

Skagit County Nonmotorized Transportation Plan

**Skagit Sub Regional
Transportation Planning Organization**

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Skagit County Department of Public Works

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1.0 Nonmotorized Travel in Skagit County

Long before Euro-american settlers reached the Skagit Valley a century and a half ago, Native Americans had already established an extensive travel network-a nonmotorized transportation system - to satisfy people's needs for sustenance, security, trade, communication and enjoyment of their natural surroundings. Hundreds of miles of footpaths and "water trails" for canoes allowed access to the wilderness and helped tie communities together. West of the Cascades, people living on the shores of the inland sea and along rivers and lakes were linked by rugged paths to people living east of the mountains.

In the mid-1800s, newcomers to the territory discovered an immense wealth of resources and natural beauty here and soon began to settle by the thousands. Horses quickly became the preferred mode of transportation. Many utilized trails that native people had built and maintained for centuries. Some were converted to wagon roads and new road systems were developed as the first urban centers appeared.

Railroads, motorcars and bicycles were not far behind. As steam trains and the internal combustion automobile revolutionized the mobility and industrious capacity of Americans, profound changes began to spread across the landscape. Communities developed around the automobile and railroads linked them together.

In Europe and elsewhere, cities and towns had developed around paths and carriageways, long before motorized transportation was even conceivable. In America, the automobile, a quick and easy means of getting around, led to the emergence of a different kind of urban-suburban community, one that can suffer from traffic congestion, smog and urban and suburban sprawl if growth and development - and transportation systems - are not carefully planned or managed.

Today, automobiles are the largest source of air pollution in Washington State. Without good planning, cars can also "consume" the landscape, at least indirectly. It is not unusual, for example, for a mid-sized American city to devote more than half its total land area to streets, highways and parking lots - far more than we normally dedicate to public schools, parks, trails and open space.

As larger cities in the Puget Sound/ Georgia Basin region grapple with their own problems with sprawl and congestion, smaller communities are taking a closer look at what could happen if our daily needs for transportation are not well thought out. Increased public interest in transportation issues is

"It is the policy of the United States to develop a National Intermodal Transportation System that is economically efficient and environmentally sound, provides the foundation for the Nation to compete in the global economy, and will move people and goods in an energy efficient manner."

- Intermodal Surface
Transportation
Efficiency Act of 1991

reflected in new public policies contained in the 1990 Washington State Growth Management Act and an act of Congress known as "ISTEA," the Intermodal Surface Transportation Efficiency Act of 1991. The Transportation Policy Plan for Washington State, an annual report of the Washington State Transportation Commission to the legislature, also outlines a number of policy recommendations that emphasize alternatives to the single-occupant automobile.

Citizens are exploring ways to reduce our reliance on the automobile and encourage alternative modes of transportation, such as high-speed rail, public transit and the development of nonmotorized facilities like multi-use trails and bike lanes. None of the alternatives are perfect and none are meant to replace the automobile. But they do give people more options to choose from. Ironically, road shoulders and abandoned railroad grades offer excellent opportunities to develop a regional nonmotorized transportation system in Skagit County.

Bikeways, walkways, high-speed rail or transit will not suit everyone's needs, but combined, they can make a difference. By looking at all the costs and benefits of providing alternative modes of travel, citizens, planners, engineers and public officials can make transportation decisions that best serve the community over the long haul. Nonmotorized options are the least expensive to build and maintain, are friendly to the environment, and can significantly benefit personal fitness and the quality of life in the region.

1.2 Plan Overview

This plan focuses on nonmotorized travel alternatives for Skagit County. The plan provides a basis for the nonmotorized section of the Sub-Regional Transportation Plan and is a key component of the transportation element of the new Skagit County Comprehensive Plan. Nonmotorized elements, while not specifically mandated in the Washington State Growth Management Act, are essential elements in the development of adopted programs and funding for a variety of public facilities, including Federal funding support for sidewalks, access to transit activities, trails and road improvement projects. Facilities and issues that involve travel by bicycle, on foot, and to a lesser extent on horseback are addressed and a number of key recommendations are made. The overall long-term goal of the plan is to achieve a *safe, convenient, cost-efficient and countywide nonmotorized transportation system*.

The plan begins with this introduction (*Part 1*) and a look at current activities, trends, problems and opportunities for nonmotorized transportation (*Part 2*), including a description of new state and federal mandates for nonmotorized transportation planning and program development, followed by

an inventory of existing facilities and a bicycling suitability assessment of the present road system. The demand and need for facilities have been assessed and current policies and regulations evaluated. Specific recommendations are made concerning goals and policies, the nonmotorized transportation system, facilities, design standards and guidelines, regulations, safety, education and enforcement, and intermodal transportation.

Finally, the plan includes strategies for implementation that address priority projects, funding, right-of-way acquisition, development, maintenance and administration. With the support of citizens, the business community, transportation officials and others who value nonmotorized transportation as one of many viable modes of travel, this plan could contribute much to the needs of the community and to the quality of life in Skagit County.

1.3 Summary of Recommendations

For quick reference, a summary of major plan recommendations is provided below.

Goals & Policies

- ~~§§~~ As a matter of policy, Skagit County should strive to serve the public's current and future nonmotorized transportation needs in a manner consistent with this plan.
- ~~§§~~ A countywide system of safe, efficient and interconnected trails and bikeways should be provided, including on- and off-street facilities that link populated areas of the county with important travel destinations).
- ~~§§~~ Nonmotorized travel needs should be met through appropriate planning, design, construction and maintenance of facilities, including single-use and multi-use trails, including the use of dikes, levees, utility corridors, abandoned railroad grades, as well as roads, (road shoulders regularly swept), sidewalks, bikeways, bikelanes and related improvements. Maintenance of existing facilities should be regarded as one of the highest priorities.
- ~~§§~~ Public safety, education and law enforcement should be recognized as integral to the development of nonmotorized transportation opportunities in Skagit County

1.3 Nonmotorized Transportation System (Map)

✍ A countywide system of primary and secondary nonmotorized travel routes is recommended (*Section 6.2*). The system utilizes existing roads and highways, abandoned railroad grades, utility corridors, and public open space, as well as land, easements or other right-of-way that may become available in the future.

1.4 Facility Recommendations

✍ The countywide nonmotorized transportation system consists of all roads, highways, sidewalks and other facilities. Specific recommendations are made for the type of facility that is most desirable or appropriate for each trail or roadway segment to which bicyclists and pedestrians have legal access. Additional attention is paid to a network of key facilities upon which is envisioned specific facility improvements, such as bike lanes, paved shoulders, development of pathways and trails, and other system improvements. (*Section 6.3*).

✍ Maintenance of existing facilities, especially regular sweeping of paved road shoulders, is a high priority. Shoulder sweeping of primary on-street routes can potentially bring the greatest benefit to nonmotorized travel at the lowest cost. Regular maintenance should also be provided for as new facilities are developed.

✍ The highest priorities for new on- and off-street facilities within unincorporated Skagit County are listed in Table 1-1.

✍ Priority routes are also identified for improvement within incorporated areas of the county. Although the cities have discretion over these improvements, the routes listed in Table 1-2 represent high priorities in linking urban areas to the regional nonmotorized transportation system. As the cities plan for nonmotorized transportation in the urban areas, Skagit County may need to review and/or revise portions of the system described in this plan. This document, upon review and recommendation by the Skagit Regional Transportation Planning Organization, will be reviewed and adopted by Skagit County as their regional nonmotorized transportation planning and policy document.

**Table 1-1
Nonmotorized Facilities in Unincorporated Areas
Priority Projects (2001-2006)**

On-Street Facilities	
<p>Bayview Edison Rd. (SR 20 to Edison)</p>	<p>Construct 5-foot paved shoulders (or bikelanes) from SR 20 north to Breazeale Interpretive Center. Although listed as a high priority, this facility should be planned and developed in conjunction with the proposed Coastal Millenium Trail.</p>
<p>West Big Lake Blvd.</p>	<p>Incorporate 4-foot wide paved shoulders (or bikelanes) from Little Mt. Rd. north to SR 9 in future road improvement projects.</p>
<p>Campbell Lake Rd.</p>	<p>Construct 4- to 6-foot paved shoulders from SR 20 west to Heart Lake Rd in future road improvement projects.</p>
<p>Miscellaneous</p>	<p>Many other routes require minor improvements or better maintenance. More frequent shoulder sweeping was identified as an essential means of enhancing suitability of the road system to bicycle use.</p>

**Table 1-1 (cont.)
Nonmotorized Facilities in Unincorporated Areas
Priority Projects (2001-2006)**

Off-Street Facilities	
Centennial Trail	Plan, design and develop a multi-use trail system over county owned abandoned railroad grade between Big Lake and Sedro Woolley.
Evergreen Trail	Plan, design and develop a multi-use trail across Fidalgo Island generally linking Washington Park and the San Juan Ferry terminal with Heart Lake, Lake Campbell and Deception Pass. (In cooperation with City of Anacortes)
Millenium Trail (Whatcom to Snohomish County)	Coordinate nonmotorized facility development and programming to provide links to the proposed Millenium Trail linking Skagit County and Whatcom County.

1.5 Design Standards & Guidelines

☞The plan recommends that all facilities be designed, developed and maintained in accordance with recognized federal, state and local standards and guidelines, specifically the 1999 edition of the AASHTO Guideline to the Development of Bicycle Facilities, the manual of Uniform Traffic Control Devices, and the Washington State Design Manual. (*Section 6.4*).

1.6 Regulatory Recommendations

☞Reasonable zoning, shoreline and subdivision requirements, development standards, impact fees, and incentives should be adopted by Skagit County and other jurisdictions to help ensure that facilities for nonmotorized transportation are included in all developments except where they are clearly inappropriate (*Section 6.5*).

1.7 Safety, Education & Enforcement

☞Safety, education and law enforcement are key to the success of nonmotorized transportation plans and programs and should be encouraged and supported at all levels of County government (*Section 6.6*).

☞A nonmotorized facilities user map and information brochure, periodically updated, should be made available to the public.

1.8 Intermodal Transportation

☞Nonmotorized travel modes should be accommodated to the greatest extent practical in the design and operation of all multimodal facilities (such as transit stops, ferry terminals, the new Amtrak station, Skagit Regional Airport, and motor vehicle park and ride lots), except where clearly inappropriate (*Section 6.7*).

1.9 Funding & Implementation

☞Strategies for implementation of this plan have been developed, including specific recommendations for funding, administration, right-of-way acquisition and related needs (Part 7). Projects that potentially qualify for both transportation and recreation funding sources should be prioritized for transportation funding purposes based upon the degree to which the project addresses safety, access and mobility for nonmotorized users.

1.10 Planning Goals & Policies

The purpose of this plan is to provide a framework for the development of nonmotorized transportation facilities and strategies that can satisfy current and future needs of the people of Skagit County. To accomplish this, an overall policy statement, several long-term goals and a number of specific policies have been developed which address the needs of bicycle, pedestrian and equestrian modes of travel, as well as intermodal opportunities within the larger transportation system.

The goal statements speak to the public's vision for nonmotorized transportation opportunities over the next ten to twenty years. The policies represent building blocks and incremental steps that must be taken now and in the near future in order to achieve that vision.

Goals and policies focus on three major themes: the overall nonmotorized transportation system, specific facilities and design standards that comprise the system, and related issues involving public safety, education and law enforcement. The following vision statement represents the countywide commitment to serving the nonmotorized transportation needs of its citizens.

Vision Statement

It is the policy of the Skagit Sub RTPO to serve the public's current and future nonmotorized transportation needs. The development and implementation of facilities and strategies outlined in this plan should be responsive to a full range of issues and concerns, including engineering and design, safety, education, law enforcement and encouragement of nonmotorized travel as a viable alternative to the single-occupancy automobile.

Goal #1 The Nonmotorized Transportation System

To provide a safe, efficient and interconnected system of trails and bikeways, including both on- and off-street facilities, that link populated areas of the county with important travel destinations, including activity centers, educational centers (high schools and colleges) and residential areas.

Policies:

The Skagit Sub-RTPO nonmotorized transportation system is comprised of all streets and highways to which access by bicyclists and pedestrians is permitted, separated trails and pathways which

have a transportation function as defined in this plan, and any system or design accommodations meant to serve nonmotorized users.

- ☞ In addition to the system described above, Skagit County will identify and map a countywide system of key streets and separated shared use facilities which are high priority facilities for specific nonmotorized improvements and/or development*
- ☞ New and reconstructed roads and highways across Skagit County will be designed and constructed to a standard which accommodates the safety, mobility and access needs of pedestrians, bicyclists and (where appropriate) equestrians.*
- ☞ Provide for the diverse needs of bicycle, pedestrian and equestrian modes through appropriate routing and the utilization of single-use and shared-use facilities.*
- ☞ Interconnect all significant traffic generators such as neighborhoods and communities with each other as well as with a wide variety of destinations including schools, employment and commercial centers, medical and social service centers, shopping areas, recreation sites and facilities (public and private), scenic areas, transit stops, ferry terminals, rail stations and other transportation modes touring destinations, and the nonmotorized facilities and systems of adjoining counties.*
- ☞ Provide convenient access to and from abutting sites and facilities.*
- ☞ Promote the development of a cost-effective nonmotorized transportation system in terms of right-of-way acquisition, design, development, maintenance and the incorporation of nonmotorized facilities into multi-modal facilities.*
- ☞ Utilize existing public and quasi-public lands in the development of the nonmotorized transportation system.*
- ☞ Accommodate, where appropriate, recreational use of the nonmotorized transportation system.*
- ☞ Coordinate system planning, funding, design and development with other local, regional, state, federal and tribal jurisdictions.*

Goal #2 Facilities & Standards

To achieve a high standard in meeting the needs of bicyclists, pedestrians and equestrians through appropriate planning, design, construction and maintenance of user-friendly facilities,

including single-user and multi-user trails, roads and road shoulders, bikeways, bikelanes and related improvements.

Policies:

- ☞ The Skagit Sub RTPO members should provide greater safety for bicyclists of all abilities through enhanced transportation system design. Current AASHTO (1999) and WSDOT standards should be established as the minimum for inclusion in the street/road standards, as well as a standard to be applied on regional facilities to be considered for funding through state and regional programs.*
- ☞ Encourage the land and transportation system development that accommodates the needs of bicyclists, pedestrians and (where appropriate) equestrians.*
- ☞ Remove or minimize hazards, barriers and impediments to nonmotorized transportation.*
- ☞ Preserve or acquire land, easements or other access to railroad grades (including rail-banking), utility corridors, dikes and levees, unique open space areas, or other potential corridors that may be valuable for future trail development. Such preservation and acquisition shall include due consideration of needs of adjacent residents and property owners, and should serve transportation purposes if transportation funds are used in the development of such facilities.*
- ☞ Establish minimum bicycle parking standards for subdivision and development activities including acceptable rack design.*
- ☞ Skagit Sub-RTPO members shall make every effort as defined by the implementation of the Americans with Disabilities Act to accommodate the needs of the disabled in the design and operation of transportation facilities.*
- ☞ Promote the development of facilities which are aesthetically pleasing and complementary to the natural surroundings and that also respects the County's unique character.*

Goal #3 Safety, Education & Enforcement

The County should increase education, information and traffic enforcement efforts associated with nonmotorized transportation as a means of lowering collision and injury rates associated with these modes. Such efforts should extend to all

highway users, including motorists. New programs and initiatives which further these aims should be integrated into existing safety, education and enforcement efforts within the County. Programs which specifically address nonmotorized travel should be developed in conjunction with user groups, school districts and law enforcement agencies as demand for these programs grows.

Policies:

- ☞ Promote the safe use of facilities and conformance with rules of the road by all road users.*
- ☞ Promote community and school-based educational programs that teach and encourage safe bicycling including traffic safety and the use of bicycle helmets.*
- ☞ Encourage reasonable and balanced enforcement of regulations for motorized and nonmotorized travel.*
- ☞ Help build awareness among motorists of the rights and responsibilities of both motorists and cyclists and the importance of sharing the road.*
- ☞ Encourage planning, design and educational programs that help minimize conflicts among users.*
- ☞ Develop cultural, historic and natural interpretive sites and facilities such that they can be enjoyed by nonmotorized travelers.*
- ☞ Promote the use of nonmotorized transportation as a viable, healthy, non-polluting alternative to the single occupancy automobile.*
- ☞ Develop a bicycle guidemap of Skagit County*
- ☞ Encourage and support the promotion of special events and media coverage to draw attention to the opportunities and benefits of nonmotorized transportation.*

1.11 General Policies – Skagit County Nonmotorized Transportation Plan

The following general policies provide the context for the specific policies and recommendations discussed in the Skagit Nonmotorized Transportation Plan. These policies are representative of the direction provided by the County Comprehensive Plan, its Parks and Recreation and Transportation Elements, and also of the direction provided by a variety of other state and regional nonmotorized transportation

planning efforts. All of the specific policies of this plan are derived from the concepts contained in these general policies.

1.11.1 Neighborhoods and Activity Areas

Design and locate transportation systems in such a manner as to contribute to the safety, efficiency and convenience of residential neighborhoods and activity centers. Bicycle, pedestrian, and (where appropriate) equestrian needs should be incorporated as a central component of this effort, through land uses and practices conducive to nonmotorized transportation.

1.11.2 Energy

Comprehensive Plan policies calling for the development of an energy-efficient transportation system should be implemented in part through the promotion of bicycle and pedestrian-compatible transportation system design and land use practices.

1.11.3 Intermodal Transportation Systems

The Skagit Sub-RTPO members should work with local and regional transit providers (including AMTRAK and the Washington State Ferries) to provide a transit system that is fully accessible for pedestrians and the disabled, and which integrates as thoroughly as possible the access, safety and parking needs of bicyclists.

1.11.4 Safety and Convenience

Skagit County should emphasize nonmotorized safety, mobility and access as an integral element of transportation planning and facility development.

1.11.5 Dedicated Facilities/New Development

The development of facilities supporting nonmotorized transportation shall be required as a regular element of the development review process. Such incorporation and design review should also be a component of the development of public projects. Incentives should be provided to the private sector to encourage development of facilities beyond those which are required as dedicated improvements.

1.11.6 Funding Priority

Skagit County should give nonmotorized transportation projects increased funding priority to meet the goals of this plan. This should be accomplished through the expansion of funding for existing programs, effective utilization of available targeted grant programs, and

institutionalization of nonmotorized transportation facility design in County and local design standards.

1.11.7 Equestrian

The County should incorporate the needs of local equestrian travel in the design of facilities located in areas populated or frequently traveled by equestrians, and strive to integrate these facilities with the other nonmotorized needs of these areas.

1.12 Skagit County Transportation System Plan Direction - Nonmotorized Transportation

Adopted in 1997, the Skagit County Comprehensive Plan Transportation Systems Element established the framework for the development of nonmotorized transportation plans policies and programs. The development of specific plans and policies was delegated to the development of a specific nonmotorized transportation plan.

In 1994, the Skagit County Public Works Department, through a contract with a consultant and with the input from a committee of citizens with nonmotorized transportation interests, developed a nonmotorized transportation study. That study produced the draft version of this plan. After the 1994 document was developed, it was determined that it should be modified to more fully include the interests of the cities, for the purpose of allowing the document to be adopted as the nonmotorized Transportation Element of the Regional Transportation Plan, as well as an element of the County Comprehensive Plan.

1.12 BICYCLE POLICIES

The development of an engineering response to the needs of bicyclists depends heavily on adherence to a consistently applied set of design standards which integrates the safety and mobility needs of the bicycle, regardless of the purpose for which a particular trip is taken. While such standards and guidelines have existed for many years, the consistent application and even adoption of these standards has proven difficult to achieve. The following policies lay the foundation for the development of “bicycle friendly” design principles on the road system of Skagit County:

1.12.1 Design

The design, construction and maintenance of all County roads should provide for the needs of bicyclists, with specific added attention

given to those roads established and defined on a network of designated key bicycling streets and corridors.

1.12.2 Funding Commitment

The County should make a strong funding commitment to building bicycle facilities and to incorporating them in all new road construction and reconstruction of roads on the bicycle network.

1.12.3 Adopted Standards

The County should provide greater safety for bicyclists of all abilities through enhanced transportation system design. Current AASHTO (1999) and WSDOT standards should be established as the minimum for inclusion in the County Road Standards, as well as a standard to be applied on regional facilities to be considered for funding through state and regional programs.

1.12.4 Rural Facility Standards

The preferred facility for roads on the bicycle network in rural areas is a paved shoulder with edge stripe. While such facilities are desirable whenever they are developed, priority should be given first to projects which address existing safety deficiencies. Signing of paved shoulders as Class II (bike lane) facilities should only be done if the shoulder meets a minimum standard for width and pavement quality over a substantial portion of its length.

1.12.5 Priority Areas

Nonmotorized projects should be planned and designed to serve areas near schools, recreation facilities, commercial/industrial areas, activity centers, tourist areas and established or planned multi-use trails.

1.12.6 Project Types

Projects on the designated network should be designed with either a:

- ?? Outside lane width of fourteen feet;*
- ?? Striped bike lanes;*
- ?? Paved and edge-striped shoulders; or*
- ?? Access to a separated trail facility.*

1.12.7 Special Facility Consideration

Additional consideration shall be given to proposed projects which can:

- ?? Address topographic constraints to bicycle access;*
- ?? Develop new through access across man-made or geographic barriers; or*

?? *Provide a usable and direct alternative to highways with high volumes and/or vehicle speeds*

1.12.8 Limited Access Highways

The County shall actively seek the provision of separate nonmotorized facilities in any and all cases where existing access is removed via construction or re-designation as a limited-access highway.

1.12.9 Shoulder Development

The County should develop the transportation system to a standard which incorporates the needs of bicyclists, and which integrates public involvement into the planning for shoulder development through existing maintenance programs.

1.12.10 Maintenance

The County should continue to emphasize maintenance in the accommodation of bicyclists on the County road system, with an emphasis on road sweeping and the ongoing development of smooth and continuous road shoulders. The County should work closely with affected users to identify and correct maintenance deficiencies on this system.

1.12.11 Railroad Grade Crossings

The Skagit Sub-RTPO members and railroads owning right of way in Skagit County should actively seek to identify all at-grade crossings which do not cross roadways at 90 degree angles. While all crossings should be developed to minimize hazards to bicyclists, projects which eliminate the hazard of bicyclists being forced to turn into adjacent traffic lanes should be emphasized. The use of rubber matting and approach ramps and aprons should be encouraged at these locations.

1.12.13 Relationship to Skagit County Comprehensive Parks, Recreation, Open Space and Trails Plan

The county recently adopted a Regional Parks and Trails Plan which identified a number of potential trail projects for development county-wide. The inclusion of projects from the Parks Plan in this document is recommended only if the identified project would be considered eligible for state and federal transportation funding. While all but circuit paths are technically eligible for this funding, priority should be given to projects which:

- ?? *Serve destinations, areas and land uses cited in the Skagit County Comprehensive Plan for development;*
- ?? *Serve as diversified a user population as possible;*
- ?? *Provide usable access for local pedestrians;*

- ?? *Provide an alternative to routes which are inaccessible or potentially hazardous to bicyclists;*
- ?? *Provide relatively direct access to identified destinations; and*
- ?? *Provide a specific contribution to the development of the county bicycle network.*

1.12.14 Special Events

Skagit County should establish clear and consistent policies and procedures for the review and approval of special events (competitive, recreational or mass participation) which incorporate nonmotorized modes, and encourage their promotion when conducted in accordance with these adopted policies and procedures. Competitive events should be consistent with the adopted State of Washington Bicycle Racing Guidelines.

1.13 PEDESTRIAN POLICIES

1.13.1 Funding Priorities

The County should identify and commit both targeted and general roadway funds to build needed pedestrian facilities such as sidewalks, paths, separated grade crossings, signalized crossings and other devices to improve the environment for the pedestrian. In addition, pedestrian safety programs aimed at youth, the disabled and seniors should be a priority of the County in the planning and review of roads and land development.

1.13.2 Facility Standards and Seniors

Facility and signal standards should be reviewed to accommodate the needs of an aging public, particularly in regard to signal phase length, sign size, reflectivity of signs, street lighting and the crossing distance required of these at-risk pedestrians.

1.13.3 Sidewalk & Facility Maintenance

The County should increase efforts to repair and maintain pedestrian facilities through a cooperative effort of the County, homeowners, developers and businesses.

1.13.4 Design Standards & Project Review

New residential and employment area development should incorporate designated pedestrian design elements, both on and off of the road system.

1.13.5 Area Planning

As local and community plans are developed, attention should be paid to the identification of specific pedestrian projects and needs, including:

- ?? Gaps in the arterial sidewalk system;*
- ?? Design and Implementation of pedestrian facilities in designated activity centers;*
- ?? Potential transit development, and assessment of pedestrian facilities within ¼ mile of any proposed or existing transit facility, including rail, ferry, park & rides, and along existing transit routes; and*
- ?? Facilities linking neighborhoods to existing or proposed parks, schools, major recreation facilities, or commercial and employment centers.*

1.13.6 Pedestrian Districts

Policies regarding the development of the pedestrian environment at activity areas and centers should be a priority of the County and local land use planning process. Specific design standards should be established to allow pedestrian-preferred environments to be created at these sites, incorporating both a mix of land uses and densities which enhance pedestrian safety, access and mobility throughout these districts. County road standards should allow design flexibility to more directly address the needs of these pedestrian oriented areas.

