skills.

- Blue Heron Middle School, as part of PE classes in 1996 and 1997, has held three class sessions of the Cascade Bicycle Club Intermediate School Bicycle Program.

- The League of American Bicyclists in conjunction with the City of Port Townsend Recreation Department held an adult bicyclist education class in 1996.

- League of American Bicyclists offered a series of workshops during February 2008 including Road I Class, Commuting Information Session and Council presentation.

- The Boiler Room and the Food Co-Op offer free, regular bicycle repair classes.

- DASH (Disability Awareness Starts Here) has hosted an "Assume a Disability Day" each year during April since 2003.

- In 2005, the City, County, State (WSDOT), Jefferson Transit, and DASH sponsored a workshop on building walkable and livable communities based on complete streets which was attended by over 160 people.

- The City of Port Townsend instituted a bicycle safety education program during 2008-2009 in local schools that covered riding on the road, proper equipment, and trip planning.

Encouragement

- The Port of Port Townsend has installed 5 bicycle racks at the Port Townsend Boat Haven

- Jefferson Transit has accommodated bicyclists by providing bicycle racks on all its buses.

- The Port Townsend free wheels program operated in 1991 and 1992. The program provided green bicycles at key points throughout the city for the use of the general public.

- The Key City Challenge has been a successful program to encourage alternative modes of transportation, and is sponsored by the Chamber of Commerce, Jefferson Transit, the Main Street Program, and the City of Port Townsend. The program challenges employers and employees to use alternative transportation for an entire work week. The program relies on publicity and some prizes.

- The Non-Motorized Board has sponsored numerous neighborhood trail-building work parties.

- In 2002 twenty-nine riders, including elected officials and City staff, took at 6-mile bicycle tour to identify priority projects.

- The statewide Walk Across Washington event passed through Port Townsend in 2002 and 2005. In 2005, seventy-five people walked through the city.

- The Non-Motorized Transportation Advisory Board has hosted a booth annually at the Earth Day Every Day! Event.

- A Walking, Bicycling & Transit Guide Map was published in 2004.

- The Port Townsend Bicycle Association hosts the annual Rhody Tour, a supported bicycle ride with an average of 180 participants.

- The Friends of Fort Worden sponsors the annual Fort2Fort Bicycle ride to Fort Flagler on Marrowstone Island.

- DASH produced an Accessible Port Townsend map in May 2008.

- The Broken Spoke, local coffee shops, and the City sponsored Bike to Work Week activities, including tune-ups, a commuting strategies talk, and coffee specials.

Enforcement

- The Police Department has, on occasion, handed out local business product vouchers for good bicycle riding behavior. It has also issued warnings for inappropriate cycling behavior.

Comprehensive Plan Policy 5.14

Develop educational programs that promote awareness of the "safest route to school." The Police Department and School District should provide "hands-on" training for the safe use of bikeways and pathways as well as vehicular, bicycle and pedestrian traffic controls such as stop signs, signals, and crossing guards.

- The Port Townsend Police Department has employed an officer on a bicycle periodically, especially during summers.

WHAT TO DO

Education

Schools should play an important role in planning and conducting a community bicycle and pedestrian safety program. They should establish an instruction program that will foster the knowledge, skills, and attitudes necessary for safe walking, bicycling and driving. Walking is the main transportation mode used by school-aged children, so pedestrian safety instruction should be as important as learning the rules of the road in driver's education.

Encouraging and providing safe facilities for children to walk to school will have long-term benefits. Children accustomed to walking to school, will accept it as a means of transportation and will except the facilities in place to make it possible.

Teaching our children safe walking and bicycling habits is a joint duty of parents, schools, law enforcement and volunteers. With the rise of sedentary lifestyles in America, the safe route to school is an excellent opportunity to have parents walk or bicycle with their child to school. Having educational programs that are active and repetitive are important. The following list is an outline of a general education program.

- K-3rd grade learn safe pedestrian habits
- 3rd grades learn safe biking habits
- 4th-8th grades learn skills to ride bikes to school (traffic skills)
- 9-12th grades
  - -cycling as a sport/ transportation/health
  - -Drivers Ed Class, learn as a motorist who to share the roads with bicycles

The National Bicycling and Walking Study's Case Study No. 12, *Incorporation Consideration of Bicyclists and Pedestrians into Education Programs,* indicates there are a number of topics typically covered in elementary schools that have pedestrian safety programs.

- Locating the edge of the road
- Search procedures before entering the road midblock
- Search procedures where there are visual screens
- Search procedures at intersections
- Search procedures when there are parked cars
- Search procedures while crossing the road
- meaning of signal lights and signs

The case study also outlines some topics that are covered less frequently, but should be included in an education program.

- Wearing something light or bright to be conspicuous
- Using crosswalks
- Planning a safe route
- Walking along the road (procedures when there are no sidewalk)
- Walking in parking lots
- Judging gaps in traffic (including understanding distance and time considerations and reaction time)
- Safety considerations in bad weather
- Types of vehicles sharing the roadway - cars, trucks, school buses, bicycles and emergency vehicles

"Children frighten us by behaving around traffic just the way we do"
-Dan Burden FDOT

Often insurance concerns prohibit the training of cyclists in actual conditions and instead training is taught in parking lots or in gyms attempting to simulate actual conditions. This is appropriate for the younger children but actual practice on city streets such as with Drivers Ed is invaluable. This is possible when the importance of bicycle education is recognized and when a joint effort of schools, law enforcement and volunteers can provide an adequate balance of classroom education and student teacher ratio for safe conduct of on street bicycle training.

There is also a need for the education of people whose work has an impact on pedestrian and bicycle issues. Engineers need to know pedestrian and bicycle friendly design practices, street crews should be aware of construction and maintenance concerns, and police need to know of enforcement issues. A basic professional knowledge base can help to ensure a consistent consideration of non-motorist issues.

Likelihood of Pedestrian Fatality in a Crash

Motorist Speed (mph)	Chance of Pedestrian Fatality
20	5%
30	45%
40	85%

Source: Pedestrian Transportation Plan 1997 Madison, WI

Since the attitudes and behaviors of both motorists and those walking or biking play a large role in determining the comfort of the non-motorist, education should be geared toward all users. Education programs should be expanded to include adults and motorists.

ENFORCEMENT

An enforcement program implies a greater commitment of police staff time. It should target problem areas to optimize limited staff time. The need for enforcement can often be the result of neglected or poor education.

Bicyclist traffic violations tend towards ignoring traffic signals. Inappropriate adult cycling behavior needs enforcement and education. Pedestrian and bicyclists need to be aware of the laws and must understand that whether they are a motorist, or cyclists that they must still obey the law and can receive a ticket for a violation. The police could play a role by: rewarding good behavior with vouchers, handing out warning or potentially requiring remedial class for repeat offenders.

Several motorist violations have particularly significant impacts on pedestrian safety. The chances of a pedestrian fatality increase exponentially as motorist speed increases. Therefore, a motorist exceeding the speed limit or driving too fast for conditions can have fatal consequences for a pedestrian. Motorists failing to yield to pedestrians in crosswalks is also a significant problem for pedestrian, especially in heavy traffic where there are few gaps in traffic adequate for crossing.

To support the enforcement program's efficacy, the following items are recommended:

- Assist enforcement efforts by marking sidewalks in areas where cycling or skateboarding are prohibited.
- Appoint a police officer on a bicycle on a consistent, permanent basis as a method of enforcement that also acts as encouragement.
- Step up enforcement of motor vehicles blocking trailheads and parking on sidewalks and in bike lanes.
- Establish procedures for the enforcement of PTMC 12.12.030, i.e. property owners maintain the adjacent sidewalk.

ENCOURAGEMENT

Expanding non-motorized facilities is an obvious way to help encourage more users. As more streets are striped for bicycle lanes the availability and extent of the bicycle network becomes more visible. More trails and sidewalks will invite people to walk.

The City could investigate incentives for employees to walk or bike to work. With the limited parking available inn the downtown a concerted effort by the City could relieve some of the parking pressures.

Non-motorized transportation could be further encouraged by the following:

- Continued support of Bike to Work Day, a national event held annually in May.
- Car-free days in all or part of downtown.

- Pedestrian-only zones in parts of downtown.
- Bike to shop and/or walk to shop events.
- Institute paid parking in commercial areas with free shuttles from the Park & Ride.
- Reduce parking minimums for development to create compact and uninterrupted facilities.

Objective: To provide the educational needs of users to safety use the non-motorized system *The policies in this table are summaries intended to highlight key policies, the full text of implementing policies may be found in Chapter 10	**Timing** Adopt with plan	<5 years	5-10 years
Policy Summary			
♦ Ensure street crews and inspectors receive adequate training in non-motorized issues	√		
♦ Identify a staff member that will be current on non-motorized design issues	√		
Directed Actions			
♦ Continue to the support the Ped Bee program incorporating the full education program	√		
♦ Work with the School District to promote the safest route to school and to expand non-motorized education programs		√	
♦ Work with the School District to provide teacher training and materials on bike and pedestrian safety		√	
♦ Make presentations to the School Board on the benefits of a bike and pedestrian safety program		√	
♦ The standing Non-Motorized Committee should help to coordinate a community based safety and education program		√	
♦ Investigate incentives for City employees to walk or bike to work.		√	
♦ Work with the Police Department to address enforcement needs		√	

9. OTHER ISSUES

This chapter covers several issues that apply to the Plan in general including pedestrian-friendly site design, universal accessibility, and the Downtown Business District.

PEDESTRIAN AND BICYCLE FRIENDLY DESIGN

Comprehensive Plan Policy 6.5 states that "Whenever feasible, new development and redevelopment shall be required to incorporate transit-supportive and pedestrian-friendly design elements and features." This plan recommends that Pedestrian Facilities Design Guidebook (September 1997, WSDOT) be adopted and used as a guide in the development review process. As a more up to date design guide for pedestrian facilities, please see Pedestrian & Streetscape Guide (September 2003, Otak, Sponsored by Georgia Department of Transportation).

UNIVERSAL ACCESSIBILITY

Universal accessibility (also called universal design) refers to providing facilities that are universally easy and intuitive to use, are adequately sized, minimize hazards, and can be used comfortably with minimal effort. All accessibility standards are integrated into universal design, an inclusive approach that does not require further adaptation for people with disabilities.

The City is committed to providing universal accessibility in implementing the Walkway System Plan. Universal accessibility is achieved in a number of ways. The increased emphasis on sidewalks in parts of the city will allow greater mobility in not only commercial areas but residential areas as well. Pedestrian pathways should be constructed so that the materials provide a firm, smooth surface. Some shortcuts may not be graded or improved but will be cleared to a minimum of 4 feet. New sidewalks will include curb ramps at crossing points. Existing sidewalks with continue to be retrofitted with curb ramps, and repaired.

DOWNTOWN BUSINESS DISTRICT

The Downtown Business District is a draw to residents and visitors alike. While the ambiance of the crowded streets attracts walkers, significant improvements could be undertaken to make the Downtown area more pedestrian friendly. The Non-Motorized Transportation Committee felt that the Downtown area required a more detailed plan that was beyond the scope of this study, and that the development of such a plan should include business owners and other affected groups. The following is a list of potential pedestrian improvements to the Downtown area identified by the Non-Motorized Committee.

Street Improvements

- Add bicycle lane striping
- Consider a one-way traffic flow loop
- Try an occasional closure to cars of selected streets or portions of streets (e.g. One day per week or month or for a few hours on selected days).
- Close selected streets for festivals

- Install more pedestrian bulb-outs at intersections

Pedestrian Improvements

- Provide more pedestrian scale lighting
- Widen the sidewalk on the water side of Water Street
- Encourage sidewalk cafes and sidewalk vendors
- Encourage activities / businesses that bring people Downtown at night
- Encourage vendors on Union Wharf
- Add more benches and streetscape amenities
- Provide a "hanging boardwalk" along the waterfront similar to the one adjacent to Union Wharf
- Provide skid treads on wooden stairways
- Require owners to repair sidewalks
- Infill the sidewalk network on Washington Street
- Fund the Waterwalk
- Provide a safer crossing and bulb-out at Haller Fountain
- Improve sidewalks and prevent cars from encroaching on the sidewalk in front of the Pope Marine Park

Access to the Downtown

- Improve the "Baby Buggy" (Cherry Tree) trail surface and access
- Slow traffic and improve crosswalk safety across from Swain's at Polk Street (speed table, pedestrian actuated lights, better painting)
- Improve pedestrian access to the Downtown, by filling in missing sidewalk links and street lighting, and by providing safe street crossing

Park-and-Ride

- Provide signs to the Park-and-Ride
- Work with Jefferson Transit to provide more frequent transit service from the Downtown to the Park-and-ride
- Work with the Main Street Program and public and private employers to encourage use of the Park-and-Ride by employees and employers.

It is recommended that the proposed Non-Motorized Standing Committee or an independent Downtown advisory group be established to work with the Main Street Program and the Chamber of Commerce to review these suggestions and implement those on which a consensus can be reached.

EXPANDING THE "TOOLBOX"

This section sets forth "tools" that can be introduced or used where deemed appropriate to augment non-motorized transportation facilities or programs.

Traffic Calming

Traffic calming is the use of a number of measures design to slow and reduce motor vehicle traffic to improve safety for pedestrians and bicyclists and improve the environment for residents. Traffic calming may employ visual changes, such as the planting of street trees, or physical devices, such as refuge islands.

Woonerf
Woonerf is a Dutch word for an area, traditionally residential, where all transportation modes share the street without boundaries such as lanes and curbs. In a woonerf, people on bikes and on foot have access to the whole street, not just the edges. Moreover, the street functions as a public living room, where adults gather and children play safely because vehicle speed is kept to a minimum. Vehicles are slowed to walking speed by design elements such as curves, trees, planters, and parking areas, while adequate access is maintained for emergency and sanitation vehicles as well as school buses.

Shared Space
This concept is similar to a woonerf, but implemented in a commercial area, with the intent of periodic closure to motorized traffic. Made up of a curbless street designed like a public square but still open to motor traffic, a street as public space provides opportunities for civic life. The street is suitable for closure during public events and festivals while at other times the street is shared and traffic is calmed to walking pace.

Shared Lane Markings ("Sharrows")

Shared lane markings are used in locations where bicycles and motorized vehicles must travel in the same lane. They are used to assist bicyclists with lateral lane positioning and to alert road users of the lateral location bicyclists are likely to occupy. They also help to reduce the incidence of wrong-way bicycling and encourage safe passing of bicyclists by motorists. Shared

lane markings are not a substitute for dedicated bicycle facilities, and should not be used when other facilities can be provided.

Reverse or "Front-Out" Angle Parking

Reverse or "back-in" angle parking can be used positively for the non-motorized community for a couple of reasons. If a car is parked as shown in the diagram above, the driver has a clear and easy view of the traffic with which he or she will be merging, including cyclists. Also, as passengers are leaving or entering the vehicle, the vehicle doors act as barriers between traffic and the pedestrians.

Bikes and Cars Merging Sign
A sign reading "Bikes and Cars Merging" may be employed to increase awareness of the presence of cyclists within the same lane as motor vehicle traffic, especially in locations where bike lanes end.

Bicycle Lift
A bicycle lift functions similarly to a beginner ski lift, but instead of skis, a user sits on his or her bike and is pushed up the hill by a footplate on the right foot, while the left remains on the bicycle pedal. The first, and currently only, bicycle lift in the world is the Trampe bicycle lift in Trondheim, Norway.

Bicycle Stairway Accommodation
A stairway can be made more easily negotiable for those walking their bikes with the addition of a bike gutter or channel. A bike gutter or channel is a narrow, inclined plane intended for rolling the bike up or down the stairs.

Pedestrian and Bicycle Elevator
As an accommodation for persons with disabilities and/or newcomers to active transportation, a pedestrian and bicycle elevator between downtown and uptown could alleviate the obstacle of a steep hill climb. This could be particularly effective between the ferry dock and the Post Office.

Bicycle Box at Signalized Intersections
A bicycle box allows space for bicyclists to merge ahead of cars at stop lights by moving the stop bar back a bit for motor vehicles. This can allow for more visibility of bicyclists and provides a merging point for bicyclists turning across traffic.

Alternative Sidewalk Materials
Rubber pavers, made from recycled tires, are shock absorbent and non-slip, and may be used for placement over tree roots where cement concrete sidewalk has buckled.

Pervious or porous concrete allows water to pass through and infiltrate into the ground, which can be safer for pedestrians in winter months.

Human Powered Bus
A human powered bus could be used as a shuttle between the Park & Ride and downtown.

10. IMPLEMENTATION

The Non-Motorized Transportation Plan sets a broad and ambitious agenda to improve pedestrian and bicycle facilities in the City. Implementation of this plan will require the combined resources of city staff, elected officials, and citizens, as well as the participation of agencies at the state and federal level. This plan represents a long-term goal and it is recognized that full implementation may take 20 years or more.

This chapter describes and summarizes how the non-motorized plan will be implemented, and includes the policies that will guide the implementation process. A brief discussion of the elements of implementation is followed by implementing policies.

HOW LONG WILL IT TAKE?

This plan includes a long-term vision to guide development, and an integrated plan of proposed capital facility improvements. It is recognized that it may take 20 years or more to carry out the full vision set forth in this plan. However, this plan also includes a directed 10-year capital program to implement the priority projects identified by the Non-Motorized Committee.

WHO WILL CARRY OUT THE PLAN?

Non-motorized facility improvements will be implemented through a variety of methods including:

- City Initiatives
- Development Requirements
- Volunteer Efforts

City Initiatives

City staff will have responsibility for the following:

General Tasks

- Maintain a library and resources on non-motorized issues and design
- Monitor maintenance costs
- Maintain the street and walkway network
- Work with property owners to encourage maintenance of sidewalks and pathways
- Encourage existing businesses to provide bike and pedestrian amenities
- Develop and adopt development regulations that implement the plan

Projects

- Prioritize, design and manage construction projects
- Develop and carry out the yearly capital improvements program

Development Review

- Review new developments for conformance with this plan

- Identify and preserve rights-of-way for non-motorized use
- Revise design standards as necessary to incorporate the guidance from this plan and pedestrian- and bicycle-friendly design features
- Preserve non-motorized connections with minimal street crossings of walkways.

Development Requirements

New development will be required to meet the standards and guidelines in this plan. Some of these requirements are to:

- Include bike, pedestrian and transit supportive facilities in site design
- Provide connections to the bicycle and pedestrian networks
- Dedicate easements for non-motorized facilities
- Site design should be pedestrian- and bicycle-friendly as described in this plan

Volunteer Efforts

This plan recognizes the important role volunteer efforts can have in developing new facilities and in maintaining existing trails. This plan seeks to increase citizen participation through the creation of an advisory committee and by supporting volunteer efforts.

