Whatcom County Bicycle Pedestrian Advisory Committee

Whatcom County Pedestrian and Bicycle Plan

Revised and updated December 2010

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Whatcom County, Washington
Acknowledgements

This Plan for active transportation facilities in Whatcom County resulted from the work of many concerned individuals. The plan expands upon the previous Whatcom County Bicycle Plan, which was originated by Ken Wilcox on behalf of the Whatcom County Parks and Recreation Department in 1994. The plan was then updated by County Executive Pete Kremen’s Bicycle/Pedestrian Advisory Committee and passed as a resolution through the County Council in May 2003.

This update incorporates recommendations for improvements to pedestrian facilities and other environmentally friendly modes of travel, as well as updates to the priorities and implementation plan. The members of the Whatcom County Bicycle/Pedestrian Committee who contributed to this update include:

Ellen Barton        Jeff Margolis        Amy Vergillo
Rich Clearman      Michael Passo        Don Ligocki
Molly Maguire       Scott Thompson       Alice Simmons

The committee wishes to thank members of the community that have contributed to this plan as well as assistance from county staff, particularly in the Public Works and Parks and Recreation departments.

All of these efforts help to ensure that bicycling and walking remain popular, safe, enjoyable, cost-efficient and environmentally friendly means of transportation for Whatcom County’s future.
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People with disabilities are an important constituency of transportation infrastructure that serves wheelchairs, hand-cycles, recumbent tricycles and people walking.
INTRODUCTION

This Plan updates the 2003 Whatcom Bicycle Plan and adds additional detail to ensure that the transportation system meets the needs of pedestrians, bicyclists, other non-motorized travelers, and inter-modal access.

The 2003 Plan gave general guidelines and recommendations. This update has a broader focus, detailing specific facilities both on and off road to create region-wide network. The Plan is organized into three sections:

- **Purpose** – describes current planning and facilities related to bicycle and pedestrian transportation.

- **Network Recommendations** – describes facilities and actions recommended to address gaps in the completion of a regional non-motorized network.

- **Implementation Plan** – identifies steps, policies, and recommended schedules for implementation of the recommended actions.

**Purpose**

The purpose of the Pedestrian & Bicycle Plan is to provide guidance for the implementation of interconnected bicycle and pedestrian networks for transportation throughout Whatcom County, with the goal of increasing the active mobility choices for residents and visitors. Providing safe and attractive active mobility choices for daily transportation needs results in healthier, more sustainable lifestyles. This results in overall cost savings by reducing demand for expanded roadways and reducing the number of trips made by motorized modes. The Washington State Department of Transportation and the U.S. Department of Transportation have set ambitious goals to increase the amount of bicycling and walking for transportation. In Program Guidance on bicycle and pedestrian issues from the Federal Highway Administrator states that, "We expect every transportation agency to make accommodation for bicycling and walking a routine part of their planning, design, construction, operations and maintenance activities."

This Plan defines a trip as including trips for commuting to work or school, going shopping or running errands, and trips to and from recreational or park areas. Because it is regional in scope, this plan may not include all the bicycle and pedestrian facilities within each community. This plan focuses on those facilities that provide regionally important connectivity and on those that are outside of incorporated areas of the county.

This plan focuses primarily on bicycle and pedestrian transportation needs. As such it does not duplicate the recent efforts of the Parks and Recreation department to define the detailed requirements for recreational trails. The Bicycle/Pedestrian Advisory Committee fully supports the Parks and Open Space Plan, which will be primarily managed by the Parks department. This plan more specifically defines the priorities for transportation needs, which should primarily be implemented by the Public Works department.
Pedestrian and bicycle networks are important as components of a multi-modal system that serves everyone. The success of the system is measured by the degree to which they are integrated with the planning and design of other modes and hubs such as bus, rail, ferry, carpool, airport, and roadway facilities.

**Why Plan For Walking and Bicycling?**

Every trip includes some walking and each user of the transportation system is a pedestrian during some portion of the trip. Walking is a daily activity serving a variety of purposes including transportation for commuting and commerce, or for recreation and exercise. According to the Association for Pedestrian and Bicycle Professionals, about 40% of the US population are either not legally able to drive or choose not to drive. People who may rely on walking as their main form of transportation include seniors, children, people with physical disabilities, and those choosing a healthier lifestyle.

Bicycling is the most energy-efficient form of transportation yet invented and bicycling is the world’s most commonly used vehicle for transportation. Bicycle transportation has a long history in the U.S. In the 1890s, bicyclists were the first to advocate for federal financial assistance for roads, called the “Good Roads” movement, when plank roads and wagon ruts were the main alternative to rail and marine travel. Rising fuel prices make bicycling more popular and necessary for everyday transportation.

Investing in walking and bicycling facilities like walkways, shared-use paths, and on-road bicycle signage assists all kinds of travelers. Non-motorized transportation leads to other quality of life improvements such as:

- **Reduced road congestion:** Walking and bicycling can substitute for short car trips, reducing costly vehicle congestion.
- **More efficient use of public tax dollars:** Roadway widening is more expensive than other transportation investments and does not result in reduced congestion over the long term. Replacing car and truck trips with bicycle and walking trips reduces roadway maintenance costs.
- **Reduced public health care expenses:** Physically active transportation can reduce the public health care costs associated with the obesity epidemic and other chronic diseases resulting from sedentary lifestyles.
- **Economic vitality:** Commercial activity increases in downtown areas that are walking and bicycling friendly.
- **Cleaner air and water:** Transportation emits the largest percentage of all air pollutants in Washington State according to the Northwest Clean Air Agency and short vehicle trips emit pollution at higher rates. Road run-off from motor vehicles is the source of most of the pollution in streams, lakes, and the bay.
- **Social equity:** Improved conditions for walking and bicycling expand community access options for the 40% of the population who do not drive. As the population
ages, roadway safety will be improved if those with age-related impairments have other choices than driving.

- **Energy Conservation:** Walking or bicycling for transportation is much more energy efficient than traveling by other modes, reducing reliance on non-renewable or hydrocarbon-based fuels.

**Education, Encouragement, and Enforcement**

The cost of providing public infrastructure for unlimited increase in motor vehicle use will strain public budgets. Encouraging people to consider other transportation choices is a cost-effective means to increase roadway capacity without engineering and construction expense. Advertising influences transportation choices, as the automobile industry can attest. Partly because of advertising, use of motor vehicles for personal transportation has become familiar and comfortable. Advertising, promotions, and encouragement can be important tools for public agencies to maximize transportation system capacity and efficiency.