1.13.7 Subdivisions and Master Planned Communities

The review of large subdivisions and master planned communities should address the following issues:

- ?? Internal pedestrian circulation in commercial and high density residential areas;*
- ?? Access to transit, including continuous walkways to transit stops, ADA-accessible routes, and shelters;*
- ?? “Pass-through” walkways which minimize pedestrian and bicycle trip distance to the perimeter of the development;*
- ?? Relationship to and preservation of existing local or regional trail systems and other park facilities;*
- ?? Linkage to open space, especially dedicated OS-RA areas;*

- ?? *Inclusion of grade separation facilities at points of contact with major and/or principal arterials; and*
- ?? *Design compatibility with anticipated equestrian and bicycle traffic.*

1.13.8 Design Flexibility

The County should provide for greater flexibility in the design and construction of pedestrian facilities to make them safer, more attractive and enjoyable for users, allowing for the use of different material construction techniques to reflect local taste and diversity on non-arterial streets.

1.13.9 Road Vacation Policies

Undeveloped Road Rights of Way in the County should be inventoried as part of a broader pedestrian facility inventory, and road vacation applications reviewed for their compatibility and potential impact on nonmotorized facility development

1.13.10 Education and Safety

The County should increase education and enforcement efforts as essential elements of a comprehensive pedestrian safety and access commitment. This effort should focus on the needs of students, the elderly and the developmentally and physically disabled.

1.14 Equestrian Communities

Skagit County should identify barriers to safe equestrian access and circulation in established equestrian communities and in locations where safe access to trails and other equestrian facilities is an issue. Further the County should work with these communities to develop strategies for incorporating the needs of equestrians in to the transportation system of the neighborhoods

Equestrian communities can be loosely defined as areas containing one or more of the following elements:

- ?? Proximity to a regional trail which is accessible to horses;*
- ?? Significant tracts of land in which horseback riding is publicly sanctioned (Anacortes Community Forest);*
- ?? Private land upon which equestrian recreational access has traditionally been granted, or with access to dedicated public open space;*
- ?? Commercial stabling operations;*
- ?? Commercial riding schools and arenas;*
- ?? Presence of supporting businesses such as tack shops and feed stores; and*
- ?? Concentrations of private parcels upon which horses are kept.*

1.15 Regional Consistency

The County shall coordinate closely with other jurisdictions within and adjacent to the County to ensure consistency in planning and developing nonmotorized transportation projects and programs.

1.16 Transit

Skagit County and SKAT should work cooperatively to identify and implement plans and programs to update bicycle parking at transit facilities, as well as improve pedestrian and bicycle access to transit centers, park and rides and selected transit stops. Added emphasis should be placed on development of access to Washington State Ferry terminals and to the new transit center being developed in Mount Vernon.

1.17 Design Standards

Skagit County should employ standards which meet or exceed the guidelines of the current edition of the AASHTO (American Association of State Highway and Transportation Officials) Guide to the Development of Bicycle Facilities as the basis for relevant sections of the Skagit County Road Standards, and should formally adopt these guidelines for development of transportation-funding eligible components of the County Regional Trail system. Every effort should be made to develop the regional nonmotorized transportation system to a standard which meets or exceeds the current AASHTO Guidelines.

1.18 WSDOT Network

The Skagit Sub RTPPO members should work closely with the district office of the Washington State Department of Transportation (WSDOT) to ensure that the projects and initiatives presented in this plan (especially those located on the state transportation network) are as comprehensively implemented as possible. For purposes of this plan, all WSDOT highways where bicyclists and pedestrians may operate are to be considered part of the Skagit County network of key streets.

1.19 Non-Recreation Shared Use Facilities (Trails and Pathways)

Nonmotorized transportation facilities separated from road rights of way should be considered for development with transportation resources if they:

- ?? Provide needed access and increased safety across gaps in the nonmotorized transportation system;*
- ?? Provide linkages to the Regional Trails System;*
- ?? Eliminate barriers to nonmotorized transportation access;*
- ?? Are associated with projects in which access will be removed from a portion of the transportation system previously open to pedestrians and bicyclists; or*
- ?? Provide access to new transit or transportation facilities.*

1.20 IMPLEMENTATION

1.20.1 Direction

Unless specifically prohibited, the design and construction/reconstruction of roads and highways should assume the presence of pedestrians and bicyclists, and shall be designed to accommodate their presence and needs.

1.20.2 Project Review for Nonmotorized Design

All County, federally-supported and WSDOT projects proposed in Skagit County should be reviewed for the inclusion of appropriate bicycle and pedestrian facilities and mitigation, per the adopted policies and procedures of the lead jurisdiction.

1.20.3 Citizen Participation & Advisory Committees

Program initiatives should be incorporated within existing County programs. These programs shall incorporate citizen oversight and input, preferably through the establishment of a County Nonmotorized Transportation Advisory Committee. This committee should represent the constituencies affected by bicycle, pedestrian and equestrian transportation system and facility development, and share an interest in the promotion of safety, access and mobility for these users.

Efforts should be made within this committee and by transportation agencies to incorporate the input and concerns of private individuals affected by nonmotorized facility development with the goal of identifying issues in advance of project development and to facilitate effective mitigation of project impacts such that the public good and private rights can be reconciled to the greatest extent possible.

1.20.4 Public Process & Right of Way Acquisition

The County shall provide a public review process equal in scope and outreach to that used for general transportation facilities (such as roads) when development of such facilities might require acquisition of right of way from private interests, whether the acquisition is through eminent domain, negotiated sale, or the assemblage of easements, notwithstanding the efforts specially directed by a County Nonmotorized Transportation Advisory Committee. All such processes shall invite comment and review from affected County citizens and agencies, and shall include an evaluation of alternatives, examination of impacts and mitigating measures.

2.0 Nonmotorized Transportation in Skagit County

2.1 Why Nonmotorized?

Nonmotorized transportation has always played a crucial role in day-to-day activities and the ongoing development of urban and rural communities in the Pacific Northwest - and Skagit County is no exception. In urban areas especially, where many trips cover only short distances, nonmotorized travel opportunities are essential to getting people from one place to another. Sidewalks, crosswalks, trails and road shoulders or bikelanes are among the most obvious kinds of facilities that people depend on for short-distance travel.

In rural areas, bicycle and equestrian travel take on greater importance as the demand for longer-distance facilities, and safe shoulders and highway crossings increases. Travel to, from and within rural areas often involves greater distances and higher traffic speeds than in urban areas, thus the needs for nonmotorized transportation are somewhat different between the two areas. Trip purposes and destinations also vary.

Locally and nationally, cars and trucks account for a huge portion of the *distance* that people and goods move on any given day. However, walking, bicycling and, to a much lesser extent, horseback riding account for a significant share of the *number of trips* made. Although comprehensive, up to date statistics are generally lacking for any kind of detailed analysis (especially at the local level) a few things can be surmised about these three modes of travel.

2.2 Pedestrian Travel

Walking is clearly the most important form of transport for the shortest trips, say, a block or less. Not counting incidental walking within the home or workplace or within some other premises, as much as 80% of all pedestrian travel may involve trips of less than 1,000 feet (per Skagit Co. Public Works).

The role of pedestrian travel in fulfilling people's day-to-day transportation needs in the U.S. is illustrated in Table 2-1. Although the numbers may not be the same for Skagit County, the tendency toward shorter trips nationally is clear. Walking accounts for nearly 40% of all trips made under a half-mile in length. (These trends are discussed in more depth in Part 4.)

According to a 1993 survey, more than 70% of all Skagit County adults ride a bicycle at least occasionally.

-Skagit County
Department of Parks,
Recreation & Fair
1993

In Skagit County, pedestrian activity includes a substantial amount of walking for leisure as well as walking for more utilitarian purposes, such as walking to school, work or the supermarket. Outside of urban areas, significant recreational trail use occurs, particularly in the North Cascades, in the foothills, at Padilla Bay, adjacent to other water areas, on Fidalgo Island, and within the larger parks of the region.

Rail-trails, dikes and other off-street corridors that link communities and travel destinations are valuable for transportation and should be viewed as such, the majority of nonmotorized travel demand involves the need to use existing elements of the transportation system more efficiently and effectively. Streets, highways, bridges and the transit vehicles that use them either can accommodate and encourage nonmotorized travel, or they can serve as barriers through a lack of safety or access. Examples include a lack of sidewalks, signals that don't give a pedestrian a chance to cross the street, or in subdivision layouts that don't allow a pedestrian to get to an adjacent arterial quickly or directly.

Presently, few pedestrian transportation facilities other than road shoulders and unofficial user paths exist in rural areas. Several major off-street routes for nonmotorized users are currently in the planning or design stages, including the Centennial, Cascade, and Kulshan Creek Trails, all of which are described later in this plan.

**Table 2-1
Choice of Travel Mode by Distance (U.S.)**

<i>Travel Mode</i>	<i>Distance Traveled (miles)</i>				
	<i>< 0.5</i>	<i>1.0</i>	<i>2.0</i>	<i>5.0</i>	<i>10+</i>
Walking	39.4%	9.2%	3.1%	0.7%	0.1%
Bicycling	2.2%	1.2%	0.8%	0.4%	0.1%
Public Transit	0.8%	1.4%	1.6%	1.8%	2.2%
Private Vehicle	55.8%	86.0%	90.8%	93.1%	95.6%
Other	1.7%	2.2%	3.8%	4.0%	2.1%

Source: University of North Carolina Highway Safety Research Center

A 1993 survey of Skagit County citizens found that a significant demand exists for pedestrian facilities for both recreational and transportation purposes. Trails and bikeways were consistently rated at or near the top of the list of facilities which the public felt are needed most. (Refer to *Part 4* for a discussion of survey results.)

Other sources of demand for pedestrian facilities come from the needs of the disabled. The Americans with Disabilities Act calls for a comprehensive new approach to the design of facilities (including public infrastructure) that effectively incorporates the needs of people in wheelchairs, those with visual limitations, and so on. ADA is more than a federal mandate – it represents civil rights legislation. While the standards and regulations which will govern local transportation response to ADA are currently being developed, improved pedestrian facility development will clearly be at the center of the expectations generated by the Act.

In other areas, pedestrian facility improvements should be seen in the context of improving the performance of existing community areas and systems. Most notably, the relationship of transit systems and the ability of patrons to safely access that system by foot is being seen nation-wide as an area where greater cooperation between transit agencies and roads managers can result in better use of transit resources. Commercial areas which are walkable are generally more active and vital, while the need to coordinate the location of schools with well-designed pedestrian facilities becomes more important as the cost of providing bus transportation grows.

2.3 Bicycle Travel

The bicycle is one of the most efficient transportation modes ever invented (only a supertanker can move people or goods with greater energy efficiency). As such, it provides people with the opportunity to cover much greater distances than can be achieved on foot in the same amount of time. A leisurely walk averages around two miles per hour, or three miles per hour for a brisk walk. An experienced cyclist, on the other hand, can cover ten to twenty miles in an hour on flat terrain. Even with hills, traffic and a leisurely pace, cycling is usually much quicker than walking.

For many people, the *time* it takes to reach a destination is more important than the *speed* at which we can travel. This partially explains why walking as a mode of transportation falls off rapidly beyond a one or two mile threshold. The time it takes to drive two miles in light traffic is insignificant compared to the hour it may take to walk there. The bicycle, however, can compete well with the automobile on many of these shorter trips, assuming adequate facilities are available. For example, a two-mile bike ride under the best of circumstances may take only ten minutes, an acceptable commute for many of us.

Of course, there are many factors other than time and distance that affect our travel choices. Nevertheless, these two factors help bring some focus to the discussion of bicycling activity in Skagit County. Understanding some of these fundamentals can also help produce an ambitious plan that is reasonable in its objectives and promising in its results.

As with pedestrians, the needs of cyclists vary by trip purpose, destination and physical limitations. Cycling can be recreational or utilitarian in nature or some combination of the two. Skill and experience are significant factors as well. For planning purposes, bicyclists are often described as a mix of three different types of riders:

- Children & inexperienced riders
- Casual adult riders
- Experienced riders

The first group, children and inexperienced riders, tend to ride in a less predictable way than the other two groups. These riders might be observed riding the wrong direction in traffic, randomly crossing roads between intersections, or riding on sidewalks. They also tend to stay closer to home and often ride for recreational purposes.

Casual adult riders often prefer off-street travel and a more scenic or recreational ride, including occasional touring. They will mix with motor vehicle traffic but may not be comfortable in situations involving higher speeds or volume. Bicycle surveys have suggested that as many as 80% of the riders in a community belong to these first two groups. Yet they typically ride only 20% of the total miles covered by bicycles.

Most of the mileage belongs to experienced cyclists. These riders move comfortably in and out of motor vehicle traffic and they are astute at finding the quickest, safest and most direct routes from one place to another. Some are avid long-distance riders as well. Although experienced riders may comprise only 20% of all cyclists, their numbers can be expected to increase as facilities improve and new riders and less experienced riders gain confidence in their skills.

The needs of each group should be addressed in planning and designing bicycle facilities. Designated bikeways, for example, will consist of both on- and off-street routes built to appropriate the United States standards (discussed in Section 6.4). However, providing for the needs of bicycling does not stop at designating routes, paving bikepaths or building bikelanes along a few major arterials.

The entire road system which was built to help people travel to and from a vast number of destinations can potentially serve similar travel needs of cyclists. This does not mean that bikelanes must be added to all roads in order to accommodate cyclists. Non-designated bike routes, often consisting of little more than a four- to six-foot wide paved road shoulder or a widened outside lane can function nearly as well as

“If we are to meet the goals of doubling the current levels of bicycling and walking in the United States while decreasing by 10% the number of crash-related injuries and deaths, coordinated and committed effort must be put forth at every level of government.”

-National Bicycling and Walking Study, Federal Highway Administration

designated bikelanes or bike paths in the development of a regional transportation system.

Bicycling is a key element of the regional nonmotorized transportation system and offers the greatest potential for converting a portion of single-occupant motor vehicle traffic in Skagit County to a nonmotorized form of travel. Pedestrian travel is much more constrained in terms of the distances that can be covered, and equestrian travel (discussed below) is limited to those with access to a horse plus the skills to ride it.

2.4 Equestrian Travel

Horses have provided a form of transportation to people in the Valley since the first settlers brought them here over a century ago. Although the automobile has long since assumed the lead role in moving people through rural areas, horseback riding is still alive and well, albeit most of it is recreational in nature, as discussed in Part 4. The rural lifestyle enjoyed by the people of Skagit County often provides an opportunity to husband animals, and horses are among the most cherished.

Horseback riding is limited as a mode of transportation and is largely confined to equestrian and multi-use trails, and road shoulders. Riding on trails and old logging roads in the foothills or across open farm and forest lands is more accurately regarded as recreational riding. However, opportunities to use a horse on the transportation system do exist, particularly along separated pathways and unpaved road shoulders. The connection to transportation for the equestrian is that in many instances, equestrians must use roads for access to other riding areas, and the equestrian is provided status as a road user under Washington State Law.

In terms of the time and average distance traveled, horse use in Skagit County most likely falls somewhere between walking and cycling, although no statistics are available to confirm this. For practical reasons, equestrian activity is more limited in urban areas. As a means of transportation, horseback riding may be of greater value to people living and riding in the outlying areas.

2.5 Problems & Opportunities

A wide variety of issues arise in the discussion of how to improve opportunities for nonmotorized transportation. Even where facilities are lacking, excellent opportunities may exist for acquisition and development of nonmotorized travel corridors. The county's recent acquisition of the 23-mile abandoned railroad grade along SR 20, for example, offers a tremendous opportunity to link the communities of Sedro Woolley, Lyman, Hamilton, Concrete and eventually other cities and towns to the east and west by a continuous off-street trail and open space corridor.

Publicly owned lands, dikes and levees, utility corridors, undeveloped rights-of-way and developed streets and highways all provide important opportunities to establish a comprehensive nonmotorized transportation system in Skagit County. Of course, a variety of problems or obstacles need to be overcome in order to develop the system. They range from funding and right-of-way issues, to design and safety issues, potential user conflicts, trailhead and access problems, maintenance obligations, and the challenge of determining where to locate principal routes.

2.6 What is the difference between a Nonmotorized Transportation Plan and a Trails Plan?

In the thirty years since nonmotorized transportation plans first came into significant use in this country, there has been developed a wide variety of public, private and educationally developed plans and programs which are designed to address the bicycle and pedestrian "needs" of the community. Often, these transportation plans focus almost exclusively on trails and other separated facilities, or result in bike maps which tell a user where it is either safe or preferred that they ride.

To a degree, it is easy to understand why so many plans focus on trails to such an extent. Trails are very visible, and in the long haul become very popular facilities with the general public. They are easily promoted, and properly designed and developed can result in many trips being taken by bike or foot which previously would have required a car trip, even for short distances.

The passage by Congress of the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991, and its successor Transportation Equity Act for the 21st Century (TEA-21) in 1998 have established a broader range of goals for nonmotorized transportation planning and program development. In both ISTEA and TEA-21, the role of bicyclists and pedestrians as a vital part of an overall transportation development strategy is recognized and promoted. Rather than simply promoting the development of new places for the public to ride bikes, the planning mandates of TEA-21 specifically call for the integration of walking and bicycling in the overall system of

transportation facilities and programs, including roads, transit, land use, safety and enforcement efforts.

This is based on the recognition that even in communities shaped by the needs and mobility provided by the automobile, most trips taken in these communities are well under five miles in length – easily within bicycling distance. Walking is a fundamental element of any trip – including those involving a car – yet has often been essentially ignored when the time came for roads to be designed, subdivisions approved or capital funding programs developed. It is difficult and expensive to retrofit existing roads with even minimally acceptable facilities, although new standards give engineers and designers new flexibility to accommodate nonmotorized transportation.

Trails, properly located and designed, can do much to encourage the use of walking and bicycling in a community. They cannot, however, be expected to provide the same level of access to the spectrum of destinations as is provided by the existing roads and highways in that community. Ultimately, it needs to be recognized that pedestrians and bicyclists are legitimate transportation modes, and that all actions taken to design, develop and maintain our transportation system must account for the needs of these users as we account for the needs of motorists. How this is accomplished, of course, will vary depending on the type of area (rural or urban), type of facility (arterial or country lane) and the users expected (adults with extensive cycling experience, casual bicyclists, or schoolchildren).

The Skagit County Nonmotorized Transportation Plan is a function of the Transportation Element of the County Comprehensive Plan. That same Comprehensive Plan called for the development of the Parks and Trails Plan. ***This document does not amend or in any way supercede the adoption in 1997 of the Trails Plan.*** This document does describe the relationship of trails projects to transportation funding sources, and also describes when a trail facility can also be considered as an element of the transportation network relative to other proposed or existing projects.

The recommendations of this plan address a number of specific issues raised during the public involvement process that helped shape the plan. Some of the more critical issues raised are listed in Table 2-2 below.

**Table 2-2
Nonmotorized Travel
Major Issues & Concerns**

<i>Major Issue/Concern</i>	<i>Concern to Pedestrians</i>	<i>Concern to Cyclists</i>	<i>Concern to Equestrians</i>
Lack of facilities	High	High	High
Lack of maintenance	Moderate	High	Moderate
Roads unfriendly	High	High	Moderate
Motorists unfriendly	Moderate	High	Moderate
Lack of parking	Low	Moderate	Moderate
User conflicts	Moderate	Moderate	Moderate
Wrong-way riders	Moderate	Moderate	Moderate
Accidents/hazards/safety	High	High	High
Barriers/physical constraints	High	High	High
Theft/criminal activity	Moderate	Moderate	Moderate
Lack of funding	High	High	High

Recommendations are also made for the nonmotorized transportation system itself and for specific routes to link populated areas with key destinations. A data base was prepared that contains a brief description of all the routes identified in the plan. On- and off-street routes are listed separately. Specific opportunities and design recommendations are included for each entry in the facility inventory (*Section 3*).

Essentially all off-street routes and a portion of the on-street system recommended in this plan have high recreation value (some on-street routes are attractive for bicycle touring). As a result, many of the off-street routes noted in this plan are also identified in the Comprehensive Park, Recreation, Open Space, and Trail Plan. The Trail Plan lists six major recreational trails including:

- ~~///~~ Fidalgo Loop Trail (8.8 miles)
- ~~///~~ Two Bay Trail (9.3 miles)
- ~~///~~ Fishtown Loop Trail (10.3 miles)
- ~~///~~ Centennial Trail North (9.2 miles)
- ~~///~~ Centennial Trail South (16.0 miles)
- ~~///~~ Cascade Trail (23.0 miles)

Refer to the Trail Plan for additional information concerning trail and trailhead locations, as well as policies and development criteria for these trails.

2.7 Accident Records

One of the fundamental goals of this plan is to improve safety for nonmotorized travelers. Accident records provide important insights into the kinds of problems that exist, who is at risk and where the problems tend to occur.

In order to conduct this assessment, County Engineering staff provided computer printouts of countywide accident records from 1985 through 1992 involving pedestrians, cyclists and "large domestic animals." Summary data does not distinguish between cows and horses or other livestock nor does it reveal whether an injury that may have been recorded involved a motor vehicle occupant or person riding a horse.

From the data provided, a summary of accidents by year and location was prepared (Table 23). From the table it is clear that pedestrian accidents are the most worrisome. Pedestrians were the victims of all fatalities involving nonmotorized modes of travel from 1985 to 1992. Over the eight-year period investigated, bicycle and pedestrian accidents were nearly equal in number with accidents involving large animals not far behind.

The totals also imply a gradual rise in the number of accidents each year with the exception of unusually high numbers appearing in 1985 and very low numbers in 1991 (perhaps related to the thoroughness of reporting). Only accidents involving personal injury or property damage were reported. It is assumed that many more accidents not resulting in injury or damage have gone unreported.

The table also makes it clear where these accidents are most likely to happen. Almost 40% of bicycle accidents recorded occurred on SR 20 (24 of 63). Thirty percent of pedestrian accidents also occurred on SR 20 (19 of 62). College Way (SR 538) in Mt. Vernon was the second worst at 11% and 13% respectively. Memorial Highway (SR 536) and SR 9 also stand out as potentially dangerous to nonmotorized users. All of these roads are heavily traveled roads with little or no provision for bicycles or pedestrians.

Interestingly, the three most attractive multi-use trail corridors that may eventually be developed in the county parallel three of the potentially more dangerous roads: SR 20, SR 9 and College Way. These trail corridors include the Cascade Trail, the Centennial Trail and the Kulshan Creek Trail (a short distance south of College Way).

Continued monitoring of accident reports will help state and county officials identify areas that may require the most attention for improvements. In some cases, the development of facilities on alternate routes may be considered, but such an alternate must provide a similarly effective and direct route in order to achieve the desired levels of use. It is more frequently the case that the best solution is to design the system as it is built or reconstructed to a

"In 1992, 1,809 pedestrians were injured and 81 pedestrians lost their lives on Washington's roadways."

- Washington
Pedestrian Safety
Strategic Plan,
Washington Traffic
Safety Commission

standard that accommodates bicyclists and pedestrians, and that specific funds for nonmotorized facility development be first used to correct major deficiencies and barriers in that system.

2.8 The "Four-Es"

A successful nonmotorized transportation program requires much more than the construction of facilities. They must be designed properly for their intended use and they must be well constructed and maintained. People must be informed of the issues and opportunities that exist and encouraged to make wise transportation choices to satisfy their own needs and those of the community. Traffic laws must be adequately enforced. Limited resources require careful consideration of alternative plans, projects and programs.

Adventure Cycling Association (formerly known as Bikecentennial), a leading bicycle research and advocacy organization in the U. S. made a number of technical contributions to the field of bicycle planning and design and helped establish a concept known as the "Four-Es" (Appendix A). Working closely with the Federal Highway Administration and ISTEA, the study team concluded that (as is the case with other forms of transportation) the most success in planning for bicycle transportation was achieved where *engineering, education, enforcement* and *encouragement* were integral to the overall plan. It was considered insufficient to focus on facilities alone.

This kind of thinking can be adapted to planning for pedestrian and equestrian needs as well. This plan attempts to do that by addressing the suggestions contained in the 4-Es report for each of the three modes being considered in Skagit County.

**Table 2-3
Skagit County Nonmotorized Travel
Accident Records (1985-1992)**

ACCIDENTS BY YEAR AND TYPE				
<i>Year</i>	<i>Auto/Bicycle</i>	<i>Auto/Pedestrian</i>	<i>Auto/Large Animal</i>	<i>Total</i>
1985	8	12 (1 fatal)	8	28
1986	6	0	5	11
1987	5	6 (1 fatal)	10	21
1988	4	11 (4 fatal)	12	27
1989	7	8	4	19
1990	12	11 (1 fatal)	10	33
1991	3	0	3	6
1992	18	14	4	36
Totals	63	62 (7 fatal)	56	181
ACCIDENTS BY LOCATION AND TYPE				
<i>Location</i>	<i>Auto/Bicycle</i>	<i>Auto/Pedestrian</i>	<i>Auto/Large Animal</i>	<i>Total</i>
SR 20	24	19 (1 fatal)	4	47
SR 538	7	8	1	16
SR 9	2	6 (1 fatal)	5	13
SR 536	5	2 (2 fatal)	0	7
Cook Road	1	4 (1 fatal)	2	7
I-5	0	2 (1 fatal)	2	4
Old Hwy 99	2	0	2	4
S. Sauk Hwy	0	0	4	4
McLean Road	1	0	3	4
Minkler Road	1	0	3	4
Chuckanut Drive	1	2	0	3
Conc-Sauk Valley Rd	0	2	1	3
All Others	19	17 (1 fatal)	29	65
Totals	63	62 (7 fatal)	56	181
ACCIDENTS BY WEATHER CONDITIONS				
<i>Weather Conditions</i>	<i>Auto/Bicycle</i>	<i>Auto/Pedestrian</i>	<i>Auto/Large Animal</i>	<i>Total</i>
Clear/Daylight	49	33	4	86
Rain/Dusk/Dark	14	29	52	95
Totals	63	62 (7 fatal)	56	181

3.0 Facility Inventory & Suitability

To develop a workable plan, it is necessary to compile an inventory and suitability assessment of routes and facilities in Skagit County that can contribute to the needs for nonmotorized transportation. Both on- and off-street corridors are considered. This section describes existing facilities and road conditions for all routes identified in the plan.