Non-Motorized Transportation Advisory Committee

It is a recommendation of this plan that a non-motorized committee meet regularly as a City advisory committee. The committee will undertake the following tasks

- Explore and recommend additional funding programs
- Develop a sign and logo program
- Organize volunteer efforts
- Assist in determining project priorities with Staff
- Develop and implement an education program
- Review amendments to the Walkway System Plan, Safest Walk Route to School Map, and the Bikeway System Plan
- Review the Capital Facility Plan

Volunteer Support

To fully implement this plan the City will rely on volunteer efforts. By making a clear commitment to supporting volunteers the City hopes to encourage greater participation in both the construction and maintenance of facilities. The City's aim is to encourage and support citizens by putting tools in place which can help them to participate in creating the network. In this way, the development of some parts of the non-motorized system will be dependent on the degree of interest and commitment expressed by the community.

The City Engineering Group will review proposals for trail blazing, improvements, or maintenance. The proposal will be evaluated based on its potential neighborhood impact, and on the availability of staff time to assist the project. The City will

only grant approval for the development of a facility that is on city owned land or rights-of-way.

If a proposal is approved, the city will provide the following assistance:

- A City employee will be designated as a contact person for volunteer efforts.
- Permission will be granted to work in the right-of-way.
- Mapping and flagging will be performed to locate the trail on city owned land or rights-of-way. The City will locate the facility so that there is certainty that the trail is within the right of way. The City is not obligated to perform a survey and may deny the application if the location of the right of way is in question.
- The City will contact affected property owners to inform them of the project, and will attempt to resolve issues of concern.
- The City may provide equipment and/or material
- Public Works permit fees will be waived for trail construction by volunteers.

IMPLEMENTING POLICIES

The following implementation policies have their foundation in the 1996 Port Townsend Comprehensive Plan, and the efforts of the Non-Motorized Transportation Planning Advisory Committee. As this plan is a functional plan expressly required by the Comprehensive Plan, the policies contained in this chapter are intended to be consistent with and partially implement the Comprehensive Plan. Appendix E contains the full text of the Comprehensive Plan policies supporting this Plan. Policies in the first section, numbered as 1.XX, refer to development requirements. Policies in section 2, numbered as 2.XX provide direction to City officials, most often in relation to staffing and capital budget issues.

For the purpose of these policies, development is defined by PTMC 12.04.030. "Development" means (1) construction of a new dwelling unit, mixed use center, commercial or manufacturing establishment, or other new structure on a vacant lot or parcel; or (2) a redevelopment or change in the intensity of the use of an existing structure that creates an appreciable impact on existing infrastructure.

SECTION 1

General

NMTP Policy 1.1: Adopt and use the Walkway System Plan Map (Figure 3.2), the Safest Walk Route to School Map (Figure 3.3), and the Bikeway System Plan Map (Figure 4.1) for overall system design, designation of bikeway facility types, identification of future walkway alignments, protection of unopened rights-of-way, and the review and mitigation of development projects.

NMTP Policy 1.2: Require that public walkways and bikeways be located within dedicated public easements or rights-of-way.

NMTP Policy 1.3: Ensure that required walkway improvements are open for use 24 hours a day, unless site specific conditions show that 24-hour use is reasonably likely to pose a hazard to adjacent property owners.

NMTP Policy 1.4:Where appropriate to mitigate the impacts of a development, require development to dedicate easements and/or construct portions of the Non-Motorized System which may include: neighborhood connectors, the Multi-Use Trail, shortcuts, sidewalks or pathways.

NMTP Policy 1.5: Allow flexibility for alternative alignments, provided that the overall functionality, access, and connectivity of the Non-Motorized System is preserved.

NMTP Policy 1.6: Where appropriate to mitigate impacts**,** require that pedestrian and bicycle facilities be provided in development and that they be considered as an essential component of the transportation system.

NMTP Policy 1.7: Require pedestrian and bicycle friendly design features to be incorporated into development so as to minimize the potential for pedestrian and vehicle conflicts.

Protection of Rights-of-Way

NMTP Policy 1.8: Require that unopened rights-of-way mapped as part of Walkway System Plan connections be preserved for non-motorized use as shortcuts, neighborhood connectors, safest routes to school, and/or the multi-use trail, where feasible and reasonable in view of cost impacts to the development.

- ***1.8.1*** Minimize the opening of streets across walkway alignments identified by the Walkway System Plan.
- ***1.8.2*** Allow for alternative walkway alignments that may change which rights-of-way are protected, based on site conditions and the viability of the walkway connection.

Subdivisions and PUDs

NMTP Policy 1.9: Require pedestrian and bicycle facilities within new developments that meet the needs of a wide range of

users (e.g., utilitarian, commuters, schoolchildren, and recreational) in relation to the probable impact of the proposal.

NMTP Policy 1.10: Ensure that the design of pedestrian facilities within new developments considers the full range of pedestrian abilities, including children, the elderly, and the physically disabled.

NMTP Policy 1.11: Require internal connections in new developments that form a pedestrian-scale grid as described in Chapter 3.

NMTP Policy 1.12: Work with new development at the earliest possible stage (preapplication conference) to implement comprehensive plan policy 4.8 directing the use of a grid or modified street grid pattern that may include: shortcuts; connecting cul-de-sacs; and mid-block connections between loop streets and long blocks.

NMTP Policy 1.13: Where required, pedestrian and bicycle access to and through new subdivisions and Planned Unit Developments (PUDs) should be aligned in directions where future non-motorized connections are likely to occur.

NMTP Policy 1.14: Require that site designs for new development preserve existing trails or maintain the connections that existing trails provide to the extent that these provisions mitigate the impacts of the development.

Sidewalks and Pedestrian Pathways

NMTP Policy 1.15: Require development to provide sidewalks or pathways along local street frontage.

- ***1.15.1:*** Allow sidewalk and pathway deferrals in areas where density along a street frontage is developed at less than five units per acre, provided that the developer signs a no protest agreement for the future formation of a Local Improvement District (LID). No protest agreements should establish reasonable predictability for developers with regard to required improvements.
- ***1.15.2:*** Allow sidewalk and pathway waivers in instances where the presence of dead-end streets, or other features suggest that there is little or no potential for pedestrian and automobile through traffic.
- ***1.15.3:*** Allow sidewalk and pathway waivers for Accessory Dwelling Units (ADU)
- ***1.15.4:*** Allow alternatives to sidewalk and pathway installation for local access street designs that achieve comparable levels of safety, accessibility, and low maintenance.

Universal Accessibility

NMTP Policy 1.16: Require or provide crossing signals that are audible at all intersection traffic lights.

NMTP Policy 1.17: Ensure that crossing times and distances at intersection traffic lights are safe and appropriate for all pedestrians.

NMTP Policy 1.18: Require pedestrian connections to be reasonably barrier-free and direct to the extent natural characteristics (*e.g.*, topography) of the region will allow.

NMTP Policy 1.19: Require paved aprons and curb cuts for unpaved pathways that intersect with paved roads.

Facility Design

NMTP Policy 1.20: Use the AASHTO (i.e., American Association of State Highway & Transportation Officials) and WSDOT (i.e., Washington State Department of Transportation) design guidelines and accepted bicycle and pedestrian facility design practices in the design and striping of intersections.

NMTP Policy 1.21: Establish a no-parking space at access points to off-road walkways.

NMTP Policy 1.22: Require signage for off-road walkways to identify them as public ways.

NMTP Policy 1.23: Amend the Engineering Design Standards to encourage street names to be imprinted at intersections for new concrete sidewalks.

Bicycle Facilities

NMTP Policy 1.24: Require development in commercial, institutional, and multi-family zones to provide bicycle parking.

NMTP Policy 1.25: Ensure that all demand actuated traffic signals are capable of detecting bicycles, and that they are placed and striped according to WSDOT design guidelines.

Transit Supportive Design

NMTP Policy 1.26: Require transit friendly site design and the provision of transit (and school bus) stops and sidewalk or pathway connections to transit stops, where necessary to mitigate the impacts of a development

SECTION 2

Maintenance

NMTP Policy 2.1: Establish a regular maintenance and sweeping program for bicycle facilities aimed at bicycle lanes, shoulders and separated paths.

NMTP Policy 2.2: Establish a line-item in the annual budget for bikeway and walkway maintenance.

NMTP Policy 2.3: Ensure that maintenance or re-paving of streets factors the needs of bicyclists for smooth pavement

(note: this policy applies to all streets, including those not designated as bikeways).

NMTP Policy 2.4: Identify streets with shoulders that are used as important pedestrian connections and implement a shoulder maintenance schedule that considers the needs of pedestrians._

NMTP Policy 2.5: Ensure that road paving and maintenance priorities are consistent with, and implement, the Bicycle System Plan.

NMTP Policy 2.6: Identify gravel driveways and intersections that cause shoulder debris problems, and work with property owners to remedy the situation.

NMTP Policy 2.7: Establish a spot repair postcard program.

NMTP Policy 2.8: Work with property owners to maintain and repair sidewalks.

NMTP Policy 2.9: Encourage and assist property owners with the repair of sidewalks on important sidewalk links, to the extent that funds are available, and in a manner consistent with Chapter 12.12 PTMC

Funding

NMTP Policy 2.10: Monitor non-motorized maintenance costs and consider the impact of new capital projects on operation and maintenance budgets and staffing levels.

NMTP Policy 2.11: Continue to dedicate 35% of all real estate excise tax (REET) revenue for non-motorized improvements.

NMTP Policy 2.12: Where possible, coordinate transportation capital improvement projects with the construction of non-motorized facilities (i.e., "piggy-backing") in order to maximize the use of available revenues.

NMTP Policy 2.13: Consider as a higher priority those street projects which include bicycle and pedestrian improvements in conjunction with the street improvements.

NMTP Policy 2.14: Maximize the use of federal Inter-Modal Surface Transportation Efficiency Act (ISTEA) funds for non-motorized facility improvements.

NMTP Policy 2.15: Encourage the use of volunteers to clear, construct and maintain trails.

NMTP Policy 2.16: Actively pursue other funding sources for non-motorized facility improvements.

Education, Encouragement, & Enforcement

NMTP Policy 2.17: Provide street crews and inspectors with adequate training in non-motorized design, construction issues, and maintenance issues.

NMTP Policy 2.18: Identify a staff "lead" to remain current on, and be responsible for addressing non-motorized design and construction issues.

Park & Recreational Facilities

NMTP Policy 2.19: Ensure that park facilities are provided with adequate pedestrian access consistent with this plan and the City's development regulations.

NMTP Policy 2.20: Enhance pedestrian access to viewpoints designated in the Waterfront Access Plan and the Park and Recreation Functional Plan.

Inter-Jurisdictional Coordination

NMTP Policy 2.21: Work with Jefferson County and the State Department of Transportation to improve pedestrian and bicycle access to Port Townsend along State Route 20 and 19 (e.g., by improving bicycle lanes, widening bridges, managing access, adding sidewalks, adding signals at crossings, and implementing the Gateway Plan).

NMTP Policy 2.22: Work with the Port of Port Townsend to improve Non-Motorized access through the Boat Haven and Point Hudson

NMTP Policy 2.23: Coordinate with Jefferson Transit to ensure that the park-and-ride facilities are functioning as a multi-modal station linking directly to the non-motorized network

Other

NMTP Policy 2.24: Periodically review and amend the Walkway System Plan Map and the Bikeway System Plan Map to include additional shortcuts, neighborhood connectors, safest routes to school, bikeways, and rights-of-way not to be opened.

NMTP Policy 2.25: Pursue a LID program to install the non-motorized improvements envisioned in this plan.

NMTP Policy 2.26: Develop a non-motorized checklist to use in the review of site development plans.

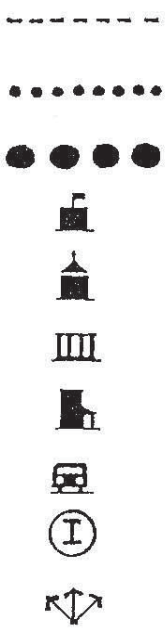
NMTP Policy 2.27: Work with new development and existing major employers (i.e., commercial, manufacturing, institutional uses) to encourage them to install bicycle-related facilities including: covered parking facilities; lockers for storing helmets and other gear; and showers.

NMTP Policy 2.28: Make the Pedestrian Facilities Guidebook available to developers to assist in site design .

NMTP Policy 2.29: Develop a coordinated sign program which provides a user-friendly guide to the location of pathways

APPENDIX A. KEY NEIGHBORHOOD ISSUES AND PROJECTS

LEGEND



Note:
The key neighborhood issues, and associated maps, listed in this appendix were identified early in the NTMP committee process during a brainstorming session. This list may not be consistent with the committee's later prioritization of projects.

UPTOWN & DOWNTOWN NEIGHBORHOODS

KEY ISSUES

Strengthen connections between uptown and downtown areas, with improvements at:

* "Baby- buggy trail"
* Tyler - Jefferson - Quincy route
* Staircase

Improve nonmotorized facilities on network of primary collector and arterial streets.

* Sim's Way to Water Street
* Lawrence, Cherry, and "F" Streets

Focus on improvements near and on routes to schools.

- Port Townsend High School
- Mountain View Elementary

Add site amenities (bike racks, etc.) at commercial and public facilities.

- Uptown & downtown retail areas
- Post office, City Hall, Library, etc.

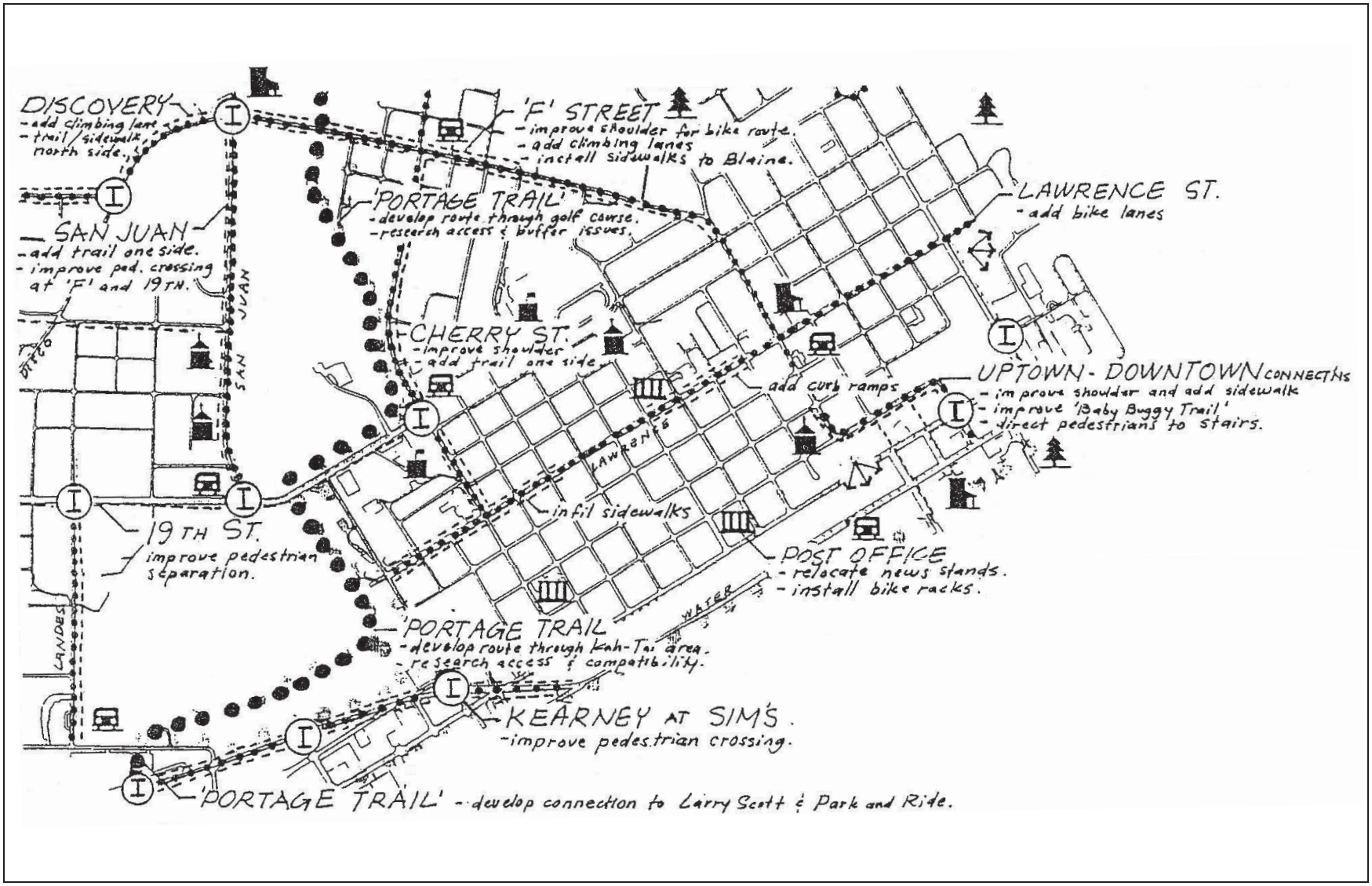
Assist nonmotorists up hills with bike climbing lanes and / or resting areas.

- "F" Street
- Jefferson Street - Quincy to Tyler
- Lawrence Street - Kearney to Walker

Improve key intersections with crosswalks and / or traffic calming.