**Education:** Education about basic legal and safety issues is an essential foundation to make sure that people are comfortable making trips by foot or bicycle but this type of information is not readily available to those who need it. Adults and children currently receive little formal instruction on the rules of the road for pedestrians and bicyclists. The percentage of parents driving their children to school (often less than one mile) has increased to 80% in five Whatcom County districts. School children who do not have the opportunity to learn how to walk safely on roads and walkways in their neighborhoods growing up have a greater risk of developing sedentary chronic diseases. Fewer than 1% of adults and children in Whatcom County receive formal instruction on the legal operation of a bicycle as a vehicle on roads.

**Implementation strategy:** Fund training for elementary school teachers to become certified in a recognized walking and bicycling safety education program.

**Encouragement:** Helping people switch some of their short trips (1 to 3 miles) to walking or bicycling will increase system capacity at low cost. Promotional events such as Bike to Work and School Day and International Walk a Child to School Day focus community attention on the benefits of non-car transportation. People use the event as an opportunity to try a different type of commute mode and a percentage of participants continue to walk or bike commute during the rest of the year. The TravelSmart study showed that, with information and incentives, at least 8% of car trips can be converted to walking, bicycling or bus trips.

**Implementation strategy:** Fund promotional and incentive programs for Bike to Work and School Day, International Walk and Child to School Day, and TravelSmart-type community actions. Measure mode change. Actions include events, Transportation Demand Management, incentives, Whatcom Smart Trips.
Enforcement: In conjunction with a comprehensive education program that informs and reminds everyone of the rules of the road, a consistent enforcement effort against illegal roadway behavior will increase safety of all users. Motor vehicle drivers, bicyclists and pedestrians each have been known to exhibit illegal behaviors that endanger other roadway travelers.

Implementation strategy: Follow up educational outreach about courteous and safe road-sharing with enforcement actions that reinforce the message for all types of roadway users. Crosswalk enforcement, residential speed limit enforcement, and pedestrian rights-of-way are priority topics.

Facilities for walking and bicycling for transportation encourage daily physical activity that combats the increasing trend of overweight and obese youth.
PLANNING AND DESIGN CONSIDERATIONS

All designs for new and reconstructed facilities should meet the guidelines of AASHTO, ADA and local ordinances in effect as applicable.

Types of Pedestrians

Everyone is a pedestrian and walking is a daily activity for most people. Wheelchair users are pedestrians and their access to use public pedestrian infrastructure in protected as a civil right. People for whom walking is a main transportation mode include forty percent of our population: seniors, children, people with disabilities, and those who cannot or choose not to use cars.

All trips include at least two pedestrian components: at the beginning and end. U. S. Department of Transportation guidance to local jurisdictions states that, “Congress clearly intends for pedestrians to have safe, convenient access to the transportation system and sees every transportation improvement as an opportunity to enhance the safety and convenience of walking.” Implementation strategy: Implement a system to periodically count pedestrian and bicyclist transportation mode share. Counts should take place in selected locations where there is a high potential demand in strategic, targeted corridors. Report trends and goals as part of the Transportation Improvement Program.

The American Association of State Highway and Transportation Officials (AASHTO) has published the Guideline for the Development of Pedestrian Facilities. The standards incorporated in this guide detail industry norms for facilitating walking transportation in a variety of environments. In order to develop an appropriate walking transportation network, it is important to serve different pedestrian needs and purposes. Below are listed the main types of pedestrian travelers along with a summary of the types of walking surfaces necessary to accommodate the different purposes of these pedestrian trips:

Commute walking to work or school or for errands: designs should include paved or compacted gravel, direct, good sight distance, lighting, 5 ft. width minimum (wide enough to pass slower travelers), continuous routes from origin to destination, cross walks and signals, well-maintained, graded slopes, curb ramps and absence of stairs to facilitate wheeled carts.

Social walking strolling or shopping: designs should include a 6 ft. width recommended minimum (wide enough for two or more to walk together), meandering ok, street furniture, plantings, active store-fronts, smooth for wheeled carts and baby carriages, level or gentle grades, well-maintained, lighting, places to sit adjacent to (not in) traveled walkway, curb cuts.

Recreational walking for exercise or recreation: design concepts include narrow width ok, dirt, gravel, or paved surface ok, landscaped vegetation, meandering preferred, steeper slopes ok.
Running and competitive walking: design concepts include dirt or gravel surface (no pavement), similar to walking for exercise.

Wheelchair users: designs should include curb ramps, no cross-slope, level rest areas on long slopes, firm surface (pavement or compacted gravel), no grates or gaps in brickwork, no stairs.

Vision impaired walking: designs should include yellow truncated domes on curb cut slopes, audible crossing signals, no low over-hanging branches or street-furniture.

Types of Bicyclists

Whatcom County has adopted the standards of the Washington State Department of Transportation (WSDOT) in planning facilities for different ability levels of cyclists. The WSDOT standards are based on the Guide for the Development of Bicycle Facilities published by the American Association of State Highway and Transportation Officials (AASHTO). The classification system for bicyclists identifies three levels of ability as follows:

Group A: Advanced Bicyclists – very experienced adult riders, comfortable riding in most all traffic conditions and require less separation from motorized traffic. On lower speed, low traffic roads, they are comfortable sharing the lane with motor vehicles. On higher volume, higher speed roadways, these bicyclists benefit from increased travel lane width (wide curb lanes), designated bicycle lanes on urban roadways, or paved shoulders on rural roadways. They are usually adults and travel at higher speeds (15 – 20 mph) and choose routes that are direct and minimize delay, often preferring roads to shared-use paths.

Group B: Basic Bicyclists – less skilled than advanced bicyclists and less comfortable riding in traffic. These adult or teenage riders travel at lower speeds (10 – 14 mph), prefer roadways with lower traffic volumes and speeds and greater separation from motorized traffic. They are more comfortable riding on designated bicycle lanes or shared use paths.

Group C: Child Bicyclists – as beginning learners, these are the least skilled category of bicyclists. They require bicycle facilities that provide the greatest separation from motor traffic. They travel at low speeds (8 – 10 mph) and are comfortable on residential neighborhood streets with low traffic volumes and speeds or on shared use paths.