The route selection process for this study involved an extensive review of the county road system and off-street corridors for their nonmotorized potential based on a number of selection criteria such as pavement width and traffic volume and speed. Some items are more critical than others; some are of greater significance to on-street opportunities; and others vary in importance between urban and rural areas. The criteria and the selection process are discussed in Sections 3.2 and 3.3.

3.1 Inventory of Existing Facilities

As one might expect, very few routes in Skagit County are officially recognized as nonmotorized facilities. The Padilla Bay Trail, the Cascade Trail and road shoulders and sidewalks along arterials and within newer commercial and residential developments are among the principal facilities that do exist, although several signed bike routes have also been established.

3.1.1 Off-Street Facilities

The only existing off-street routes in Skagit County of significance to nonmotorized users are the Padilla Bay and Cascade Trail. The Padilla Bay facility is a 2.3-mile unpaved multi-use trail located on top of a dike along Padilla Bay just off Bayview-Edison Rd. The trail is popular with both residents and visitors for walking and has been built and maintained to a high standard.

Similar trails are feasible at a number of locations where dikes have been constructed along Padilla, Samish and Skagit Bays, Swinomish Channel, the Skagit River and other waterways. Most dikes are privately owned, however, and public access is either strictly limited or prohibited. Dikes along the Skagit River in Burlington and Mt. Vernon are in excellent condition and well surfaced with fine crushed rock. If public access to these areas can be accommodated, substantial new facilities would become readily available at very little cost, although many issues involving the use of dikes as trails must be resolved on a case-by-case basis.

The County has also acquired major portions of abandoned railroad right-of-way along SR 9 and SR 20. The longest is the Cascade Trail that extends 23 miles from Sedro Wooley to Concrete, running parallel to SR 20 and the Skagit River.

Another eight miles of railroad corridor has been acquired (in segments) for the proposed Centennial Trail along SR 9. The old grades generally present a firm base for trail development at a

reasonable cost. Although only the Cascade Trail has been slightly improved for public use, both warrant meaningful public investment in the near future, pending the resolution of now long-standing legal and process questions associated with the acquisition and railbanking of the Cascade right of way.

Other corridors of interest to nonmotorized travel include undeveloped road right-of-way, utility corridors, public parks and open space, and to some extent active rail lines where access can be negotiated. Four such corridors of importance to this plan have been identified. They are:

- ?? The powerline corridor northwest of Big Rock running west to College Way. This corridor could provide the missing link between the Kulshan Creek Trail and the Centennial Trail.
- ?? The Burlington Northern Railroad/SR 20 corridor between Burlington and Anacortes. Significant BN and WSDOT right-of way adjacent to this active line have excellent potential for shared trail use between SR 20 and the railroad tracks. A number of issues (including ownership, potential for rail service expansion or abandonment, and intersection design) would need to be addressed before seriously proposing or precluding such a facility. If any portion of the rail corridor is abandoned, acquisition or rail-banking for trail development should be pursued.
- ?? The BN/SR 20 corridor between Burlington and Sedro Woolley. Again, BN, WSDOT and City-owned right-of-way provide excellent potential for shared trail use between SR 20 and the existing railroad. Rail-banking should be pursued if the line is abandoned.
- ?? The Northern State property at Sedro Wooley. This 226-acre site is the County's largest open space area and is a possible location for a new regional park facility. Trail development is desirable, including a link to the Cascade Trail.

3.1.2 Issue: Trails on Dikes

The 1994 draft version of this document dedicated a significant amount of effort to describing the role that trails built on top of the Skagit County system of dikes might play in the development of Skagit County's nonmotorized network. The attractiveness of locating trails on existing dikes is easy to understand, as development of the trail would be relatively simple, and many examples of successful trails on

dikes exist in locations across the United States, including Skagit County (Padilla Bay).

Nonetheless, the development of new dike trails deserves careful and deliberate consideration, at least in the context of providing linkages to a system developed for its transportation benefits. Citizens who attended the public meeting(s) supporting the preparation of this document drew many parallels between potential dike trail development and the controversies which accompanied the development of the Cascade Trail in eastern Skagit County. These citizens fear for the loss of property rights, encroachment on personal privacy, and the assumptions of liability, or at least the diminishment of an ability to manage risk.

Advocates of these facilities point out that physically, these corridors aren't really different from rights of way used for many other very successful trails nationwide, and that the location of these dikes in areas that are very popular for recreation and tourism are a natural fit for the County's efforts to promote tourist -based economic development.

There are significant differences between dike trails and rail-trails. First and most significantly, rail rights of way are treated in federal legislation as a valuable and diminishing resource in which the public has an interest in preservation. Federal intervention at the point of a potential abandonment is considered in the public interest, with trail development representing only one of a variety of transportation-related uses which require linear corridors of land to be successful.

The dikes of Skagit County are not a diminishing resource – unlike many rail corridors, their traditional use continues as vital to the public interest today as when they were initially developed. They do not require federal and state legislation to protect their management as do rail-trails. These dike facilities are managed by a variety of quasi-public Diking Districts whose charter remains the development, maintenance and protection of the dikes.

As with rail trails, ownership patterns vary within individual dike corridors, including easements and some fee simple ownership. There is not a clearly established public right of access to most dikes, although several districts have developed or are developing such agreements. Unlike rail-trails, there is not a legislative intervention available to protect dike corridors from the disassembly of ownership – it isn't needed to preserve the dikes.

For dikes to be considered as potential sites for trails, a number of critical issues need to be examined. While it has been demonstrated that diking districts can - and have - developed public access agreements within Skagit County, the applicability of these agreements in other corridors and districts needs to be studied. While

it is true that Diking Districts are not charged with providing public access on dikes, the conditions under which a district might consider such an action should be identified and discussed.

In the context of this plan, any proposed dike trail project should be scrutinized in terms of the transportation benefit it would provide the public. As discussed earlier, this is different from the assignment of recreational benefits that might accrue from trail development. This is significant insofar as agencies are likely to seek transportation revenue sources for design and development. Clearly, a trail can have both recreation and transportation benefits at the same time – most trails do. The relative transportation value of the facility is important in prioritizing the still relatively limited dollars available for specific development of separate nonmotorized transportation infrastructure.

Arguments presented during the public meetings that trails do not physically belong on dikes deserve some further specific study. Clearly, there are many very successful trails built on dikes, river channels and on waterfronts which are similar if not identical to those found in Skagit County. Existing design standards carefully applied should be adequate to address access, safety, security and risk management concerns. What then remains are the more delicate issues of compensation for access to or acquisition of the underlying ownership of the dike, protection from liability claims against adjacent property owners and the diking districts, the relationship of the project to underlying easements and adjacent property interests, and long term assignment of responsibilities for maintaining the trail.

3.1.2 Policy: Use of Dikes for Trails and Pathways

The development of nonmotorized transportation facilities on existing dikes should be considered on a case-by-case basis, with trail development to be considered as a design standard on dikes which are to be redeveloped or redesigned in the future as part of any general upgrade effort required by state or federal authorities.

Consideration of trails on existing dikes should take place after development of a feasibility report which addresses the following subjects as applied to dikes:

- ?? Assignment of Liability*
- ?? Design Practices*
- ?? Sample Agreements with other utilities for shared trail operations*
- ?? Waivers of Recreational Liability as described in existing state law*
- ?? Impact of Trail development on physical facility*
- ?? Incentives for adjacent property owners to participate and mitigation of impact of trail development upon these properties*

- ?? *Assessment of transportation value*
- ?? *Development of suitable demonstration projects*

3.1.3 On-Street Facilities

Signed bike routes exist along the following roads:

- ~~///~~ La Conner-Whitney Rd.
- ~~///~~ McLean Rd.
- ~~///~~ Bayview-Edison Rd.
- ~~///~~ West Big Lake Blvd.
- ~~///~~ 12th/Oakes (Anacortes)

Among the signed routes, only La Conner-Whitney Road and McLean Road are built to a high standard with continuous road shoulder widths of five feet or greater. Paved shoulders at least four feet in width (a minimum standard) are present in a number of locations in the County, particularly along state highways, urban arterials and recently upgraded county arterials and collectors. Existing paved shoulders of particular interest to nonmotorized users are found within the following roadways:

- | | |
|-----------------|-------------------------|
| SR 20 | SR 11 |
| SR 538 | SR 9 (very limited) |
| Pioneer Highway | Best Rd. |
| Fir Island Rd. | Chilberg Rd. |
| Cedardale Rd. | Conway Rd. |
| Josh Wilson Rd. | Peterson Rd. |
| Old Highway 99 | Ershig Rd. |
| Bow Hill Rd. | Cook Rd. (I-5 to SR 11) |
| Baker Lake Rd. | I-5 |

Many of these wide paved shoulders can serve as primary routes within the regional nonmotorized transportation system. The data base prepared for the suitability assessment contains more detailed information on these routes as well as other roadways with shoulders less than four feet in width.

As discussed in the next section, a number of roads which have little or no shoulder width also have low traffic volumes and are, in many instances, valuable to nonmotorized users. These roads and those identified above comprise the limited inventory of on-street nonmotorized facilities in Skagit County.

3.2 Network Route Selection: Off-Street Facilities

3.2.1 Selection Criteria

For off-street routes, the principal issues of concern are directness, the availability of a public right-of-way, attractiveness and major barriers. Because of the difficulties inherent in locating continuous trail corridors through areas that are privately owned and developed, access is perhaps the primary determining factor for off-street routes.

Trail corridors demand extensive linear access either along a public right-of-way, through publicly-owned land, or through areas where some significant opportunity exists to secure a public right-of-way. Although some natural areas like streams and water bodies possess linear characteristics that would be attractive to trail development, significant opportunities to acquire an easement or other right-of-way through them are often lacking.

Thus, the principal criteria for selecting off-street routes are listed in Table 3-1. Terms in brackets appear in the inventory (Table 3-2).

3.2.2 Selection Process

In compiling a list of potential routes, existing plans, maps, aerial photos and other sources were reviewed during the preparation of the 1994 draft plan. Discussions were held with city and county staff, members of the citizens advisory committee, and participants in the three public workshops. An extensive field reconnaissance was also conducted.

Because potential trail corridors are relatively scarce in developed areas, few that were identified have been removed from consideration. Most of the potential routes that were excluded from this plan are segments of dikes, levees, utility and open space corridors that do not provide useful links in the regional transportation system. However, these areas retain some recreational value and may be identified in the county's recreational trails plan.

A number of other issues arise in planning for off-street facilities, such as cost, safety, security and the potential for conflicts among trail user groups. ***However, these concerns tend to influence the design and designation of facilities rather than the viability of the route.*** An abandoned railroad grade, for example, may be important to the system regardless of whether or not a single multi-use trail or separate parallel facilities are ultimately developed. The inventory of off-street facilities and corridors identified by this selection process is presented in Table 3-2 and Figure 3-1.

**Table 3-1
Selection Criteria for Off-Street Facilities**

Criterion	Description
Public Right-of-Way	[EXISTING/POTENTIAL] The facility must be accessible to the public. Opportunities for public access either exist or could potentially be negotiated.

Directness & Connectivity	[LINKS TO . . .] The route provides a direct or indirect link in the system. Connectivity is essential.
Attractiveness	[LOW/MOD/HIGH] The route has high, moderate or low aesthetic appeal in terms of adjacent natural features, views and scenery, historic or architectural features or other qualities. Less attractive routes may still offer important links in the system or could be enhanced through landscaping or other improvements.
Major Barriers	[YES/NO] Significant physical barriers may exist which seriously impede the potential for the route to provide a useful link in the system. Narrow bridges are a common barrier. Minor and temporary barriers are not considered determining factors in determining suitability. <i>Note - barriers which impede nonmotorized access on the system can justify inclusion in the system and should be prioritized for correction if the route on which the barrier is located serves a primary nonmotorized travel demand.</i>
Surface & Width	[GOOD/FAIR/POOR] Paved or unpaved, the surface must be smooth and durable, free of obstructions, and wide enough for the kind of traffic that will use it.
Cost	[MAJOR/MINOR] The cost to acquire and develop a facility can be a major determining factor in selecting a route. The relative cost of improvements needed to make a route suitable for nonmotorized use is noted. Acquisition and development costs are generally considered major. Ongoing maintenance costs and minor paving, signing and striping are considered minor.
Safety & Security	Safety concerns can be addressed and theft, vandalism, or assaults can be kept to a minimum with good design.
Use Conflicts	Single-use trails may be required in some instances; transition areas between off-street and on-street facilities require special attention.
Maintenance	[GOOD/POOR] Facilities which cannot be adequately maintained are not acceptable, especially to cyclists.

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3.3 Route Selection: On-Street Facilities

3.3.1 Selection Criteria

All of the issues described in the preceding pages also influence the selection of potential on-street designated routes. It is very important to note that at a base level, all streets represent the nonmotorized travel network, as bicycles are a legal user on roads unless (as with urban freeways) a compelling reason can be presented for their exclusion. As such, the entire road system should be designed and maintained at a level that assumes the presence of bicycles and pedestrians. This philosophy is now part of TEA-21, and also guides the Washington State Transportation Improvement Board in their review of funding applications for general highway projects. The designation of bicycle routes, on the other hand, requires that a particular route have specific design and user characteristics which improve conditions for bicycling. In addition, the designation of key streets for bicycling involves a determination of utility – whether or not a proposed route offers directness and system continuity to the user.

The on-street system is of particular importance to bicycles, although many routes are of value to pedestrians and equestrians as well. Where significant equestrian use is expected and appropriate, unpaved shoulders or separated pathways should be considered.

For inventory purposes, all three user groups are assumed to have an interest in using the route. Because all roads are public thoroughfares, user access can be presumed for all of them. Whether or not they serve as useful links in the system is a function of directness and connectivity.

Defining on-street routes can be particularly challenging since the overall road system was essentially developed for motor vehicle traffic, not for nonmotorized travel. A greater number of concerns come into play in evaluating the suitability of on-street routes than for off-street routes. The principal factors are listed in Table 3-3, and appear in the inventory).

Other factors may be important as well, such as sight distance, stopping distance, turning radii, signing, pavement markings and abrupt pavement edges. The skill and experience level of the potential user are also considered. Although these factors tend to influence the design of facilities, they generally do not preclude their development.

**Table 3-3
Selection Criteria for On-Street Facilities**

Criterion	Description
Public Right-of-Way	Public right-of-way is presumed for all on-street routes.
Surface & Width	Overall pavement width, shoulder width and the type and quality of surfacing are critical factors affecting safe and convenient nonmotorized use.
Directness & Connectivity	The route provides a direct or indirect link in the system. Connectivity is essential. All routes identified in the suitability assessment provide connectivity.
Motor Traffic Volume	[LOW/MODERATE/HIGH] Low motor traffic volumes are generally conducive to nonmotorized travel. Higher traffic volumes require careful consideration of speed and pavement conditions. Higher traffic volumes diminish the quality of routes, particularly at higher speeds.
Speed	[LOW/MODERATE/HIGH] Lower motor traffic speeds are generally more conducive to nonmotorized travel. Higher speeds can be a problem when combined with higher volumes or substantial truck traffic. Higher speeds require careful consideration of traffic volume and pavement conditions.
Cost	[MAJOR/MINOR] The cost to acquire and develop a facility can be a major determining factor in selecting a route. The relative cost of improvements needed to make a route suitable for nonmotorized use is noted. Acquisition or development costs, including the widening of roadbeds and bridges, are generally considered major. Ongoing maintenance costs and minor paving, signing and striping are considered minor.
Truck & Bus Traffic	Higher volumes of truck and bus traffic may diminish perceived safety for nonmotorized users. Large vehicles are problematic where pavement width is limited, volumes are high or speeds are high creating significant wind blast. Speed and pavement conditions must be carefully considered. Truck and bus traffic is presume to be low except where noted in the inventory.
Maintenance	Maintenance varies from place to place and week to week. Poorly maintained facilities are not acceptable, especially to cyclists. A surface that is smooth and generally free of obstructions, gravel and debris is considered acceptable. While the road system in the County is generally well maintained for motor vehicle traffic, more regular shoulder sweeping is needed along many routes for bicycle use.
Accidents	[RECORDED/NOT RECORDED] Routes selected should help reduce or prevent accidents. Routes with accident records (1985-92) involving nonmotorized users (and large domestic animals) are noted. Plan recommendations address safety issues and appropriate design guidelines to lessen the risk of accidents. <i>NOTE – the use of accident data without data on the volumes of users can be misleading, as without this data a route may appear to be hazardous, when in fact the route may simply see many more bicyclists relative to other roads with lower accident totals.</i>

Safety & Security	Safety is always an issue of concern. From a practical standpoint, not all safety concerns can be detected or prevented. Specific problems related to safety and security that have been identified in the field are noted.
Parking & Driveways	In urban areas, on-street parking creates problems for cyclists due to doors opening and parking movements. A substantial number of on-street parking areas and/or driveways may be problematic in urban areas and elsewhere. Parking and driveways tend to be less of a problem in rural Skagit County.
Attractiveness	[LOW/MODERATE/HIGH] The route has high, moderate or low aesthetic appeal in terms of adjacent natural features, views and scenery, historic or architectural features or other qualities.
Major Barriers	[YES/NO] Significant physical barriers that seriously impede the potential for the route to provide a useful link in the system are noted. Minor and temporary barriers are not considered determining factors in establishing suitability.

3.3.2 Selection Process

The route selection process for on-street routes was carried out in three steps

Step 1:

First, agency staff and members of the Nonmotorized Transportation Citizens' Advisory Committee worked to identify a number of known and potential routes on a county road map, with an emphasis on linking communities and destinations (see Figure 3-1). Communities include all cities and towns, other moderately populated areas or commercial centers, and larger residential developments. Destinations include the same communities plus major employment centers outside of urban areas, regional park and recreation areas, including parks, trails and water access areas, adjacent counties, and sites representing major intermodal links such as ferry terminals and Amtrak.

Step 2

The second step involved field verification of the potential routes identified in Step 1. A cursory review of each route was performed and information related to the criteria outlined above was collected. As a result of these field checks, some routes were deleted and others were added. Information was compiled in a small data base prepared for the inventory.

Step 3

The third step involved a more technical analysis of traffic volumes, speed and pavement conditions. These three factors are closely interrelated and have substantial bearing on determining the suitability of on-street routes for nonmotorized transportation. Because all three factors can vary significantly throughout the road system, an almost endless combination of circumstances are encountered. If pavement surfacing is good or can be readily upgraded, shoulder width as well as overall pavement width become major deciding factors. For example, narrow shoulders may be inconsequential on lightly traveled backroads, but preclude non-motorized use on roads with heavy traffic volume and high speeds.

3.3.3 Assessing Volume, Speed & Width for Nonmotorized Travel

The biggest challenge in determining suitability (or compatibility) of existing roads for nonmotorized use is to identify which combinations of volume, speed and width are reasonably acceptable, and defining this in terms of the differing skill level and perceptions of the wide variety of users of these roads.

It should be emphasized that even the best methodology cannot guarantee complete mitigation of all potential traffic hazards. Road conditions and human and environmental factors are highly varied and the circumstances that might contribute to accidents at a given location are often unpredictable. A general assessment of volume, speed and width, however, can improve the reliability of identifying those routes that are currently most suitable for nonmotorized use.

3.4 The Bicycle Compatibility Index: A Level of Service Concept

(from FHWA Turner Fairbanks Research Center)

The University of North Carolina Highway Safety Research Center, under the sponsorship of the Federal Highway Administration (FHWA), has developed a tool for practitioners to use in assessing the bicycle compatibility of their roadways. The Bicycle Compatibility Index (BCI) can be used by bicycle coordinators, transportation planners, traffic engineers, and others to evaluate existing facilities in order to determine what improvements may be required as well as determine the geometric and operational requirements for new facilities to achieve the desired level of bicycle service.

The BCI has served as a philosophical basis for the evaluation of routes that has resulted in the Guidemap being produced for Skagit County. Much of the information required for a comprehensive implementation of BCI on the entire Skagit County network is not available – subjective review of individual corridors has been used in the context of other routes in the County to complete this assessment.

Bicyclists' perceptions are the key to determining compatibility.

Presently, there is no methodology widely accepted by engineers, planners, or bicycle coordinators that helps them to determine how compatible a roadway is for allowing comfortable and efficient operation of both bicycles and motor vehicles. Determining how existing traffic operations and geometric conditions impact a bicyclist's decision to use or not use a specific roadway is the first step in assessing the bicycle compatibility of the roadway.

The BCI methodology was developed for urban and suburban roadway segments (i.e., midblock locations that are exclusive of intersections), although the threshold levels established can be used to evaluate rural roads with comparable traffic volumes. The resulting model incorporates variables bicyclists typically use to assess the "bicycle friendliness" of a roadway (e.g., curb lane width, traffic volume, and vehicle speeds). The model was developed using the perceptions of adult bicyclists (aged 19 and older) and thus, may not be appropriate for assessing conditions with respect to youth bicyclists. The index values produced by the model indicate bicyclists' comfort levels.

The BCI can be used to establish level of service for bicycling.

Currently, the *Highway Capacity Manual* provides no level of service (LOS) criteria for bicycles. However, the definition of the LOS according to the manual is founded on the concept of users' perceptions of qualitative measures that characterize the operational conditions of the roadway. Two of the terms used in the manual to describe LOS are comfort/convenience and freedom to maneuver. Both terms are applicable to bicyclists and are directly reflected in the BCI since the rating scale used by the study participants was an indication of comfort level.

Using the BCI values based on data collected at various locations in the U.S., LOS designations were established for LOS A through LOS F. As shown in table 1, LOS A (represented by an index < 1.50) indicates that a roadway is extremely compatible (or comfortable) for the average adult bicyclist while LOS F (represented by an index > 5.30) is an indicator that the roadway is extremely incompatible (or uncomfortable) for the average adult bicyclist.

The BCI model can be used in a variety of applications.

The bicycle compatibility index (BCI) model in table 2 and LOS designations provide bicycle coordinators, transportation planners, traffic engineers, and others the capability to better plan and design bicycle compatible roadways. Specifically, the BCI model can be used for the following applications:

- ?? **Operational Evaluation** - Existing roadways can be evaluated using the BCI model to determine the bicycle LOS present on all segments. This operational evaluation is useful in several ways. First, a bicycle compatibility map can be produced for the bicycling public to show them the LOS they can expect on

each roadway segment. Second, roadway segments or "links" being considered for inclusion in the bicycle network system can be evaluated to determine which segments are the most compatible for bicyclists. In addition, "weak links" in the bicycle network system can be targeted, and prioritization of sites needing improvements can be established based on the index values. Finally, alternative treatments (e.g., addition of a bicycle lane vs. removal of parking) for improving the bicycle compatibility of a roadway can be evaluated using the BCI model.

- ?? **Design** - Designers can assess new roadways or roadways which are being re-designed or retrofitted to ascertain if they are bicycle compatible. Planned geometric parameters and predicted or known operational parameters can be used as inputs to the model to produce the BCI value and determine the bicycle LOS that can be expected on the roadway. If the roadway does not meet the desired LOS, the model can be used to evaluate changes in the design necessary to improve the bicycle LOS.
- ?? **Planning** - The model provides the user with a mechanism to quantitatively define and assess long-range bicycle transportation plans. Data from long-range planning forecasts can be used to assess the bicycle compatibility of roadways in the future using projected volumes and planned roadway improvements.

Designation of routes by Skagit County should employ the criteria as now approved by AASHTO and the WSDOT .

Selection criteria, including volume-width assessments are not rigid requirements. Rather, they are intended to serve as flexible guidelines that make the most of potential routes and facilities around the county.

4.0 Demand & Need Assessment

Perhaps the most important question that needs to be asked in developing a plan for nonmotorized transportation is: What does the public want to see accomplished? Generally speaking, the public wants government to provide essential public facilities and services (like transportation, recreation and open space, among others) in a reliable, cost-effective manner.

Transportation is one of the most visible and heavily used of all public services, and a fully functioning multi-modal transportation system is essential to the quality of life in any community. People expect government to invest their tax dollars in providing and maintaining a quality transportation system, without going to the extremes of waste or excess. In the past, most of the public's investment went into motorized facilities while the needs of nonmotorized transportation were largely neglected, a common practice in the nation as a whole.

Because of the heightened interest in (or *demand* for) nonmotorized travel both nationwide and locally (as evidenced by citizen input during this planning process), and the general lack of facilities today, it is clear that much can and should be done to improve travel opportunities for pedestrians, cyclists and equestrians.

The greatest need, and perhaps the greatest challenge locally for nonmotorized transportation, is to design, develop and maintain the transportation system to a standard that always accommodates the needs of nonmotorized users

This section addresses demand and need in a general sense, with background discussion on how to ensure that the plan is responsive to the need for nonmotorized facilities and services in the county. As standards for road and trail design have evolved in recent years, it is possible now to assess needs based on a degree of compliance with these standards.

The next question that arises, then, is three-fold: What kinds of nonmotorized transportation improvements should be made, to what extent should facilities be provided, and where should they be located. (Questions of how and when to implement improvements are addressed later in the plan.)