Development of multi-use trail route through golf course and Kah - Tai Lagoon

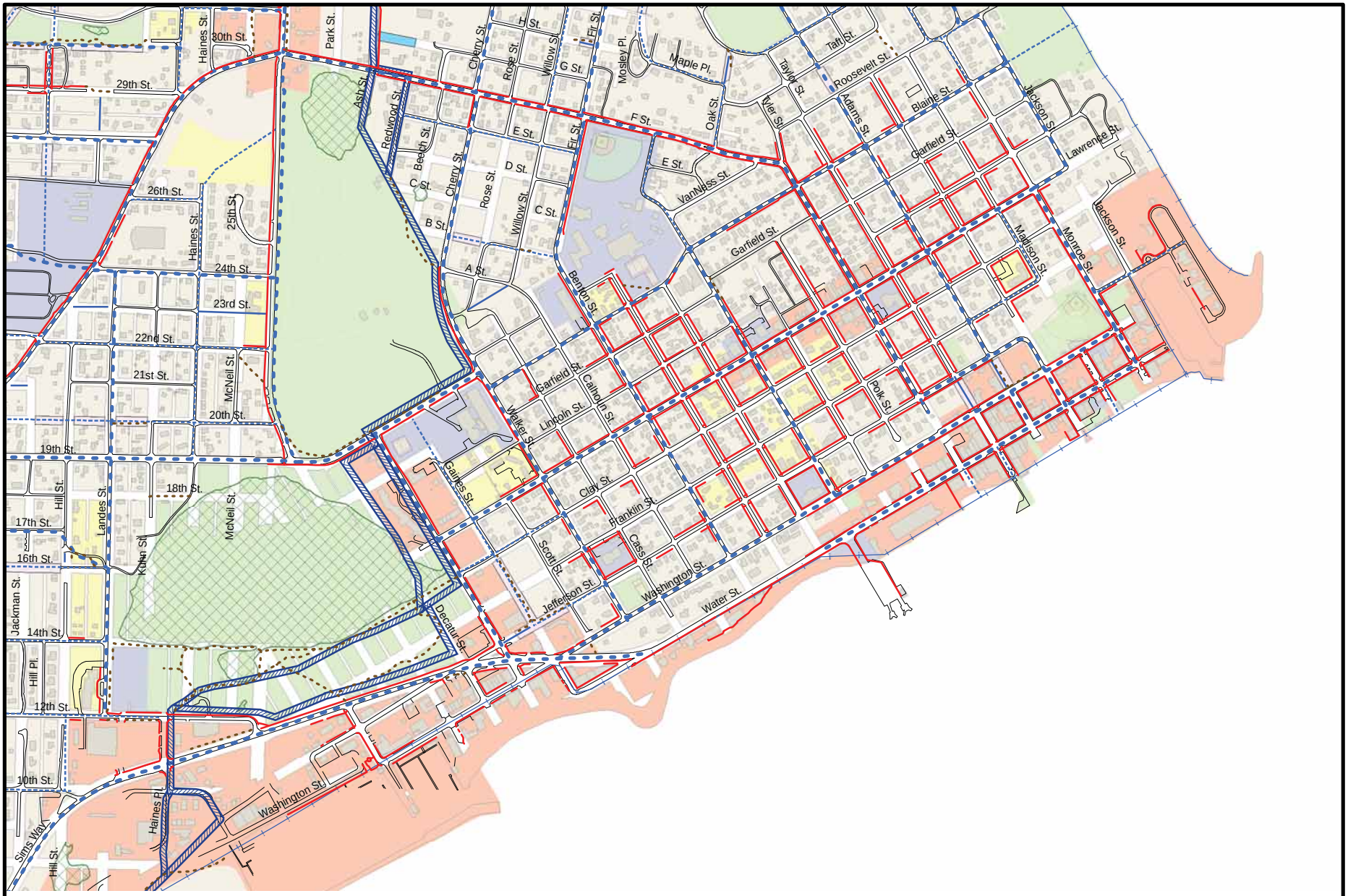
- Access through Port of Port Townsend (Kah-Tai)
- Safety issues through golf course.



UPTOWN & DOWNTOWN NEIGHBORHOODS

UPTOWN & DOWNTOWN NEIGHBORHOODS

1 inch = 1,000 feet



Note:
Walkway alignments shown indicate preferred routes. The actual alignment of the walkway may vary when constructed depending on local conditions. Existing trails are designated on this map to assist the City in determining appropriate pedestrian connections during project development review. Designation of existing trails is for planning purposes only and does not represent a determination of prescriptive easements or public use of privately owned properties.

FORT WORDEN AND NORTH SAN JUAN VALLEY

KEY ISSUES

Improve network from Uptown through neighborhoods north to Fort Worden.

- Jackson, Monroe, & Walnut Street route (north - south)
- Cherry and Redwood Street route (north - south)
- Center, Admiralty, and "W" Streets (east - west)

Focus on improvements near Blue Heron School and on school routes.

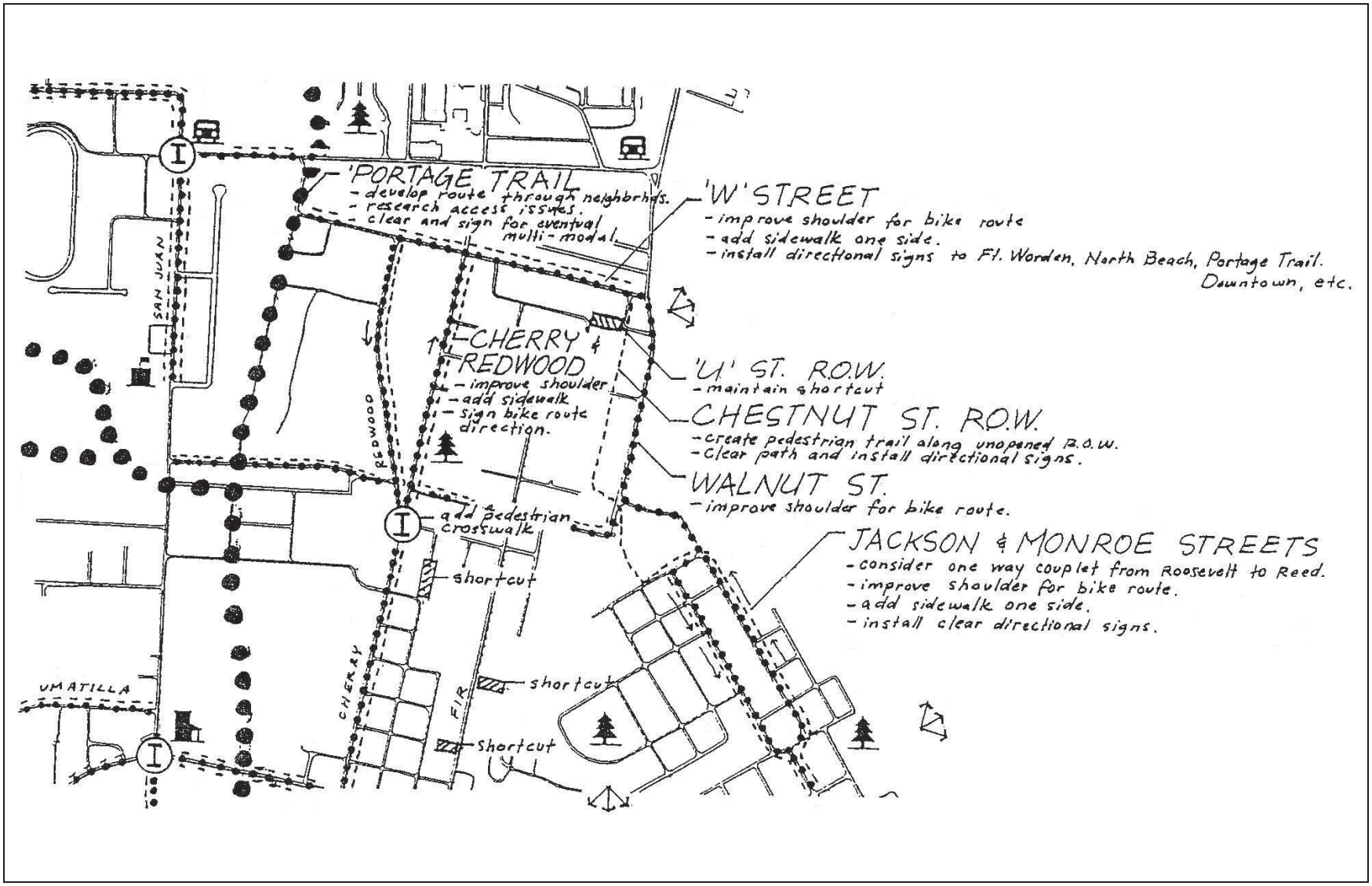
Direct automobile traffic to Fort Worden to use Cherry Street.

Develop and / or maintain shortcuts within neighborhoods.

Add crosswalks and traffic calming at key intersections and park entrances.

Develop multi-use route from golf course north through neighborhoods to Fort Worden.

- Easement, access, & buffer issues through neighborhoods



FORT WORDEN AND NORTH SAN JUAN VALLEY

FORT WORDEN AND NORTH SAN JUAN VALLEY

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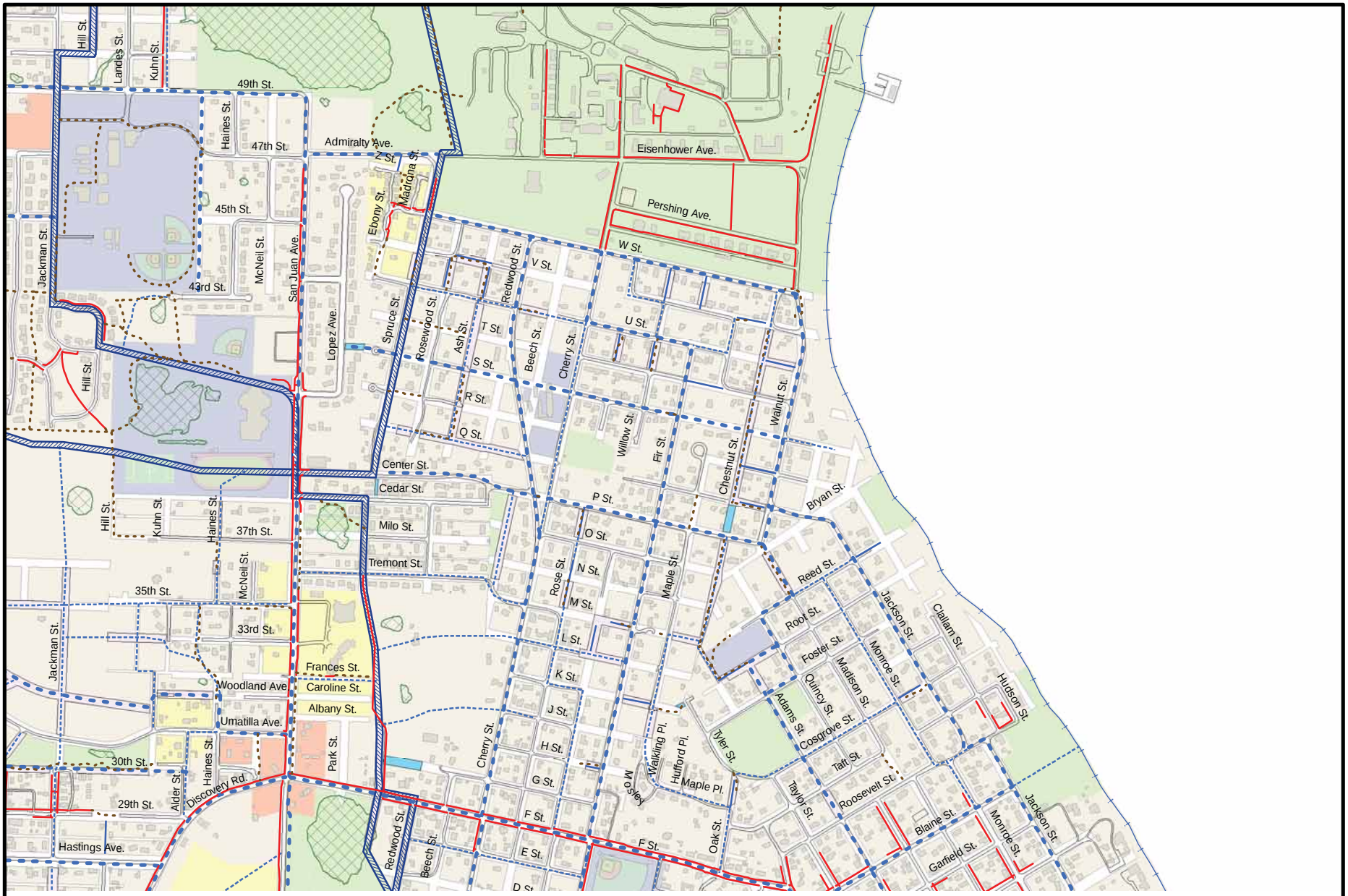

Multi-Use Trail
Neighborhood Connector
Secondary Neighborhood Connector
Shortcut
Waterwalk

Rights-of-Way to be Preserved Where Possible
Rights-of-Way to be Acquired
Existing Trail
Existing Sidewalk

Commercial Area
Public / Infrastructure
Existing Park or Open Space
Multi-Family
Wet Area

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NORTH BEACH AND NORTHWEST NEIGHBORHOODS

KEY ISSUES

Improve facilities along corridor formed by Cook Avenue, 49th Street, and San Juan Avenue.

- Sidewalks and / or roadside trail along corridor
- Continued bike lanes / route along San Juan Ave and 49th Street
- Climbing lane / rest area up steep slope of Cook Avenue bike route.

Strengthen connections to North Beach, Fort Worden , Fairgrounds, and neighborhood commercial area.

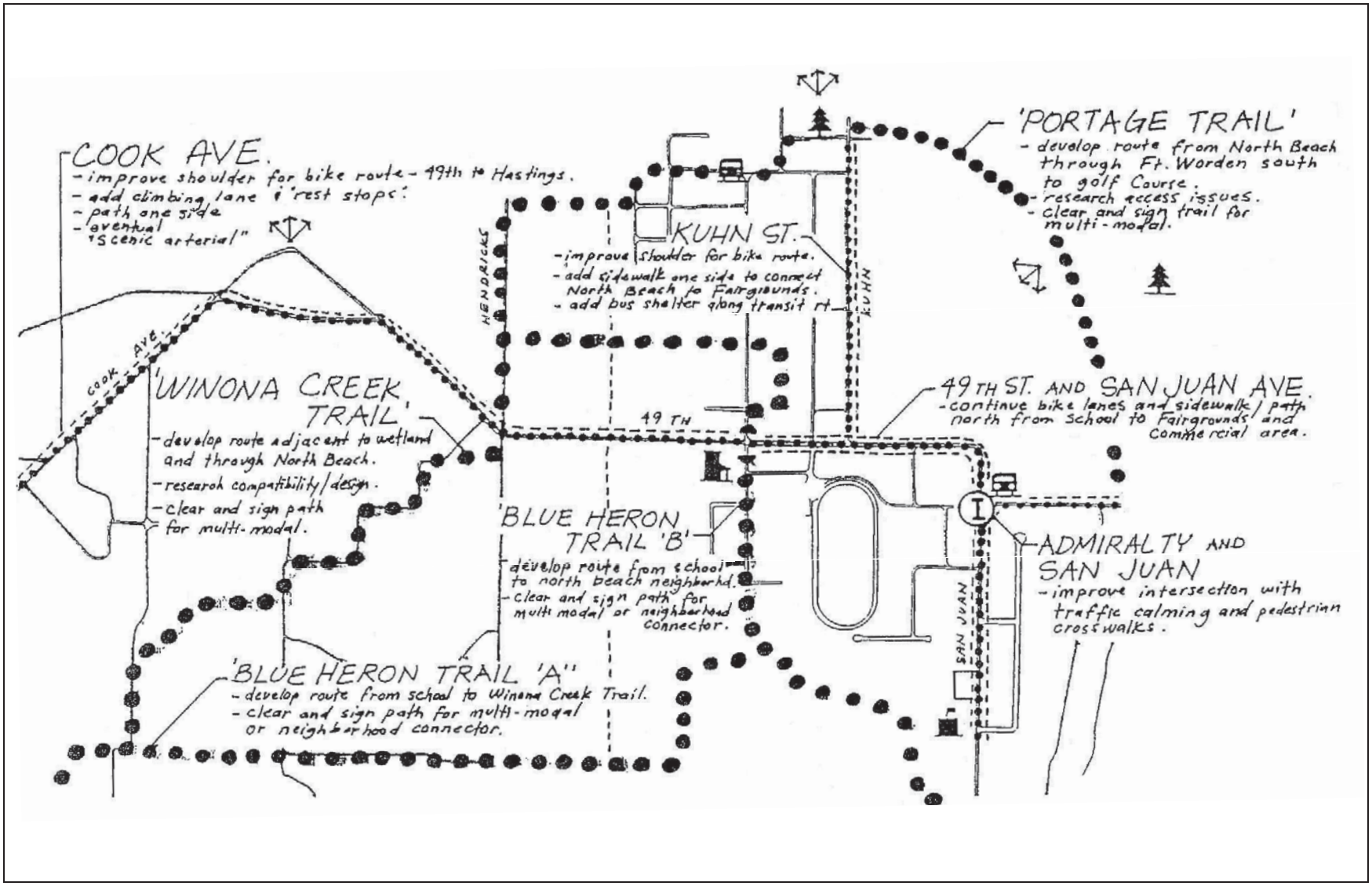
- Kuhn Street as primary neighborhood connector serving bike, ped, and transit.

Develop multi-use routes:

- "Portage Trail" - North Beach to Fort Worden; access issues through state park
- "Winona Creek Trail"; compatibility & design issues with wetland corridor
- "Blue Heron Trails": access and connections to school area.

Encourage enjoyment of scenic vistas & overlooks.

- Add amenities such as benches, interpretive information, etc.



NORTH BEACH AND NORTHWEST NEIGHBORHOODS

NORTH BEACH AND NORTHWEST NEIGHBORHOODS

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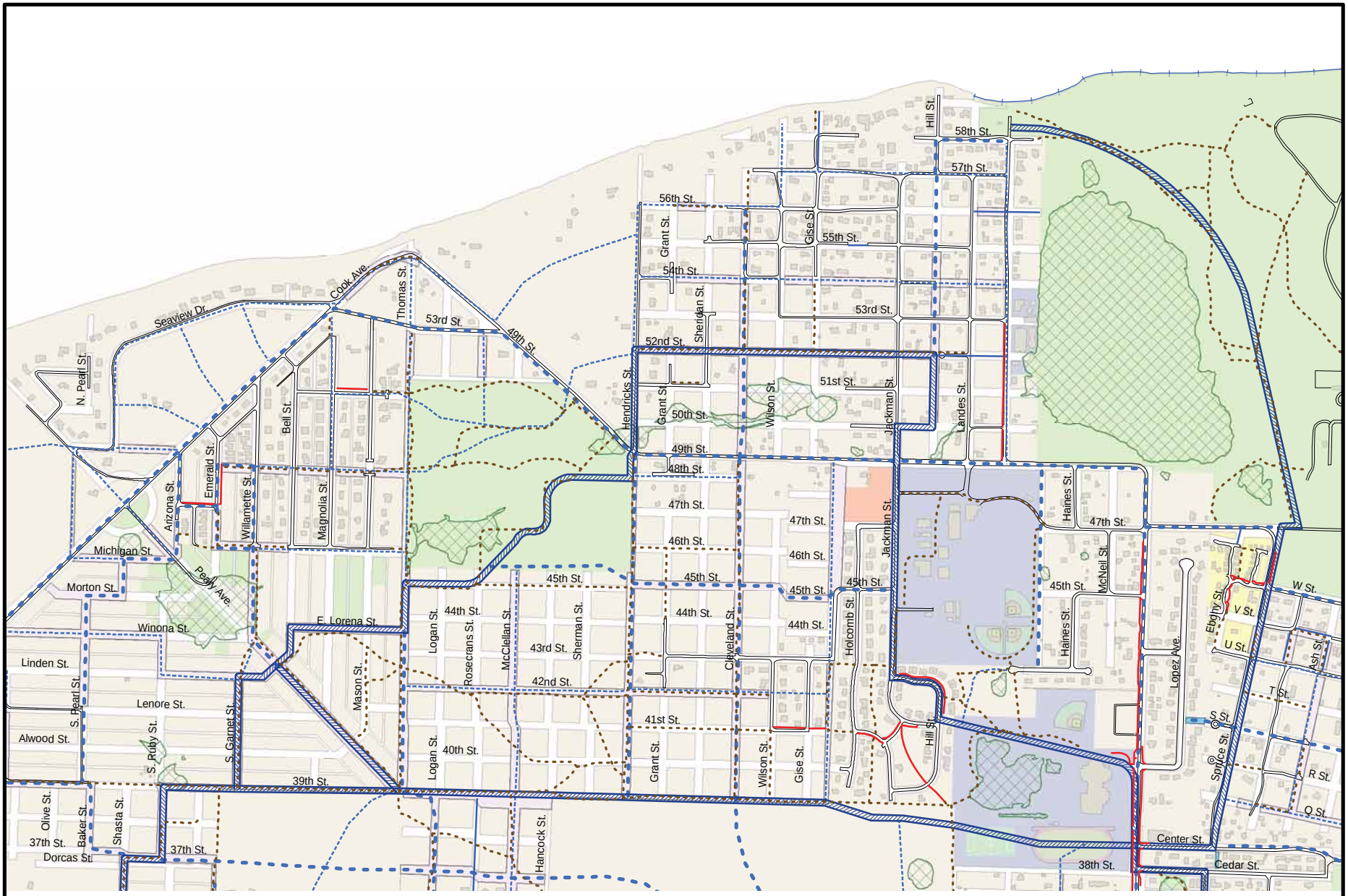

- Multi-Use Trail
- Neighborhood Connector
- Secondary Neighborhood Connector
- Shortcut
- Waterwalk
- Rights-of-Way to be Preserved Where Possible
- Rights-of-Way to be Acquired
- Existing Trail
- Existing Sidewalk
- Commercial Area
- Public / Infrastructure
- Public / Open Space
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HASTINGS AVENUE NEIGHBORHOOD

KEY ISSUES

Strengthen grid network formed by Howard, Sheridan, Discovery, & San Juan (north - south), Umatilla, ,35th, & Hastings (east-west).