An earlier system of classification for bicycle facilities (now obsolete) identified structures rather than skill levels, specifying the following: Shared Use Paths,
Bicycle Lanes, and Shared Roadways. A combination of these and other facilities are required to meet the differing needs of skilled and unskilled bicyclists in the urban and rural settings of Whatcom County.

**Types of Pedestrian Facilities**

Whatcom County should endeavor to provide safe pedestrian facilities in all new construction and reconstruction transportation projects where there is the potential for significant use, such as in a traffic corridor within one mile of a school or community center that links residents to such facilities. Traditional curb/gutter/sidewalk designs may not always be the ideal approach for projects since they require large impervious surfaces and may detract from the rural atmosphere. Other separated walkway designs should be considered that also provide a physical barrier from motorized traffic.

Adjacent shared-use paths or other facilities that serve equivalent pedestrian activity are preferred. Washington State Department of Transportation (WSDOT) has adopted the standard that bicycle and pedestrian facilities shall be provided for all new construction where their use can be expected.

**Walkways**

For the purposes of this planning document, walkways are defined as generic pedestrian facilities that are in compliance with state and federal standards, and in some cases may include pedestrian facilities categorized as recreational paths or trails. The intent of this categorization is to include an array of pedestrian facilities that provide some means of physical barrier or separation from motorized traffic lanes, providing the most suitable project design with an appropriate degree of safety.

**Sidewalks**

Sidewalks serve all six categories of pedestrians. Sidewalks or walkways are especially important for children walking to school and for people with disabilities. These populations are found in many areas throughout the County.

WSDOT Design Manual and AASHTO Pedestrian Guide state that a sidewalk that is next to the curb would be a minimum of 6 feet wide. If the sidewalk is separated from the curb by a planting strip then the sidewalk can be a minimum of 5 feet wide.

**Paths**

Paths are non-motorized routes that do not necessarily follow a roadway but can be designed as an effective walkway, substituting for sidewalk designs. Paths offer advantages over sidewalks in the following types of locations:

- through parks or natural areas
- on former railroad rights-of-way or utility corridors
- connecting dead-end roads in residential or commercial developments
- side-paths along roads where there are few intersections or driveways
- connecting schools to recreation or residential areas
- connecting senior housing to commercial or service areas
Path surfacing can vary depending on location and use. Rustic dirt paths are appropriate in parks or natural areas with low usage. Dirt paths are subject to erosion but offer the advantage of a water permeable surface. Compacted gravel paths serve the widest variety of uses and offer some water permeability. Paved paths are appropriate for high usage routes or to serve wheelchairs or strollers. The Americans with Disabilities Act (ADA) requires that paths be built to accommodate wheelchair users and those with other disabilities or that an equivalent facility be available.

Because paths offer a transportation route separated from motor vehicles on the roadway, they offer a greater margin of safety than sidewalks or roadway shoulders for children walking or for beginning bicyclists. Near senior centers, paths and walkways should include benches for resting at reasonable intervals. Paths are part of the network of non-motorized transportation facilities and should be designed to link to walkways or bike routes to create a continuous system.

(1) Shared Use Paths: Pedestrians, bicyclists, runners, horseback riders, roller skaters, and other non-motorized travelers can safely share most paths where the facility is well-designed and maintained. To reduce the potential for collisions, the different users of a shared-use path require posted etiquette or guidelines and a method for education should be in place.

(2) Pedestrian-only Paths: In the following types of locations, path use restricted to pedestrian use only offers some safety and practical advantages:

- narrow (less than 4 ft (1.2 m)) paths with high pedestrian use
- commercial areas with frequent entry and exit to the path
- areas where enforcement of pedestrian-only use is feasible

Whatcom County has adopted the design standards for Shared Use Paths as set forth in the WSDOT Design Manual Chapter 1020.

**Crosswalks** Every roadway intersection is a crosswalk, whether marked or unmarked. Intersections of trails or alleys and roadways are also defined as crosswalks. In a crosswalk, pedestrians have the right of way and motor vehicle traffic must yield. Education of motorists about this law is an important component to ensuring an effective pedestrian transportation network. A public crosswalk education campaign is the most effective.

(1) Marked Crosswalks: Collisions are reduced where motor vehicle traffic is alerted when approaching locations where pedestrians are likely to be crossing the road. The method of alerting motor vehicle drivers to these crossings varies according to the roadway design, traffic volume, and speed limit. Marked crosswalks reduce collisions on two-lane roads where speed limits are 25 mph (40 kph) or less. On
roadways with three or more lanes or with higher speed limits, marked crosswalks alone are not sufficient to reduce collisions. Additional features may be incorporated along with the marked crosswalk such as:

- advance fluorescent yellow pedestrian crossing signs
- pedestrian refuge island in the middle of the crossing
- pedestrian activated in-pavement or overhead flashing lights

Design of marked crosswalks can include painted (thermoplastic) striping, contrasting colored pavers, signage, or raised crosswalks. Raised crosswalks function similarly to a speed hump slowing motor vehicles.

(2) Pedestrian activated lighted crosswalks: Located at mid-block areas with high traffic volume and high pedestrian crossing demand, pedestrian-activated in-pavement flashing lights help alert drivers to yield to the pedestrian waiting to cross. The City of Bellingham has developed a point rating criteria for installation of these facilities including the following factors:

- Motor vehicle traffic volume over 7000 AADT (average annual daily traffic)
- Proximity to schools, parks, or elderly housing (1/4 mile or less)
- Unsignalized location with documented lack of traffic gaps
- Motor vehicle speeds greater than 35 mph

(3) Signalized pedestrian crossings: At signalized intersections, pedestrians cross with the traffic light for their direction of travel, while turning motor vehicles must yield to the pedestrian. Pedestrian accommodations are recommended at all signalized intersections. Standards for the installation of the pedestrian crossing signal are included in WSDOT Design Manual Section 850. Signal time for the pedestrian crossing, motorist education about the meaning of pedestrian signals, and issues regarding right-turn-on-red traffic are topics dealt with in the WSDOT Design manual.

Grade separated crossing facilities (bridges or tunnels): On roads with four or more lanes, high traffic volumes and high speed limits, grade separated crossings for pedestrians are a practical way to prevent traffic slowing or stopping. Where grade separation is required, steep inclines are more easily navigated by motor vehicles than by pedestrians. For example, a pedestrian overpass bridge requires extra walking and climbing but slopes resulting from depressing the roadway do not cause hardship for vehicle travel. Design standards for pedestrian underpasses (tunnels) require clear view through the entire tunnel with lights and safety monitoring.