There are many kinds of facilities that can be provided, including on-street bikelanes, shoulders and wide curb lanes, and off-street single-use or multi-use trails (now generically referred to as bikeways). Off-street improvements often coincide with the recreational trails system, thus the trails element of the county's Park and Recreation Plan and this plan have been carefully coordinated. In terms of public demand, the only distinction that is made here is between on- and off-street facilities. (Decisions regarding whether certain routes should be developed as designated bikeways or left as unsigned, yet bicycle-friendly road shoulders are also addressed in *Part 6*.)

The focus of the *needs assessment* is understanding in a general sense to what extent facilities ought to be provided and where they

should be located. Information concerning the public's demand for facilities and services is derived from a variety of sources, including the public survey, workshops, citizens committee meetings, staff discussions, regional standards, other plans and the experiences of similar communities.

In a more traditional needs assessment for recreational trails, the demand is matched against the inventory of what's available. That portion of the demand that isn't being met is the *need* for facilities. For example, if one finds a quantifiable public demand for 50 miles of multi-use trails and only five miles exist, the need is 45 miles.

However, traditional demand and need assessments conducted for recreational trail activities don't work well for nonmotorized transportation. As with motorized facilities, connectivity and levels of service are far more important than the number of miles in a particular route or in the system as a whole.

This plan seeks to approach system development by both improving the base level of design reflected in our investment in roads and new land development, while at the same time addressing specific access needs by using dedicated funding sources (enhancement, CMAQ, etc) on projects which remove barriers to safe access in specific locations.

Providing good connectivity means linking traffic generators with major travel destinations, that is, tying communities together and linking them with employment centers, commercial centers, schools, recreation facilities and other locations, as well as linking with facilities for other transportation modes such as ferry or transit.

4.1 Transportation Demand & Level of Service

Historically, level of service (LOS) decisions in the design of roads and intersections have been based on traffic volume and congestion. If the goal were to maintain an LOS-A rating (the highest) for a particular road, then once volume exceeded a certain level, more lanes would need to be added to increase capacity and ease congestion. If the goal were only to maintain LOS-D or F (the lowest), then two to four times as much volume would be tolerated before adding capacity.

As new lanes fill up, costs increase, and impacts to communities and the environment continue to occur, planners, engineers and policy-makers have reconsidered the traditional approach to establishing levels of service. Instead of adding capacity, an emphasis is placed on increasing efficiency in the existing system by managing traffic flow better and by providing for other modes of transportation, like public transit and bicycling.

In terms of transportation planning under the state's Growth Management Act, level of service is addressed in conjunction with land use decisions and some flexibility is maintained in the approach a community decides to take. For nonmotorized modes, level of service can suggest the type of facility to be provided along a particular route and how comprehensive the overall system ought to be. (Proposed facility types are discussed in *Section 6.3.*)

Skagit County is addressing level of service in the development of the Transportation Element of the Comprehensive Plan. Because transit and nonmotorized modes are often dependent on shoulders and roadside areas, specific LOS standards are being proposed for shoulder width on each of the roadway classifications. Standards are based on peak-hour traffic volumes and paved shoulder width. (Refer to the Transportation Plan for a detailed discussion of these standards.) In general, the methodology is complementary to the FHWA Bicycle Compatibility Index for determining bicycle suitability that is based on pavement width of the entire roadway as well as traffic volume. Although the two approaches are different, the results are surprisingly similar.

As the nonmotorized transportation system develops in the coming years, the need for additional routes or new types of facilities will become more clear. Updating this plan at regular intervals will help ensure that the evolving needs of the community are met over the long run.

4.2 Public Workshops & Survey Results

Broad public support for nonmotorized transportation was evident in both public workshops and in the results of a survey conducted early in the planning process. A summary of public input received at the workshops and an analysis of the survey results follow.

4.2.1 Public Workshops

In October of 1993 three community workshops were held to gather community input and discuss park, trail, recreation and nonmotorized transportation needs in Skagit County. The workshops, held in Anacortes, Mount Vernon, and Sedro-Woolley, attracted 20 to 25 attendees each, with a total of more than 70 people participating. At each workshop, participants divided into small groups and were asked to discuss four open-ended questions concerning recreation needs, trail needs, potential uses of the Northern State property, and the County's role in providing park and recreation services.

Workshop participants ranked trails among the most needed recreation facilities in Skagit County. Interest was highest for multiple-use trails, especially bicycling opportunities. Participants supported transportation-related uses of trails and other nonmotorized travel opportunities.

When workshop attendees prioritized a list of potential projects, nonmotorized travel corridors and trails were at or near the top in all three workshop sessions. In an open-ended question on what facilities are most needed in Skagit County, again trails were mentioned most often. Horse trails were also frequently mentioned. Trails and bikeways consistently scored the highest or nearly the highest number of votes.

When asked what types of trails are most needed in Skagit County, bicycle trails (primarily intra-city routes) and nonmotorized multi-use trails were mentioned the most. Pedestrian trails within

urban areas and trails connecting cities also ranked high on the list, followed by horse trails (primarily intra-city) and nature trails. Offroad commuter trails, hiking trails, and on-street bicycle lanes were also mentioned. In general, participants perceived a greater need for multiple-use, rather than single-use trails.

Workshop attendees suggested a number of specific locations for trail development as well, including:

/// Bikeways

Routes connecting cities

Highway 20

East of Mount Vernon

Marine Drive

Swinomish Channel

Route to the San Juan Ferry

Deception Pass to Ship Harbor and downtown Anacortes

/// Multi-Use Trails

River dikes in Mt. Vernon

Railroads

"Interurban" route

Burlington-Northern route to Fidalgo Bay

March Point to Weaverling Spit to central Anacortes and Ship Harbor

Loop around Sedro-Woolley from General Hospital to Brickyard to Hansen Creek, and along the Skagit River Road and the River

Trails connecting recreation facilities

/// More Primitive Trails

Lakeshores on Fidalgo Island

Interpretive trails

/// Horse trails

Pleasant Ridge

Deception Pass to Washington Park

Workshop participants made many comments regarding nonmotorized facility development in general. It was suggested that new developments incorporate bicycle-friendly streets and bicycle paths. They wanted motorized use of trails to be discouraged. Participants noted that safe pedestrian trail opportunities are needed. Securing easements with local landowners was also suggested. Some commented that trails should be wide enough for access by people using wheelchairs, or by horse-drawn carts. Equestrian access was mentioned, as was hitching, camping, and truck and trailer parking facilities at trailheads. Some citizens suggested that bicycle and walking trails be separated from roadways.

Workshop attendees had several valuable suggestions regarding the County's role in providing services. It was recommended that the

County coordinate all recreation providers, support volunteer projects, facilitate land exchanges, acquisition, and easements, and help to obtain grants and administer funds. Some mentioned that the County should focus on providing park land and should facilitate private sector support for facilities and programs, as well as provide technical assistance to others.

Several comments addressed the need to adapt the road system for nonmotorized use, to ensure safety, to focus on improving existing County facilities, to distribute funds and services evenly

4.2.3 Parks, Recreation & Nonmotorized Transportation Survey

In November of 1993, a random household survey was conducted to determine public attitudes regarding recreation and nonmotorized transportation interests and participation. The survey yielded highly useful data relevant to nonmotorized transportation planning.

Survey Parameters & Respondents

Questionnaires were distributed to randomly selected households in Skagit County. Each member of the household over age ten was asked to complete a questionnaire. To obtain statistically valid results, 382 returns from adult participants were needed to achieve a 95% confidence level. In total, 505 surveys were returned, including 433 from adults. The return ratio was 67%. (A copy of the questionnaire is provided in Appendix C.)

For analytical purposes, the County was divided into three survey areas: west of 1-5, the 1-5 Corridor (primarily Mt. Vernon and Burlington), and upriver. Nearly half the respondents were from the 1-5 Corridor, more than a third were from west of the 1-5 corridor, and less than one-fifth were from upriver. Almost 70% of the respondents live in unincorporated areas.

Just under 15% of the respondents were less than 18 years old. Another 15% were 18 to 34 years of age. More than a third of the respondents were 35 to 54 years old, and over a third were over 55 years. Twenty-three percent of the surveys were completed by senior citizens (over age 65), a rate which is higher than the almost 16% of the County's population this group comprises. Because seniors tend to be more interested in passive recreation and tend to be more financially conservative than younger people, the higher response rate of elder citizens may have had a mild effect on the survey results. More than 60% of the respondents have lived in Skagit County for eleven or more years. Fourteen percent have lived in the County for three or less years.

Survey Results

In general, the survey results show broad support for pedestrian, bicycle and equestrian facilities. Bicycling facilities were listed in the top five most needed facilities in Skagit County. Pedestrian facilities

ranked high as well. Combined, walking and hiking trails rank third in most needed facilities. Taken as a whole, the number of respondents identifying the need for trails, including bicycling, walking, hiking, and horseback riding trails, was higher than for any other need expressed.

On the survey form, respondents marked activities they participate in and noted how many times a month they participate while that activity is in season. Table 4-1 details the response.

**Table 4-1
Participation Rates for
Off-Road Trail-Related Activities**

Activity	Per capita occasions Over a 30-day period
Walking for Pleasure	6.1
Bicycling (paved)	3.1
Nature Walks	2.8
Hiking/Backpacking	2.0
Jogging/Running	1.8
Bicycling (unpaved)	1.5
Horseback Riding	1.0

Walking for pleasure ranked as the most frequent recreational activity for residents of Skagit County. Bicycling (on streets and other paved surfaces) and nature walks ranked in the top five as well. Younger respondents, aged 10-17, identified bicycling on paved surfaces as their third most popular recreational activity. Bicycling on unpaved surfaces ranked fifth. Bicycling on unpaved surfaces includes both recreational and some utility riding. Seniors over age 65 also identified walking for pleasure as the most common recreational activity. On the average this group walks for pleasure more than eight times per month. Bicycling did not rate among the top ten senior activities.

Overall, walking for pleasure was identified as the most preferred activity. Participation rates for walking for pleasure, bicycling (unpaved), and horseback riding in Skagit County are higher than the Northwest average (JC Draggoo) for these same activities. Fifteen percent of the respondents reported riding a horse in the last year. The most common reasons for not riding were not owning a horse and lacking interest. Participation rates for other activities generally scored the same or lower than Northwest averages.

In both the survey and the public workshops, participants mentioned the need for cross-country ski trails and facilities for rollerblading and rollerskating. Although these potential modes of

nonmotorized transportation are not formally addressed in this plan, future trends may create increased needs for these types of facilities.

A key question in the survey related to people's travel behavior including trips made by car, bike, walking or other means. Table 4-2 shows the main reasons given for bicycle riding in Skagit County.

**Table 4-2
Main Reasons for Bicycle Riding
in Skagit County**

<i>Reason for Riding</i>	<i>Percent Responding</i>
For enjoyment/exercise	40.7
To visit friends/family	13.9
To run errands	10.9
To save money	3.2
To go to school	2.8
To go to work	2.1
Other	3.2
Do not ride a bicycle	23.3

The majority of respondents ride bicycles for enjoyment and exercise. When added together, respondents who ride for other transportation purposes (such as to school, to work, to run errands, to visit people, and to save money) total more than 30% of the survey participants. Answers to the "other" category included: to be with family, to save the environment, to avoid using a car, and can't drive a car.

Nearly a quarter of the respondents listed the lack of safe bicycle routes as the predominate reason they do not ride more often. Other reasons for not riding bicycles included the need for a car during the day, the amount of effort required to ride, the distance of transportation needs, and the poor condition of existing bike routes. Table 4-3 details the main reasons respondents do not ride bicycles more often.

The reasons given for responding "other" included physical problems/age, not owning a bicycle, not interested, no time, feeling unsafe, weather, not knowing how to ride, and having young children. Respondents who bicycled were also asked to estimate the length (one-way) of an average bicycle trip.

It appears from Table 4-4 that almost half the respondents who answered this question ride less than two miles in an average trip, and just less than 5% ride more than eleven miles. These numbers assume that riders have accurately estimated their average length of ride.

**Table 4-3
Main Reasons for Not Riding a Bicycle More Often**

<i>Response</i>	<i>Percent Responding</i>
-----------------	---------------------------

Lack of safe bicycle route	24.3
Need a car during the day	16.9
Too much effort	12.2
Need to go too far to work/school	11.7
Poor condition of existing bike routes	7.2
No safe bike storage at work/school	2.3
No showers/lockers at work	1.6
Other	23.9

**Table 4-4
Length (One-Way) of an Average Bicycle Trip**

<i>Response</i>	<i>Percent Responding</i>
Up to 1 mile	21.8
1 - 2 miles	26.2
3 - 5 miles	35.1
6 - 10 miles	12.0
Over 11 miles	4.9

Respondents who commute by car were also asked to estimate how far they normally travel (one-way) to work or school. Table 4-5 shows their answers. Approximately 65% of commuters travel less than ten miles to work or school, and 45% commute less than five miles. Only 16% commute more than 20 miles.

**Table 4-5
Distance Traveled by Car to Principal Destination**

<i>Response</i>	<i>Percent Responding</i>
Up to 1 mile	0.0
1 - 2 miles	19.5
3 - 5 mile	24.9
6 - 10 miles	20.9
11 - 20 miles	18.1
21 - 30 miles	7.2
31 - 40 miles	3.2
Over 40 miles	6.1

Survey participants were asked to identify sections of roadways in Skagit County that are most in need of designated bike lanes or bike paths. The areas listed in Table 4-6 were noted by three or more respondents.

Other roads mentioned by at least two respondents included Anaco Beach, Bayview-Edison, Cook Road, Best Road, Fir Street, Francis Road, Freeway Drive, Fruitdale Road, Havekost Road, Heart Lake Road, Highway 530, Hoag Road, Josh Wilson Road, Laventure Street, Neohn Road, Peterson Road, Rainbow Bridge, River Road, South Skagit Highway, 18th Street, and various other locations along SR 20 and SR 9.

When asked what type of trail system is most needed in Skagit County, respondents gave no clear indication of a strong preference. The responses were split three ways between a system of multi-use trails available to all user groups, trails designated for one or two user groups, and no opinion. Multi-use trails received a slightly larger response at nearly 37%.

In another question, respondents were asked to identify what system of routes or trails are most needed. On-street bicycle trails received the highest number of responses (more than 25%), and considerable support was expressed for "hiking and/or nature trails" and "off-street trails connecting various communities/ areas in the County." Table 4-7 details the responses to this question. Responses in the "other" category in Table 4-7 included off-road vehicle (ORV) trails and mountain bike trails.

About 70% of the respondents reported having visited one or more County Parks in the last year. Although not a County Park, the Padilla Bay trail was the most visited site in the County. Residents were asked what facilities they would like to see at larger parks in Skagit County. More than half the respondents identified the desire for trails at the Northern State Recreation Area. Trails also topped the list for Pressentin Park, and ranked second for Howard Miller Steelhead Park. Furthermore, when asked the top choices for expansion of facilities and areas, trails and bikeways lead the list, with support from almost 20% of the respondents.

Natural areas and open space were also mentioned by over 15% of the respondents. Respondents identified the most important types of open space. Ideally, trails and off-street corridors can be integrated with greenways and open space areas. Nearly two-thirds of respondents indicated an interest in seeing dikes and levees used for trails.

**Table 4-6
Sections of Roadways Most in Need of
Bike Lanes or Bike Paths**

Roadway	Number of Responses	Location
SR 20	10	Burlington to Anacortes
	7	Anacortes to Mount Vernon
		Sedro-Woolley to Burlington
		Sharpe's Corner to Deception Pass
	5	Burlington to Marble Mountain
	4	Sedro Woolley to Concrete
	3	Sedro-Woolley to Anacortes
SR 9	8	Sedro-Woolley to Mount Vernon
	4	Entire length
Division St	7	Waugh to Laventure
	3	No location
	2	Blackburn to Division
McLean Rd	7	Mount Vernon to LaConner
Memorial Hwy	2	Highway 20 to 12th Street
	7	Highway 20 to Mount Vernon
Chuckanut Dr	5	Burlington to Bellingham
	3	Blanchard to Burlington
	2	State Patrol Office to Chuckanut Rest.
	2	Entire length
Dike Rd	5	Mount Vernon to Conway
Blackburn Rd	3	No location
SR 99	5	Mount Vernon to Burlington

**Table 4-6 (cont.)
Sections of Roadways Most in Need of
Bike Lanes or Bike Paths**

College Way	3	Entire length
	2	Mount Vernon to Big Lake
Farm to Market Rd	3	Edison to Best Road
	3	Highway 20 to Edison
Frontage Rd	3	Mount Vernon to Conway
Gibraltar Rd	3	Entire length
Guemes Island Rd	3	Around island
Little Mountain Rd	4	Mount Vernon to Big Lake
Minkler Rd	3	No location
Riverside Dr	3	Mount Vernon to Burlington
	3	No location

Table 4-7

System of Routes or Trails Believed to be Most Needed in Skagit County

<i>Response</i>	<i>Percent Responding</i>
On-street bicycle lanes	25.4
Hiking and/or nature trails	23.7
Off-street trails connecting various communities/areas in the County	21.7
Off-street trails within a community	9.9
More trails not needed	16.3
Other	3.0

Respondents were asked if they would be willing to support a major parks and recreation acquisition and development program if it meant increased property taxes. Nearly a third of the participants said they would support such a program if it cost up to \$15 per household per year. Half the respondents indicated they would be willing to pay up to \$25 annually, while more than a quarter would not support any such program. Residents in the 15 corridor were most supportive of a program, and upriver residents were the least supportive. Also, older age groups tended to be less supportive than younger groups.

Finally, more than two-thirds of the respondents favor charging developers a fee to pay for parks, open space, and trail systems to serve new developments.

4.3 The Need for Nonmotorized Facilities

It is clear from the results of the public survey and the input received through the Citizens' Advisory Committee and public workshops that a substantial need exists for nonmotorized facilities in Skagit County. Trails, according to the survey, are among the *most needed* facilities in the County, including on-street bike lanes, hiking and nature trails, and regional trails linking communities. It is especially important to note that *the lack of facilities was identified as the main reason people do not bicycle more often.*

As noted earlier, it is difficult to assess the need for facilities in terms of miles or other quantitative measure. The ability to get from one place to another is generally more important than the length of a particular facility, although most non-motorized use occurs within a few miles of the home or workplace. The type of facility provided (a bikelane, shared roadway or multi-use trail, for example) is also very important to the person deciding whether or not to drive a car to a particular destination. As noted in the inventory, few facilities currently exist.

The potential "market" for increased foot travel or ridership in Skagit County is great. Almost half the population (about 45%) travels five miles or less to their principal destination. One in five travels two miles or less. Trips of this length are especially conducive to cycling.

Attitudes toward nonmotorized travel and national trends in walking, bicycling and equestrian activity offer insights into the need for facilities in Skagit County. The information provided below can be augmented by what is known about local conditions to help citizens, planners and engineers decide where and what type of facilities ought to be provided.

4.4 Pedestrian Travel

Studies (such as the National Bicycling and Walking Study conducted by the U.S. Department of Transportation) have often found that communities that encourage walking and which provide safe facilities for pedestrians tend to experience a stronger sense of community among the population. Crime rates are lower and people tend to look out for each other. Youth, seniors and the economically disadvantaged may depend on quality pedestrian facilities for their primary mode of transportation.

Well-designed pedestrian facilities are environmentally friendly and relatively inexpensive to build and maintain. Poorly designed facilities, such as poorly drained or surfaced trails, sidewalks with rolled curbing next to a travel lane, or the lack of adequate pedestrian facilities connecting with a parking lot, can reduce the safety or comfort level for pedestrians.

A recent national survey found that 73% of all walking trips are less than a half-mile in length (Table 2-1). The survey also noted that nearly 40% of all trips made (including all travel modes) that are less than one half-mile are walking trips (private vehicles account for 55% of these shorter trips). By contrast, less than 10% of the trips that are one mile in length are traveled on foot (86% are by car). Not surprisingly, as the distance goes up our reliance on the automobile increases substantially.

What these numbers also suggest is that as the trip shortens, the probability that someone will travel on foot increases dramatically as well. At some point, possibly 1,000 feet or less, the number of trips done on foot begin to exceed those made by any other mode, including automobiles. Thus, a point can be made that safe and convenient facilities for pedestrians are very important for short distance travel, in much the same way that roads and highways are crucial to longer distance travel.

Pedestrian needs vary according to trip purpose and destination as well as the limitations of the individual. The needs of children walking to a school or park are different from the needs of adults walking to work, to the market, or jogging to the ballfield. The Americans with Disabilities Act made it clear that the needs of the physically challenged must also be addressed.

Although it is generally unnecessary to plan separate facilities for each of these types of users, the needs of each should be considered in the design of all pedestrian facilities. The exception for this is in the case of the disabled, for whom access is a right guaranteed by federal civil rights legislation (Americans with Disabilities Act)

"Everyone is, at some point, a pedestrian. In fact, walking is fundamental to the morale, health and welfare of our communities"

*Washington State Traffic Safety Committee,
Pedestrian Strategic Safety Plan*

In Skagit County, the majority of pedestrian travel takes place in urban settings where trips are shorter, travel destinations are more concentrated, and better facilities are more likely to be available. Residential areas, commercial centers, schools and churches, civic centers and major recreational sites generate the most foot traffic.

With the emergence of a new transit system in the county, pedestrian traffic will likely increase around some transit stops, creating new demands for safe facilities at intersections, pedestrian links between transit stops and destinations, as well as pathway, shoulder or sidewalk improvements parallel to arterial streets.

All of these factors indicate the need for an ongoing program to develop, enhance and maintain nonmotorized facilities in Skagit County. As the system develops, it should be reviewed periodically to ensure that specific needs are being met.

4.5 Bicycle Travel

As illustrated in the results of the survey, bicycling is a relatively popular mode of travel in Skagit County with per capita participation rates higher than hiking, backpacking and horseback riding combined. In the spring, hundreds of cyclists may tour the tulip fields of the Skagit lowlands on a single day. A number of cycling tours and events are held at various times of the year and longer distance riders make their way north, south, east and west through the county. Yet, this kind of recreational riding accounts for only a portion of the total bicycle trips that occur in the region.

Generally speaking, bicycling is the most important mode of nonmotorized transportation for medium length trips of five miles or less (each way). Trips that might be described as "more than a short walk" but "less than a long drive" may be well suited to bicycles. Thus, bicycling is an ideal form of transportation in and adjacent to urban areas where travel distances are not great and a higher density of people, roads and paved trails and on-road facilities are more likely to occur.

The availability and quality of facilities has a direct bearing on the extent of bicycling that takes place in a given area. As facilities are built or improved, most communities find that ridership increases significantly. Cities and counties that provide the best facilities often have the highest rates of bicycle use. Communities that do not provide for the needs of cyclists (as in much of the country) see much lower numbers than might otherwise be observed.

The national survey referenced above found that 2.2% of all trips made that are less than one-half mile in length are done by bicycle. For one-mile trips, cycling falls off to 1.2%. Other studies have found that even in communities where cycling is very popular, it rarely accounts for more than 3% or 4% of the trips people make.

Some of the most successful bicycle programs are in cities like Boulder, Colorado, Eugene, Oregon, Davis and Palo Alto, California and Missoula, Montana. Not surprisingly, most of these are college communities where trip distances tend to be short and the ability to

own a car is not universal. Occasionally, the number of trips made by bicycle exceeds 10% in these locales. More than 30% of all trips in the Netherlands are by bicycle. In the U.S., anything over 2% or 3% should be viewed as a significant level of activity.

While 2% seems a low number, it should be kept in mind that there are potentially large markets for nonmotorized travel which are not traditionally well represented in the development of our transportation systems. The Puget Sound Regional Council recently estimated that as many as 30% of driving age citizens in the counties bordering Skagit to the south do not have access to an automobile. The reasons, vary from fiscal to physical; however, there are many citizens in our communities who are not well served by a transportation system based predominantly on private automobile ownership

The need for bicycle facilities applies to both on- and off-street routes. Because the road system goes where people go, it is important to make improvements throughout the system that will make bicycling a safer and more viable mode of travel in Skagit County. However, the facilities needed most are those that provide the most direct links between people and destinations and between communities.

4.6 Equestrian Travel

Travel on horseback has a long history in Skagit County and is still enjoyed by a small percentage of residents today. The majority of riding is assumed to be recreational in nature. Accordingly, the demand for equestrian facilities may be more of a recreational issue than one of transportation. Nevertheless, the needs of equestrians should be considered in planning for nonmotorized transportation.

According to a 1992 report entitled "Trails for All Americans" the number of horseback riders in the nation increased from 7.8 million in 1960 to 26 million riders by 1992, more than a three-fold increase. In Washington State, a survey conducted in 1986-87 found that 12% of all households statewide participated in horseback riding.

The 1993 survey of Skagit County residents shows a much stronger interest in horseback riding with 15% of all *residents* (as opposed to *households*) participating in the activity. However, facilities can be provided where there is a clear demand for equestrian use and such use can be accommodated without detriment to other users or motor vehicle traffic. Equestrian needs should be considered in the design of road shoulders where riding is known to occur, and within multi-use trail corridors.

Generally, equestrians should not be excluded from rural road shoulders or major trail corridors unless physical or safety constraints preclude such use and suitable alternatives are not available. Multi-use trails likely to receive significant use by bicycles and/or pedestrians may warrant the development of separate, parallel facilities for

equestrians. A durable base with a soft surface is generally preferred over pavement, compacted crushed rock or poorly drained native soil.

As the nonmotorized system develops, equestrian needs should be reevaluated.