Accommodate nonmotorists with up-hill climbing lanes and / or rest areas.

- Umatilla
- Discovery Road

Focus on facilities along routes to school.

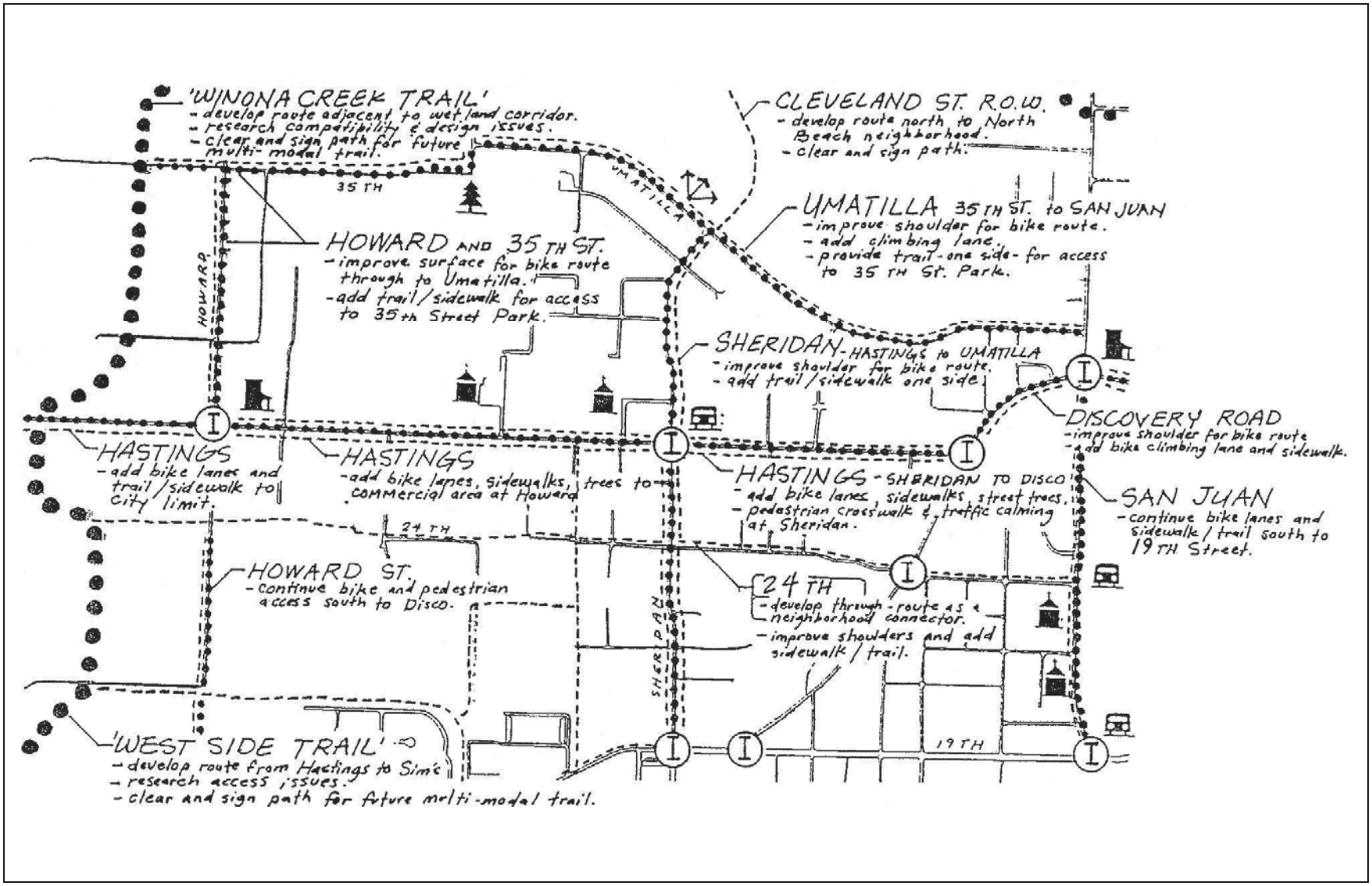
- Sheridan Street and local streets near Grant Street Elementary

Provide access to 35th Street Park.

Make improvements to key intersections along Discovery, Hastings, and 19th.

Develop multi-use route along "West Side Trail."

- Access / easement issues through properties



HASTINGS AVENUE NEIGHBORHOOD

HASTINGS AVENUE NEIGHBORHOOD

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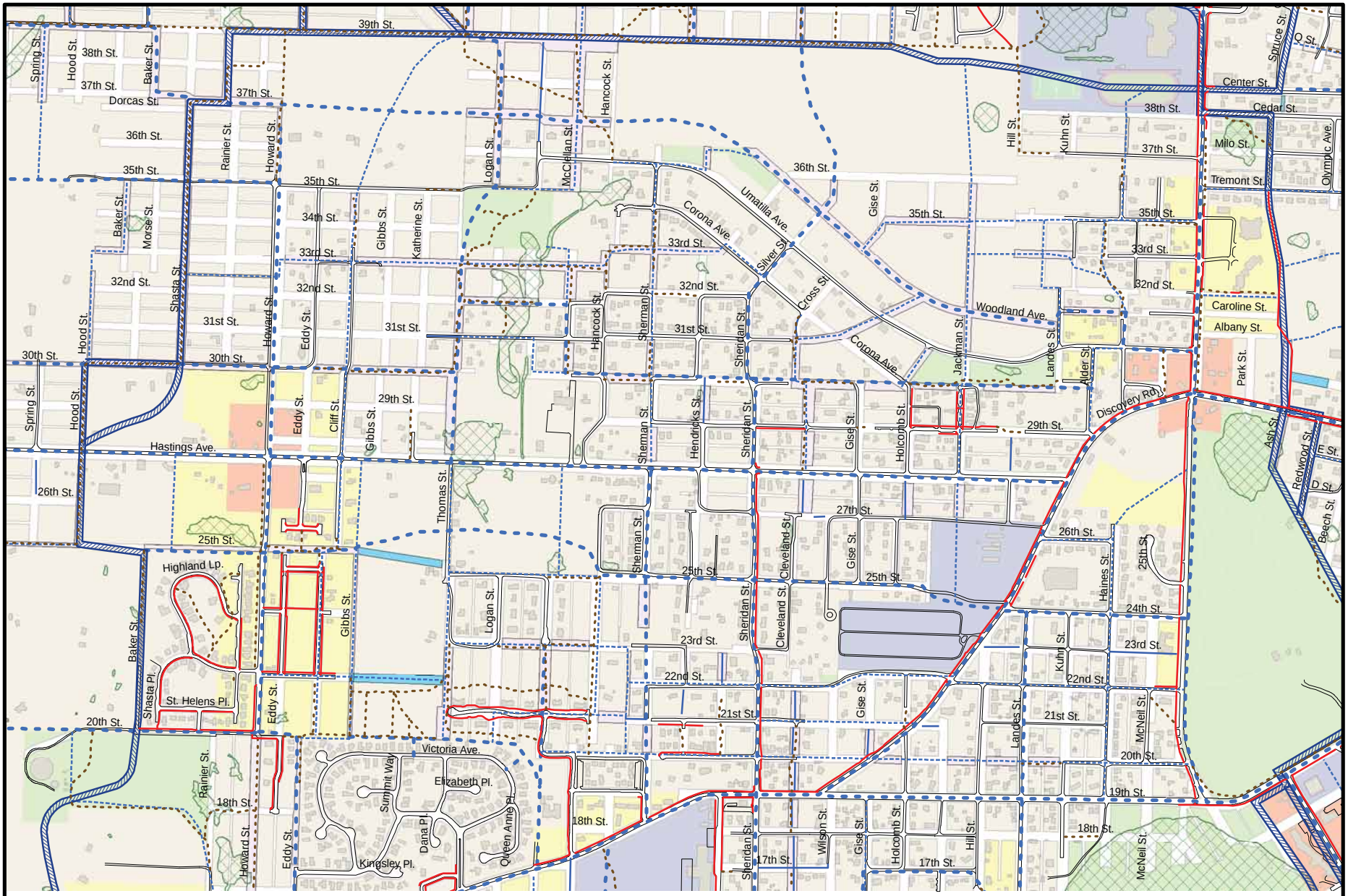

- Multi-Use Trail
- Neighborhood Connector
- Secondary Neighborhood Connector
- Shortcut
- Waterwalk
- Rights-of-Way to be Preserved Where Possible
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SOUTHWEST NEIGHBORHOOD

KEY ISSUES

Improve conditions along Sim's Way arterial from city entrance to downtown.

- Safety issues at key intersections
- Add bike lanes, street trees, and sidewalks

Improve Sheridan Street as a primary north - south connector.

- Add bike lanes, street trees, and sidewalks

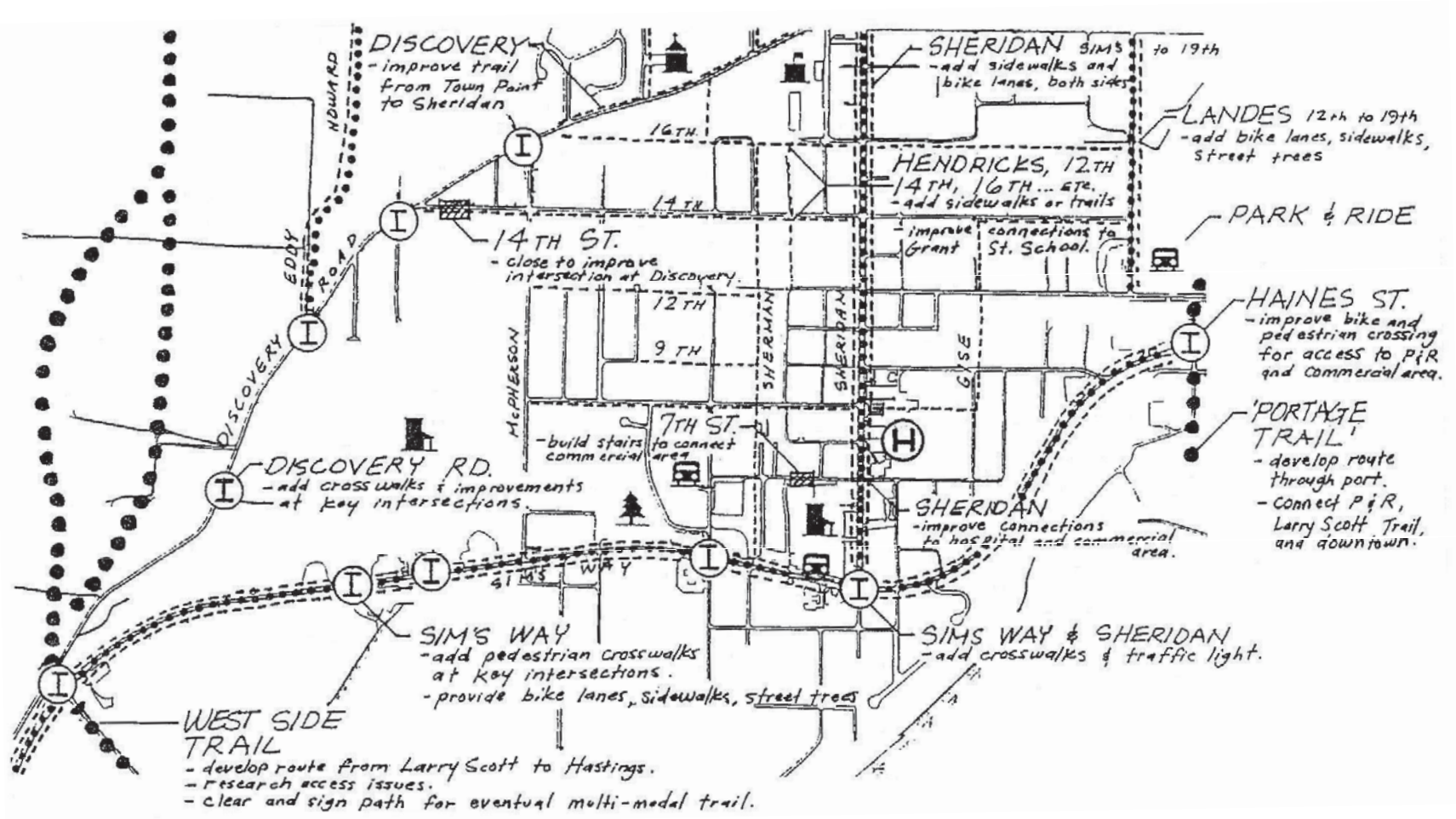
Provide access to public facilities such as the hospital, park & ride, and commercial areas.

- Develop connectors along secondary streets as well as primary

Improve connections to Grant Street School .

Develop multi-use routes connecting to Larry Scott Trail.

- "West Side Trail" connection at Mill Street.
- "Portage Trail" connection at Haines Street



SOUTHWEST NEIGHBORHOOD

SOUTHWEST NEIGHBORHOOD

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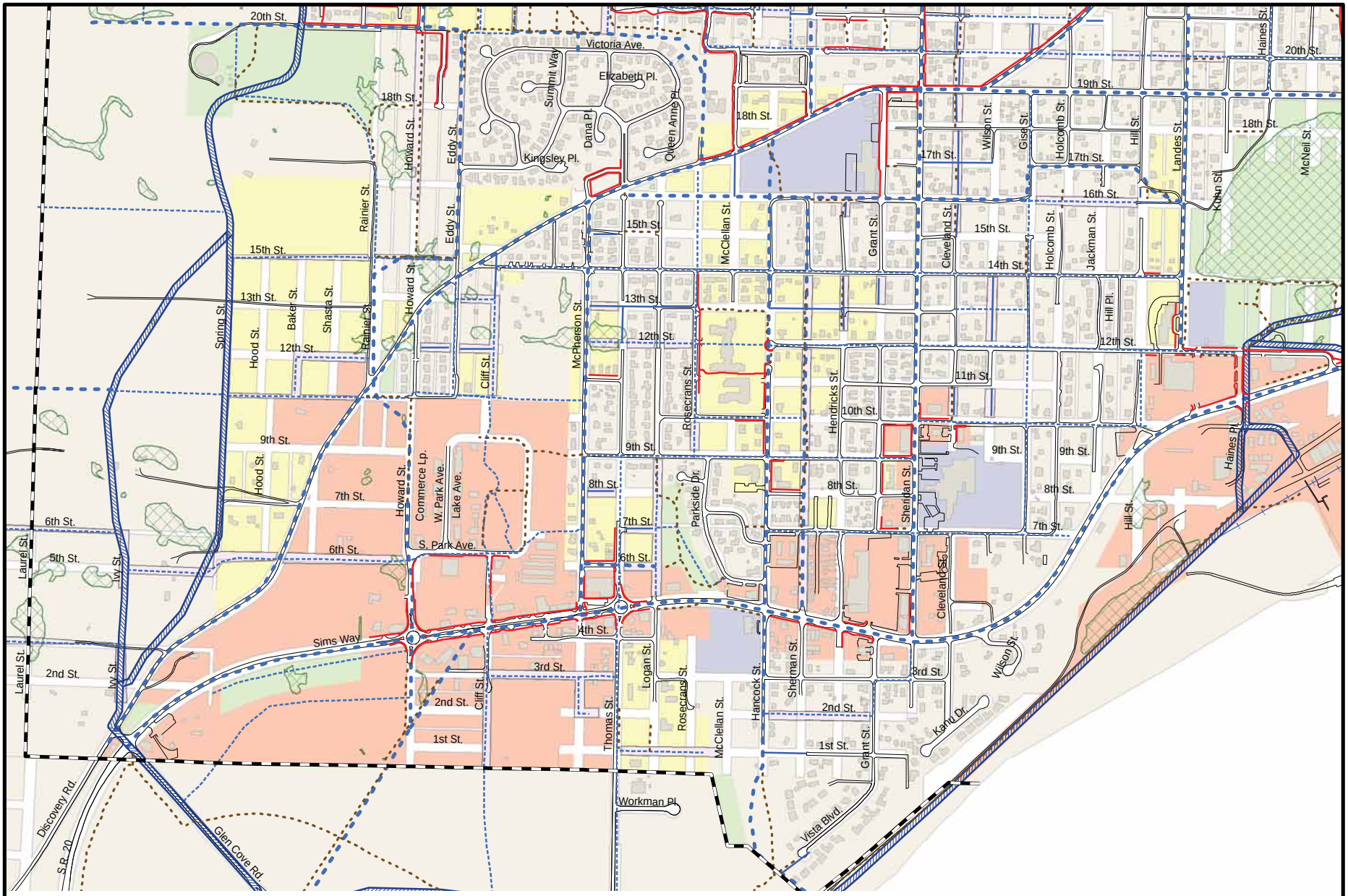