Curb extensions (bulb-outs): At urban intersections with on-street parking, an extension of the curb increases pedestrian visibility and reduces crossing distance. The added pedestrian space of the curb extension offers additional space for installation of wheelchair ramps and truncated domes to guide the sight-impaired.
Planted median islands or pedestrian refuge islands. At a crosswalk where more than three traffic lanes must be traversed by the pedestrian, a refuge island offers protection while waiting for a break in motor traffic. This type of facility helps slower walkers to cross wide roads in two stages, when necessary.

Curb ramps. At intersections where walkways or paths are separated from the roadway by a curb, installation of curb ramps enables access by wheelchair users and others using wheeled devices such as baby strollers, grocery carts, or wheeled luggage.

Audible crossing signals. To be accessible to pedestrians with disabilities, intersections with pedestrian-activated signal devices should provide crossing information in visual, audible, and tactile modes. Audible signals should assist the visually-impaired traveler to locate the activation button and a directional sound should guide the traveler across the street during the appropriate phase. Specific technology recommendations are described in the U.S. Department of Transportation publication Designing Sidewalks and Trails for Access, Part II.

Crossing guards (for school children). Washington state law requires each elementary school to publish and maintain a safe walking route map for students living within one mile to walk to school. At crossing locations along this route where traffic volumes are high, trained crossing guards should assist students during the hour preceding beginning of classes and the hour following end of classes.

Public pedestrian mall. Designated areas for pedestrian-only access can increase commercial activity. Similar to the pedestrian-only design of shopping malls or farmers’ markets, public pedestrian malls increase foot traffic to businesses, parks, or residences. Pedestrian-only designation can be restricted to certain hours of the day or limited to certain days of the week, where appropriate.

Planning and design considerations include conformity with the Americans with Disabilities Act (ADA). The Federal Highway Administration’s two-part publication Designing Sidewalks and Trails for Access includes specific recommendations for technical features to serve pedestrians with mobility, vision, aural or other impairments.

Determining the appropriate pedestrian facility for a given transportation corridor is dependent on the type of pedestrians who will be served. For example, areas with high numbers of pedestrians and commercial activity may warrant exclusive pedestrian signal phases (all traffic stops) rather than the concurrent pedestrian signal (vehicles traveling parallel to the pedestrian crossing are permitted to go).
Five Keys to Walkability

- Security
  - Visible from near-by parks and community centers
  - Pedestrian-scale lighting
  - Buffer from motor vehicle traffic
- Convenience
  - Proximity to destinations, commercial areas
  - Connectivity between residential and transit
- Efficiency
  - Direct walkways make it easier to walk than drive
  - Walkways connect to crosswalks without significant detours
- Comfort
  - Shade from sun, protection from rain
  - Street furniture available outside main walking corridor
  - Walkway surface treatment delineates walkway from driveways
- Welcome
  - Public art
  - Street trees
  - Attractive vegetation
  - People lingering or visible at all times of day and night

The above elements can be quantified as a graduated set of criteria for incorporation into design or development requirements for neighborhoods. Walkways with all five elements represent the highest rating (Level of Quality A, for example). Locations with none of these elements represent the lowest rating (Level of Quality F, for example). Existing infrastructure can be evaluated based on their respective LOQ, i.e., the presence or absence of these features. Planning policies can prioritize locations for improvement based on target LOQ standards.

The above cross-section sketch shows an option for a four-lane roadway with two motor vehicle travel lanes, a bike lane, sidewalk, landscape buffer, and median or center turn lane. County standards have 11-12 ft lanes therefore these cross sections would be reviewed in conjunction with each road project. Possible water shed or LID (Low Impact Standards) may apply for 10 ft land width also.
Walkway surface coloration and paving clearly show different functions of the areas of the walkway. The Walk/Talk zone is delineated from the Shoreline, where the street trees and furniture are located. Paving ornamentation shows the vehicle driver that the driveway crosses a pedestrian space, rather than the other way around.

As county population continues to grow and Limited Areas of More Intensive Rural Development (LAMIRD) infill, county planners should be increasingly aware of the following best practices associated with walkway design applications.

**General Guidelines for Urban Walkways:**

- Complete walkway width in urban areas should be 10 to 15 feet, including within the shy zone (set back from adjacent buildings), street furniture area, and a main walk/talk zone of at least 5 feet width.

- Commercial buildings should be adjacent to the walkway and have windows and doors transparency so that people walking feel the security of being watched over.

- Driveways should ideally have a sloped entry ramp and the walkway area should have a paving or color treatment to clearly show that this is a pedestrian space.

- Where speeds are 25 mph or higher, buffers between the walkway and the motor vehicle traffic are important to protect the comfort of pedestrians. Buffers can consist of bike lanes, planting strips, or car parking.

Traffic engineering has historically used a definition of Design Speed of the roadway as a safety issue. By designing roads with features that would accommodate slightly higher speed traffic, the roadway would be safer for all drivers. Recent research shows that roads built wider and straighter for these higher speeds tend to encourage speeding and can result in enforcement problems.

The Transportation Research Board study described below recommends a carefully considered approach to Design Speed:

“Design speed has long been a prime factor in the design of roadway geometric elements, such as vertical and horizontal alignment and cross section. The current design process does not always result in the desired
consistency in roadway alignment or driver behavior along these alignments. The desired product of good geometric design is a roadway alignment and cross section that will encourage the driver to operate safely and consistently with the function of the facility. Further, an ideal geometric design is both consistent with the context of the setting and cost-effective."

**General Guidelines for Rural Walkways/ Walkways:**

Rural roads are built without walkways due to the perception that distances between destinations are too great to expect a significant proportion of trips to be carried out by walking. Certain factors determine whether the proportion of walking trips or demand for walking infrastructure is higher along a given rural road or in a given rural area. When these factors are present, infrastructure to facilitate walking trips should be constructed:

- Roads within the one-mile walk zone of an elementary school
- Roads within the two-mile walk zone of a junior or senior high school
- 1/4 mile radius of public transit stops and stations
- 1/4 mile radius of trail heads or other recreation destinations
- Connecting residences in rural villages to village commercial centers

Facilities to serve walking trips in rural areas ideally include walkways, trails, marked crossings, signage, signals, or other infrastructure such as those identified above for urban areas.