5.0 Regulatory Evaluation

As an element of the planning process, existing land use and development programs and regulations in Skagit County, including those of the larger incorporated cities, were briefly evaluated for provisions relating to nonmotorized transportation. The purpose of this evaluation was to determine whether specific provisions currently in effect might preclude or conflict with the goals and policies of this plan. While there is much room for improvement and coordination, no major conflicts were identified. A summary of the evaluation is presented in this section. Recommendations for amending several plans and programs are contained in *Section 6.5*.

5.1 Jurisdictions

Skagit County

GMA/Comprehensive Plan EIS

The Skagit County Comprehensive Plan was developed at the same time the 1994 draft nonmotorized transportation plan was first being prepared. (The Nonmotorized Transportation Plan is one component of the Transportation Element of the Comprehensive Plan.) The Draft Environmental Impact Statement for the Land Use Designation Element of the Skagit County Comprehensive Plan (January 1994) contained several recommendations relevant to nonmotorized transportation in the county. In summarizing existing conditions, the plan recognizes that Skagit County has few formally designated bicycle routes, but that the Skagit flats are a popular riding area, especially in spring when tulip fields are in bloom.

The plan poses several transportation-related mitigating measures, including:

- Promote greater transportation system efficiencies, such as transit and other alternative modes of transportation, by creating designated areas with relatively higher residential densities.

- ✍ Minimize trip lengths and maximize the opportunity for nonmotorized transportation by locating services and employment centers near residential areas.
- ✍ Establish a land use pattern that contributes to a decreased reliance on the private automobile.

Skagit Regional Transportation Plan (exerpts)
Transportation Planning, Design and Construction

7. All improvements to the transportation system (traffic, transit, bicycle and pedestrian) in the public right of way shall comply with the Americans with Disabilities Act of 1990.
8. Support opportunities to redevelop the road system as multimodal public facilities which accomodate the needs of pedestrians, cyclists, transit, autos and trucks.

Skagit County Transportation Systems Plan
(June 1, 1997)

“The stated objectives of the nonmotorized transportation plan are (to):

- 1 Provide a safe, efficient and interconnected system of trails and bikeways, including both on and off-road facilities, that link populated areas of the County with important travel destinations.
- 2 Achieve a high standard in meeting the needs of bicyclists, pedestrians and equestrians through appropriate planning, design, construction and maintenance of user-friendly facilities, including single-user and multi-user trails, roads and road shoulders, bikeways, bike lanes and related improvements.
- 3 Recognize that public safety, education and law enforcement (are) integral to the development of nonmotorized transportation opportunities in Skagit County.”
- 4 The preparation of this document is specifically addressed in the 1997 Transportation Systems Plan, along with language calling for a review of the use of dikes and levies as trail systems, and the need to focus on timely (scheduled) maintenance of existing nonmotorized facilities.

Comprehensive Park and Recreation Plan – Skagit County
(May, 1998)

Completed in 1998, the Parks and Recreation Plan described an ambitious system of trails and pathways to serve the recreational needs of County residents and visitors.

“Pathways and trails are designed to provide on-street and off-street routes for walking, bicycle riding, horseback riding and other nonmotorized recreation activities. While these trails are designed to primarily serve recreation purposes, they may also serve valuable nonmotorized transportation purposes”

Policies and Development criteria:

“1. The primary purpose of recreation trails is to provide a recreation experience. Transportation to other parts of the community should be a secondary objective.”

NOTE - This policy serves to delineate the difference between a nonmotorized transportation plan and a parks/trails document. The Nonmotorized Transportation Plan incorporates findings and proposed projects from the parks plan, but language is presented to assist in determining the relative transportation value of a given trails or parks project. This becomes vitally important when these trails and/or parks projects seek state and federal transportation dollars to support facility development. Transportation funding programs (such as STP Enhancement) requires that the proposed project serve a transportation function, and that the design of the facility serve these purposes (i.e. all trails must be paved). Not all of the projects identified in the Parks and Recreation Plan can be expected to meet such a test.

In addition, all on-street facilities are by definition a part of the transportation system, and must meet design criteria established for transportation purposes, whether or not the particular facility is also listed in the Parks plan.

(reference Skagit County Comprehensive Park and Recreation Plan, section IX, pgs 5-6, 27-30)

Shoreline Program

The Skagit County Shoreline Management Master Program (1976, amended and reprinted in 1983) encourages:

... the Provision of safe pedestrian and/or nonmotorized vehicle paths, trail systems and other means along shoreline areas and along abandoned, existing, or proposed railroad, roadway, dikes, and utility shoreline rights-of-way.

The program includes a policy of multiple use/public access for transportation facilities along shorelines to provide for point and linear public access. Shoreline trails are noted as an example of public access. The program also states that utility development should provide for compatible, multiple use sites and rights-of-way, including trail systems, shoreline access areas, and other forms of

recreation and transportation. Updates to this program will be made in the next three years.

5.2 Incorporated Cities

La Conner

Zoning/Comprehensive Plan

The city's zoning ordinance (1989) defines trails and walkways, but generally does not address pedestrian or bicycle needs. The Comprehensive Plan suggests that redevelopment along the historic waterfront include public access.

Subdivision

The city's Subdivision Ordinance (1978) does not address nonmotorized transportation in detail. However, the plan does require paved pedestrian walkways along residential streets.

Other

The city's Harbor Area Plan (1994) identifies public access areas and opportunities along the waterfront. The plan recognizes public access as a critical need and recommends a boardwalk along the waterfront the length of downtown. The walk would be extended south to link Pioneer Park and Rainbow Bridge. This waterfront walkway unifies public open spaces and provide opportunities for access between land and water. It will also link businesses which have publicly accessible decks on the waterside. The plan describes this walkway as a strongly visible element which would give definition to the shoreline. When more specific plans are developed for waterfront access, a bike route through downtown should be encouraged to allow bicycles better access to the area.

Anacortes

Year 2000 Transportation Plan

(October 1999 – DRAFT)

The Anacortes year 2000 Transportation Plan addresses nonmotorized transportation at a policy and project level. Generally, the plan calls for the continued enhancement of pedestrian and bicycle facilities to encourage the use of non-automotive modes of travel within the City, including the development of improvements to existing bicycle storage facilities at key destinations in Downtown, at schools and community recreation areas.

More specifically, the Plan stresses the importance of the development of the Tommy Thompson Trail between March Point and the Anacortes downtown. The plan views this facility as a critical element in the city's overall transportation system, linking an existing Park & Ride (which serves bus shuttles to the Washington State Ferry terminal) and providing a direct and usable alternative for pedestrians and bicyclists to a difficult and hazardous condition along SR 20 between the Swinomish Channel and downtown Anacortes.

The plan also recognizes the need to reconcile pedestrian access and safety needs with the need to move traffic along Commercial Avenue. Crossing opportunities are limited in this area, and while many improvements have been made north of where SR 20 turns west to the ferry terminal, areas further south remain of concern to local pedestrians.

On a policy basis, the Plan calls for the protection of the existing Burlington Northern Santa Fe right of way from the railroad trestle to the Port marine terminal facilities for future transportation planning and development, as well as the development of safe and easy to use pedestrian facilities and bikeways in and around Anacortes. As with many other communities, the designation of facilities was addressed in the city's Parks and Recreation Plan, and addresses predominantly recreational access, with emphasis on access to and through the Anacortes Community Forest.

Zoning

The city's zoning ordinance (1992) does not address nonmotorized transportation, except for minimal provisions for pedestrians in commercial parking areas.

Shoreline

The Anacortes Shoreline Master Plan (1983) includes a public access element with an objective to provide incentives for public access opportunities in private developments. The transportation element of this plan does not address nonmotorized transportation, but the

recreation element includes a discussion of providing lineal access to shorelines. The plan also directs new railway and road development to maintain existing pedestrian access to shorelines, and states that new roads and railways should be designed to accommodate varied modes of transportation.

Comprehensive Plan

The Anacortes Comprehensive Land Use Plan (1993) includes the encouragement of multi-modal transportation systems as a major goal. The Plan identifies the need for pedestrian and bicycle facilities particularly in the downtown area and in other areas identified in the Park and Recreation Plan. The Plan recommends public pedestrian access to waterfront areas. It also encourages acquisition of the railroad grade along Guemes Channel for multi-use trail purposes, as a high priority.

The Plan further recommends that the arterial street system provide for the needs of bicyclists. The Plan endorses the Anacortes Community Forest Management Plan (1991) and recommends the implementation of that plan's trail recommendations, including the development of facilities accessible to the physically challenged.

Comprehensive Parks & Recreation Plan

The city's Comprehensive Park and Recreation Plan (1988) includes bike routes along 12th St./Oakes and an urban route called the Anacortes Loop (Figure 5-1). There are two significant multi-use trails of particular relevance to the Skagit County Nonmotorized Transportation Plan. One is the cross-island Evergreen Trail connecting Washington Park to Deception Pass by way of Community Forest Lands and Campbell Lake. The other is a multiuse trail planned along the old railroad grade within the proposed Ship Harbor development adjacent to the San Juan Ferry Terminal. This trail would eventually connect with Washington Park. A number of recreational paths through Community Forest Lands are also planned.

There has also been some discussion of converting the railroad grade from March Point to downtown and the boat basin into a multi-use trail if this grade is abandoned by the railroad. The route includes a railroad trestle across Fidalgo Bay. As of 1999, construction of this trail has begun, linking Downtown Anacortes to the Park & Ride lot near March Point.

The Comprehensive Trail Plan for Anacortes' Community Forest Lands (1988) addresses bicycle, pedestrian, equestrian, and motorcycle use, with a recreational emphasis.

Transportation

The City of Anacortes street design standards do not include provisions for bicycles. Sidewalks are addressed for most arterial

streets and subdivisions. No changes in the design standards are anticipated in the near term.

One project of significance involves bikelanes proposed for construction in 1994 along Anaco Beach Road from Sunset to near the city limits (1.1 mile in length). Bike lanes would be extended to the city limits in a future phase. Long term plans include upgrading the 12th Street/SR 20 bike route from downtown to the San Juan Island Ferry Terminal.

Other

The Anacortes Community Forest Management Plan (1991) includes a number of trail recommendations.

The City of Anacortes Capital Facilities Program for 1994-1999 includes two projects worth noting. First, the Oakes Avenue/12th Street improvement project (Burrows Bay Road from "K" Avenue to Ferry Terminal Road) is listed for widening to three lanes with bikelanes on both sides. The Plan includes the Anacortes Loop Trail identified in the Park and Recreation Plan as a project to be funded and developed between 1994 and 1999.

Current Issues

While the new Transportation Plan for Anacortes has not yet been adopted, the Plan envisions a number of significant projects intended to improve nonmotorized access and safety and around the city. In addition to the Tommy Thompson trail, facilities are envisioned which would link south towards Deception Pass. Currently referred to as the "cross-Island trail", the pathway would traverse the Community Forest and be developed to a "rustic" standard, meaning unpaved or surfaced with a hard packed surface course. As such, the project might not be acceptable for transportation funding under TEA-21 programs, but would be acceptable under a number of recreational funding programs. A similar trail (known as the Trans Fidalgo trail) would serve the area closer to the ferry terminal.

With or without trails, the City is interested in seeing improvements to the roads and streets which link Anacortes to key access routes, including SR 20, and access to Deception Pass. Such attention would include better shoulder conditions on adjacent County roads, such as Hart Lake Road.

Mt. Vernon

Transportation Element – Comprehensive Plan (April 1998)

“The proposed bicycle-pedestrian path system is, perhaps, one of the most ambitious proposals for the community. It is, however, responsive to a major need identified in various surveys and community meetings held during the comprehensive planning effort.

“The City and County are cooperating to achieve an integrated bike/pedestrian path system. The system in the County would rely on both the existing road system, the network of dikes along the Skagit River, and old railroad right of way. Their effort in the vicinity of the Padilla Bay National Wildlife Sanctuary will be a model to be extended to other situations.

The city-wide system will utilize selected arterials and collector streets, with separate paths in some instances. A system of parallel bike routes off of the arterials will also be designated for safety. Particular emphasis on sidewalks will be given to those streets connecting to neighborhood schools and parks. In addition to those streets designated bike paths (i.e. 30th,) there is a system of separate paths – 8 to 12 feet in width -, depending on the concentration of population and speed (sic) available – along major stream corridors.”

NOTE – The Mt. Vernon Nonmotorized Plan was developed in conjunction with that city’s Parks Plan, and the designation of routes and facilities represents, to a large extent, the meeting of recreation goals. The language referencing dikes and streams indicates that at one level, the potential of such facilities is appealing to the public, although as is mentioned elsewhere in this document, many issues must be resolved collectively and on a case-by-case basis for such plans to be implemented.

Zoning



Nonmotorized transportation is not addressed in detail in the city’s zoning ordinance. However, the zoning ordinance’s “Planned Unit Development” section discusses pedestrian circulation on city streets.

Shorelines

The City of Mt. Vernon relies on the Skagit County Shoreline Management Plan in the regulation of development activities in waterfront areas.

Comprehensive Plan - 1988

The Mt. Vernon Comprehensive Plan of 1988 encouraged a major bicycle/pedestrian transportation system that includes trails along dikes (Figure 5-2). Specifically mentioned are:

-  Dike north of Lion’s Park (N. River Loop)
-  North connection to LaVenture Road with a loop to Clear Lake

- ~~///~~ West connection along McLean Road to La Conner
- ~~///~~ South Fork Skagit River loop
- ~~///~~ Little Mountain connection to Big Lake loop

The Mt. Vernon Comprehensive Plan stated that most of the residential trips are generated in the central and eastern portions of the city. Forty percent of the trips are work related, twenty-five percent are commercial/service related, twenty percent are for school, and fifteen percent are for pleasure.

The Comprehensive Plan recommended that pedestrian facilities be provided along arterials and collectors and that street intersection design standards be developed to address pedestrian facilities among other things. The Comprehensive Plan remarks on the Park and Recreation survey that showed a significant need to upgrade pedestrian facilities and to develop a bicycle path system. The Comprehensive Plan recognizes the bicycle/ pedestrian system as one of the most ambitious proposals for the community. The Padilla Bay trail is noted as a model project.

The Comprehensive Plan discusses the downtown waterfront promenade which is partially developed and identifies three other areas particularly important to pedestrians. These include Division Street from LaVenture to the west, the mall area, and the Kulshan Creek corridor. Bicycle and pedestrian access to Skagit River dikes are also recommended.

Subdivision Regulations

The Mt. Vernon Subdivision Regulations Title 16 (4/92), chapter 16 contains design standards that require paved crosswalks and pedestrian ways along streets in new subdivisions. Sidewalks are required on all dedicated street rights-of-way in all new subdivisions, including cul-de-sacs. The locations and dimensions of these sidewalks are to be shown on plats and site plans.

Current Issues

Mount Vernon has been developing increasingly stronger policies and programs that address nonmotorized transportation needs, including the opportunities and constraints to pedestrian safety represented by physical barriers such as rivers and hills. One example of addressing pedestrian barriers is the desire to develop a pedestrian bridge at Kincaid Street across the river, as existing pedestrian routes to west Mount Vernon are narrow and somewhat hazardous. Addressing these issues is recognized as an effort which will involve multiple jurisdictions, including the County, the WSDOT, and local diking districts.

Further, the City is aggressively pursuing the retrofitting of existing city streets with better pedestrian and ADA facilities, as evidenced by the gateway project nearing completion in downtown Mount Vernon.

Improving pedestrian access to major transit centers – particularly the new rail and multi-modal center – is a primary goal for the City.

Newer commercial areas along College Way and Riverside Drive are a concern for both Mount Vernon and Burlington, as these developments continue to develop traffic. Increased congestion in these areas has been cited in many public comments regarding the need to improve both the quantity and quality of on-street facilities for bicyclists and pedestrians.

Burlington

Comprehensive Plan

Burlington's Draft Comprehensive Plan, Zoning Ordinance Amendments, and Comprehensive Transportation Plan (1994 and updated in 1999) contains several recommendations related to nonmotorized transportation. The plan recommends that the City's Capital Improvement Plan be coordinated with regional nonmotorized travel plans, such as this nonmotorized transportation plan. The plan also includes a goal to encourage efficient multi-modal transportation systems.

The plan recommends a new park and open space area along Gages Slough and along and behind the levees of the Skagit River. The plan states that the city should take advantage of passive recreation opportunities near Gages Slough, including pedestrian walkways. The plan also encourages improved pedestrian access to the Skagit River, and reiterates the goal stated in Burlington's Park and Recreation Plan to work with drainage and diking districts to improve public access to these areas.

The plan recommends the City provide for mixed use development that will maximize the potential for walking to places of employment and shopping areas. New housing developments are encouraged to provide pedestrian and transit links for public access to open space, parks, and recreation areas.

“Nonmotorized transportation is generally comprised of bicycles (sic), pedestrian and equestrian facilities. While there is not a county-wide nonmotorized transportation plan adopted to date (1999), the City of Burlington has constructed a 1.7 mile pedestrian trail that runs along State Route 20 and could be linked with Sedo-Woolley in the future...an interlocal agreement has been reached with Dike District #12 to provide 2.0 miles of nonmotorized access along the Skagit River Dike from the Gardner Road Boat Launch to the Railroad Bridge fishing access area. This will link up with the new bridge across the Skagit River that will replace the existing Burlington-Mt. Vernon Bridge. The new bridge is planned to be constructed in the year 2000-2001 and the bridge will include nonmotorized transportation public access.”

The Transportation Element of the Comprehensive Plan discusses nonmotorized transportation and proposes a bicycle route plan for the city (Figure 5-3). A map of this plan is included with the Transportation Element.

Parks & Recreation Comprehensive Plan

The Parks and Recreation Comprehensive Plan and Capital Improvement Plan (1993 and updated in 1998) outlines an objective of identifying open space corridors including lands useful for trails. The plan recommends working with drainage and diking districts to improve public access to dikes. The plan also encourages passive recreation and walkways in the Gages Slough area. The plan identifies a potential trail on Burlington Hill and other potential multi-use paths, including the need to extend the SR 20 pathway facility to Sedro Woolley, and the potential benefits of the joint use of other trail facilities, including another reference to the joint-use agreement reached with Diking District #12 for access along th Skagit River.

This plan describes the results of a 1992 survey of Burlington residents that correspond well with the results of the countywide Parks, Recreation and Nonmotorized Transportation survey of November, 1993 (*Section 4.2*). In the Burlington survey 91% percent of the respondents felt there was a need for additional bikeways and 64% expressed a need for additional trail facilities. Also, 72% of the respondents felt a need for additional open space for passive recreation.

Sedro Woolley

Comprehensive Plan (September 1998)

The Sedro-Woolley Comprehensive Plan envisions improvements to both pedestrian and bicycle facilities linking the City's "recreational, social and shopping opportunities". Among pedestrian facilities cited are a connection from the SR 20 pathway to the CBD area, and community-wide improvements to sidewalks as funds are made available. Bicycle facilities routes and plans have not been developed at this time, although such efforts are envisioned for the future.

Community Visions Document

Sedro Woolley's Community Visions Draft Goals and Policies for 1994 (October 1993) addresses nonmotorized transportation in detail. The plan outlines a policy to "establish a network of bicycle and pedestrian trails which are coordinated with Skagit County in order to provide linkages to a regional system." The plan suggests shorelines and stream corridors among other possible nonmotorized transportation corridors and recommends developing a system of bicycle and pedestrian trails which link existing and proposed parks and open

space areas. The plan further recommends that public park and/or trail systems be integrated within natural areas, where appropriate. The plan calls for clearly marked bicycle travel corridors along all principal, secondary, and collector arterials.

Several plan policies relate to pedestrian facilities, including a recommendation that clearly marked sidewalks be provided in areas where potential pedestrian hazards exist or are anticipated in the future. The plan suggests street lights for areas of high pedestrian use during evening hours. The plan recognizes that pedestrians are the principal users of Sedro Woolley's central business district, and encourages retail development that appeals to pedestrians.

The plan encourages alternative modes of transportation, including trails, rail, transit, and walking. The plan recommends the development of a system of regional and local multipurpose trails which provide designated routes for bicycles, walkers, joggers, and tourists designed to meet both transportation and recreation needs. The plan also recommends that the Burlington Northern Railroad right-of-way be preserved as a nonmotorized transportation corridor between Sedro Woolley and upriver communities.

The plan encourages the use of alternatives to the single occupancy vehicle for commuters and recommends that the city coordinate with local community groups to provide alternative transportation education and programming to community residents. The plan further recommends that the city provide for bicycle storage facilities at public facilities and commercial retail areas.

Comprehensive Plan

The Transportation Element of Sedro Woolley's Comprehensive Plan (February 1994) encourages alternate modes of transportation and outlines many of the policies and recommendations described above in the Community Visions Document. The Transportation Element recommends a system of multi-purpose trails to provide transportation and recreation for bicyclists and pedestrians. The plan also encourages the use of alternatives to single-occupancy vehicle commuting, including walking, cycling, and other modes.

Other recommendations include preserving the Burlington Northern Railroad right-of-way for nonmotorized transportation, encouraging education on alternative transportation, and providing bicycle storage at certain locations.

Current Issues

The plan also recommends that traffic systems on city streets be designed to promote alternative transportation options. The plan addresses minimum standards for sidewalks and recommends construction of separate pedestrian facilities, such as walking paths leading to schools or parks.

Concrete

The City of Concrete encourages the development of improved pedestrian facilities within its borders, and is currently developing plans to develop an improved system of local walkways and pathways within the community. As with other communities along the Cascade Trail, Concrete awaits the results of pending litigation before committing resources to improving links to the regional trail.

With or without the trail, Concrete desires to increase the number of nonmotorized visitors to the town, and has indicated an interest in promoting special events to attract such visitors.

Lyman

The Town of Lyman does not yet have an adopted Comprehensive Plan, and like Concrete awaits the results of pending litigation before committing resources to improving links to the regional trail.

Budgetary constraints limit the amount of sidewalk and pathway development efforts possible in this small community.

Swinomish Tribal Community

The Swinomish Tribal Community is currently in the process of developing a Comprehensive Planning document which, when completed, will include policies and projects relating to pedestrian facility design and development. This document was not available for review for the 2000 update of the Skagit County Nonmotorized Transportation Plan.

The 1996 Swinomish Comprehensive Plan calls for the inclusion of designs in all future transportation projects within the tribal boundaries which meet the needs of “senior citizens, the physically challenged, and the non-driving public and youth”.

Hamilton

Comprehensive Plan

The City of Hamilton is currently developing a Comprehensive Plan which references the Cascade Trail, as well as equestrian trails off Medford Road. The plan notes trail and open space opportunities within some areas in the city, particularly to the north of SR 20. A reference to this nonmotorized transportation plan may also be included in Hamilton's final Comprehensive Plan.

6.0 Recommendations

The development of the Skagit County Nonmotorized Transportation Plan includes recommendations specific to the designation of a network of key streets, and projects that are recommended for implementation on this network. This chapter addresses the development of these recommendations, design standards that apply to these projects, and outlines other programmatic activities which can improve access, mobility and safety for nonmotorized users of the County transportation system.

6.1 Nonmotorized System Plan (Map)

The nonmotorized transportation system envisioned by this plan is comprised of a variety of facilities that can vastly enhance the public's opportunity to travel within Skagit County by means other than the single-occupant motor vehicle. An extensive, phased-in network of on- and off-street routes is recommended in order to serve the three principal nonmotorized user groups-bicyclists, pedestrians and equestrians-over the next 10-15 years.

The system map depicts four basic facility types, including designated bikelanes and shared vehicle travel lanes, which benefit bicycles, as well as road shoulders and off-street trails, which can benefit all three user groups. (Sidewalks are uncommon outside of urban areas and are not illustrated on the map):

Network Selection Criteria:

- /// Serve as principal links between and within communities
- /// Provide key links to major destinations outside communities
- /// Are generally located where greater demand is expected
- /// All should be built and maintained to standards established nationally and by the State of Washington, and which emphasize safety to users.
- /// Provide intermediate links within the system of primary routes
- /// Help to ensure that people living or traveling outside of existing communities have the opportunity to utilize the system without having to cover great distances to access it.
- /// Some routes selected have high scenic or recreational value (something that should be considered as individual projects are designed and developed)

Although only four facility types are illustrated, each can be developed and maintained to one of several different standards depending on the nature of the route and its classification. For example, off-street trails will often vary in width and surface treatment in order to accommodate the kinds of usage anticipated. The width of

paved road shoulders will also vary depending on traffic volumes, truck traffic, overall pavement width, functional classification, and other factors, including how important the route is to nonmotorized users.

As roadways are designed or improved, decisions will need to be made regarding an appropriate design standard for each segment in the nonmotorized system. Design standards and guidelines for making these decisions are discussed in the next section. Specific route-by-route design recommendations are listed at the end of this section.

The recommended system of non-motorized travel routes is illustrated in Figure 6-1. The routes illustrated are the priorities of this plan and all are based on detailed corridor analyses, pavement suitability assessments, discussions with knowledgeable city and county park, planning and engineering staff, individuals having an interest in nonmotorized travel, and, most importantly, public and citizen committee input during the planning process. (Working maps and background data are available through the Skagit County Public Works office.)

A Note on the Countywide Road System

Finally, the fact that a map has been developed that lays out a system of primary and secondary routes does not suggest that other routes should not be considered for nonmotorized use. Essentially the entire road system has some value to nonmotorized travel and reasonable improvements should be considered whenever any road, bridge, traffic control device or other traffic feature is modified or developed in the future. People tend to go where roads go, whether their means of getting there is by personal automobile, public transit, carpool, or a nonmotorized mode.