- Multi-Use Trail
- Neighborhood Connector
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- Rights-of-Way to be Preserved Where Possible
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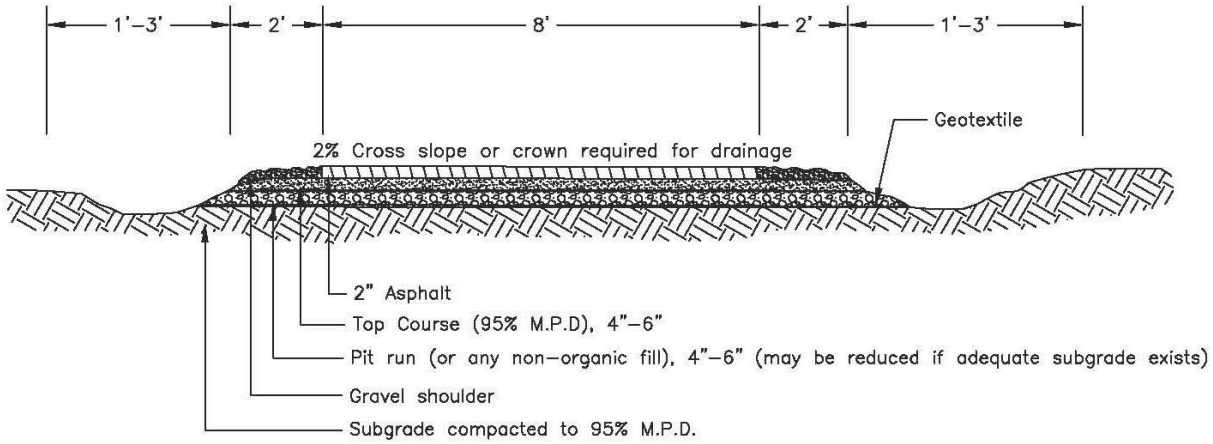
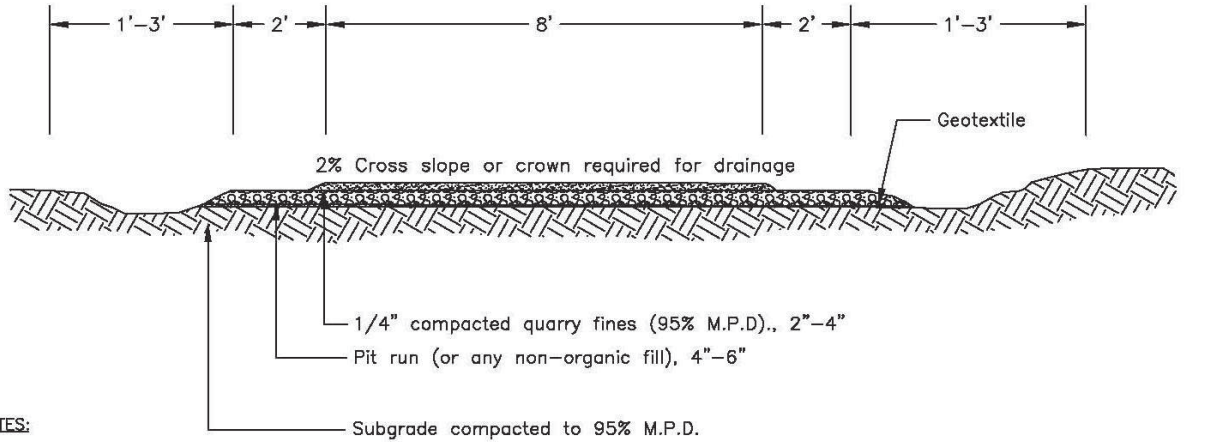
APPENDIX B. BICYCLE FACILITY PARKING INVENTORY

TO BE COMPLETED BY PEDESTRIAN AND BICYCLE ADVISORY COMMITTEE

APPENDIX C. DESIGN STANDARDS

City of Port Townsend - Public Works Department
Standard Detail





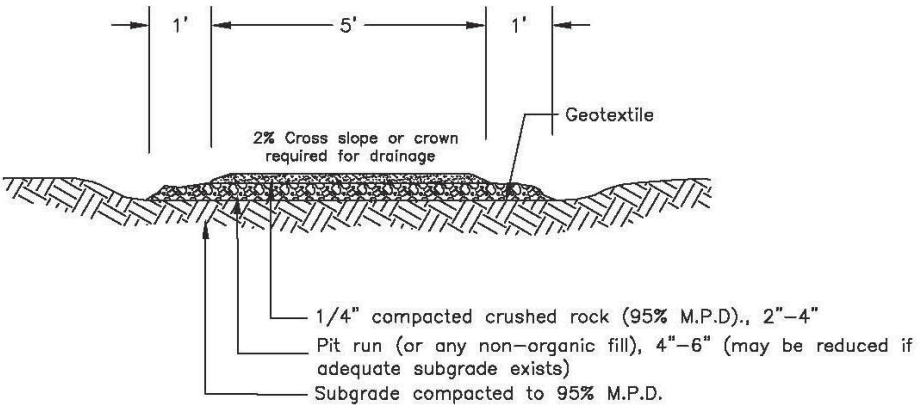
NOTES:

(1) CURB CUTS ARE REQUIRED WHERE TRAILS MEET STREETS
(2) NEIGHBORHOOD CONNECTOR STANDARDS MAY BE USED FOR A MULTI–USE TRAIL AS AN INTERIM MEASURE
(3) TRAIL SUBGRADE SHOULD BE GRADED AND CLEARED OF VEGETATION
(4) TRAIL LAYOUT AND DESIGN SHOULD MINIMIZE DAMAGE TO TREES, AND ROOTS
(5) MINIMIZE DISTURBANCES TO SURROUNDING VEGETATION AND SOIL DURING CONSTRUCTION
(6) ALL DISTURBED AREAS ARE TO BE REGRADED AND REPLANTED
(7) MAINTAIN NATURAL DRAINAGE PATTERNS WITH USE OF CULVERTS WHERE NECESSARY
(8) AVOID STEEP GRADES AND CROSS SLOPES
(9) TRAIL FILL AND BASE SHOULD CONTAIN NO ORGANIC MATERIAL
(10) 20–FOOT PAVED APRON REQUIRED WHEN AN UNPAVED TRAIL CONNECTS TO A PAVED STREET
(11) SIGNAGE THAT INDICATES TRAFFIC CONTROL, DISTANCES AND DIRECTIONS SHOULD BE PLACED AT STREET INTERSECTIONS

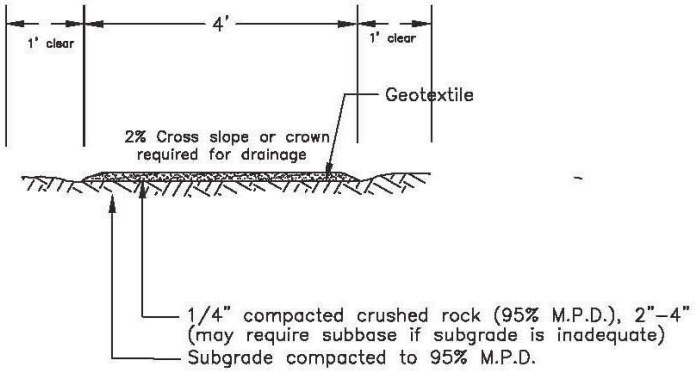
Date: June 1998	No.	Date	Revision	By	Apvd	Multi-Use Trail Minimum Standard
Approved By:						
File: N:\Engineering Standards\OLD\Transportation\nonmoto\FINAL						Detail: T-XX

City of Port Townsend - Public Works Department
Standard Detail

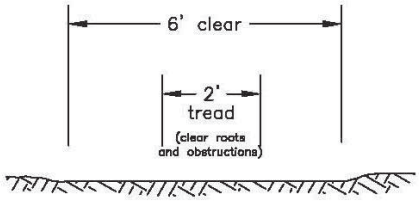
PRIMARY NEIGHBORHOOD CONNECTOR



SECONDARY NEIGHBORHOOD CONNECTOR AND DEVELOPED SHORTCUT



UNDEVELOPED SHORTCUT



NOTES:

(1) CURB CUTS ARE REQUIRED WHERE TRAILS MEET STREETS
(2) THE UNDEVELOPED SHORTCUT STANDARD MAY BE USED FOR NEIGHBORHOOD CONNECTORS AS AN INTERIM MEASURE
(3) TRAIL SUBGRADE SHOULD BE GRADED AND CLEARED OF VEGETATION
(4) TRAIL LAYOUT AND DESIGN SHOULD MINIMIZE DAMAGE TO TREES, AND ROOTS
(5) MINIMIZE DISTURBANCES TO SURROUNDING VEGETATION AND SOIL DURING CONSTRUCTION
(6) ALL DISTURBED AREAS ARE TO BE REGRADED AND REPLANTED
(7) MAINTAIN NATURAL DRAINAGE PATTERNS WITH USE OF CULVERTS WHERE NECESSARY
(8) AVOID STEEP GRADES AND CROSS SLOPES
(9) TRAIL FILL AND BASE SHOULD CONTAIN NO ORGANIC MATERIAL
(10) 20–FOOT PAVED APRON REQUIRED WHEN AN UNPAVED TRAIL CONNECTS TO PAVED STREET
(11) SIGNAGE INDICATING A PUBLIC PATH SHOULD BE PLACED AT STREET INTERSECTIONS

Date: June 1998	No.	Date	Revision	By	Apvd	Neighborhood Connector/Shortcut Minimum Standard
Approved By:						
File: N:\Engineering Standards\OLD\Transportation\nonmoto\FINAL						Detail: T-XX

APPENDIX D. DETAILED PROJECT LIST

Note:
"Prior Votes" refers to the first stage of prioritization that the NTMP committee undertook. These votes indicate the general importance of street or trail projects, independent of financial constraints. This ranking was used by the committee to guide its work in establishing project priorities that considered financial limitations and the need to provide a balance of facility types.

DETAILED PROJECT LIST

Prior Votes	Segment Description of Actions	Funding Source Lead	Funding Source Other	Timing 0-5yrs	Timing 5-10yrs	Timing >10yrs	Type	Length (Ft.)	Cost	Comments	Supplement Status
14	**Portage Trail - F Street to Ft. Worden**										
	Prepare information on the vision for the trail	City		X							
	Pursue Grant funding	City		X							
	F Street to Center Street										Multi-use trail complete from F Street to Tremont
	Secure property or easement through valley	Other	Dev.	X			Property		$100,000	Funding source needed	Complete, except Cedar to Center
	Clear path and sign	Vol.		X			Path	1500	$750		
	Install trail and sign	City		X			Trail	1500	$10,500		
	Install multi-use trail	Other	City/Dev.		X		Multi	1500	$30,000		
	Center to W Street										
	Install trail and sign	City			X		Trail	3000	$21,000		
	Install multi-use trail	Other	City/Dev.		X		Multi	3000	$60,000		
	Fort Worden										
	Install multi-use trail	Other			X		Multi	4000	$80,000		
12	**Larry Scott Trail to Golf Course (19th Street)**										
	Larry Scott to Park-and-Ride										
	Develop Route through Port	Grant	Port		X		Multi	1000	$20,000	Work with Port of PT	
	Improve Haines St. intersections for bike and ped.	Grant			X		Intersection		$50,000	Coordinate with DOT	Complete
	Park-and-Ride to Kearney										
	Install trail along Sims Way	Grant				X	Trail	2500	$17,500		Complete to multi-use standard
	Install multi-use trail	City		X			Multi	2500	$50,000		
	Improve connection to park and ride	City		X				150	$3,000		Complete
	Install signage at park and ride	City		X				4	$1,000		
	Kearney to 19th Street										
	Install trail from Sims Way to 19th	Grant				X	Trail	2000	$14,000		
	Install multi-use trail	City			X		Multi	2000	$40,000		
10	**Golf Course (19th Street) to F St.**										
	Kearney to Cherry Street										
	Identify and clear golf course route	Vol.		X			Path	1800	$900		
	Install multi-use trail and sign	Grant			X		Trail	1800	$36,000		
	Cherry to F Street										
	Identify and clear golf course route	Vol.		X			Path	1800	$900		Path complete from A to Redwood
	Install multi-use trail and sign	Other			X		Trail	1800	$36,000		Multi-use complete from 19th to A Street
2	**Winona Creek Trail (49th to Hastings Ave.)**										
	49th to Winona										
	Crushed rock overlay and sign along sewer easement	Vol.		X			Multi	3500	$12,250		
	Improve access along Willamette and East Sapphire	Vol.		X			Trail	1500	$5,250		
	Winona to 35th										
	clear path and sign	Vol.			X		Path	3500	$1,750		
	Install Trail	Vol.			X		Trail	3500	$12,250		
	Install multi-use trail	Grant				X	Multi	3500	$70,000		
	35th to Hastings										
	Research access issues										Complete
	clear path and sign	Vol.			X		Path	2200	$1,100		Complete
	Install Trail	Grant				X	Trail	2200	$15,400		Complete
	Install multi-use trail	Grant				X	Multi	2200	$44,000		
1	**West Side Loop (Hastings to Sims)**										
	Hastings to 20th										
	Clear path and sign	Vol.				X	Path	2500	$1,250		
	Install multi-use trail	City				X	Multi	2500	$50,000		
	20th to 13th Street										

DETAILED PROJECT LIST

Prior Votes	Segment Description of Actions	Funding Source Lead	Other	Timing 0-5yrs	5-10yrs	>10yrs	Type	Length (Ft.)	Cost	Comments	Supplement Status
	Clear path and sign	Vol.				X	Path	4000	$2,000		
	Install multi-use trail	City				X	Multi	4000	$80,000		
	13th to Discovery										
	Clear path and sign	Vol.				X	Path	2500	$1,250		
	Install multi-use trail	City				X	Multi	2500	$50,000		
	Blue Heron to 52nd									Route to school	
	Install Multi-use trail	Grant	Dev.	X			Multi	3000	$60,000	Improve existing	
	North Beach Loop (Fort Worden to 49th)									Route to school	
	Clear path	Vol.		X			Path	3500	$1,750		
	Install Trail	Grant	Dev.			X	Trail	3500	$24,500		
	49th to Winona Creek										
	Clear path and sign	Vol.			X		Path	2000	$2,000		
	Install trail	City				X	Trail	2000	$14,000		
	Install multi-use trail	Grant				X	Multi	2000	$40,000		

DETAILED PROJECT LIST

Prior Votes	Segment Description of Actions	Funding Source Lead	Other	Timing 0-5yrs	5-10yrs	>10yrs	Type	Length (Ft.)	Cost	Comments	Supplement Status
	Sims Way										
	City limits to Downtown										
25	Stripe bike lanes	City	DOT		X		Striping	29000	$5,800		Complete
	Improve shoulder	DOT				X	Shoulder	7000	$175,000		Complete
	Access management (curbs, temporary improvements)	City	DOT							Work with DOT	
25	*Ferry to Park-and-Ride*										
	Sidewalk on south side	Other	Grant		X		Sidewalk	3500	$70,000		Complete on combination of South & North sides
										.	
10	*Kearney intersection*										
	Redesign intersection	City	DOT	X			Intersection	1	$50,000		
	Longer crossing times	City		X							
	Consider ped xing with traffic stopped	City		X							
	Bluff Corridor										
	Restrict parking	City		X						Gateway Plan	Complete
	Sheridan to Howard										
	Sidewalks on north side	Dev.	City			X	Sidewalk	3600	$72,000		
	Sidewalks on south side	Other	City		X		Sidewalk	3600	$72,000		
	Sheridan to Landes										
	Improve shoulder	DOT		X			Shoulder	2600	$65,000	Work with DOT	Complete
	Howard to City limits										
	Clear path on south side and sign	Vol.		X			Path	3500	$1,750	Gateway Plan	
	Sidewalks on both sides	Grant				X	Sidewalk	7000	$140,000		
	Improve intersections and ped xing zones										
	Traffic light at Howard	Dev.		X			Light		$200,000		Roundabout provides traffic control
	Crossing at McPherson	City	DOT			X	Light		$200,000		Complete, with refuge island
	Crossing at Hancock	Other	City		X		Intersection				Crosswalk is in place
	Crossing at Sheridan	Other	Dev.		X		Intersection		$50,000		Crosswalk is in place
	Crossing between Sheridan and McPherson	City				X	Intersection		$50,000		Pedestrian activated warning signal at Hendricks
	Crossing at Benedict to Boat Haven	Grant		X			Intersection		$50,000		
21	**Discovery Road - San Juan to Hastings**									Route to school	
	Improve visibility	City		X							Complete
	Bike climbing lane (widen shoulder)	Shoulder		X			Bike lanes	1000	$25,000		Complete
	Trail on one side	Vol.		X			Trail	1000	$3,500		
	Sidewalk on one side	Other			X		Sidewalk	1000	$20,000		Complete
	Sidewalk on one side	Grant				X	Sidewalk	1000	$20,000		
	Bike lanes (widen shoulder)	Grant				X	Bike lanes	2000	$50,000		Complete
	Discovery Road - Hastings Intersection									Route to school	
	Add crossing island and crosswalk	Other			X		Intersection	1	$50,000		Intersection realigned, crosswalk installed
	Consider one way queuing for traffic flow	City			X						
	Consider alt. Route for ped and bikes	City			X						
	Discovery Road - Hastings to 19th										
	Intersection improvements for ped. Crossing										
	19th street "Y"	City				X	Misc.		$25,000		
	24th Traffic circle	City				X	Misc.		$50,000		
	Trail on one side	Vol.				X	Trail	3000	$10,500		

DETAILED PROJECT LIST

Prior Votes	Segment Description of Actions	Funding Source Lead	Other	Timing 0-5yrs	5-10yrs	>10yrs	Type	Length (Ft.)	Cost	Comments	Supplement Status
	Sidewalks on both sides	City				X	Sidewalk	6000	$120,000		Sidewalk on NW side of Discovery
	Discovery Road - Sheridan to Howard										
	Speed table at Grant Street School crossing	Grant		X			Table		$30,000		
	Speed table at Hancock	Grant			X		Table		$30,000		
	Sidewalk										
	Towne Pointe to Howard										
	Sidewalk on one side	Other			X		Sidewalk	2300	$46,000		
	Town Pointe to Sheridan										
	Trail on north side	Grant		X			Trail	2500	$17,500	Route to school	
	Sidewalk on one side	Other			X		Sidewalk	2500	$50,000	Route to school	Complete from McClellan to Sheridan
	Sidewalk on one side	Grant				X	Sidewalk	2500	$50,000		
7	*Intersection improvements for ped xing and transit*										
	6th street for trail crossing	City				X	Misc.		$30,000		
	Howard - Potential traffic circle	Dev.				X	Misc.		$50,000		
	Eddy Street - need safe crossing	City				X	Misc.		$30,000		
	14th St. - Close at Catherine	City				X	Misc.		$10,000		
	McPherson - traffic circle	City				X	Misc.		$50,000		
	Towne Point - (reroute to McPherson)	City				X	Misc.		$30,000		
6	Consider 14th to McPherson reroute	City				X	Misc.				
13	**Cherry Street - Walker Street To W Street**									Route to school	
	Improve shoulders					X	Shoulder	12000	$300,000		Complete from Walker to E Street
	Trail on one side	City			X		Trail	6000	$42,000		
	Sidewalk on one side	Other			X		Sidewalk	6000	$120,000		Complete from E Street to F Street
	Direct traffic to Fort Worden	City			X						
12	**Jackson/Walnut (and alternative routes)**										
	Clear Chestnut and sign	Vol.		X			Path	1500	$750		Complete
	Trail on Chestnut	City				X	Trail	1500	$10,500		Complete
	Improve and sign Madison shortcut	Vol.		X			Trail	500	$1,750		Complete
	Evaluate One-way couplet, Roosevelt to Reed	City			X						
	Walnut										
	Trail on one side	City		X			Trail	2500	$17,500		
	Widen shoulders	City				X	Shoulder	5000	$125,000		
10	**F Street - Fir to Tyler**									Route to school	
	Improve shoulder on south side and restrict parking	City		X			Shoulder	1500	$37,500		Complete
	Improve trail on south side	City			X		Trail	750	$5,250		
	Sidewalk on north side	City		X			Sidewalk	1500	$30,000		Complete
	Install sidewalk to Blaine one side	Grant		X			Sidewalk	300	$6,000		Complete
	Bike lanes	City				X	Bike Lanes	3000	$75,000		Complete
1	Realign Van Ness to 90 degree	City				X	Intersection	1	$25,000		Complete
10	**F Street - San Juan to Fir**									Route to school	
	Improve shoulder	Shoulder		X			Shoulder	2200	$55,000		Complete
	Trail on one side	City		X			Trail	2200	$15,400		
	Bike climbing lane	Grant				X	Bike lanes	2200	$55,000		Complete
	Sidewalk on one side	Other			X		Sidewalk	2200	$44,000		Complete
	Sidewalk on one side	Other			X		Sidewalk	2200	$44,000		Complete from Gennessee to Fir