Shared use shoulders are not the ideal facility for walking but can be an acceptable alternative when the listed facilities are not feasible.

Research shows considerable latent demand for walking transportation in rural areas. Surveys conducted by the Bicycle Pedestrian Advisory Committee in 2001, revealed that rural residents would like to walk in the rural areas in which they live. Many wish to walk as a way to enjoy the outdoors in Whatcom County. However, most do not walk from their houses because they do not feel safe walking even as short a distance as 300m (1/4 mi) to their neighbors' houses. Washington Traffic Safety Commission research shows that rural (county) roads have higher than average collision rates. Trail networks connecting to walkways can be an important step to increase the proportion of walking trips in rural areas.

**Types of Bicycle Facilities**

**Shared Roadway or Shared Lane:** Bicyclists ride in the travel lanes, sharing the roadway with motor vehicle traffic. Shared roadways ideally have lower traffic volumes and lower speeds and they accommodate bicyclists without special signage or striping. Travel lane width varies from 11 ft. (3.5 m) to 13 ft. (4 m). Shared roadways are appropriate bicycle facilities on roads with 2000 AADT or less and posted speed limits of 50 mph (80 kph) or less.

**Bicycle Route:** A preferred route for bicyclists designated by signs, bicycle routes may be comprised of any combination of bicycle facility types. Designation of a
bicycle route can assist jurisdictions in prioritizing maintenance and shoulder
sweeping where higher numbers of bicyclists are expected.

**Wide curb lane** or wide outside lane: A bicycle facility where additional width
above a standard 11 ft. (3.5 m) to 13 ft. (4 m) travel lane is provided in the travel
lane closest to the curb. Often found on urban roads where curbs are present, a
wide curb lane can also be constructed on rural roads without curbs. Bicyclists and
motorists share the lane but the additional width allows motorists to pass the
bicyclists without changing lanes or crossing the center line. No special signage or
striping is required. Lanes wider than 15 ft. (5 m) should not be provided as they
may encourage use as two travel lanes by motorists.

**Paved Shoulder**: Additional width contiguous to the travel lane delineated by a
white stripe. Paved shoulders are typically provided on an uncurbed, rural
roadway but may be provided on an urban, curbed roadway.

**Bicycle Lane**: A portion of the roadway designated for exclusive use by bicyclists.
It includes roadway striping, pavement markings, and signage. It should be a one-
way facility in the direction of the adjacent motor vehicle lane. Under special
circumstances, contra-flow and two-way bicycle lanes can be constructed, with
additional safeguards to protect cyclists and motorists from collision. Bike lanes
are recommended for urban locations where traffic volume is high and where
turning conflicts are controlled or limited. Parking, driving, and emergency
stopping are prohibited in bicycle lanes. At intersections with right-turn lanes, the
bicycle lane should be designed to continue on the left side of the right-turn lane
(Formerly called a Class II bicycle facility)

**Shared Use Paths**: Facilities on exclusive rights-of-way with minimal cross flow by motor
vehicles. Users are non-motorized and may include bicyclists, in-line skaters, roller skaters,
wheelchair users (both electric and manual) and pedestrians, runners, people walking pets
and others.

Shared use paths may be located within or along the roadway right-of-way
(separated by a grassy berm or swale), or along former railroad rights-of-way or
utility easements not adjacent to roadways. Other names for Shared Use paths
include trail, bike path, or multi-use path. (Formerly called Class I bicycle facility).

**Bicycle Parking and Racks**: Destinations such as schools, commercial centers,
entertainment or recreation sites, shopping centers, government facilities and
transit stops should have sufficient bicycle parking facilities to serve bicycle
travelers. Bicycle racks should be secure, located close to entrance-ways in well-lit
areas with good sight distance. Design of bicycle racks should take into
consideration the duration of visits and the likely type of bicycle equipment. For
example, a market or recreation area should have sufficient space to
accommodate bicycles with trailers; an employment site should offer secure,
covered parking for employees while providing easily accessible short-term bike
parking for office visitors. Short-term bicycle parking (such as for customers or
visitors) should be located close to the entrances to buildings for security and convenience. Long-term bicycle parking (for employees or residents) may be located somewhat further from building entrances, but must be secure, covered, and convenient. Large parking lots should have a delineated bike route from roadways to building entrances and bike parking.

**Bicycle lockers:** Destinations where bicycles will be parked for several hours at a time on a regular basis may be appropriate locations for bicycle lockers. Bicycle lockers require a management system for allocating access, maintenance, and monitoring to prevent illegal uses. Transit hubs, commercial/shopping centers, schools, recreation fields, and destination sites that attract large numbers of regular visitors are appropriate sites for installation of bicycle lockers. In sites with security monitoring, a covered, fenced area with restricted access for bicycle parking can function as a substitute for bicycle lockers.

**Bicycle way-finding signs:** Signage for designated bicycle routes and bike lanes is an important reminder for motor vehicles to be aware of sharing the road. These signs assist bicyclists on longer trips to choose routes that serve bicycles well. Designated bicycle routes and lanes receive high priority for shoulder sweeping and maintenance. Signage on shared use paths should indicate cross-street names at intersections along with direction and distance to common destinations. To aid bicyclists as they navigate unfamiliar routes, bike maps can be posted around town at transit shelters.

**Bicycle-activated Signal Loops and pavement markings:** Traffic signals operated by in-pavement sensors should be calibrated to respond to bicyclists. Pavement markings can be placed on the lane area indicating the location for bicyclists to trigger the signal.

**Bicycle Boulevards or Multi-purpose Streets:** Low-traffic roadways parallel to arterials can be signed and retrofitted to facilitate bicycle through traffic while prohibiting motor-vehicle cut-through traffic. Facilities to restrict motor vehicles are illustrated in the AASHTO publication *Innovative Bicycle Facilities*.

**Showers, Lockers and Changing Rooms at Commute sites or Bike Stations:** Bicyclists commuting to work may prefer to clean up for the work day. Bike Stations are centrally located facilities to serve this need, often including secure, monitored bicycle storage.

**Note:** Bicycling is not recommended on walkways except when the bicyclist is traveling at pedestrian speed (3 mph) and otherwise behaving as a pedestrian. Bicyclists on shared-use paths and walkways must yield to pedestrians and horseback riders.
Determining the appropriate bicycle facility for a given transportation corridor is dependent on the type of bicycling use to be served. For example, bicycle facilities leading to elementary schools should expect to serve beginning bicyclists (Group C). Facilities connecting employment centers to residential areas over longer distances may be designed to serve regular bicycle commuters (Group A).