6.3 Facility Recommendations

A variety of facilities are recommended to provide for nonmotorized travel in Skagit County. Paved shoulders and bike lanes are proposed where traffic volumes are higher and significant bicycle use either exists or is anticipated over the next decade. On rural collectors and arterials, six-foot wide paved shoulders will normally be adequate to serve the needs of bicycles and pedestrians, except where high traffic volumes, speeds or truck traffic suggest otherwise. Similarly, unpaved shoulders can generally serve the needs of equestrians, where appropriate.

Generally, where traffic volumes are very low, shared roadways may be acceptable for nonmotorized use. Where sight distance, physical obstructions or other concerns exist, signing, pavement marking or other techniques may be necessary to enhance traffic safety.

In urban situations, designated bike lanes, paved shoulders, and wide curb lanes can accommodate most bicyclists. Shoulders and

sidewalks will provide for much of the pedestrian use that might occur. Off-street facilities are also recommended, such as single-use and multi-use paths, as well as more elaborate braided trail systems that provide separate facilities for bicycles, pedestrians and/or equestrians. Motor vehicle access to trailheads will need to be accommodated at some locations.

Both on- and off-street facilities must be coordinated with other transportation modes such as transit and multi-modal facilities. Motor vehicle access to trailheads and parking areas should be provided. Whenever possible, off-street facilities should be designed for accessibility consistent with the Americans With Disabilities Act (ADA).

Facility design, generally, should be consistent with accepted standards and guidelines (addressed in the next section).

Priority project recommendations are presented on the following pages. Specific recommendations for all on- and off-street nonmotorized transportation routes are contained in Tables 6-1 and 6-2. (Refer to the Comprehensive Park, Recreation, Open Space and Trail Plan for additional recommendations concerning recreational trails.)

6.4 Priority Projects: Off-Street Routes

Centennial Trail (Big Lake to Sedro Woolley)

- ✍ Make minor improvements to control drainage, prevent erosion and discourage unauthorized motor vehicle access.
- ✍ Big Lake to Clear Lake: Consider subgrade improvements and temporary crushed rock surfacing for interim use of county owned segments; secure access and missing links or alternative routes if possible to make this section continuous. Once these gaps have been negotiated, apply for grants to acquire and develop this portion of the Centennial Trail to a high standard suitable for pedestrian, equestrian and bicycle use (modelled after the Centennial Trail in Snohomish County).
- ✍ Prepare a master plan and funding strategy for the entire project.
- ✍ Continue negotiations with WDNR, WSDOT and private property owners to acquire missing links throughout the corridor, including the SR 9 corridor from Sedro Woolley to Whatcom County, and the link to Kulshan Creek Trail.

Cascade Trail (Sedro Woolley to Hamilton)

- ✍ Make minor improvements to control drainage, prevent erosion and discourage unauthorized motor vehicle access.
- ✍ Sedro Woolley to Hamilton: Consider access and subgrade improvements and temporary crushed rock surfacing for interim use of the railroad grade south of SR 20. Apply for grants to develop this portion of the trail to a high standard (consistent with the Centennial Trail).
- ✍ Prepare a master plan and funding strategy for the entire project, including possible shared-use of the SR 20 and Burlington Northern railroad corridor west of Sedro Woolley to Anacortes. Monitor the right-of-way west of March Point for possible abandonment and rail banking.
- ✍ Investigate opportunities to acquire abandoned railroad right-of-between Concrete and Rockport, particularly as needed to link Rockport State Park with Howard Miller Steelhead Park. If possible, identify alternative routes where river washouts have obliterated the old grade east of Concrete.
- ✍ Provide for the development of a new trail surface within the right of way as a development condition of any potential reopening of the corridor for commercial rail use, consistent with proposed volume and frequency of rail operations.

Padilla Bay Trail

- ✍ Complete the pedestrian link between the parking area and north trailhead, keeping foot traffic on the west side of Bayview-Edison Road south of the intersection with 2nd Street.
- ✍ Improve and expand parking at the south trailhead.

- Investigate extending the Padilla Bay Trail along dikes and the railroad corridor to the south and west in order to link with the Swinomish Channel Boat Launch (an excellent trailhead site).

Evergreen Trail (Fidalgo Island)

- Participate with the City of Anacortes, Washington State Parks, and WDNR in preparing a master plan for this cross-island trail linking Washington Park and the San Juan Island Ferry Terminal with Deception Pass. Should the facility be developed as a soft-surface trail, include in planning the identification of appropriate means for accommodating road bicycles within the corridor served by the trail.

Hamilton Area Equestrian Trailhead (off Medford Road)

- Improve access to the area with appropriate parking and trailhead facilities.

6.5 Priority Projects: On-Street Routes

All Routes

- Improve and/or widen shoulders as a part of the County's transportation development efforts
- Increase shoulder sweeping frequency particularly along key bicycling routes.
- Install signs and pavement markings along existing primary routes and accident-prone areas as needed to enhance safety and usefulness of the system.
- Remove barriers or impediments to nonmotorized use of roads.

SR 20

- Encourage WSDOT to provide adequate paved shoulders (six to eight feet wide) and to investigate appropriate alternatives for nonmotorized use throughout the highway corridor. Focus on suitable alternatives to SR 20 where feasible.
- The separated pathway across Berentson Bridge needs regular sweeping and maintenance. Continued coordination with the WSDOT Northwest Region Office should stress this current need. Future improvements to the bridge should include widening of the pathway to a minimum of eight feet if it is intended to accommodate two-way bicycle use.

SR 9

- Encourage WSDOT to provide adequate paved shoulders (five feet minimum) or appropriate alternatives for nonmotorized use throughout the highway corridor.

Memorial Highway

- Widen and improve shoulders.

Riverside Dr./Burlington Blvd. (Local project of County-wide interest)

Assuming eventual construction of a new Skagit River Bridge, it is essential to include optimal nonmotorized facilities and links to adjoining routes in its design. In terms of the numbers of people that could potentially be served, this river crossing may be the most significant impediment to non-motorized transportation in the region.

Bayview-Edison Road

Widen shoulders to complete designated bikelanes (four feet minimum) from SR 20 to Breazeale Interpretive Center.

Marine Drive/Rosario Road

Widen and improve shoulders to four feet minimum, if feasible, to link with Anaco Beach Road.

Campbell Lake Road

Widen and improve shoulders to four feet minimum, where feasible.

Fir Island/Chilberg Roads

Widen and improve shoulders (five feet minimum) around the curves west of Best Road as planned.

Josh Wilson Road & Peterson Road

Extend wide paved shoulders (five feet minimum) on both roads from the 1-5 corridor to Higgins Airport Way.

Chuckanut Drive

Widen and improve shoulders (four feet minimum, five+ feet preferred) from 1-5 to north of Blanchard Bridge. Improve the balance as feasible north to Whatcom County.

Cook Road

Widen and improve shoulders to five feet minimum.

Dike Road

Improve pavement edge and shoulders as feasible.

Farm-To-Market Road

Widen and improve shoulders as feasible.

Guemes Island Road

Widen and improve shoulders as feasible.

Little Mountain Road

Widen and improve shoulders (four feet minimum) as feasible.

Minkler Road

Widen and improve shoulders (four feet minimum) as feasible.

West Big Lake Road

?? Widen and improve shoulders to complete the link from Little Mountain Road to SR 9 (north).

Table 6-2**Recommendations for On-Street Facilities**

Seg. #	Route Name	Recommendation
ALGR	ALGER-CAIN LK RD	4'-6' paved shoulder.
AVON-1	AVON-ALLEN RD	4' paved shoulders
AVON-2	AVON-ALLEN RD	4' paved shoulders
AVON-3	AVON-ALLEN RD	4' paved shoulders
BABC	BABCOCK RD	Normal maintenance & repair
BAKR	BAKER LAKE RD	Normal maintenance & repair. 4'-6' shoulders throughout.
BRTH	BARTHOLOMEW RD	4'-6' paved shoulders.
BAYV-1	BAYVIEW-EDISON RD	5' paved shoulders or bikelanes, plus 6'-8' separated walkway along west bank for pedestrians (ADA standard). Consider extending separated walkway north to Bayview State Park and Breazeale Interpretive Center (approx. 1.1 mile).
BAYV-2	BAYVIEW-EDISON RD	4'-5' paved shoulders.
BVRL	BEAVER LAKE RD	4'-5' paved shoulders or road widening.
BVRM	BEAVER MARSH RD	Minor road widening. Normal maintenance & repair. Improve seasonal tulip parking for cars. Separate signed routes for cars and bikes should be considered.
BEHR	BEHRENS MILLET RD	Normal maintenance & repair. Possible separated ped path, S side.
BENN	BENNETT RD	Minor road widening or 4' paved shoulders.
BEST	BEST RD	4'-6' paved shoulders throughout.
BIGL-1	BIG LAKE BLVD, W	4'-5' shoulders or bikelanes; separated footpath east side.
BIGL-2	BIG LAKE BLVD, W	4'-5' shoulders or bikelanes; separated footpath east side.
BLCK	BLACKBURN RD	4'-6' paved shoulder.
BOWH	BOW HILL RD	4' paved shoulders.
BURL	BURLINGTON BLVD	4'-6' paved shoulders or bikelanes.
CALH	CALHOUN RD	Normal maintenance & repair. Possible minor road widening.
CMBL	CAMPBELL LAKE RD	4' paved shoulders.
CAPE	CAPE HORN RD	Minor road widening, normal maintenance & repair.
CASR	CASCADE RIVER RD	Minor road widening, striped shoulders, maintenance & repair.
CEDR	CEDARDALE RD	Normal maintenance & repair.
CHLB	CHILBERG RD	4'-6' paved shoulders.
	CHUCKANUT DRIVE	4'-6' paved road shoulders where possible
CLNY	COLONY RD	Minor road widening, normal maintenance & repair.
CNCR	CONCRETE-SAULK VLY	Minor road widening, normal maintenance & repair.
CNWX	CONWAY RD	Normal maintenance & repair.
COOK	COOK RD	4'-6' paved shoulders
DIKE	DIKE RD	Normal maintenance & repair.
DODG	DODGE VALLEY RD	Minor road widening, normal maintenance & repair.
DWNY	DOWNEY, PETER RD	Minor road widening, normal maintenance & repair.
	DUNBAR	Normal maintenance & repair.

Table 6-2 (Cont.)

Recommendations for On-Street Facilities

Seg. #	Route Name	Recommendation
ERSH	ERSHIG RD	4'-5' paved shoulders
F&SG	F&S GRADE RD	4'-5' paved shoulders.
FARM	FARM TO MARKET RD	4'-5' paved shoulders.
FDLG	FIDALGO BAY RD	Normal maintenance & repair.
FIRI	FIR ISLAND RD	4'-6' paved shoulders.
FRAN	FRANCIS RD	Minor widening, maintenance & repair.
FRUT	FRUITDALE RD	Minor widening, maintenance & repair.
GRDN	GARDNER RD	4'-5' paved shoulders.
GBRL	GIBRALTER RD	Minor widening, maintenance & repair.
GUEM	GUEMES ISLAND RD	Minor widening, maintenance & repair.
GUND	GUNDERSON RD	Minor widening, maintenance & repair.
HAML	HAMILTON-CEM RD	Minor widening, maintenance & repair.
HVCS	HAVECOST RD	4'-5' paved shoulders.
HRTL	HEART LAKE RD	Minor widening, maintenance & repair.
HCKX	HICKOX RD	Normal maintenance & repair.
HIGG	HIGGINS AIRPORT WAY	4'-5' paved shoulders.
JOSH	JOSH WILSON RD	4'-6' paved shoulders (I-5 to Bayview-Edison Rd)
KALL	KALLOCK RD	Normal maintenance & repair.
KAMB	KAMB RD	
KELL	KELLEHER RD	4'-6' paved shoulders
KNAP	KNAPP RD	
LCNR	LACONNER-WHITNEY RD	4'-6' paved shoulders
LKCV	LAKE CAVANAUGH RD	Minor widening, maintenance & repair.
LKSM	LAKE SAMISH RD	Minor widening, maintenance & repair.
LIND	LINDEGREN RD	Minor road widening, normal maintenance & repair.
LTLM	LITTLE MOUNTAIN RD	4'-5' paved shoulders.
LYMN	LYMAN-HAMILTON HWY	Minor widening, maintenance & repair.
MRCH-1	MARCH'S POINT RD	Minor widening, maintenance & repair.
MRCH-2	MARCH'S POINT RD, S	4'-5' paved shoulders.
MARN	MARINE DRIVE	4'-5' paved shoulders.
MCGR	MCGARGILE RD	
MCLN	MCLEAN RD	4'-6' paved shoulders.
MDFD	MEDFORD RD	Minor widening of unpaved shoulders, maintenance & repair.
MLTN	MILLTOWN RD	Normal maintenance & repair.
MNKL	MINKLER RD	4'-5' paved shoulders.
MOBG	MOBERG RD	Normal maintenance & repair.
MTVW	MOUNTAIN VIEW RD	Normal maintenance & repair.
MVBG	MT VERNON-BIG LAKE	4'-6' paved shoulders.
MUDL	MUD LAKE RD	Minor widening, maintenance & repair.
OL99-1	OLD HWY 99 N	4'-6' paved shoulders
OL99-2	OLD HWY 99 N	4'-6' paved shoulders
OL99-3	OLD HWY 99 N	4'-6' paved shoulders
PRSN	PARSON CREEK RD	Minor widening, maintenance & repair.
PEAS	PEASE RD	4'-6' paved shoulders or bikelanes.

Table 6-2 (Cont.)

Recommendations for On-Street Facilities

Seg. #	Route Name	Recommendation
PENN	PENN RD	Normal maintenance & repair.
PTRS	PETERSON RD	4'-6' paved shoulders or bikelanes.
PRAR	PRAIRIE RD	Minor widening, maintenance & repair.
RSRV	RESERVATION RD	Minor widening, maintenance & repair.
REXV	REXVILLE GRANGE RD	Minor widening, maintenance & repair.
RIVR	RIVER RD	Minor widening, maintenance & repair.
ROCK	ROCKPORT-CASCADE	Minor widening, maintenance & repair.
RONY	RONEY RD	Minor widening, maintenance & repair.
RSRO	ROSARIO RD	4'-6' paved shoulders.
RUSS	RUSSELL RD, S	Minor widening, maintenance & repair.
SMSH	SAMISH ISL RD	Minor widening, maintenance & repair.
WGUE	SHORE DR, W GUEMES IS	Normal maintenance & repair.
SGUE	SHORE DR, S GUEMES IS	Normal maintenance & repair.
	SIMILK BAY RD	Minor widening, maintenance & repair.
SKAG	SOUTH SKAGIT HWY	Minor widening, maintenance & repair.
SNEE	SNEE-OOSH RD	Minor widening, maintenance & repair.
STAC	STACKPOLE RD	Minor widening, maintenance & repair.
SUIA	SUIATTLE RIVER RD	Normal maintenance & repair.
SMRS	SUMMERS DR	Minor widening, maintenance & repair.
SWAN	SWAN RD	4'-5' paved shoulders.
TEXS	TEXAS RD, S	4'-6' paved shoulders.
THMP	THOMPSON, J RD	Minor widening, maintenance & repair.
WALK	WALKER VALLEY RD	Minor widening, maintenance & repair.
WHTM-1	WHITMARSH RD, E	4'-5' paved shoulders.
WHTM-2	WHITMARSH RD, W.	4'-5' paved shoulders.
	STATE ROUTES	
SR 9-1	STATE ROUTE 9	4'-6' paved shoulders.
SR 9-2	STATE ROUTE 9	4'-6' paved shoulders
SR 11-1	CHUCKANUT DRIVE	4'-6' paved shoulders
SR 11-2	CHUCKANUT DRIVE	Minor widening, maintenance & repair.
SR 20-1	N CASCADE HWY	6'+ paved shoulders
SR 20-2	N CASCADE HWY	6'+ paved shoulders
SR 20-3	N CASCADE HWY	6'+ paved shoulders
SR 20-4	N CASCADE HWY	6'+ paved shoulders
SR 20-5	N CASCADE HWY	6'+ paved shoulders
SR 20-6	N CASCADE HWY	6'+ paved shoulders
SR 237	FARM TO MARKET	5'-6' paved shoulders
SR 530-1	PIONEER HWY	6' paved shoulders
SR 530-2	DARRINGTON HWY	Minor widening, normal maintenance & repair.
SR 534	CONWAY-LK MCMRY	4'-6' paved shoulders
SR 536	MEMORIAL HWY	6'+ paved shoulders or bikelanes.
SR 538-1	COLLEGE WAY	Wide curb lanes or bikelanes.
SR 538-2	SR 538	5'-6'+ paved shoulders or bikelanes.
I-5	INTERSTATE 5	8'+ paved shoulders

6.5 Design Standards & Guidelines

This plan identifies priorities for routing and the types of facilities that should be provided in order to serve current and future needs for nonmotorized transportation in Skagit County. Although some general design recommendations are made for each route, final design of facilities must be conducted at the time a specific project is scheduled for development.

A wide range of design issues come into play and not all of them can be addressed in this plan. An overview of some of the more critical design standards and guidelines is provided in Table 6-3 and 6-4.

Other design considerations may be equally important, albeit less obvious. For example, rolled curbing along streets in a new subdivision does not ensure proper separation between cars and pedestrians, unless a landscape strip or other barrier is provided. Tree limbs, mailboxes and traffic signs should not be located where they may intrude into the path of bicycle or pedestrian traffic. Minimum bicycle parking standards should be adhered to for commercial, industrial, institutional and multi-family residential development. Construction activity adjacent to nonmotorized facilities should not damage or unnecessarily interfere with the use of such facilities. Numerous examples exist where project-by-project analysis is warranted prior to settling on an acceptable design.

The final design decision-making process will be fairly routine in most instances and many of these issues can be addressed at that time; however, one or more qualified individuals trained in the design of on- and off-street nonmotorized facilities should be assigned to the task. (Training is available through the Washington Department of Transportation, the Federal Highway Administration and through national organizations such as the Association of Pedestrian and Bicycle Professionals)

6.5.1 Making Decisions in Facility Design

The following four steps are recommended in designing facilities for nonmotorized use:

1. Determine the type and extent of the facility to be provided.

Refer to route-by-route design recommendations in this plan, visit the site, then establish logical boundaries for the project area. Endpoints should tie into existing facilities, destinations or other planned routes whenever possible.

2. Determine the desired width and surfacing.

For on-street routes, review the *AASHTO Guide for the Development of Bicycle Facilities (1999)*, Table 3-1 in this plan (Traffic Volume & Pavement Width), Design Guidelines for On Street Facilities (Table

6-3), typical drawings in Appendix D, and other relevant guidelines to identify width and surfacing options for bikelanes, paved shoulders or shared vehicle lanes. Most bikelanes and paved shoulders should be a minimum of five feet wide, asphalt-surfaced, unobstructed and well maintained. Coarse-grade chipseal (BST) treatments should be avoided on all primary routes, if practical. A finer-grade chipseal may be acceptable on secondary routes as an interim measure if pavement edges can be kept free of loose gravel, debris and vegetation.

For off-street routes, a number of design sources should be consulted including, the *AASHTO Guide (1994 or current)*, the *Washington State Trails Plan Technical Assistance Manual (1992)*, and *Trails for the Twenty-First Century: Planning, Design, and Management Manual for Multi-Use Trails* published by the Rails-to-Trails Conservancy. Appendix D also contains typical drawings of many facility types and features utilized by other communities in Washington State. Primary off-street routes open to multi-use should normally be surfaced with compacted crushed rock or asphalt, and constructed to a minimum width of 10 feet (8 feet in less traveled areas, 12 to 14 feet in higher traffic areas).

For pedestrian facilities, consult the Washington State Department of Transportation's *Pedestrian Facilities Guidebook*, which gives direction a wide variety of pedestrian facilities and programs.

NOTE – RCW 35.75.060 requires that local agencies meet or exceed the specifications of the WSDOT Design Manual. The Design Manual has some requirements that are currently not as restrictive as the current edition of the AASHTO guide.

3. Design intersections, accessories, and amenities.

Intersections, transition zones and other areas where people can enter or leave the facility are critical and must be carefully designed in order to provide a reasonable degree of safety and convenience. Traffic signals and signing should be consistent with the MUTCD manual (*Manual of Uniform Traffic Control Devices*) developed by the Federal Highway Administration.

4. Prepare final drawings and specifications.

Published guidelines and the typical drawings in Appendix D do not address every detail that could arise in a given project. Project specifications, drawings and contract documents must be clear and concise to ensure that what is developed meets the objectives of this plan and the overall design requirements established for the project. However, some flexibility should be maintained as needed to adapt the design to unforeseen physical conditions once construction is underway.

6.5.2 Resources & Guidelines for Off-Street Facilities

The following list of guides, references and other resources provide direction for planning and designing facilities for nonmotorized transportation:

- ~~///~~ *Guidelines for the Development of Bicycle Facilities*, AASHTO, 1999
- ~~///~~ *Washington Department of Transportation Design Manual*, WSDOT, Current edition
- ~~///~~ *Washington State Trails Technical Assistance Manual* (Interagency Committee for Outdoor Recreation, 1992
 - ~~///~~ "Trail Design Matrix", Washington State Parks
- ~~///~~ *Rails-to-Trails Design Manual*, Rails-To-Trails Conservancy, 1991
- ~~///~~ *Trails for the 21st Century: Planning, Design, and Management Manual for Multi-Use Trails*, Rails-to-Trails Conservancy, 1993
- ~~///~~ *Standard Specifications for the Construction of Trails*, U.S. Forest Service, 1984
 - ~~///~~ *Trails Management Handbook*, U.S. Forest Service, 1985
- ~~///~~ *Bicycle Facility Planning and Design*, Bicycle Forum handbook, 1993
- ~~///~~ Bicycle facilities course manual, Traffic Institute, Northwestern University
- ~~///~~ "Trail Safety and Liability," Charles Lennahan, US Office of General Council, Denver Colorado
 - ~~///~~ "Trail Safety and Liability: The Standard of Care," Seymour Gold
- ~~///~~ *Design Guide for Accessible Outdoor Recreation*, U.S. Forest Service and National Park Service, 1994

6.5.3 Resources & Guidelines for On-Street Bicycle Facilities:

- ~~///~~ *Guidelines for the Development of Bicycle Facilities*, AASHTO, 1999
- ~~///~~ *Washington Department of Transportation Design Manual*, Current edition
- ~~///~~ *Manual of Uniform Traffic Control Devices (MUTCD)*, Federal Highway Administration
- ~~///~~ *Bicycle Facility Planning & Design*, Bicycle Forum handbook, 1993
 - ~~///~~ "Selecting Roadway Design Treatments to Accommodate Bicycles" (draft), Federal Highway Administration, 1992
- ~~///~~ Bicycle planning/design manual, Traffic Institute, Northwestern University
- ~~///~~ "Balancing Engineering, Education, Law Enforcement, and Encouragement," Federal Highway Administration, U.S. Department of Transportation, 1993
- ~~///~~ *Pedestrian and Bicycle Transportation Plan*, City of Bellevue Transportation Department, 1993
- ~~///~~ *King County Nonmotorized Transportation Plan*, King County Department of Public Works, 1993

**Table 6-3
Design Guidelines: Off-Street Facilities**

On-Street Facilities	Width	Surface	Comments
Pedestrian Path (ADA accessible)	5'-8'	Native, CCR or Paved (CCR = compact crushed rock)	Design options vary with use and location. Paths should be designed to meet ADA guidelines.
Equestrian Path	5'-12'	Native or other soft surface	Hard surfacing should be avoided. Design options vary with use and location.
Multi-Use Path-All Users <i>(note – hard surface should be considered a minimum for transport. funded projects. Hard surface facilities are REQUIRED for projects funded through STP-E (enhancement fund) sources.</i>	8'-14'	Native, CCR or paved	Braided systems with parallel pedestrian or equestrian paths should be considered where equestrian use is expected.
Multi-Use Path-Except Horses	8'-14'	CCR or paved	Design options vary with use and location.
Sidewalks	5'-8'	Paved	Design options vary with use and location.

*CCR = compacted crushed rock

**Table 6-4
Design Guidelines: On-Street Facilities**

On-Street Facilities	Width	Surface	Comment
Bikelanes Where volume, speed or truck traffic is high	5'-8'	Asphalt	Minimum roadway design standards require 6' paved shoulders on collectors and arterials (without curb and gutter), and 3'-4' on access roads; the bikelanes require a minimum of 4" width.
Bikelanes Where volume, speed or truck traffic is low	5' (4' min. on roads without curbs)	Asphalt	Roadway design standards generally provide adequate width. Some roads may require added width for bikelanes.
Paved Shoulder Where volume, speed or truck traffic is high	6'-8'	Asphalt	Minimum roadway design standards require 6' paved shoulders on collectors and arterials, and 3'-4' on access roads; the latter may require additional width for some bike routes.
Paved Shoulder Where volume, speed or truck traffic is low	4'-5'	Asphalt/BST (if chipseal, 3/8" rock is preferred)	Minimum roadway standards are generally adequate for nonmotorized use of shoulders. Some access roads may require added width.
Shared Roadway/MPW	Min. 10' lanes	Asphalt/BST	MPW = minimum pavement width.* Applies to existing low volume roads.
Shared Roadway/APW	Min. 10' lanes	Asphalt/BST	APW = minimum pavement width* + 4'. Applies to existing low or moderate volume roads.
Shared Roadway/WCL	Min. 13' lanes	Asphalt	WCL = wide curb lane. Applies to urban streets, commercial strips, etc. (per 1999 AASHTO)

* "minimum pavement width" can be found in Table 3-4.

6.5 Regulatory Recommendations

Skagit County and the incorporated cities should adopt policies and regulations that encourage or require the development of nonmotorized transportation facilities in conjunction with other public or private development. Programs and facilities should be coordinated with this nonmotorized transportation plan and related plans and programs.