DETAILED PROJECT LIST

Prior Votes	Segment Description of Actions	Funding Source Lead	Other	Timing 0-5yrs	5-10yrs	>10yrs	Type	Length (Ft.)	Cost	Comments	Supplement Status
	Evaluate alt. bike/ped route	City			X						Complete
9	**Sheridan**									Route to school	
	Hastings to 19th										
	Trail on north side	City				X	Trail	2400	$16,800		
	Sidewalk on north side	City				X	Sidewalk	2400	$48,000		
	Sidewalk on south side	Grant	City	X			Sidewalk	2400	$48,000		Complete
	Widen shoulders	Shoulder				X	Shoulder	4800	$120,000		
	Crosswalks at Hastings	City		X			Crosswalk	1	$400		
	Fog lines	City		X			Striping	4800	$960		Complete
	Bike lanes	Grant				X	Bike lanes	4800	$120,000		
	Hastings to Umatilla										
	Sidewalk on one side	Other			X		Sidewalk	2000	$40,000		
7	**Hastings - Sheridan to Discovery**									Route to school	
	Trail on one side	City			X		Trail	2300	$16,100		
	Fog lines	City		X			Striping	4600	$920		Complete
	Improve and widen shoulder	Shoulder				X	Shoulder	4600	$115,000		
	Sidewalk on one side	Other			X		Sidewalk	2300	$46,000		Grant Received for Construction in 2011
	Sidewalk on one side	Grant				X	Sidewalk	2300	$46,000		
	Bike lanes	Grant				X	Bike lanes	4600	$115,000		
7	**Harrison at Post Office**										
	Move newspaper boxes	City		X			IGP				Complete
	Install bike racks	City		X			IGP	2	$600		Complete
	Add 250 feet of sidewalk (Clay to Franklin)	City			X		Sidewalk	250	$5,000		
	Curb ramps from Lawrence to Post Office	City				X	ADA	3	$30,000		
6	**Lawrence**									Route to school	
	Infill sidewalks on north side	City	Grant	X			Sidewalk	1500	$30,000		Complete except from Scott to Kearney
	Infill sidewalks on south side	City	Grant			X	Sidewalk	1500	$3,000		Complete except Scott to Kearney & Walker to Benton
	Bike lane striping	City	Grant	X			Striping	3000	$600		
	Improve missing shoulder for bike lane	City	Grant	X			Shoulder	1000	$25,000		Complete
	ADA retrofits and bulbouts in commercial area	City	Grant		X		ADA	4	$40,000		
6	**19th - Walker to Sheridan**									Route to school	
	Add crosswalk at Landes	City		X			Crosswalk	1	$400		
	Traffic Calming at Xwalk at San Juan	Other		X			Calming	1	$30,000		Complete
	Remove pavement and separate sidewalk (consider boulevard with street trees)	City				X					
	Sidewalk on one side	Other			X		Sidewalk	5000	$100,000		Complete from Walker to San Juan
6	**Sherman Street - Sims to 16th**										
	Trail in unopened rights-of-way	City		X			Trail / ROW	3000	$21,000	Route to school	Complete from Sims to 14th Street
5	**Walker Street - Blaine to Lawrence**									Route to school	
	Trail on east side	City				X	Trail	1500	$10,500		
	Sidewalk on west side	Grant		X			Sidewalk	1500	$30,000		Complete
	Sidewalk on east side	City				X	Sidewalk	1500	$30,000		
	Improve intersection at Blaine	City				X	Intersection	1	$50,000		

DETAILED PROJECT LIST

Prior Votes	Segment Description of Actions	Funding Source Lead	Other	Timing 0-5yrs	5-10yrs	>10yrs	Type	Length (Ft.)	Cost	Comments	Supplement Status
5	**Taylor and Water Intersection**										
	Bulbouts on north side	City			X		Bulbout	2	$20,000		Complete
	4-way stop	City		X			Stop	1	$400		
5	**Quincy, Adams and Jefferson**										
	Improve baby buggy trail and approaches	City			X		Trail	250	$1,750		
	ADA accessibility at intersection and around corner	City			X		ADA	4	$40,000		
	Widen shoulder on Quincy and Jefferson to downtown	City				X	Shoulder	2800	$70,000		
	Crosswalk at Jefferson and Taylor	City		X			Crosswalk	1	$400		Complete
	Sidewalk on one side of Quincy / Jefferson	City				X	Sidewalk	1400	$28,000		
	Bicycle climbing lane on Quincy / Jefferson	City				X	Bike lanes	2800	$70,000		
4	**San Juan - Blue Heron to 49th**										
	Traffic calming at Admiral Dr. and 49th	City				X		1	$30,000		
	Fog lines	City		X			Striping	4000	$800		Complete
	Signage	City		X			Sign	4	$2,000		
	Trail on one side	City			X		Trail	2000	$14,000	Route to school	
	Sidewalk on one side	Other			X		Sidewalk	2000	$40,000		Complete from Blue to 47th Street
	Sidewalk on one side	Grant				X	Sidewalk	2000	$40,000		
	Bike lanes	Grant				X	Bike lanes	4000	$100,000		
4	**Center - San Juan to Cherry**									Route to school	
	Trail on one side	City			X		Trail	1600	$11,200		
	Sidewalk on one side	Other			X		Sidewalk	1600	$32,000		
	Sidewalk on one side	Grant				X	Sidewalk	1600	$32,000		
4	**Point Hudson - Jackson**										
	Consider no thru traffic on Jackson and sign	City			X						
	Consider Sidewalk at Jefferson/Monroe Intersection	City				X					Complete around Skateboard Park perimeter
	Consider Improving pedestrian design in whole area	City									
6	**San Juan - F to 19th**									Route to school	
	Improve shoulder	Shoulder			X		Shoulder	6000	$150,000		Complete
	Fog lines	City			X		Striping	6000	$1,200		Complete
	Trail on one side	Grant		X			Trail	3000	$21,000	Route to school	
	Improve crossings at F and at 19th	City				X	Intersection	1	$50,000		Complete
	Sidewalk on one side	Other			X		Sidewalk	3000	$60,000		Complete
	Sidewalk on one side	Grant				X	Sidewalk	3000	$60,000		
	Bike lanes	Grant				X	Bike lanes	6000	$150,000		Complete
3	**12th Street - McPherson to Haines**										
	Trail on one side	Grant			X		Trail	5200	$36,400		
3	**Rosecrans - Discovery to 23rd**										
	Trail in unopened rights of way	City				X	Trail / ROW	1800	$12,600	Route to school	ROW Vacated from Discovery to 21st
2	**Sheridan - Sims to 19th**									Route to school	
	Stripe bike lanes	City		X			Striping	8000	$1,600		Complete between 14th and 19th Street
	Sidewalks - Hospital to Sims Way	Grant			X		Sidewalk	1000	$20,000		Grant received for construction in 2011-2012
	Install access to shopping center from 7th	Dev.				X	Stairs	1	$5,000		
	Sidewalk - Hospital to 19th (east side)	Other			X		Sidewalk	3000	$60,000		
	Sidewalk on west side	Grant				X	Sidewalk	4000	$80,000		
	Crossing - Hospital to 9th Street	City			X		Crosswalk	1	$400		Complete

DETAILED PROJECT LIST

Prior Votes	Segment Description of Actions	Funding Source Lead	Other	Timing 0-5yrs	5-10yrs	>10yrs	Type	Length (Ft.)	Cost	Comments	Supplement Status
2	**Hastings - City Limit to Howard**										
	Fog lines	City		X			Striping	5000	$1,000		Complete
	Sidewalk on both sides	Grant				X	Sidewalk	5000	$100,000		
	Bike lanes	Grant				X	Bike lanes	5000	$125,000		
2	**Hastings - Howard to Sheridan**										
	Trail on one side	City				X	Trail	3500	$24,500		
	Improve shoulder	Shoulder				X	Shoulder	7000	$175,000		
	Fog lines	City		X			Striping	7000	$1,400		Complete
	Sidewalk on one side	Other			X		Sidewalk	3500	$70,000		
	Bike lanes on both sides	Grant				X	Bike lanes	7000	$175,000		
1	**Landes - 12th to 19th**										
	Improve shoulder	City				X	Shoulder	3600	$90,000		East side improved
	Fog lines	City		X			Striping	3600	$720		Complete
	Trail on one side	City				X	Trail	1800	$12,600		
	Improve crossing at 19th	City				X	Intersection	1	$50,000		
1	**16th St. - Landes to Discovery**										
	Trail in unopened right-of-way	Vol.				X	Trail / ROW	3000	$21,000		
	Trail on one side	City				X	Trail	1200	$8,400		
1	**Howard - Hastings to 35th**										
	Improve surface for bikes and pedestrians	City			X			2000			
	Improve intersection for ped crossing (consider traffic circle)	City				X		1	$50,000		
	Sidewalks on both sides	Grant				X	Sidewalk	4000	$80,000		
	Bike lanes	Grant				X	Bike lanes	4000	$100,000		
1	**Umatilla - San Juan to Silver**										
	Improve shoulder	Shoulder				X	Shoulder	6400	$160,000		
	Fog lines	City		X			Striping	6400	$1,280		
	Trail on one side	City				X	Trail	3200	$22,400		
	Sidewalk on one side	Grant				X	Sidewalk	3200	$64,000		
	Consider one-way loop with Woodland	City			X						
1	**Umatilla**										
	Silver to 35th street park										
	Trail on one side	City				X	Trail	3000	$21,000		
	Fog lines	City				X	Striping	6000	$1,200		
	Sidewalks on one side	City				X	Sidewalk	3000	$60,000		
	Bike lanes or signed route	City				X	Bike lanes	6000	$150,000		
	San Juan to Sheridan										
	Sidewalk on one side	Other			X		Sidewalk	3200	$64,000		
	Blaine Street										
	Walker to Tyler									Route to school	
	Sidewalk on one side	Other			X		Sidewalk	2600	$52,000		
	Tyler to Monroe									Route to school	
	Sidewalk on one side	Other			X		Sidewalk	1500	$30,000		
	Cook Avenue										

DETAILED PROJECT LIST

Prior Votes	Segment Description of Actions	Funding Source Lead	Other	Timing 0-5yrs	5-10yrs	>10yrs	Type	Length (Ft.)	Cost	Comments	Supplement Status
	Fog lines	City		X			Striping		$1,500		Complete
	Climbing lane and improved shoulder	City				X	Shoulder	7500	$187,500		
	Howard St. (or alt)-Discovery to Hastings										
	Trail on one side	City				X	Trail	2000	$14,000		
	Consider off-road alt. alignment to arterial	City				X					
	Sidewalks on both sides	Dev.				X	Sidewalk	4000	$80,000		
	Bike lanes	Dev.				X	Bike lanes	4000	$100,000		
	Washington Street (Quincy to Sims Way)										
	Fog lines	City				X	Striping	8000	$1,600		Complete
	Sidewalks both sides	City				X	Sidewalk	8000	$160,000		
	Widen shoulders	City				X	Shoulder	8000	$200,000		
	Sims Way to Walker										
	Bike climbing lane	City		X			Strip	500	$100		
	Taylor to Filmore										
	Bike climbing lane	City		X			Strip	1000	$200		Complete
	Kearney Street										
	Bike lanes	City				X	Bike lanes	1800	$45,000		
	Tremont										
	Trail on one side	City				X	Trail	2000	$14,000		
	Sidewalks both sides	City				X	Sidewalk	4000	$80,000		
	49th - San Juan to Cook Avenue										
	Sidewalk on one side	Other			X		Sidewalk	3800	$76,000		
	Fog lines	City		X			Striping		$760		Complete
	Improve shoulder	City				X	Shoulder	3800	$95,000		
	Jefferson Hillclimb									Gateway Plan	
	Trail in unopened rights-of-way	Vol.		X			Trail / ROW	300	$1,050		Complete
	Towne Point Loop										
	Trail (Work with Towne Point - NO ROW)	City				X	Trail / ROW	2800	$19,600		
	25th Street - San Juan to Hamilton Heights										
	Trail in unopened rights-of-way	Vol.				X	Trail / ROW	7000	$24,500		
	Elm Street - Hastings to Cook										
	Trail in unopened rights-of-way	Vol.				X	Trail / ROW	3000	$10,500		
	Sherman St. - Discovery to Umatilla										
	Trail in unopened rights-of-way	City				X	Trail / ROW	4700	$32,900		
	23rd Street - Sherman to Rosecrans										
	Trail in unopened rights-of-way	Vol.			X		Trail / ROW	1000	$3,500		
	14th St. - Landes to Sheridan										
	Trail on one side	City				X	Trail / ROW	1600	$11,200		
	Bike climbing lane	City				X	Bike lanes	1600	$4,000	12th street as Class III	

DETAILED PROJECT LIST

Prior Votes	Segment Description of Actions	Funding Source Lead	Funding Source Other	Timing 0-5yrs	Timing 5-10yrs	Timing >10yrs	Type	Length (Ft.)	Cost	Comments	Supplement Status
	Gise Street - 14th to 10th										
	Trail in unopened rights-of-way	Vol.			X		Trail / ROW	1400	$4,900		
	10th St. - Gise to McPherson										
	Trail in unopened rights-of-way	Vol.				X	Trail / ROW	3200	$11,200	route to school	
	12th St. - Sherman to Thomas										
	Trail in unopened rights-of-way	Vol.				X	Trail / ROW	1300	$4,550		
	Hancock - 16th St. to Discovery										
	Improve existing trail	City				X	Trail / ROW	500	$3,500	route to school	
	10th Street - to Grant Street School										
	Trail in unopened rights-of-way	Vol.		X			Trail / ROW	1000	$3,500		Complete in Sherman from 10th to 14th Street
2010 Add'l Projects	**Rosecrans - 36th to 39th**										
	Shortcut in unopened rights-of-way	Vol.		X			Trail	700	$2,450		
	Chestnut St. - P to Q										
	Aquire ROW	City			X		ROW	300			
	Install trail and sign	Vol.			X		Trail	300	$1,050		
	S Street - Walnut to Lopez										
	Install trail and sign	City	Vol.		X		Trail	3600	$18,000		
	Aquire ROW from Spruce to Lopez	City			X		ROW	200			
	T Street - Fir to Maple										
	Shortcut in unopened ROW	Vol.		X			Trail	300	$1,050		
	55th Street - Gise to Jackman										
	Shortcut in unopened ROW	Vol.		X			Trail	600	$2,100		
	17th Street - Cleveland to Sheridan										
	Shortcut in unopened ROW	Vol.		X			Trail	200	$700		
	Thomas St. - 9th to Sims Way										
	Sidewalk on one side	Dev.	City			X	Sidewalk	500	$10,000		
	Trail on one side	City	Vol.		X		Trail	1000	$7,000		
	1st Street - Hancock to Sherman										
	Shortcut in unopened ROW	Vol.		X			Trail	200	$700		
	Thomas Street - 53rd to Cook Ave										
	Trail in unopened ROW	Vol.			X		Trail	500	$1,750		
	20th Street - Sherman to Holcomb										
	Install trail and sign	City	Vol.		X		Trail	1300	$6,500		
	52nd Street - Hill to Kuhn										
	Install trail and sign	City	Vol.	X			Trail	800	$2,800		
	Pettygrove Street - 43rd to 49th										
	Trail in unopened ROW	Vol.	City		X		Trail	1400	$4,900		

DETAILED PROJECT LIST

Prior Votes	Segment Description of Actions	Funding Source Lead	Funding Source Other	Timing 0-5yrs	Timing 5-10yrs	Timing >10yrs	Type	Length (Ft.)	Cost	Comments	Supplement Status
	13th Street - Logan to Thomas Shortcut in unopened ROW	Vol.		X			Trail	300	$1,050		
	Gise Street - 57th to water Install trail and sign	City	Vol.	X			Trail	400	$1,400		
	56th Street - Kuhn St to Ft. Worden State Park Shortcut in unopened ROW	City	Vol.			X	Trail	200	$700		
	52nd Street - Hill Street to Kuhn Street Install trail and sign	Vol.			X		Trail	500	$1,750		
	48th St - Hendricks Street to Cleveland Street Install trail and sign	Vol.			X		Trail	800	$2,800		
	Z Street to Admiralty Avenue Shortcut in unopened ROW	Vol.		X			Trail	100	$350		
	S Street - Pine Street to Walnut Street Install trail and sign	Vol.			X		Trail	400	$1,400		
	Clay Street - Gaines Street to Walker Street Sidewalk on one side Trail on one side	City Vol.			X	X	Sidewalk Trail	600 600	$12,000 $2,100		
	Landes Street - Umatilla Street to 35th Street Trail in unopened ROW	Vol.				X	Trail	1000	$3,500		
	30th Street - McClellan to Rosecrans Install trail and sign	City	Vol.	X			Trail	200	$700		
	Rosecrans Street - 30th Street to 31st Street Install trail and sign	Vol.		X			Trail	200	$700		
	31st Street - Rosecrans Street to Thomas Street Trail on one side	City	Vol.	X			Trail	500	$1,750		
	Hancock Street -21st Street to 25th Street Trail in unopened ROW	Vol.		X			Trail	1000	$3,500		
	21st Street - Sheridan Street to Discovery Road Install trail and sign	City	Vol.		X		Trail	1100	$3,850		
	21st Street - Hancock Street to Sherman Street Install shortcut in unopened ROW	Vol.			X		Trail	100	$350		
	McClellen Street - Discovery Road to 16th Street Shortcut in unopened ROW	Vol.			X		Trail	300	$1,050		
	Cliff Street - Discovery Road to 13th Street Install trail and sign	City	Vol.		X		Trail	700	$2,450		
	14th Street - Cliff to Landes										

DETAILED PROJECT LIST

Prior Votes	Segment Description of Actions	Funding Source Lead	Funding Source Other	Timing 0-5yrs	Timing 5-10yrs	Timing >10yrs	Type	Length (Ft.)	Cost	Comments	Supplement Status
	Install sidewalk one side	City				X	Sidewalk	4900	$98,000		
	Install trail on side	Vol.			X		Trail	4900	$17,150		
	13th Street - Hancock to Hendricks										
	Shortcut in unopened ROW	Vol.		X			Trail	500	$1,750		
	13th Street - Cleveland to Gise										
	Shortcut in unopened ROW	Vol.		X			Trail	500	$1,750		
	Thomas - 12th Street to 13th Street										
	Trail one side	Vol.			X		Trail	200	$700		

Cost Information has not been updated with the supplement, but is included for comparison purposes of the supplemental projects listed.