The following criteria should be considered to determine the appropriate facility for a given location:

- What is the skill level of the “design bicyclist” who will use the facility?
- What are the traffic volumes and posted speeds?
- Is the area urban or rural?
- What is the roadway design cross-section: curbed, on-street parking, intersections and driveways, etc.?

**Other Non-motorized Transportation Modes**

Facilities to serve other types of non-motorized transportation in addition to walking and bicycling are important elements of a comprehensive transportation system. The following types of travelers should be considered in the design of non-motorized networks, infrastructure, and trails:

- rollerbladers and roller skaters
- skate boarders
- scooters (non-motorized)
- horseback riders

**Pedestrian and Bicycle Access to Transit**

Each transportation journey usually includes more than one travel mode: car or bicycle trips begin and end with a walking component, pedestrian trips can connect to a bus, train, or carpool. An effective non-motorized transportation system plan requires coordination and interconnection with the full range of public transportation facilities. The networks of paths, bike routes and walkways should be designed to serve as feeder arterials to bus terminals, ferry ports and train stations. Design and location of inter-modal transfer points should ensure that the pedestrian and bicycle network connects with residential and commercial destinations.
Whatcom Transportation Authority was awarded honors for the highest one-year increase in ridership of all systems nationwide in 2008. Safe walking and bicycle access to transit stops can further increase ridership.
REGIONAL NETWORKS

Current Conditions

Since the establishment of the Bicycle Pedestrian Advisory Committee in 2001, Whatcom County has taken several strong steps toward beginning to create a regional bicycle and pedestrian network:

- adoption of the bike plan and map in the Comprehensive Plan
- signage of bike routes on Hannegan and Birch Bay-Lynden Roads
- convening of the February 2005 non-motorized transportation arterial summit
- inclusion of a non-motorized transportation arterial network line item in the 2005 Transportation Improvement Program project list
- construction of the Marine Drive bike lanes and walkways from Bennett Road to Locust Avenue

These first steps are important, but regional connectivity for walking and bicycling as transportation will require additional planning, policy, and construction steps. Some examples of discontinuity are:

- Safe Routes to School: many schools have not maintained or published up-to-date walking route maps for students to get to school; school transportation officials often do not coordinate with the public works staff for walking and bicycling facilities near schools
- Walkways: walkways and paths do not form a continuous network in most neighborhoods; walkway maintenance and upgrades have not yet met accessibility requirements for the Americans with Disabilities Act (ADA)
- Bike routes: the existing number of signed bike routes on County roads does not yet constitute a complete network; local standards for construction of bike lanes make them cost prohibitive;

An effective bicycle and pedestrian system for Whatcom County will require facilities for both regional connectivity and local access. Regional connectivity can be defined as transportation routes connecting major activity centers, towns, and cities within the region. A good example of a regional facility would be the proposed Nooksack River Trail or the existing bike route along Hannegan Road. Local access facilities provide circulation within a community area, for example, the Jim Kaemingk Trail connecting downtown Lynden with the playing fields or the proposed walking trail from Paradise to Kendall Elementary School.

Regional and local facilities should serve pedestrians and bicyclists of all skill levels. In some corridors, this may require parallel facilities such as on-road bike routes and separated off-road shared-use paths. Shared-use paths should
complement, not replace, the on-road bicycle network. The recommendations in this non-motorized plan should be one of the elements considered when determining future funding of Whatcom County transportation projects and planning.

**Regional Trails Plan**

With its attractive scenery and outdoor recreation attractions, Whatcom County has the potential to become a regional destination for trail-based recreation and travel if a comprehensive trail network is developed. Initial planning for a comprehensive east-county trail network has been completed in the Mt. Baker Foothills Chain of Trails Concept Plan, published in December 2004. The recommendations of the Chain of Trails plan complement the trails goals of the 2006 update of the Whatcom County Parks and Recreation and Open Space Comprehensive Plan to present a strategy for development of a transportation and recreation trails network serving residents and visitors in the Foothills.

Shared use paths are recommended for several parts of Whatcom County where walking and bicycling needs are currently under-served. These trail corridors do not yet have identified rights-of-way. Specific design and location will require additional study in the implementation phase and will depend on easement acquisition feasibility.

The Whatcom Transportation Plan Non-motorized Transportation Chapter adopts the recommendations of the Chain of Trails plan by reference and recommends the development of an equivalent detailed trail network plan for the west county areas and incorporated cities.

**Shared Roadways**

Low-traffic roads are essentially shared pedestrian and bicycle facilities. Strategically placed signage to alert motorists to expect and yield to bicyclists and pedestrians on the roadway could be one method to increase the safety of these non-motorized travelers on the roadway. Education campaigns can assist vehicle drivers and non-motorized travelers to understand safe and courteous methods for sharing the road.

Shared low-traffic roads are defined as those where average annual daily traffic counts (AADT) are less than 2000. This low traffic level along with a effective public education and enforcement system has been shown to be safe and cost effective by the North Carolina Department of Transportation, based on research and documentation conducted since 1977.

In the event that motor vehicle trips increase above the 2000 AADT level, construction of bicycling and walking facilities should be evaluated. Planners and engineers should evaluate whether and what type of facilities would be appropriate
to build based on the criteria set forth in the most recent edition of the AASHTO Guide to the Development of Bicycle Facilities.

Design of specific facilities and infrastructure for each of the recommended regional bicycle corridors identified in the map may vary depending on the types of trips and travelers, i.e., the “design user.” For example, facilities designed for a route within the one-mile walk radius of a primary school may vary from those in proximity to a state highway with wide shoulders. For this reason the map indicates the flexibility to specify shoulders, bike routes, bike lanes, walkways or a multi-use trail separated from the road. Engineering consultation with the Bicycle Pedestrian Advisory Committee during the design phase would help determine the correct infrastructure to serve the skill level of the bicyclists and the pedestrians in a given corridor.

The Federal Highway Administration has given clear direction to local jurisdictions to include pedestrian and bicycle transportation as part of all transportation planning, design, and construction:

- "Due consideration" of bicycle and pedestrian needs should include, at a minimum, a presumption that bicyclists and pedestrians will be accommodated in the design of new and improved transportation facilities.