Presently, none of the incorporated cities in Skagit County has an urban nonmotorized transportation plan in place. However, several cities have addressed nonmotorized transportation, at least in part. Burlington has developed a bicycle plan. Sedro Woolley's Community Visions document contains perhaps the most extensive nonmotorized transportation goals and policies of the incorporated cities. All cities in the County have addressed (to varying degrees) nonmotorized transportation in the required Transportation Elements of their respective Comprehensive Plans.

Cities should prepare comprehensive nonmotorized transportation plans to meet the current and future needs of bicycles, pedestrians, and in some cases equestrians. Grant money is available for nonmotorized transportation planning as well as facility development, as discussed in Section 7.2. The cities could develop such plans independently or as a cooperative effort.

Urban nonmotorized transportation plans should be coordinated with this plan and should provide for both on- and off-street facilities, transition areas between the two, intermodal links with transit, ferries, restored Amtrak services, and other modes. Specific projects can be included in the capital facilities plan of the local jurisdiction. Alternatively, cities can address the needs of nonmotorized transportation in conjunction with a greenways or trail system planning effort. However, such efforts must be careful to delineate which systems address transportation needs and which have purely recreational functions.

Some of the more significant concerns that cities should address include road standards and development standards, particularly in regard to the design and development of subdivisions, business parks, shopping centers, employment centers and other development activities. For example, cities should consider requiring bicycle and pedestrian paths through or along the perimeter of proposed residential or commercial developments to interconnect with the regional nonmotorized transportation system. Other requirements might address bicycle parking, facility design, surfacing, signing, and pavement markings. Development incentives, such as density bonuses and setback reductions should be made available to developers who include significant nonmotorized facilities in their projects.

The design of bicycle, pedestrian or equestrian facilities must be consistent with AASHTO guidelines and other appropriate local, state and federal standards.

Land owners, the business community, developers, community organizations, and concerned citizens should work together to develop priorities, plans, programs and funding strategies.

Pedestrian needs are frequently overlooked and require special attention in urban areas where pedestrian travel is most common. In some communities, for example, pedestrian facilities are required in the design of parking lots for commercial centers, on internal access roads, and in links to transit stops.

The cities should take advantage of opportunities that might arise to acquire access to dikes, railroad corridors or other right-of- that could be utilized for off-street trail systems.

Other jurisdictions

Nonmotorized facilities should be considered in plans and programs administered by Skagit Area Transit (SKAT). SKAT transit stops should be coordinated with the nonmotorized transportation system with stops located at key points within the system. Bicycle racks on buses will encourage use by cyclists. Bicycle racks at park-and-ride lots and key transit stops should also be considered.

Amtrak should facilitate convenient bicycle and pedestrian access to trains, and allow bicycles to be brought on to trains without having to be broken down. Bicycle racks, lockers and information on the nonmotorized transportation system should be provided at the Amtrak station.

Pedestrians and bicycles should be given equal or preferential treatment in loading and off-loading at the Guemes Island and San Juan Island Ferry terminals. Facilities for employee bicycling should be considered at Skagit Regional Airport. Passenger bus carriers should also provide services to accommodate bicyclists.

School districts should provide for the needs of students and staff who travel on foot or by bicycles and should actively promote bicycle and pedestrian safety in the community. Where appropriate, school bus stops can also be linked to the nonmotorized transportation system.

6.6 Safety, Education & Enforcement

Safety, education and law enforcement are important elements of a successful nonmotorized transportation plan. The development of facilities, as important as it is, will not by itself tap the full potential for nonmotorized travel in Skagit County. Safety and educational programs as well as enhanced law enforcement are needed to increase awareness of nonmotorized transportation opportunities, to improve safety, and to help resolve a variety of issues that concern bicyclists, pedestrians, equestrians, motorists and others.

6.6.1 Safety & Education

Studies in some communities have suggested that bicycle facilities are more frequently used and appreciated when programs that increase rider skill and awareness are also implemented (see Appendix A). Educational programs that improve bicycling skills make less experienced riders more comfortable sharing roadways and road shoulders with motor vehicle traffic.

However, it should be recognized that the youngest riders may be unaware of basic traffic laws, while casual or intermediate bicyclists may not have developed the skills needed to ride safely along challenging streets or through busy intersections. The County should support efforts to address such concerns, through support and sponsorship of education programs developed by private organizations as well as incorporating current educational material about bicycling in its own outreach efforts..

Pedestrian and equestrian activity can also benefit from safety and educational programs. Although facilities for horse or foot traffic are often separated from the roadway (a trail or raised sidewalk, for example), there are times where pedestrian and equestrian use of the road or road shoulder may be unavoidable. Appropriate signing and pavement markings are another means of improving public safety and should be utilized where appropriate.

6.6.2 Local Initiatives

Acting on similar concerns, some schools, agencies, organizations, and experienced adult riders in Skagit County are already helping to educate children and adults on traffic laws and bicycle/ pedestrian safety. Bicycle safety and helmet awareness have been emphasized by schools, clubs, civic groups and police departments in several communities. Helmet use by equestrians is also advocated by some groups and individuals.

Park and recreation departments occasionally offer classes on safe bicycling and have helped organize walks and rides for kids and adults. All of these local initiatives can be encouraged and supported by Skagit County and city departments at little expense to the taxpayers.

Other educational efforts might focus on encouraging people to utilize nonmotorized transportation modes as an alternative to the use of single-occupant motor vehicles (SOVs). Many of the problems associated with traffic congestion, road development, urban sprawl, air quality and other concerns are directly attributable to high rates of SOV use locally and throughout the U.S. Nonmotorized modes offer a low-cost, environmentally friendly, and personally rewarding alternative. Local educational programs should emphasize these benefits.

Employers are also in a good position to encourage their employees to walk or ride to work by offering incentives to those who may be willing to leave their automobile at home on occasion. In some areas of the country, monetary compensation has been made to

employees who walk or bicycle to work, reducing the need for automobile parking and maintenance. Larger employers should be encouraged to provide secure, covered bicycle parking and shower facilities at the workplace.

Educational programs offered through the workplace increase employee awareness of the benefits of bicycle commuting. Where commuter distances are too great, combining bicycling with van pools and transit busses equipped with bike racks can also be encouraged. Personal fitness, environmental quality, and savings on construction and maintenance of roads and parking lots are important benefits of such programs.

Walking and cycling have other practical advantages over automobiles, especially in congested areas or where parking facilities are limited. Ferry terminals, downtown business districts, public parks, waterfront areas and other areas that attract people all have limits to the number of automobiles that can be accommodated. Walking or bicycling to such places lessens the impact on streets and parking areas and allows easy access to a variety of activities and events. Informing people of these advantages can also help increase ridership.

6.6.3 Law Enforcement

Traffic laws help ensure the safety of cyclists, pedestrians and equestrians as well as automobile drivers. Enforcement of routine traffic violations such as wrong-way bicycle riding, bicyclists running stop signs, or the failure of motorists to yield to pedestrians and equestrians can improve compliance with the laws and, over the long run, decrease the likelihood of collisions between automobiles and nonmotorized travelers.

While strict enforcement may be desirable for potentially dangerous violations and repeated offenses, creative approaches to increasing awareness of traffic laws may have a more positive effect than heavy-handed enforcement. Inexperienced cyclists, for example, may not be aware of certain laws, either due to their youth or to being ill-informed by others. Joint presentations by police and cycling, hiking or horseback riding groups in public schools can help clarify the rules for young people.

Skagit County law enforcement officials as well as city police and State Patrol officers contribute in many ways to the well-being of the traveling public as well as the larger community. Their efforts to improve bicycle, pedestrian and equestrian safety should be recognized and supported by all user groups.

6.7 Intermodal Transportation

"Intermodal" & "Multi-modal"

In recent years, a new emphasis on intermodal and multi-modal transportation systems has emerged regionally and nationwide.

Nonmotorized transportation is one part of this new focus. *Multimodal* transportation encompasses nonmotorized modes, rail, transit, carpools, and other modes. *Intermodal* opportunities provide potential links between transportation modes. Together, they can help provide an efficient transportation system to the residents of Skagit County.

Pedestrians and cyclists benefit from safe and direct connections to rail, public transit, carpools, ferries and airports. Many forms of intermodal transportation are available in the County. Workers, students, and others ride bicycles or walk to transit stops. Others utilize nonmotorized transportation to meet carpools or catch ferries.

As the county's multi-modal transportation system develops, including nonmotorized facilities and the recent reestablishment of AMTRAK rail service between Seattle and Vancouver, the needs of residents to link the various modes will likely increase. These connections need to be carefully planned and designed for efficiency, safety, and to encourage the use of nonmotorized modes.

6.8 Roads & Highways

The development and maintenance of road and highway facilities should be integrated with the needs and issues addressed in this plan.

Roads and highways should provide safe crossings for pedestrians and bicycles. Bridges need to accommodate bicycle, pedestrian and, in some cases, equestrian travel. For bridges in urban and other high use areas, maximum design standards should be applied. Less stringent standards can be implemented where numbers of nonmotorized users are much lower. In some areas, such as near trailheads or parks, an intermediate or high standard should be applied which reflects the number of potential users. The future growth in the use of nonmotorized alternatives should also be considered in determining bridge design for a particular site.

6.9 Transit Facilities

Park-and-ride lots offer commuters a convenient alternative to the single-occupancy vehicle. These lots provide motorized and nonmotorized users the opportunity to connect with carpools, van pools and public transit. Park and Pool lots should be equipped with adequate locking facilities for bicycles. Covered facilities that protect bicycles from theft, weather, and vandalism are optimal.

Park-and-ride lots should meet the unique needs of persons with disabilities in order to provide multi-modal transportation options to everyone.

6.10 Passenger Rail

Amtrak resumed service in the Seattle to Vancouver corridor in 1997. By connecting population centers, Amtrak serves as an alternative to the private automobile for some travelers. For this reason, Amtrak should make every effort to accommodate and encourage the use of its system by cyclists. The system should accommodate pedestrians and people with disabilities in a safe, convenient, and affordable manner. Use of the new Talgo trains with dedicated bicycle storage is a very good first step, and efforts should be made to increase the capacity of the train's bicycle carrying capacity as demand warrants.

The only station anticipated for Skagit County is in Mount Vernon just north of College Way. Development of this multi-modal facility presents an excellent opportunity to enhance intermodal transportation in the county. These opportunities should be carefully considered and appropriate facilities incorporated into design plans. Amtrak travelers should be able to easily connect to nonmotorized transportation and SKAT.

The new multi-modal station should provide lockers and secure, weather-protected bicycle parking. Information on Skagit County's nonmotorized transportation system should be made available at the station, as should information on other public transit opportunities. Due to the lack of adequate bicycle facilities along College Way, suitable routes in all directions should be improved, as well as improvements to College Way.

Equal accommodation should be given to Amtrak passengers who arrive or depart by bicycle, car, bus, public transit, or on foot. Local officials should insure that adequate provisions are made for convenient loading and off-loading of bicycles.

6.11 Public Transit

Public transit (SKAT) can contribute to nonmotorized transportation in Skagit County in several ways. Public transit should encourage ridership with well-linked connections to other modes of transportation, including the nonmotorized transportation system. Transit stops should be located and designed to facilitate pedestrian movement between the street and primary destinations. A transit stop adjacent to a parking lot may be problematic where there are no facilities for pedestrians. The public transit system must also provide convenient and safe facilities for people with disabilities.

Bicycle racks have been installed on buses in many communities and SKAT intends to install bicycle racks on all its buses. Rack design is a critical factor to ensure safety. Bicycles carried directly on buses may be an option in some areas and should be considered. Long distance commuters may choose to bicycle to bus stops and complete their journey by bus. Bicycle parking facilities should be considered at some public transit and school bus stops. Secure bicycle parking will encourage area residents commute options, especially when distances to bus stops are too great for walking to use bike/bus.

Perhaps most importantly, the level of coordination between SKAT and local jurisdictions should increase on the topic of siting bus stops in accessible locations. Many transit agencies now have active programs to work with jurisdictions on improving immediate sidewalk and walkway access to stops, making ADA-related improvements at the stops, and generally striving to make the system more accessible to those patrons who most depend on transit for personal mobility.

6.12 Ferries

By connecting more isolated destinations, the Washington State Ferry system is a key component of the multi-modal transportation system. The ferry system offers excellent opportunities to link the nonmotorized transportation system with other transportation options.

Ferry passengers should be able to connect to various modes of transportation including nonmotorized transportation and SKAT in a convenient and efficient manner. The ferry system should accommodate travelers, especially pedestrians and bicyclists, with as little cost and inconvenience as possible. The ferry system must also provide safe and convenient facilities for people with disabilities.

Ferries currently allow pedestrians and bicycles priority for loading and off-loading. This policy, while established as a safety measure on crowded loading ramps, should be continued to encourage use by nonmotorized travelers. Information on the area's nonmotorized transportation systems (and on public transit opportunities) should be provided at both ferry terminals and aboard ferry boats. The ferry terminal should be equipped with secure, weather-protected bicycle parking. The ferry system must also provide safe and convenient facilities for people with disabilities.

If other kinds of passenger ferries or boat service become available in Skagit County in the future, bicycle and pedestrian facilities should be planned for and provided. Any future services should be well linked with the nonmotorized transportation system.

6.13 Skagit Regional Airport

The airport should also be well linked with Skagit County's nonmotorized system. Secure and weather-protected bicycle parking facilities should be provided for travelers and airport employees if demand warrants. It may be impractical to accommodate unpackaged bicycles on aircraft at this time, but if such accommodation becomes practical in the future, it should be considered.

Information on the county's nonmotorized transportation system should be provided at the airport terminal, as at other transportation centers. The Port should encourage employees of the airport and other port facilities to make use of nonmotorized transportation and intermodal facilities.

The Port of Skagit has also initiated designs that integrate pedestrian facilities into the design of the commercial and industrial areas surrounding the airport. These pathways are designed to be compatible the rural feel of the region, while linking businesses to services and amenities within the business area.

7.0 Funding & Implementation

Funding sources and implementation strategies have been identified to ensure that recommendations outlined in this plan can be realized. Implementing all recommendations over a short period of time would be cost-prohibitive, thus priorities have been established for the gradual development and maintenance of nonmotorized facilities and related actions.

This next section addresses project priorities in terms of the Capital Facilities Plan being prepared by Skagit County as required under the Growth Management Act. This is followed by a discussion of funding, acquisition, development, maintenance and administration.

7.1 Priority Projects/Capital Facilities

Table 7-1 provides a list of priority projects which should be identified in the County's Capital Facilities Plan. Cost estimates, potential funding sources and responsible agencies are noted.

**Table 7-1
Priority Projects: Off-Street Routes**

Route	Needs	Agency
Centennial Trail	Minor improvements, master plan, acquisition, development	Skagit Co. Parks
Cascade Trail	Minor improvements, acquisition, development	Skagit. Co. Parks
Padilla Bay Trail	Extend trail, expand parking	Interagency
Evergreen Trail (Fidalgo Island)	Master plan, development	Anacortes

**Table 7-2
Priority Projects: On-Street Routes**

Route	Needs	Agency
All Routes	Minor improvements throughout, shoulder sweeping, signs, pavement markings, remove barriers	Skagit Co. Public Works
SR 20	Shoulder widening, improve/maintain Berentson Bridge walkway	WSDOT
SR 9	Shoulder widening	WSDOT
Memorial Hwy	Widen/improve shoulders	WSDOT
Riverside Dr./ Burlington Blvd.	Include bike/ped facilities on new Skagit River Bridge	Mt. Vernon/ Burlington
Bayview-Edison Rd.	Extend bikelanes, SR 20 to Breazeale Interpretive Center	Sk. Co. Public Works
Marine Dr./ Rosario Rd.	Widen/improve shoulders	Sk. Co. Public Works
Campbell Lake Rd.	Widen/improve shoulders	Sk. Co. Public Works
Fir Island/ Chilberg Rds	Widen/improve shoulders west of Best Road	Sk. Co. Public Works
Josh Wilson Rd.	Extend paved shoulders to Higgins Airport Way	Sk. Co. Public Works
Peterson Rd	Extend paved shoulder to Higgins Airport Way	Sk. Co. Public Works
Chuckanut Dr. (SR 11)	Widen/improve shoulders as feasible	WSDOT

**Table 7-2 (Cont.)
Priority Projects: On-Street Routes**

Route	Needs	Agency
Cook Rd	Widen/improve shoulders	Skagit Co. Public Works
Dike Rd	Improve pavement edges, shoulders	Skagit Co. Public Works
Farm-To-Market Rd	Widen/improve shoulders	Skagit Co. Public Works
Guemes Island Rd	Widen/improve shoulders	Skagit Co. Public Works
Little Mountain Rd	Widen/improve shoulders	Skagit Co. Public Works
Minkler Road	Widen/improve shoulders	Skagit Co. Public Works
W. Big Lake Rd	Widen/improve shoulder from Little Mountain Road to SR 9 (north)	Skagit Co. Public Works

7.2 Funding Sources

Funding for the facilities recommended in this plan is available from a number of federal, state, regional and local sources. These are summarized in the following pages. Since 1992, the principal funding source for nonmotorized transportation in Washington State has been the Transportation Enhancement Program administered by the Washington Department of Transportation. Both nonmotorized transportation and multi-modal projects may qualify.

For off-street facilities where recreation or environmental values are substantial, the Washington Interagency Committee for Outdoor Recreation (JAC) administers several grant programs funded by state and federal sources. The major funding sources at IAC are the Land and Water Conservation Fund, the Non-highway and Off-Road Vehicle Activities program (NOVA), and the Washington Wildlife and Recreation Program (WWRP). These sources, particularly the WWRP, may be essential to the development of the Cascade, Centennial and Kulshan Creek rail-trails and other projects.

However, competition for state and federal funds is on the rise as more communities compete for limited funds. The ongoing debate over the economic priorities, taxes, efficient government spending and the costs and benefits of growth and development has helped bring an overall reduction in the amount of funds available from most agencies. For this reason and in view of the fact that nearly all grant programs require local jurisdictions to assume a substantial share of project costs, local funding mechanisms must also be considered.

Local sources can range from bond issues and special levies, to revamping the distribution of county road funds, increasing the percentage of state motor vehicle fuel tax proceeds that are dedicated to paths and trails, the sale of surplus properties, and the assessment of impact fees on new development. Some of these sources require the County to have a capital facilities plan in place in order to qualify a project for spending.

Potential funding sources in the private sector also exist and should not be overlooked. Donations of land, easements or right-of- as well as contributions of expertise, labor and materials by businesses, organizations and individuals have helped some communities raise critical funds for matching grants.

The following is a summary of potential funding sources for the Skagit County Nonmotorized Transportation Program:

7.2.1 Federal Sources

ISTEA/TEA-21

A variety of transportation-related grants and funding programs under ISTEA and TEA-21 (the Intermodal Surface Transportation Efficiency Act of 1991, amended as the Transportation Equity Act for the 21st Century) offer significant sources of funds for nonmotorized transportation projects in Skagit County. The act requires states to spend a portion of the federal transportation dollars they receive on facilities and enhancements that go beyond simply building new roads or motor vehicle lanes. Grants are administered through the Washington Department of Transportation. The most promising sources for Skagit County are the Surface Transportation Program (or STP, which includes funding for "transportation enhancements"), the National Highways Program, the Federal Lands Highway Program, and the Scenic Byways Program, all of which support nonmotorized modes.

The transportation enhancement grant program, though somewhat limited compared to other capital construction programs for roads and highways, is one of the more readily available funding sources for nonmotorized transportation. Funds are distributed by state, regional and metropolitan planning organizations and may be used for projects like rail-trails, bikeways, pedestrian facilities, rail corridor acquisition, scenic and historic preservation and for other transportation-related purposes. ISTEA also established a National Recreational Trails Trust Fund

which, although underfunded currently, has the potential to become a meaningful resource in the future.

The state is required to distribute at least 10% of the funds expended in the Surface Transportation Program (STP) on enhancements, and local jurisdictions must provide a minimum 20% match on enhancement grants for bicycle, pedestrian or equestrian facilities. If desired, the County could direct other STP funds to nonmotorized transportation projects and could submit proposals for statewide competitive funds which support creative, multi-modal solutions to significant transportation challenges.

Public Lands Highway Funds

A number of projects (including the Millennium Trail in Whatcom County) are being funded nationwide – some local bicycle projects may also be eligible for funding from this source.

Transit Enhancement Program

New to TEA-21 is a set-aside program specifically targeted to improve bicycle and pedestrian access to public transportation, including trails, parking, on-board accommodations and other programs designed to increase the number of people who walk or ride as part of a multi-modal trip. This program can provide up to a 95% federal match for qualifying programs.

Other Federal Funding Programs

Federal Aid Bridge Replacement Program

This is a competitive program administered by WSDOT that provides 80% federal funding for replacing deficient or obsolete road bridges.

Land & Water Conservation Fund (LWCF)

The LWCF comes from federal appropriations administered in Washington State by the Inter-Agency Committee for Outdoor Recreation (IAC). Funding levels are well below what was once envisioned by Congress but significant funds could become available in the future for land acquisition and trail development.

Federal Forest Yield Tax

Commercial timber harvest on federal lands generates revenue for schools and roads. These funds have diminished in recent years due to reduced harvest levels on the National Forest.

U.S. Forest Service Challenge-Partnership Grants (USFS)

This program is currently underfunded but is a potential source of funding for projects affecting federal lands and which involve local or state agencies.

Technical Assistance Programs

The National Park Service Rivers and Trails Conservation Assistance Program provides technical support (not funds) for planning and design of trails and greenways.

The U.S. Forest Service Master Performer Program makes expertise available to local agencies on a partnership basis, including planning, design and assistance with accessibility.

Direct Appropriations

Congress occasionally appropriates money directly for certain projects, such as the Centennial Trail in Spokane.

Community Development Block Grants (CDBG)

These limited funds are available through the Federal Department of Housing and Urban Development for projects which benefit low and moderate income households and community development projects. Funds may be used for development but not for maintenance and operations.

The Washington Department of Transportation provides technical support for bicycle safety and education programs, and facility design and construction.

IAC provides general information on programs, funding, technical resources, and agency and organization contacts.

The National Center on Accessibility is a good source of technical information concerning access to trails and recreation facilities by disabled persons.

The Washington State Parks and Recreation Commission offers limited technical assistance.

7.2.2 State Sources

Motor Vehicle Fuel Tax (RCW 47.30) – Paths & Trails Fund

Administered locally but established under state legislation, this fund supports the construction, operation and maintenance of local transportation projects. 22.78% of fuel taxes collected by the state are disbursed to counties (roughly twice what is allotted to cities). These funds can be supplemented through a local option fuel tax which can also be applied to policing roads. A minimum of 1/2 of 1% must be dedicated to paths and trails. (Whatcom County recently increased its paths and trails fund to 2% to provide a limited but reliable source of local matching dollars.)

(see Paths & Trails Reserve Fund under Local Sources)

Transportation Improvement Board

Pedestrian Safety & Mobility Program (PSMP)

The Pedestrian Safety & Mobility Program (PSMP) was established by the TIB in 1994 to enhance and promote pedestrian mobility and safety as a viable transportation choice by providing funding for pedestrian projects that provide access and address system continuity and connectivity of pedestrian facilities. Selection criteria includes safety, pedestrian generators, convenience, public acceptance and project cost.

The PSMP is on an annual cycle. Applications for FY 2000 funding are requested in November, due in January, and selected by the Board in March 1999. Funds for this program are provided from the AIP and TPP programs and are distributed regionally.

Intermodal Surface Transportation Efficiency Act (ISTEA) & Transportation Equity Act for the 21st Century (TEA-21)

The Transportation Improvement Board created the ISTEA Matching Fund Program in 1993 to assist local agencies in providing the matching funds needed for the new federal Intermodal Surface Transportation Efficiency Act. For fiscal years 1993 to 1996, \$16 million in TIA matching funds were provided from the Transportation Improvement Account for some 325 urban and small city ISTEA projects throughout the state. The matching fund program for new urban agency projects was discontinued in September 1996. In October 1995 the TIB's Small City Account (SCA) began providing the matching funds for projects within cities with a population under 5,000. Fifty small city projects have received matching funds from the available \$3.3 million provided by the Board to date.

Applications are taken on a continuing basis while matching funds remain available. Agencies must receive Federal funding authorization

prior to requesting TIB matching funds. The matching funds are limited to the minimum necessary to leverage the Federal ISTEA funds.

Arterial Improvement Program (AIP)

The AIP program was established in 1967 to fund city and urban county arterial road and street projects to reduce congestion and improve safety, geometrics, and structural concerns. The AIP program is on an annual cycle. Applications for FY 2000 funding are requested in November, due in January, and selected in March 1999. Project selection criteria include pavement condition, pavement and roadway width, traffic, accidents, and people carrying capacity. Projects can receive a maximum of 80% reimbursement depending on agency population.

Until 1987, the projects were funded by bond sales and excess revenues. The program is now on a pay-as-you-go basis with the majority of the fuel tax revenue currently used to make payments on the \$360 million in AIP bonds sold since 1967. The AIP receives approximately 1 1/2 cents from the state motor vehicle fuel tax.

Small City Program (SCP)

The SCP was established in 1994. Prior to 1994, the small cities (cities with a population less than 5000) were funded as part of the TPP and AIP programs. Projects are selected based on the condition of the pavement, roadway geometrics and safety. The SCP is an annual program with projects for FY 2000 funding being requested in December, due in January and selected in March 1999. Agencies with a population greater than 500 are required to provide 5% matching funds. Those with a population of 500 or less have no matching funds requirement. The SCP receives 13% of the TPP funds and 5% of the AIP funds.