APPENDIX E. NON-MOTORIZED USE SURVEYS

2002 August Bicycle Parking Survey

Bicycle Parking Subcommittee

	Location	Type of Rack*	Number of Racks	Capacity # of Bikes	Comments
Schools					
	Grant St. Elementary	Dishrack	1	2	
	Mountain View Elementary	Dishrack	3	6	Not fastened
	Blue Heron Middle	Ribbon	8	24	
	PT High School	Dishrack	1	2	
Downtown Business District					
Madison and North					
	Port Hudson		none		No racks anywhere in the Marina, Stores or Restaurants
	PT Athletic Club	Dishrack	1	4	Not fastened and battered.
	Memorial Athletic Field		none		Sign on entrance "No Cycles Inside" (and no parking outside!)
	City Hall	Horizontal bars	2	8	
	Pope Marine Building	Cora	1	2	
Quincy	Waterman-Katz	Railing			Used as bike rack
	Waterman-Katz		1	8	Employee rack in back
	City Parking Lot by Elevated Ice Cream	Cora	1	2	Not fastened
Adams	Bank of America	Dishrack	1	2	
Taylor	Rose Theatre	Dishrack	1	4	
		Dishrack	2	4	Not fastened (and not used on a busy summer Saturday)
Tyler	PT Bicycle Shop	Dishrack	2	6	Not fastened (one rack is a "wheel bender")
Polk		Railing			Used as bike rack
	Swains	Posts			Used as bike rack but interfere with pedestrians
Kah Tai to Port of PT District					
	Food Coop	Cora	1	8	
	Washington Mutual	Cora	1	3	
	Pacific NW Bank	Cora	1	3	
	Jefferson Title	Dishrack	1	4	
	Port of Port Townsend	Dishrack	3	12	About a dozen derelict or abandoned bikes parked in these racks
	Henery's Hardware	Dishrack	1	2	
	Safeway	Dishrack	1	3	
	Haines St Park & Ride	Cora	2	6	
Upper Sims Way					
	1st Federal Savings & Loan	Dishrack	1	2	
	Jefferson Transit	Dishrack	1	0	Rack against wall with "No Bicycles" sign.
	QFC	Ribbon	1	5	

	Port Townsend Business Park		0		No racks anywhere with many businesses serving the public.

Uptown Business District

Girl Scout House		0		
Aldrich's		0		
Uptown Pub		1	3	
Uptown theater		0		
Library		2	4	
Dental clinic/Natural Health center		0		
Printery/Massage Clinic		0		
Community Center	railing	0		Used as bike rack
Post Office	railing			Used as bike rack
Jefferson County Court House	Ribbon	1	5	Insufficient space

Parks

Fort Worden-Guard House/Visitor Center	railing	0		Used as bike rack
Fort Worden-McCurdy Pavilion	ribbon	1	7	
Fort Worden-Park Office	railing	0		Used as bike rack
Fort Worden-Marine Science Center	ribbon	1	7	
Fort Worden- Camp Store	Cora	1	3	
Fort Worden-Natural History Exhibit		0		
Fort Worden-Point wilson Lighthouse		0		
Fort Worden-Centrum	railing	0		Used as bike rack
Fort Worden-Hostel	dishrack	2	5	
Chetzemoka	Cora	1	4	
Cherry Street Park		0		

Sheridan/Hospital/Doctors Office

Hospital	dishrack	1	5	
Jefferson County Health Department	Cora	1	2	
New Medical Building 7th/Sheridan	railing			used as bike rack
Jefferson County Medical Group		0		
Olympic Primary	Cora	1	3	Behind building in parking area
PT Family Physicians	railing			used as bike rack

Churches

Unitarian-Universalist	U-type	3	3	Too close to building to allow 2nd bike on racks.

Tot. Locations	**56**	**43**		
Total Capacity			**50**	**173**

*For explanation of types, see Appendix F: Bike Parking

Survey by Peter Lauritzen in August 2002

2003 July - August Downtown On-Street Bicycle Parking Use

Weekday		Day	Not Racked	Racked		Daily Bikes Parked	Comments
F	July	11	6	6		12	
Su		**13**	**13**	**3**		**16**	
W		16	6	3		9	
W		16	10	1		11	
F		18	4	4		8	
M		21	2	3		5	
Tu		22	0	6		6	
W		23	9	4		13	
Th		24	13	3		16	
F		25	12	4		16	Indian Canoe Arrival
Sa		**26**	**5**	**2**		**7**	
M		28	12	4		16	
W		30	4	7		11	
F	August	1	7	2		9	
Sa		**2**	**10**	**3**		**13**	
M		4	7	7		14	
Tu		5	7	5		12	
W		6	9	1		10	
Totals			136	68		204	
Average/day			7.6	3.8		11.3	
Percent on Average			67	33			

Eighteen Days at times ranging from 12:00 noon to 17:00.
Time of day seems to have little effect on numbers. Nor does day of week.

Survey Performed by Jim Todd in July & August 2003
Project of Port Townsend's Non-Motorized Transportation Advisory Board

2003 October Commuting Survey of Downtown Employers

	Store			Number of Employees	Number Who Bike	Bus	Walk	Percentage 'Who Bike	Bus	Walk	Pro Bike Policy	More Racks	Cars Parked in Lot	Street	Comments
1	Leader, The	226	Adams	33	1		5	3		15	N	Y	L	S	
2	Olympic Art & Office	220	Taylor	4	2	2		50	50			Y		S	
3	Artisans on Taylor	236	Taylor	2								Y		S	
4	Silverwater	237	Taylor	40	12	1	8	30	3	20		Y		S	
5	Pacific Crossroads	238	Taylor	1								Y		S	Wants rack at store
6	Tyler St. Coffee	215	Tyler	9	3		1	33		11		Y		S	
7	Forest Gems	807	Wash	2			1			50		Y	L		
8	Wandering Wardrobe	823	Wash	2			1			50		Y		S	
9	Fountain Café	920	Wash	15	5		3	33		20		Y		S	Wants rack at store
10	El Sarape	628	Water	14	2	1	3	14	7	21	0	Y	L		
11	Elevated Ice Cream	631	Water	20	5	2	2	25	10	10	Y	Y	L	S	
12	Phoenix Rising	696	Water	6			2			33	0	Y	L		Would use bikes
13	PT Gallery	715	Water	30		1	3		3	10	0	Y	L		
14	Green Eyeshade	720	Water	7			1			14	0	Y	L	S	
15	Nifty Fifty	817	Water	5			2			40		Y		S	
16	Maestrale	821	Water	6			2			33	N	Y		S	
17	Hollys	825	Water	8								Y		S	
18	James Books	829	Water	4		1	1		25	25		Y	L	S	
19	About Time	839	Water	5		1			20			Y		S	
20	Quimper Sound	901	Water	5	1		2	20		40		Y		S	
21	NW Man	912	Water	2								Y		S	
22	PT Bunny	914	Water	3			2			67		Y		S	
23	Moongate	926	Water	2	1			50				Y		S	
24	Wandering Angus	929	Water	3								Y		S	
25	Wildernest	929	Water	4	1		1	25		25		Y		S	
26	Abracadabra	936	Water	3			1			33		Y	L		
27	Golden Times	1020	Water	3								Y	L		Wants rack at store
28	Public House	1038	Water	78	4		3	5		4		Y	L	S	
29	Sportownsend	1044	Water	4	1			25				Y	L		
30	Pacific Office Equip.	1111	Water	3		1			33			Y	L		
30	Totals			323	38	10	44				2 (Y)	30 (Y)	34	36	
	Average			10.8	1.3	0.3	1.5	12	3	14					

General Comments from Employers:

1. Bus schedule is not good for workers, especially workers with kids.
2. Park & Ride needs police.
3. Many workers with cars live outside of town.

Comments:

Pro Bike Policy: Blanks indicate no data available

More Racks: 0 indicates a neutral response.

Data taken by Jim Todd in October 2003

Project of Port Townsend's Non-Motorized Transportation Advisory Board

2007 September Bicycle and Pedestrian Count

Discovery & Hastings Intersection

	Totals	Discovery						
Interval Start Time	**2:00-6:00**	**2:00**	**2:30**	**3:00**	**3:30**	**4:00**	**4:30**	**5:00**	**5:30**
All Pedestrians	**9**	**1**	**4**	**1**	**0**	**0**	**2**	**0**	**1**
Pedestrian Adult	**4**	1		1			1		1
Pedestrian Child	**5**		4				1		
All Bicyclists	**14**	**1**	**3**	**0**	**2**	**2**	**0**	**4**	**2**
Adult w/Helmet	**4**		1		1			1	1
Adult w/o /Helmet	**3**				1			1	1
Child w/ Helmet	**4**		2			1		1	
Child w/o Helmet	**3**	1				1		1	
Fraction of bicyclists with Helmets	**0.57**	0.00	1.00		0.50	0.50		0.50	0.50

	Totals	Hastings						
Interval Start Time	**2:00-6:00**	**2:00**	**2:30**	**3:00**	**3:30**	**4:00**	**4:30**	**5:00**	**5:30**
All Pedestrians	**7**	**0**	**2**	**0**	**0**	**1**	**1**	**2**	**1**
Pedestrian Adult	**2**							1	1
Pedestrian Child	**5**		2			1	1	1	
All Bicyclists	**11**	**2**	**2**	**0**	**0**	**2**	**2**	**1**	**2**
Adult w/Helmet	**5**	1	1			1		1	1
Adult w/o /Helmet	**3**					1	1		1
Child w/ Helmet	**1**		1						
Child w/o Helmet	**2**	1					1		
Fraction of bicyclists with Helmets	**0.55**	0.50	1.00			0.50		1.00	0.50

Notes

1. Blue Heron School let out at 2:30, increasing traffic.
2. Light, misty rain from 3:00 to 4:00 drastically decreased both pedestrians and cyclists. Otherwise weather was cloudy. Otherwise weather was cloudy with neglible wind.
3. North-south directional information seemed insignificant and is omitted from the tabulated results.

Survey Date Thursday, 9/20/07

by Jolly Wahlstrom, Chris Jones, Peter Lauritzen, NMTAB

2007 September Bicycle and Pedestrian Count (Continued)

Kearney & Blaine Intersection

	Totals	Kearney							
Interval Start Time	**2:00-6:00**	**2:00**	**2:30**	**3:00**	**3:30**	**4:00**	**4:30**	**5:00**	**5:30**
Pedestrians	**17**	**2**	**2**	**2**		**1**	**1**	**3**	**6**
All Bicyclists	**31**	**5**	**5**	**5**	**2**	**4**	**6**	**0**	**4**
Bicycles on Sidewalk									
Adult w/Helmet	**2**						2		
Adult w/o /Helmet	**0**								
Child w/ Helmet	**1**				1				
Child w/o Helmet	**0**								
Bicycles on Street									
Adult w/Helmet	**18**	4	3	4	1		3		3
Adult w/o /Helmet	**9**	1	2	1		3	1		1
Child w/ Helmet	**1**					1			
Child w/o Helmet	**0**								
Fraction of bicyclists with Helmets	**0.71**	0.80	0.60	0.80	1.00	0.25	0.83		0.75

	Totals	Blaine							
Interval Start Time	**2:00-6:00**	**2:00**	**2:30**	**3:00**	**3:30**	**4:00**	**4:30**	**5:00**	**5:30**
Pedestrians	**26**	**4**	**4**	**7**	**3**	**2**	**1**	**4**	**1**
All Bicyclists	**22**	**3**	**4**	**5**	**5**	**1**	**0**	**3**	**1**
Bicycles on Sidewalk									
Adult w/Helmet	**0**								
Adult w/o /Helmet	**1**					1			
Child w/ Helmet	**2**				1			1	
Child w/o Helmet	**0**								
Bicycles on Street									
Adult w/Helmet	**9**	2	2	2	1			1	1
Adult w/o /Helmet	**6**	1	2	2				1	
Child w/ Helmet	**3**			1	2				
Child w/o Helmet	**1**				1				
Fraction of bicyclists with Helmets	**0.64**	0.67	0.50	0.60	0.80	0.00		0.67	1.00

Notes

1. Mountain View School let out at 3:30, increasing traffic.
2. Light, misty rain from 3:00 to 4:00 drastically decreased both pedestrians and cyclists.
   Otherwise weather was cloudy with negligible wind.
3. Hourly data from 2:00 to 3:30 are estimates since survey person lacked watch. However, totals are accurate
4. During the 2:00-3:30 interval two electric bicycles were observed and counted as bicycles.
5. During the 2:00-3:30 interval one tandem bicycle was observed and counted as two bicycles.
6. During the 5:30-6:00 interval one person skateboarded down Kearney Street.

Survey Date Thursday, 9/20/07
by Pat Teal & Peter Lauritzen, NMTAB

2007 October Bicycle Parking Survey

Non-Motorized Transportation Advisory Board

	Location	Type*	#	# bikes	Covered	Comments/Suggested Improvements
		(New since 2002 in **Boldface**)				
Downtown						
Madison & North	Port of Port Townsend: Hudson Point		0			Popular for sightseeing, nature-watching, restaurants: Install Inverted U or Bike Rails at tip of point and at Hudson & Jefferson
	Port of PT: Puget Sound Express		0			Install Bike Rail — boats to Friday Harbor, whalewatching
	PT Skate Park	Railing	1			Railing surrounding park makes good bike rack
	PT Athletic Club	Dishrack	1	2		Replace with Inverted U or Bike Rail
	Memorial Athletic Field	**Inverted U**	**1**	**2**		Add another Inverted U
	American Legion		0			Install Bike Rail
	City Hall - NE - rear	**Bike Rail**	**3**	**6**	YES	only COVERED bicycle parking Downtown; intended for staff — inconvenient for City Hall because rear door always locked
	City Hall - SE - Council Chamber	Bike Rail	2	6		one regular length + one double length
	City Hall - SW - main entrance	**Bollard Hitch**	**1**	**2**		by front door
	Pope Marine Building	Coathanger	1	2		Replace with Inverted U or Bike Rail
Quincy	N D Hill on Water Street	**Bike Rail**	**1**	**3**		
	North corner Quincy & Water (opp. ND Hill)	**Bike Rail**	**1**	**3**		
	Waterman-Katz on Water Street	**Bike Rail**	**1**	**3**		
	Boiler Room - front		0			Install Bike Rail
	Boiler Room - rear	Dishrack	1	2		Replace with 2 Inverted U
	City Parking Lot by Elevated Ice Cream	Coathanger	1	2		Replace with Inverted U or Bike Rail
	Elevated Ice Cream	**Bike Rail**	**1**	**3**		on Water Street
Adams	on Adams midway from Water to Washington		0			Install Bike Rail - none on street with newspaper and restaurant
	Adams Street Park by Nifty Fifty	Coathanger	1	2		Replace with covered clustered Inverted U racks
	between Adams & Taylor on Water Street	**Bike Rail**	**1**	**3**		
Taylor	Heron's Nest/Galatea Café	**Inverted U**	**1**	**2**		on right side of building on Washington Street
	Corner Washington & Taylor		0			Install 3 Inverted U - 2 left and 1 right of crosswalks facing fountain
	Rose Theatre on Taylor Street	**Bike Rail**	**1**	**3**		
	Rose Theatre	Dishrack	1	2		Replace with additional Bike Rail
Tyler	City-owned parking lot		0			Install clustered covered Inverted-U racks
	Port Townsend Cyclery	Dishrack	2	NA		on-premise use for rental bikes
	Tyler Street Coffee House	Dishrack	1	2		Replace with Inverted U or Bike Rail
	Lighthouse Café on Water Street	**Bike Rail**	**1**	**3**		
	between Tyler & Polk waterfront side	**Bike Rail**	**1**	**3**		on Water Street
Polk	north and east corners Polk & Water	**Bike Rail**	**2**	**6**		
	half block SW from Polk & Water bluff side	**Bike Rail**	**1**	**3**		
	Swains	Posts				Install Inverted U or Bike Rail
	Radio Shack	**Bike Rail**	**1**	**3**		
	Tides Inn	Dishrack	1	2		Install Inverted U or Bike Rail
Kah Tai and Boat Haven						
	Food Coop	**Inverted U**	**15**	**28**	YES	rail-mounted Dero Swerve racks
	Thai restaurant + Hollywood Video	**Bike Rail**	**2**	**6**		one at either end of shopping center
	Jefferson Title	Dishrack	1	2		Install Inverted U or Bike Rail

Port of Port Townsend Boat Haven	Dishrack	3	6		Replace with Inverted U or Bike Rails by ramps to docks
Port of Port Townsend Boat Haven	**Wave**	**1**	**2**		by restrooms at west gate to Larry Scott Trail
Port Townsend Brewing Company tasting room		0			Install Inverted U or Bike Rail
Key City Fish Company		0			Install Inverted U or Bike Rail
Blue Moose Café		0			Install Inverted U or Bike Rail in space by pine tree on left
Henery's Hardware	**Inverted U**	**2**	**4**		
Safeway Supermarket	Dishrack	2	4		Replace with 2 Inverted U or Bike Rails, one at each entrance
Safeway Fast Stop	**Inverted U**	**1**	**2**		Nice! Why can't Safeway do the same at its supermarket?
Jefferson Transit: Haines St Park & Ride	Coathanger	2	4		Convert to Inverted U or Bike Rails and COVER

Upper Sims Way

Jefferson Transit Offices	Dishrack	1	2		Replace with Inverted U or Bike Rail
QFC	Wave	1	3	YES	
Port Townsend Business Park		0			Install 2 Inverted U or Bike Rails
PT Goodwill	**Inverted U**	**4**	**8**		
Children's Hospital thrift Center		0			Install Inverted U or Bike Rail
Habitat for Humanity		0			Install Inverted U or Bike Rail