- To varying extents, bicyclists and pedestrians will be present on all highways and transportation facilities where they are permitted and it is clearly the intent of TEA-21 that all new and improved transportation facilities be planned, designed and constructed with this fact in mind.

- The decision not to accommodate bicyclists and pedestrians should be the exception rather than the rule. There must be exceptional circumstances for denying pedestrian and bicycle access. whether by prohibition or by designing highways that are incompatible with safe, convenient walking and bicycling.
Children walking to school or waiting for the school bus benefit from sidewalks, especially within one mile of a school.
IMPLEMENTATION RECOMMENDATIONS

This section provides baseline cost estimates for bicycle and pedestrian facilities, identifies funding sources and funding strategies.

Regional Facilities

To improve transportation connections for walking and bicycling, Whatcom County will need to establish two types of regional networks:

- an on-road bicycle facility and walkway network
- a regional multi-use path network

These networks should be interconnected, for example, walkways connect seamlessly with paths and bike lanes connect to shared-roadway bike routes. The networks should also be coordinated with public transportation hubs and activity centers to enable multi-modal trips of longer distances.

The facilities identified in this plan represent a regional framework for establishing implementation and funding priorities by the Regional Transportation Planning Organization (RTPO) and its member communities and agencies.

Regional Priorities

The recommended priority project list for a regional pedestrian and bicycle network is shown in Table 3-1 and is illustrated in the map in Appendix 2. These projects, when completed, will form a network designed to connect residential areas, shopping and employment centers, cities, schools, parks, and transportation hubs.

Table 3-1 represents the Bicycle/Pedestrian Advisory Committee’s high priority recommendations over the next six years. These recommendations are advisory until incorporated into either the Six-Year Transportation Improvement Program (TIP) or Six-Year Capital Improvement Program (CIP). The County should include projects from the on-street routes listed in Table 3-1 when updating the Six-Year TIP. The County should include projects on the off-street routes listed in Table 3-1 when updating the Six-Year CIP. Prior to inclusion in either the TIP or CIP, the County and Bicycle/Pedestrian Advisory Committee will work together to determine the costs of these projects in greater detail so that the fiscal impacts to the County can be ascertained. Planning and Development should review all new permit applications for impact to this plan and to identify new non-motorized transportation facilities and links needed as major developments are planned.
Project priorities should be reviewed annually in consultation with the Bicycle Pedestrian Advisory Committee.

State Route Policy

Safe pedestrian and bicycle facilities should be provided routinely as transportation corridors are enhanced. Since State Routes are the most heavily traveled transportation corridors, all State Routes should have “Complete Streets”, i.e., reasonable bicycle and pedestrian facilities installed as new construction and re-construction occur. In addition, state routes that pass by schools, libraries, markets, etc. adjacent to clustered housing must be provided with pedestrian facilities that are physically separated and reasonably safe to accommodate citizens of all age groups and ability levels. In locations where topography or adjacent uses encourage pedestrian trips, multi-use paths may be installed instead of bike lanes and walkways. determining the facility type should consider engineering studies, land use plans, and Transportation Demand Management goals.

Pedestrian and Bicycle Project List Table

The following table details the primary routes shown on the Pedestrian and Bicycle Map that this document references. Additional Bikeways are shown on the map in Appendix 2 and must be included in the overall enhancement program for signage at the earliest opportunity then brought to the latest standards in force as these corridors are refurbished. Note that this plan serves as a guide only. It is crucial that upgrading the county transportation system to include safe pedestrian and bicycle modes must become a matter of consistent policy where warranted per the application of WSDOT and Federal guidelines.

The Priority Projects Table lists the six-year priority list for project implementation of the major corridors. Where available, funding sources and estimated project costs have been included. The projects are listed in priority order, based on ranking criteria discussed above.