7.2.3 Other State Programs

Washington Wildlife and Recreation Program (IAC)

The WWRP is a relatively new and major source of recreation and habitat conservation money made available by the Legislature through the Governor's capital budget request. The program funds trail acquisition and development and other projects such as parks and water access that may include trails.

NOVA (IAC)

NOVA funds are appropriated from a portion of the motor vehicle fuel tax and off-road vehicle permit fees, and are available under certain circumstances for acquisition and development of pedestrian

and equestrian trails, as well as off-road vehicle (ORV) trails and facilities. Up to 100% funding may be available.

Rural Arterial Program/County Arterial Preservation Program

These are state funds allocated to counties for rural arterials.

Public Works Trust Funds

The PWTF provides state-administered low interest loans for public works projects.

Aquatic Lands Enhancement Account (WDNR)

Administered by the Washington Department of Natural Resources, these funds are available for the acquisition and development of water-oriented recreation or public access projects including trails. A 25% local match is required.

Coastal Zone Management grants (WDOE)

WDOE offers small grants for shoreland trails and public access projects with a 50% local match.

Timber Excise Tax

Counties can tax timber harvesters in order to collect a portion of the 5% state timber. There are no limitations on expenditures.

Community Economic Revitalization Board (CERB)

CERB offers grants and low interest loans to jurisdictions who wish to develop transportation projects related to private development.

Direct Appropriations

The State Legislature occasionally appropriates money directly for certain projects, such as the Centennial Trail in Snohomish County and a number of projects funded by WWRP.

Cooperative Agency Funding

Cities, counties, districts, state, federal or tribal agencies and nonprofit organizations may work together creatively to generate funding for a variety of uses.

7.2.4 Local Sources

General Funds

General funds are those appropriated by local government and include property taxes, local option sales taxes, utility taxes, general state-shared revenues, business license fees, public works trust funds, special purpose district revenues, and other sources. General funds may be used for a variety of needs including public transportation and recreation. In an era when TEA-21 and other grant programs are offering new opportunities for facility development, an effective use of general fund revenues is as dedicated match for stand-alone capital projects eligible for federal and state transportation grants.

Skagit County Road Fund

The County road fund is largely derived from local property taxes, a portion of the state motor vehicle fuel tax distributed to cities and counties for building and maintaining the road system, and from grant programs administered by the state. The fund is available for on-street bicycle and pedestrian facilities.

Development Impact Fees

Impact fees may be imposed on development activities for improvements that are related to a proposed development and which reflect the project's impact or cost to public facilities or infrastructure. Skagit County is currently developing its approach to impact fee assessment in conjunction with the comprehensive planning process. Fees may be collected for transportation or recreation-related impacts and could be applied to needs that are identified in the Nonmotorized Transportation Plan.

Development Permits/Impact Mitigation (SEPA)

Nonmotorized facilities or financial contributions may be required as a condition of approval of development permits to ensure compliance with public policies and regulations, or to mitigate transportation and environmental impacts associated with the project. In many instances, specific conditions can be negotiated to better serve the needs of the developer and the public. (Impact fees are

closely related and are addressed above.) Linear developments such as roads, utility lines and other projects fronting streams and water bodies should be carefully reviewed. They may offer significant corridors for local and regional nonmotorized travel. Land use regulations and development standards may impose requirements for access, circulation, bicycle parking and other improvements.

Conservation Futures Levy

Under RCW 84.34.210, the County may levy as much as 6.25 cents on every \$1,000 assessed valuation, without voter approval, to generate a modest amount of revenue for land acquisition, including parks, recreation and open space areas. The levy can be short or long term but may not be used for development.

Bond Measures

Bonds are either voter approved or passed by the local legislative body. Voter approved bonds increase property taxes in order to pay the debt incurred and usually require 60% voter approval.

Revenue bonds are normally paid from funds generated by an income producing activity rather than by taxes. Councilmanic bonds, authorized by the legislature, do not increase taxes. There are no limitations on the use of bonds. Bond issues can be structured to be collected over a short or long period of time.

Real Estate Excise Tax (REET)

REET is a tax on the sale of property (up to 1/2 of 1%) which can be used to pay for projects identified in the capital facilities plan.

Special Levies

These include the acquisition of funds through taxation usually involving property taxes. The approval of 60% of the voters is normally required to pass a special levy.

Paths & Trails Reserve Fund

RCW 47.30 requires local jurisdictions to reserve at least 1 / 2 of 1 % of fuel tax revenues for transportation-related bicycle, pedestrian and equestrian facilities. Some jurisdictions have elected to increase this amount to 2% or more to provide a reliable source of local matching money for grants. In the past, a substantial portion of these dollars went toward road shoulder widening along routes that may or

may not have provided the most benefit to nonmotorized travelers. The money is also available for planning and design services.

Public Works Trust Fund

The PWTF provides low-interest loans from the Washington Department of Community Development which can be used for roads, bridges and capital improvement planning.

Transportation Benefit District

Two or more jurisdictions may cooperate as a district to levy a voter-approved property tax to fund transportation projects.

Special Assessment Debt

Bonds can be financed through Local Improvement Districts (LID) or Road Improvement Districts (RID) which collect fees from developers based on the level of benefit realized.

Transit Tax

Transit Authorities may also levy taxes to support their operations, with voter approval.

Hotel/Motel Tax

Proceeds can be used for tourism-related and other projects that enhance opportunities for nonmotorized travel.

User Fees & Tolls

Fees may be collected locally from the user of a public facility. Parking, entrance, registration and program fees are among those which may be collected. Tolls are generally intended to pay off construction bonds.

Local Vehicle License Fees

By referendum, counties can collect additional license fees for the benefit of nonmotorized transportation (RCW 82.80.020). Revenues are shared between cities and the county.

Street Utility Tax

Proceeds can be used to pay for maintenance of nonmotorized transportation facilities.

Commercial Parking Tax

Also by referendum, this tax can be levied for transportation needs related to commercial parking.

Proceeds from sale of surplus property

Surplus property may be sold to generate funds for land acquisition or other needs.

Franchise Agreements

Franchise agreements with utilities and other entities can include a provision for nonmotorized use of a site or corridor.

Health Grants

Small grants are available under a variety of federal programs that can help pay for facilities which benefit public health.

Municipalities

A variety of revenue sources are available to incorporated cities in much the same fashion as they are described above for Skagit County.

7.2.5 Private Sources

Private Contributions

Business, organization and individual donations of money, property, materials or volunteer services are potentially significant resources for trails and other nonmotorized transportation projects. Labor intensive volunteer efforts such as clearing vegetation or planting trees and shrubs along trail corridors can provide major contributions to a given project. The value of volunteer time can often be used as an in-kind local match for grants. Information and guidance concerning volunteer opportunities and issues are available from the Center for Voluntary Action within the Washington Department of

Community Development, and from a nonprofit organization in Seattle called Volunteers for Outdoor Washington.

Land Exchanges

Public-private land exchanges can be considered under a variety of circumstances. An undeveloped public right-of-way, for example, might be exchanged (vacated) for a more desirable corridor of similar value nearby for the benefit of nonmotorized transportation.

Foundation grants to nonprofit organizations

Non-profit organizations advocating for trail projects have had some success in Washington State obtaining modest foundation grants to support their efforts.

7.3 Acquisition, Development & Maintenance

The vision stated in Section 6.1 of this plan cannot be achieved without a true commitment to funding and implementation strategies for non-motorized transportation. Funding has a much greater chance of success if priority projects are identified in the County's Capital Facilities Plan for transportation or recreation related projects. In fact, most TEA-21 related grant programs (including those requiring the approval of the Washington State Transportation Improvement Board) require listing of the proposed project on the six year capital program prior to application for grant dollars. Once funded, projects can be implemented by agencies and department staff assigned those responsibilities.

7.5 Plan Administration

The on-street portion of this plan is intended to be administered as part of the overall transportation program for Skagit County. The off-street portion will be jointly administered by The Public Works and Parks, Recreation and Fair Departments. To ensure its successful implementation, qualified staff should be assigned to carry out its goals, policies and facility recommendations.

Plan implementation should be monitored within the departments and a brief assessment of its effectiveness should be conducted annually. Modifications should be made as needed to ensure its successful implementation. The plan should be updated at three to five year intervals with the involvement of affected parties and interested citizens.

A Vision of the Future

"... a nation of travelers with new opportunities to walk or ride a bicycle as part of their everyday life. They may walk or bike to a carpool or bus or train as part of a new intermodal trip pattern, or they may find that they can walk or bike with safety and ease all the way to their destination. Many will find that they do not have to use a motor vehicle for trips to church, to work, to school, or to the store. They will like what they are doing for the community and for themselves. America will have a changed transportation system-better balanced to serve all travelers. "

-The National Bicycling and Walking Study:
Transportation Choices for a Changing America
U. S. Department of Transportation,
Federal Highway Administration
(1994)

Appendices

**Development of the Bicycle Compatibility Index:
A Level of Service Concept**

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Bicycle stress level

In 1978, the Geelong Bikeplan Team in Australia understood the importance of the bicyclist's perspective and incorporated it into a concept known as the **bicycle stress level** to better define the bicycling suitability of roadways from the viewpoint of the bicyclist.⁶ This concept was developed, in part, on the assumption that bicyclists not only want to minimize the physical effort required when choosing a roadway on which to ride, but that they also want to minimize the mental effort, or **stress**, that results from conflict with motor vehicles, interaction with heavy vehicles, and having to concentrate for long periods of time while riding on high-volume and high-speed roadways.

The team members drew upon their personal bicycling experience with specific roadways to quantitatively define the concept. The variables considered to have the most impact on the stress level of a bicyclist were curb lane width, motor vehicle speed, and traffic volume. For various combinations of these three variables, team members assigned values from one to five to reflect the amount of stress they experienced when riding under those conditions. A value of **one** indicated a very low level of stress while a **five** indicated a very high level. Shown in table 1 are examples of the stress levels developed. While these values are subjective (based on the experience of team members), it was the first attempt to use the perspective of the bicyclist to assess the compatibility of roadways for bicycling.

In 1994, Sorton and Walsh used the **bicycle stress level** concept in an effort to relate bicyclists' perspectives on various types of roadways to specific geometric and traffic operating conditions.⁷ Their project represented the first attempt to gather perspectives from persons other than research team members; thus, the results were not based solely on the subjective interpretations of researchers.

Table 1. Example of stress levels developed by the Geelong Bikeplan Team. ⁶

AADT	Traffic Speed (km/h)	Adequate Lane Width ¹	Stress Level ²
< 4000	72	Yes	1
	72	No	1
	56	Yes	1
	56	No	1
4000 - 10,000	72	Yes	2
	72	No	3
	56	Yes	1
	56	No	2
10,001 - 15,000	72	Yes	3
	72	No	4
	56	Yes	2
	56	No	3
> 15,000	72	Yes	4
	72	No	5
	56	Yes	3
	56	No	4

¹Adequate lane widths: Two-lane, < 72 km/h = 4.3 m
 Two-lane, ≥ 72 km/h = 4.9 m
 Multilane, < 72 km/h = 3.7 m
 Multilane, ≥ 72 km/h = 4.3 m

²Stress levels: 1=low, 2=low-moderate, 3=moderate, 4=high, 5=very high

In a small-scale research effort employing segments of videotape from different street environments, three groups of bicyclists (experienced, casual, and youth) were asked to rate several urban and suburban roadway segments with varying degrees of traffic volume, motor vehicle speeds, and curb lane, shoulder, or bicycle lane widths. The ratings were to reflect the level of stress they would experience (i.e., how uncomfortable they would be) riding on a specific segment with respect to each of the variables noted above. The scale used for rating the segments and the authors' interpretation of the scale is shown in table 2. At the extremes, a stress level of one indicates that all types of bicyclists (older than age 10) could safely be accommodated on the facility, while at stress level five, virtually no bicyclists would ride on the roadway.

For each of the three variables rated, the authors developed quantitative values that they believed to be associated with each stress level. This step involved examining the engineering literature for empirical data related to the operations of bicycles or motor vehicles, determining the end points for each variable that would be considered low and high stress situations for the bicyclist, and then interpolating between these points to assign quantitative values to the other stress levels. The values developed and assigned to each of the stress levels are shown in table 3.

The ratings produced by the various groups of bicyclists in the survey were then compared with the empirically derived values. Ultimately, the results showed a very high correlation between the values derived

and the ratings of the bicyclists, indicating that bicyclists can recognize differences in the levels of traffic volume, motor vehicle speed, and lane width, and that these differences are consistently reflected in their comfort or stress level. The results also indicate that the stress levels of bicyclists are correlated to the real-world conditions present on the roadways (e.g., changes in lane widths).

Table 2. Suggested Interpretation of Bicycle Stress Levels (7)

Stress Level	Interpretation
1-Very Low	Street is reasonably safe for all types of bicyclists (except children under 10).
2-Low	Street can accommodate experienced and casual bicyclists, and/or may need altering ¹ or have compensating conditions ² to fit youth bicyclists.
3-Moderate	Street can accommodate experienced bicyclists, and/or contains compensating conditions to accommodate casual bicyclists. Not recommended for youth bicyclists.
4-High	Street may need altering and/or have compensating conditions to accommodate experienced bicyclists. Not recommended for casual or youth bicyclists.
5-Very High	Street may not be suitable for bicycle use.

Bicycle level of service

The *Highway Capacity Manual* defines levels of service (LOS) as "...qualitative measures that characterize operational conditions within a traffic stream and their perception by motorists and passengers."⁸

The terms used in describing each LOS (designated as A through F, with LOS A being the most desirable) include speed and travel time, freedom to maneuver, comfort/convenience, and traffic interruptions.

The concept of LOS was introduced to qualify the operational characteristics associated with various levels of vehicles or persons passing a given point during a specified time period. For this reason, LOS in reality is a qualifier of conditions related to vehicle or person through-put rather than a qualifier of conditions related to individual comfort level. This fact is revealed by examining the measures of effectiveness (MOE's) used to define the ranges of LOS for various types of facilities. For freeways, the MOE is density (passenger cars/mi/h); for signalized intersections, the MOE is average stopped delay (s/vehicle); and for arterials, the MOE is average travel speed (mi/h). Each of these MOE's is directly related to vehicle through-put.

For bicycles, LOS criteria are not defined in the *Highway Capacity Manual*. The discussion on bicycles is primarily limited to the impact of bicycles on motor vehicle LOS. If the implied definition of LOS (i.e., as related to vehicle through-put) is used, there are very few on-street facilities in the United States where LOS criteria would be needed simply because of the low bicycle volumes. However, the descriptive terms for LOS used in the written definition are applicable to bicycle transportation. For a bicyclist, the qualitative terms comfort and convenience and freedom to maneuver are critical factors with respect to determining their quality of service on a given facility.

Referring back to the definition for LOS, the user's perception of the operational conditions is an important element in terms of assigning a LOS designation to a facility. The *bicycle stress level* concept incorporates the perceptions of bicyclists to assess the bicycle compatibility of roadways on a five-point scale. In many ways, each point on the scale can be thought of as representing a different LOS for bicyclists. For example, a roadway with a very low stress level would be considered by bicyclists to offer a high degree of comfort, which would be represented by the LOS A designation.

In the current study, the bicycle compatibility index (BCI) reflects the comfort levels of bicyclists on the basis of observed geometric and operational conditions on a variety of roadways. The correlation of these comfort levels with the conditions of the roadway in the development of the BCI model allows the user to determine bicycle LOS for roadway segments by incorporating these geometric and operational characteristics into the model.

During the initial stages of this study, considerable thought and discussion went into the development of the rating scale to reflect the bicyclists' level of comfort. The project team ultimately decided that the study participants should be evaluating their level of comfort as it related to their perceived level of risk. Thus, a six-level scale was used in the pilot study, where a rating of one implied that the condition of interest (e.g., lane width, speed of traffic, or traffic volume) represented virtually no risk and a rating of six implied that the condition represented unacceptably high risk. Discussions with the participants in the pilot study after the survey was completed indicated

that the majority of the subjects thought that "perceived risk" accurately reflected their comfort level. However, a few of the more experienced bicyclists preferred a scale with less of a safety connotation. The one term that the more experienced riders seemed to like was "tolerance." A rating of one in this case would indicate that the condition of interest would be tolerated for an unlimited amount of time while a six would indicate that the condition of interest would not be tolerated for any length of time.

The preferred alternative, however, was to simply use "comfort level" as the rating term with some qualifying statements to indicate that comfort does not refer to the smoothness of the ride. Thus, for the full-scale data collection effort, a six-point scale incorporating "comfort level" was developed and used (see *chapter 3*). The most important factor in the development and use of any rating scale was that it was understood and interpreted the same way by all participants. The simplicity of the term "comfort level" was believed to have the best chance of achieving this level of understanding and uniform interpretation.

SUMMARY – WASHINGTON STATE BICYCLE AND PEDESTRIAN PLAN

The Bicycle Transportation and Pedestrian Walkways System

Walking and bicycling are integral parts of the transportation system. People walk and bike to commute to work and school, for utilitarian trips such as visiting friends, shopping, or other personal errands, and to make connections to transit or other intermodal facilities.

In some areas of the state, walking and bicycling already have significant numbers of users. In Seattle, 11 percent of commute trips are walking and bicycling trips (7 percent walking and 4 percent bicycling, respectively). In some parts of the city, bicycling and walking make up 20 percent of the commute trips.

The Transportation Commission has adopted pedestrian and bicycling policies. In 1991, a Bicycle Policy Plan was created. This plan has the four policy areas of bicycle facilities, funding, safety education and enforcement, and promoting bicycling commuting and touring. The plan also identified the state's existing roadway system as the basic network for bicycle travel.

In 1993, the Commission adopted a Pedestrian Policy Plan which focused on local and regional planning for pedestrians, necessary pedestrian facility types and locations, and who should pay for them. The plan recognized that pedestrian trips are short and that local and regional agencies can have the greatest influence on creating a pedestrian network. The adopted pedestrian policies include recommendation from the Washington Traffic Safety Commission's Pedestrian Safety Strategic Plan.

Service Objectives: Bicycling and Walking

- Improve bicycle and pedestrian safety.
- Increase the use of bicycling and walking for transportation purposes, principally utilitarian and commuting trips and connections to intermodal facilities.

Strategies to Address Bicycling and Walking

Past planning efforts at the state level have identified bicycle and pedestrian issues. These issues serve as the foundation for the service objectives — increasing bicycle and pedestrian use and providing for safe facilities and the safe use of the transportation system. Specific performance measures propose doubling the amount of walking and bicycling while reducing the number of crashes by 10 percent over the next 20 years.

Pedestrian and bicycle crashes with motor vehicles are significant. From 1988 to 1994, there was an annual average of 1,887 pedestrian-motor vehicle crashes. During this same period, there were also 613 pedestrian fatalities. From 1988 to 1994, the seven-year average for bicycle-motor vehicle crashes was 1,449, and 71 bicycle fatalities were reported. With the goal of improving safety and increasing bicycling and walking, a Bicycle and Pedestrian Committee developed 30 action strategies to achieve the service objectives. Performance measures are also in place to monitor the progress of the service objectives over time. A crucial aspect of the action strategies is that they are organized by issue areas and who bears responsibility for their implementation.

The majority of the action strategies place the state in an advocacy role, and recognizes that the most effective investments in bicycling and walking occur at the local level.

Facilities — This issue area discusses updating design manuals to incorporate bicycle and pedestrian facilities, providing technical assistance to local agencies, preservation of linear corridors, and targeting funding to remove barriers that improves access for bicycling and walking.

L: Local governments should designate a bicycle and pedestrian system in order to prioritize project funding.

C: WSDOT and local governments should work together to modify the *Manual for Uniform Traffic Control Devices* and *Local Agency Guidelines* manual to incorporate bicycle and pedestrian facility practices.

C: WSDOT and local governments should develop the *Best Pedestrian Design Practices Manual*. The “Best Practices” manual should provide common sense approaches to improving the pedestrian environment.

C: Local governments should implement parking policies that encourage bicycling and walking.

C: WSDOT, other state agencies, and regional and local governments should preserve linear corridors for bicycle and pedestrian transportation purposes.

S: WSDOT should update its *Design Manual* and operational practices to incorporate contemporary bicycle and pedestrian facility practices.

S: WSDOT should provide information to local governments when changing its *Design Manual* procedures that relate to bicycle and pedestrian transportation facilities.

S: WSDOT should target its bicycle and pedestrian funding to remove barriers on the state system and improve access to local bicycle and pedestrian networks.

S: WSDOT should continue to provide technical assistance to local agencies on bicycle and pedestrian facility design and site location.

Safety Education and Enforcement — These action strategies ensure WSDOT's Safety Management System incorporates bicycle and pedestrian issues and clarifies the roles of other agencies in bicycle and pedestrian safety.

L: High school driver's training courses should include a section on the most frequent crashes motorists have with bicyclists and pedestrians.

C: The Washington State Patrol (WSP) and local police officers should ensure pedestrians and bicyclists correctly use traffic facilities and that motorists obey traffic laws so that traffic facilities are safe to use.

C: The state, schools, and local governments should continue to provide safety education materials to students in K-12 and targeted population groups on appropriate pedestrian and bicycle actions.

C: State and local governments should ensure police training occurs on how to report pedestrian and bicycle crashes. This may require modifying the existing police report sheet in order to better record bicycle and pedestrian crashes.

C: Ensure state and local updates of the Highway Safety Management System incorporates bicycle and pedestrian safety issues. (For example, pedestrian risk at intersections, right-turn movements where bicycle lanes are present.)

C: WSDOT should develop a memorandum of understanding between the Washington State Traffic Safety Commission, WSP, OSPI, and the Department of Health that clearly defines the roles and responsibility for providing bicycle and pedestrian safety education to targeted population groups. This can include designating a clearing house of model bicycle and pedestrian curriculum for schools.

S: WSDOT and the Department of Licensing should work together to include more information in the driver's manual and exam on correct traffic procedures between drivers and bicyclists or pedestrians.

V: Volunteer bicycle organizations should continue to provide bicycle safety education materials to their local communities.

Promotion — Encourages walking and bicycling for nonwork trips and promotes land use that encourages pedestrian and bicycle trips.

C: State and local governments should promote the concept of using bicycle and pedestrian travel to access activity centers that are within a bicycle and pedestrian travel shed.

C: WSDOT and local governments should distribute bicycle and pedestrian information through such technologies as Internet, and a bicycle/ pedestrian hotline.

S: WSDOT should continue to update and distribute the Washington State Traffic Data for Bicyclists Map.

S: WSDOT should continue to promote bicycling by completing the rural bicycle touring route system.

V: Local bicycle clubs should continue to promote bicycling through club rides, organized events, and citizen outreach efforts.

Intermodal Connections — These action strategies focus on incorporating bicycling and walking into all intermodal facilities.

L: Locally operated intermodal facilities such as transit centers, airports, and park and ride lots should ensure safe and convenient access for bicyclists and pedestrians.

L: Local school districts should ensure safe walk routes exist between schools and their adjacent neighborhoods.

C: WSDOT, in cooperation with federal and local governments, should ensure passenger rail terminals provide safe and convenient access for bicyclists and pedestrians.

S: WSDOT should ensure its intermodal connections (ferry terminals, park and ride lots) provide safe and convenient access to bicyclists and pedestrians.

Improvements — Encourages agencies to fund and prioritize projects which include bicycle and pedestrian facilities that link bicycle and pedestrian origins and destinations.

L: Local governments should identify major activity centers and ensure bicycle and pedestrian access within a bicycle and pedestrian travel shed.

L: Local governments and school districts should target hazardous walking routes for pedestrian facility improvements.

C: Ensure state and local agencies pursue funding nonmotorized needs identified in the 1994 Transportation Needs Assessment Study.

C: Ensure state and local funding agencies give priority to transportation projects based on serving the most users and that link bicycle and pedestrian origins and destinations.

Costs for the State Bicycle Transportation and Pedestrian Walkways Plan

Meeting the service objectives requires substantial efforts by state and local governments, the private sector, and volunteer groups. Costs for meeting the bicycle and pedestrian service objectives were estimated based on a sampling of local jurisdictions 20-year bicycle and pedestrian needs. The spending estimates include costs for bicycle and pedestrian facilities, education programs, enforcement efforts, and other programs.

Currently, there are few dedicated sources of revenue targeted for bicycle and pedestrian needs. The bulk of pedestrian and bicycle projects have been funded through regional allocations of ISTEA dollars or through ISTEA grants. This type of funding changes from year to year and, therefore, it is difficult to target a long-range bicycle

and pedestrian network. Bicycle and pedestrian safety education and enforcement programs are usually a small portion of larger outreach efforts.

State Costs

WSDOT costs for state-interest bicycle and pedestrian advocacy efforts over the next 20 years are expected to be \$5 million. The Highway System Plan has included an additional \$325 million dollars in bicycle projects, but has chosen to limit this investment to \$230 million over the next 20 years. A pedestrian element is also being developed that will identify pedestrian deficiencies on the state highway system.

Investments from other state agencies is approximately \$54 million. The majority of this funding is based on expanding efforts in safety education and enforcement. This would require additional funding for the Office of the Superintendent of Public Instruction, the Washington State Traffic Safety Commission, WSP, and the Department of Licensing.

Non-State Costs

Based on the local agency surveys, costs for meeting the bicycle and pedestrian objectives is about \$1.55 billion. If federal grant and pass through money continues on bicycle and pedestrian projects, cities and counties are projected to spend approximately \$800 million over the next 20 years.

Appendix C

Notes on Public Comments Received