Uptown

Girl Scout House		0			Install Inverted U or Bike Rail
Aldrich's	**Inverted U**	**2**	**4**		
Uptown Pub / Lanza's	Dishrack	1	1		Replace with Inverted U or Bike Rail
Badd Habit diagonally across from Aldrich's	**Inverted U**	**3**	**6**		
Wild Coho		0			Install Inverted U or Bike Rail
East side corner of Lawrence & Polk		0			Install Inverted U or Bike Rails (perhaps clustered in bulb-out)
Uptown Theatre / Key City Players		0			Inverted U or Bike Rail as condition of permit for new playhouse
Library	**Inverted U**	**6**	**12**		Dero Swerve
Pink House	Wheelbender	1	0		Remove: unnecessary with new Library racks
Uptown Dental Clinic	Alcove Railing	1	1	YES	COVERED and convenient parking at entrance alcove
608 Polk (@Clay) dental office	Dishrack	1	2		Install Inverted U or Bike Rail
Tyler between Lawrence & Clay		0			Install Inverted U or Bike Rail to serve printery/bakery/massage
Community Center	**Inverted U**	**1**	**2**	YES (1)	Install 2 more Inverted U
Recreation Center	**Inverted U**	**1**	**2**	YES	Under external stairs
Post Office	**Bike Rail**	**2**	**4**		One on either end of building
Masonic Temple		0			Install Inverted U or Bike Rail
Jefferson County Court House	Wave	2	5		
Courthouse Park		0			Install Inverted U near tennis courts

Parks

Fort Worden - Guard House/Visitor Center		0			Install Inverted U or Bike Rail
Fort Worden - McCurdy Pavilion	Wave	1	3		
Fort Worden - Park Office	Railing	0			Rear railings used by and fully functional for bikes
Fort Worden - Marine Science Center	Wave	1	3		
Fort Worden - Camp Store	Coathanger	1	2		Install Inverted U or Bike Rail
Fort Worden - Natural History Exhibit		0			Install Inverted U or Bike Rail
Fort Worden - Point Wilson Lighthouse		0			Install Inverted U or Bike Rail once acquired from Coast Guard
Fort Worden - Centrum	Dishrack				Install Inverted U or Bike Rail
Fort Worden - Hostel	Wheelbender	1	0		Replace with Inverted U or Bike Rails
Fort Worden - Commons	**Big Dishrack**	**2**	**6**		Replace with 4 Inverted U: 3 in front, 1 in back
Fort Worden - Peninsula College		0			Install 6 covered U racks; currently >12 bicycles leaning on bldg

	Chetzemoka Park	Coathanger	1	2		Replace with Inverted U and install Inverted U by steps to beach
	McGarraugh Park - Cherry Street		0			Install Inverted U or Bike Rail
	Sather Park - Morgan Hill		0			Install Inverted U or Bike Rail
	North Beach		0			Install Inverted U or Bike Rail
	Jefferson County Fairgrounds	Railing		10		Railing acceptable for bikes; remove nonfunctional "dishracks"
Schools						
	Grant St. Elementary	Dishrack	1	2		Replace with 9 Inverted U or Bike Rails for new school
	Mountain View Elementary	Dishrack	3	6		School Board planning to close school
	Blue Heron Middle	Wave	8	24		
	PT High School	Dishrack	1	2		Replace with 12 Inverted U or Bike Rails in convenient locations
Medical						
	Hospital	Wheelbender	1	0		Replace with 3 COVERED Inverted U or Bike Rails
	Jefferson County Health Department	Dishrack	1	2		Replace with Inverted U or Bike Rail
	New Medical Building 7th/Sheridan		0			Install Inverted U to keep bikes off hand railings
	Jefferson County Medical Group		0			Install Inverted U or Bike Rail
	Olympic Primary	Dishrack	1	2		Install Inverted U or Bike Rail
	PT Family Physicians		0			Install Inverted U to keep bikes off hand railings
	Olympic Health Services	**Inverted U**	**2**	**2**		Too close to building to allow 2nd bike on racks
Banks						
	First Federal Savings	Dishrack	1	2		Replace with Inverted U or Bike Rail
	Bank of America	Dishrack	1	2		Replace with Bike Rail
	Frontier Bank		0			Install Inverted U or Bike Rail
	Kitsap Bank (Sim's Way)	**Coathanger**	**1**	**2**		Replace with Inverted U or Bike Rail
	Pacific NW Bank	Coathanger	1	2		Replace with Inverted U or Bike Rail
	Quimper Community Credit Union	**Custom Railing**	**1**	**2**	YES	COVERED and convenient parking at entrance
	US Bank		0			Install Inverted U or Bike Rail
	Washington Mutual	Coathanger	1	2		Replace with Inverted U or Bike Rail
	Wells Fargo	Coathanger	1	2		Replace with Inverted U or Bike Rail
Churches						
	Unitarian-Universalist	Inverted U	3	3		Too close to building to allow 2nd bike on racks
	Presbyterian	Dishrack	1	2		Replace with Inverted U or Bike Rail
	Episcopalian		0			Install Inverted U to keep bikes off hand railings
	Catholic		0			Install Inverted U
	Methodist		0			Install Inverted U
	Baptist		0			Install Inverted U
	Lutheran		0			Install Inverted U
	Seventh-Day Adventist		0			Install Inverted U
	San Juan Baptist		0			Install Inverted U
Other						
	Rosewind CoHousing Commons	**Spiral**	**1**	**4**		tradename Boa
	Azara at corner F Street & San Juan Ave	**Wave**	**1**	**2**		

TOTAL LOCATIONS 117 With Racks 78

TOTALS	125	271	7	
	66	146	5	NEW since 2002

*For explanation of types, see Appendix F: Bike Parking

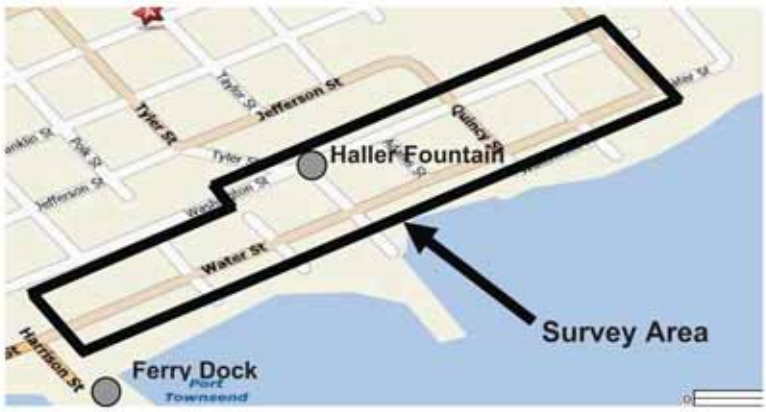
Survey by Andrew Reding throughout 2007

2008 July - August Downtown On-Street Bicycle Parking Use

Date	Time	Name	Number of Bikes-Racked	Number of Bikes-Unracked	Total Bikes	Comments/Notes
Friday, July 11, 2008	2:50	Allison Danner	18	11	29	
Saturday, July 12, 2008	3:30	Jolly Wahlstrom	10	8	18	3 at Boiler Room
Sunday, July 13, 2008	4:15	Jolly Wahlstrom	2	6	8	rainy day
Monday, July 14, 2008	--	--	--	--	--	
Tuesday, July 15, 2008	4:10	MH Ames	16	7	23	6 unracked at Boiler Rm
Wednesday, July 16, 2008	3:35	MH Ames	22	15	37	
Thursday, July 17, 2008	--	--	--	--	--	
Friday, July 18, 2008	--	--	--	--	--	
Saturday, July 19, 2008	3:30	Jane Whicher	10	24	34	4 at Boiler Room
Sunday, July 20, 2008	2:10	Peter Lauritzen	21	11	32	
Monday, July 21, 2008	2:45	Allison Danner	12	5	17	
Tuesday, July 22, 2008	1:10	Allison Danner	14	10	24	3 at Swains
Wednesday, July 23, 2008	3:35	Allison Danner	15	13	28	3 at Swains
Thursday, July 24, 2008	2:55	Allison Danner	10	6	16	
Friday, July 25, 2008	3:05	Allison Danner	21	12	33	
Saturday, July 26, 2008	--	--	--	--	--	
Sunday, July 27, 2008	--	--	--	--	--	
Monday, July 28, 2008	4:00	Allison Danner	10	12	22	2 at Swains
Tuesday, July 29, 2008	2:00	MH Ames	--	--	18	Only total is accurate
Wednesday, July 30, 2008	3:10	Allison Danner	19	7	26	1 at Swains
Thursday, July 31, 2008	--	--	--	--	--	
Friday, August 01, 2008	--	--	--	--	--	
Saturday, August 02, 2008	1:00	Peter Lauritzen	11	7	18	
Sunday, August 03, 2008	3:30	Jolly Wahlstrom	8	6	14	4 at Boiler Room
Monday, August 04, 2008	3:50	Allison Danner	12	4	16	2 at Swains
Tuesday, August 05, 2008	4:00	Allison Danner	15	3	18	
Wednesday, August 06, 2008	12:50	Allison Danner	10	12	22	2 at Swains
Thursday, August 07, 2008	1:30	Allison Danner	13	6	19	
Friday, August 08, 2008	--	--	--	--	--	
Total			269	185	454	
Average	**3:23**		**13**	**9**	**21**	

Methodology

The Downtown Bike Parking Survey was done between 12pm and 5 pm for four weeks in July and August 2008. City employees and volunteers from the Non-Motorized Transportation Advisory Board completed the survey. Each day surveyors walked through the survey area counting bikes parked on racks and bikes parked in other locations. See below for a map of the survey area. Off-street parking at Pope Marine Park and Elevated Ice Cream was included in the count, while parking at the Boiler Room and Swains was not.



2003 Downtown Bike Parking Survey

Date	Time	Name	Number of Bikes-Racked	Number of Bikes-Unracked	Total Bikes	Comments/Notes
Friday, July 11, 2003	--	Jim Todd	6	6	12	
Saturday, July 12, 2003	--	--	--	--	--	
Sunday, July 13, 2003	--	Jim Todd	3	13	16	
Monday, July 14, 2003	--	--	--	--	--	
Tuesday, July 15, 2003	--	--	--	--	--	
Wednesday, July 16, 2003	--	Jim Todd	2	8	10	
Thursday, July 17, 2003	--					
Friday, July 18, 2003	--	Jim Todd	4	4	8	
Saturday, July 19, 2003	--	--	--	--	--	
Sunday, July 20, 2003	--	--	--	--	--	
Monday, July 21, 2003	--	Jim Todd	3	2	5	
Tuesday, July 22, 2003	--	Jim Todd	6	0	6	
Wednesday, July 23, 2003	--	Jim Todd	4	9	13	
Thursday, July 24, 2003	--	Jim Todd	3	13	16	
Friday, July 25, 2003	--	Jim Todd	4	12	16	Indian Canoe Arrival
Saturday, July 26, 2003	--	Jim Todd	2	5	7	
Sunday, July 27, 2003	--	--	--	--	--	
Monday, July 28, 2003	--	Jim Todd	4	12	16	
Tuesday, July 29, 2003	--	--	--	--	--	
Wednesday, July 30, 2003	--	Jim Todd	7	4	11	
Thursday, July 31, 2003	--	--	--	--	--	
Friday, August 01, 2003	--	Jim Todd	2	7	9	
Saturday, August 02, 2003	--	Jim Todd	3	10	13	
Sunday, August 03, 2003	--	--	--	--	--	
Monday, August 04, 2003	--	Jim Todd	7	7	14	
Tuesday, August 05, 2003	--	Jim Todd	5	7	12	
Wednesday, August 06, 2003	--	Jim Todd	1	9	10	
Thursday, August 07, 2003	--	--	--	--	--	
Friday, August 08, 2003	--	--	--	--	--	
Total			**66**	**128**	**194**	
Average			**4**	**8**	**11**	

Comparison of 2003 Survey and 2008 Survey Results

The Downtown Bike Parking Survey was first done in July and August 2003 and was repeated in July and August 2008 to examine changes in bike parking. The 2003 survey results show that an average of 11 bikes were parked downtown each day and that only 34% of bikes were parked on racks while 66% were parked in other locations. The 2008 results are significantly different. The average number of bikes parked downtown increased to 21 and the percentage of bikes parked on racks increased to 59% while the percentage parked elsewhere decreased to 41%. Overall, the surveys demonstrate both an increase in the number of bikes parked downtown between 2003 and 2008 as well as an increase in usage of racks for bike parking.

Comparison Table		
	2003	**2008**
Average Number of Racked Bikes	4	13
Average Number of Unracked Bikes	8	9
Average Numberf of Total Bikes	11	21
Percent of Total Bikes-Racked	34%	59%
Percent of Total Bikes-Unracked	66%	41%

2010 April K-8 Student Transportation Mode Talley

Conducted April 19 - 21, 2010

Number of Children that live within two miles of the schools: 691

Transportation Mode	# of Children	% of Total
Walking	53	7.7%
Biking	17	2.5%
School Bus	296	42.8%
Family Vehicle	342	49.5%
Carpool	14	2.0%
Transit	2	0.3%
Other	1	0.1%

Grades K-8

Tally coordinated by Tyler Johnson

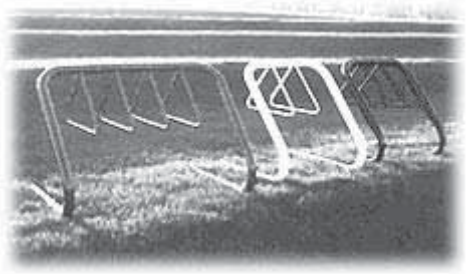
APPENDIX F. BICYCLE PARKING

BICYCLE PARKING DESIGN

The Bad and the Ugly

Many of the existing bicycle racks in Port Townsend are the "wheel bender" (left) and "fence" or "dish drier" (right) rack styles that are avoided by most bicyclists because the racks lack support for bicycle frames and are difficult for locking. In addition, wheels are vulnerable to damage when pushed from the side. The types of bicycles in common use today have a wide variety of different wheel and frame sizes that rarely fit in such racks. *Racks that primarily support wheels rather than frames should never be purchased.* Bicyclists avoid them already and will avoid them even more once functional racks are readily available.

Another unfortunate design is the "coat-hanger" rack. Examples can be seen at the Pope Marine Building or the city parking lot at the side of Elevated Ice Cream, Haines St. Park & Ride, and other locations. This type of rack again focuses on wheels rather than frames. It is also prone to scratch the paint on bicycle frames. Cora is the primary manufacturer.



The Good

The best bicycle parking is provided by the Inverted-U and Bike Rail designs. Both of these designs provide good support to the bicycle frame. The rack is suitable for any size or type of bicycle, even a recumbent or a tandem. A single Inverted-U can provide support for two bicycles, one on each side. Connected rows of Inverted-U racks ("ribcage" racks) are available for parking multiple bicycles, as seen at the Port Townsend Coop. These types of racks are available from various companies.

A Bike Rail can accommodate as many as four bicycles, two on each side, with full support for the frames. This design has been approved by Port Townsend's Historic Preservation Committee for use in the historic district. Quite a few have been installed on both sides of Water Street Downtown. They are also widely used by the City of Seattle. They are manufactured in Tacoma by Urban Accessories.

The OK

Two other types of bicycle parking seen in Port Townsend are of reduced, but still acceptable, functionality.

One is the Wave (or "undulating" or "ribbon") rack which can be found at Blue Heron Middle School, Jefferson County Courthouse, Fort Worden's McCurdy Pavilion, and the Marine Science Center. This type of rack provides bicycle frame support at only one point — compared to two or more points with the Inverted-U or Bike Rail. In addition, bicycles are parked perpendicularly, making these inappropriate for use on sidewalks, where they obstruct pedestrians (as at QFC). Children's bicycles can go under the crests and adult bikes over the troughs.

The other design is known as the Bollard Hitch (left). The only current examples are by the front door of City Hall, and on the Larry Scott Trail at Mill Road (where it is inappropriately oriented in a manner that would block the trail if bicycles ever used it, which they do not). Like the Wave rack, it only allows a single point of contact with the bicycle frame.

VISIBILITY & CLUTTER

Bicyclists in general, and visiting cyclists in particular, are not likely to spend much time searching for bike parking. They usually park as close as they can to their destination. If parking is not visible to the cyclist, it will probably not be used. In addition, bike racks sited in locations that are not highly visible facilitate theft. Bike parking must be visible and close to heavily trafficked areas. Where possible, parking should be made available on the sidewalk parallel to the curb in front of popular destinations.

Employees may prefer to park behind stores or in off-street locations. These parking spaces should be secured so as not to be accessible to thieves or vandals.

The Downtown area has narrow sidewalks. Retail storeowners place sandwich boards, sculptures, and wares on the sidewalks. In addition, there are benches and trash containers. One way to limit clutter is to situate bikes on the sidewalk parallel to and close to, the curb. This can be done by placing Inverted-U or Bike Rails near the curb and by replacing existing "dish," "fence," and "coathanger" racks. Another method is to place racks in clusters.

BUSINESS AND PROFESSIONAL SECTOR REQUESTS

Purveyors of goods and services have expressed a desire to improve bicycle-parking. They recognize that many customers shop by bike, and many employees bicycle to work. In Seattle, the Bike Spot Improvement Program provides a process for the merchant to request a bike rack in the immediate vicinity of the store to be installed by the city. A program such as this develops partnerships with retailers and encourages both customers and employees to find alternatives to automobiles.

Merchants have identified problems that arise from inadequate bicycle parking:

a) Windows broken by bikes that were leaned against storefronts;

b) Shrubs and planters (at the base of trees) damaged by parked bikes;

c) Bikes blocking pedestrian traffic for lack of convenient and safe bicycle parking.

RECOMMENDED BICYCLE PARKING MANUFACTURERS

1. Urban Accessories (Tacoma, WA)
www.urbanaccessories.com/bikeracks.htm
Bike Rails.

2. Cycle-Safe (Michigan)
http://www.cyclesafe.com/BikeRacks.tab.aspx
Single and multiple ("ribcage") Inverted-U racks.

3. Function First Bike Security (Corvallis, OR)
www.bikerack.com
Single and multiple ("ribcage") Inverted-U racks.

4. Dero Bike Racks (Minnesota) www.dero.com
Conventional Inverted-U racks, custom and whimsical racks including fish, elk, bicycles.

5. Madrax (Wisconsin) www.madrax.com
Single and multiple ("ribcage") Inverted-U racks.

6. Detailed specifications are available in Reference 1 if a local fabricator is interested in submitting a bid for racks.

REFERENCES

1. Retailers Guide to Implementing Effective Bicycle Parking, Bicycle Alliance of Washington. The Guide can be obtained from: http://www.bicyclealliance.org/.

2. Bicycle Parking Survey for Port Townsend — August 2007, Port Townsend Non-Motorized Advisory Board.

3. On-Street Bike Parking Survey in Downtown Port Townsend, July-August 2003, Jim Todd and the PT Non-Motorized Advisory Board.

4. Commuting Survey for Downtown Port Townsend, October 2003, Jim Todd and the PT Non-Motorized Advisory Board.