Note that six of the project priorities represent segments of a loop trail concept developed by the Whatcom Parks Foundation.(denoted as Loop Trail within the Project Table and indicated on the map in appendix 2). Segments of this loop trail should be developed as opportunities arise.
<table>
<thead>
<tr>
<th>Priority rank</th>
<th>Enhancement Needs</th>
<th>Project milestone target for Y/E 2011</th>
<th>Agency</th>
<th>Funding Sources</th>
<th>2011-2013 costs ($K)</th>
<th>2013-2014 costs ($K)</th>
<th>2015-2017 costs ($K)</th>
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<tr>
<td>1</td>
<td>Loop Trail segment: Marine Drive BNSF railroad crossing at-grade trail (or airport</td>
<td>Multi-use trail</td>
<td>Grant funding Parks, Port, BNSF</td>
<td>SRS, BP Safety, BRAC</td>
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<td>2</td>
<td>Drayton Harbor Road trail partition or traffic limitation (with Lincoln Road</td>
<td>Multi-use trail conversion of 1 lane of</td>
<td>Signing &amp; painting COG, Whatcom Co. Public</td>
<td>WCRF, TEA-21</td>
<td>50</td>
<td>10</td>
<td>-0-</td>
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<td>3</td>
<td>Nooksack River Trail, Ferndale to Lynden (north/west bank) From Marine Dr. to</td>
<td>Multi-use paths</td>
<td>Planning</td>
<td>IAC, TEA-3x, land donations</td>
<td>10</td>
<td>1000</td>
<td>4000 *</td>
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<td>4</td>
<td>Kendall-Sumas Road from Kendall Elementary School to Limestone Road</td>
<td>Bike lanes or shared shoulders with</td>
<td>State Bike Plan WSDOT</td>
<td></td>
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<tr>
<td>5</td>
<td>Loop Trail segment: Nooksack River pedestrian bridge, Ferndale vicinity</td>
<td>Multi-use trail bridge</td>
<td>Parks Plan</td>
<td>Parks, Flood</td>
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<td>6</td>
<td>North Shore Road from Bellingham city limits to North Shore Trail</td>
<td>Bike lanes (4.2mi) and/or separated</td>
<td>Planning</td>
<td>Whatcom Co. Public Works</td>
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<td>Tyee Dr. From Roosevelt Rd. to Edwards Dr.</td>
<td>Bike lanes or multi-use path, with county</td>
<td>Planning</td>
<td>WCRF, TEA-3x</td>
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<td>-0-</td>
<td>4</td>
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<td>8</td>
<td>Haxton Road from Gooseberry Point to Slater Road</td>
<td>Multi-use parallel path, bike lanes</td>
<td>Public Works</td>
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<td></td>
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<td>9</td>
<td>Birch Bay Dr. from Pt. Whitehorse Rd. to Birch Bay Village</td>
<td>Bike lanes and shared use path</td>
<td>Planning, Parks Public Works</td>
<td>TEA-21, WCRF, IAC, CZM</td>
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<td>300</td>
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<td>Lake Terrell to Hovander Park trail, Right-of-way acquisition and</td>
<td>Multi-use trail</td>
<td>Parks or Public Works</td>
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<td></td>
<td>construction (Coast Millennium Trail)</td>
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<td>11</td>
<td>Loop Trail segment: Dewey Valley section of Bay to Baker Trail</td>
<td>Multi-use trail parallel to SR542</td>
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<td>12</td>
<td>Loop Trail segment: Everson to Lynden Nooksack River Trail (north bank)</td>
<td>Multi-use trail parallel to river</td>
<td></td>
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<td>13</td>
<td>Blue Canyon Connector trail, connecting Hertz trail to Blue Canyon Parkway</td>
<td>Multi-use trail</td>
<td>Parks</td>
<td></td>
<td></td>
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<td>14</td>
<td>Bay-To-Baker Trail Maple Falls to Glacier (including bridge at Cornell Creek)</td>
<td>Multi-use paths</td>
<td>Planning</td>
<td>WC, TEA-3x, land donations</td>
<td>500</td>
<td>500</td>
<td>8000</td>
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<tr>
<td>Priority rank</td>
<td>Enhancement Needs</td>
<td>Project milestone target for Y/E 2011</td>
<td>Agency</td>
<td>Funding Sources</td>
<td>2011-2013 costs ($K)</td>
<td>2013-2014 costs ($K)</td>
<td>2015-2017 costs ($K)</td>
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<td>15</td>
<td>Marine Drive from Bancroft to McAlpine Bike lanes and/or parallel multi-use path</td>
<td>Planning, PE</td>
<td>Whatcom Co. Public Works</td>
<td>WCRF</td>
<td>10</td>
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<td>16</td>
<td>City of Ferndale to Marine Drive, Coast Millennium Trail, Nooksack River Trail (including trail under Slater, and trail link at Hovander Park) Multi-use paths Planning, PE</td>
<td>Whatcom Parks, DFW, Whatcom Co. Public Works</td>
<td>WCRF, TEA-21, IAC, TEA-3x</td>
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<td>Portal Way from Blaine to Ferndale Bike lanes, and parallel multi-use path</td>
<td>Planning</td>
<td>Whatcom Co. Public Works</td>
<td>WCPWM -0- -0- 22</td>
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<td>18</td>
<td>Hannegan Road from Hwy 542 to Lynden Bike lanes and walkways, with priority near schools. Consider Boulevard design</td>
<td>Signing &amp; painting</td>
<td>Whatcom Co. Public Works</td>
<td>WCRF</td>
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<td>19</td>
<td>Birch Bay/Lynden Rd. From Lynden to Harbor View Rd. Bike lanes and walkway or multi-use trail Signing &amp; painting</td>
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<td>WCRF</td>
<td>24 0 0</td>
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<tr>
<td>20</td>
<td>E. Bakerview Rd from Meridian to Hannegan Bike lanes and walkway Some shoulder widenings, particularly within Bellingham city limits</td>
<td>Planning, PE</td>
<td>B'ham and Whatcom Co. Public Works</td>
<td>WCPWM, WCRF, B'hamPW -0- 64 0 0</td>
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<tr>
<td>21</td>
<td>W. Bakerview Rd./Airport Dr. from Meridian to Marine Dr. Bike lanes: re-stripe shoulder to meet bike lane standards (currently substandard width &amp; turn lane configuration) Signing &amp; painting</td>
<td>Whatcom Co. Public Works</td>
<td>WCPWM</td>
<td>6 0 0</td>
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<td>Sunset Dr. (Hwy 542) From Hannegan Rd. to Hwy 9 S Bike lanes Signing &amp; painting</td>
<td>WSDOT</td>
<td>WSDOT WSDOT Maint.</td>
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<td>23</td>
<td>South Lake Whatcom connector to Lake Samish Dr E via Cain Lake Braided connector beginning at Camp 2 Road and South Bay D that connects to Lake Samish Dr E to provide connectivity for a southern loop around Lake Whatcom.</td>
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<td>Point Roberts Loop Trails, Interconnecting loops around Monument Park and Lily Pt. Multi-use paths Planning</td>
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<td>IAC, TEA-3x</td>
<td>10 200 1200</td>
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<tr>
<td>25</td>
<td>Lookout Mountain (Galbraith area) Trails, North/South connecting Whatcom Falls Park to Lake Padden, East/West connecting Lake Louise Rd to Yew St. and Par Department properties. Multi-use paths Completing westerly segments of a Lake Whatcom Loop Planning</td>
<td>COG, Whatcom Co. Public Works</td>
<td>WC &amp; B'ham, IAC Land donations</td>
<td>100 250 250</td>
<td></td>
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</tbody>
</table>

**Priority Ranking Criteria**

Priority projects have been identified from the complete project list to assist in allocation of funding according to greatest need. The priority rank for each project is based on scores for the following six criteria:

- serves a residential or relatively high density population area
- leads to a school or is part of a school route
- provides access to a recreational facility or park
- functions as a key network link for the regional non-motorized network
- offers economic development potential for an under-served area
- ease of implementation due to low cost, public ownership, or other feature

In 2006 the Whatcom County Bicycle Pedestrian Advisory Committee ranked the following projects using the above criteria and adopted this list of projects as those which have highest priority for construction:

**Priority Project Summary List**

1. Old Marine Drive BNSF trail crossing or airport trail (bridge by-pass)
2. Drayton Harbor Road trail conversion (with Lincoln construction)
3. Nooksack River Trail Ferndale to Lynden
4. Kendall-Sumas Road separated multi-use trail
5. Nooksack River Hovander to Pioneer Park trail bridge
6. North Shore Road multi-use trail
7. Tyee Drive separated multi-use trail
8. Haxton Road separated multi-use trail
9. Birch Bay Backshore Berm trail
10. Lake Terrell to Hovander trail acquisition and construction
11. Bay to Baker Trail - Dewey Valley
12. Nooksack River trail - Everson to Lynden
13. Blue Canyon Connector
14. Bay to Baker Trail - Maple Falls to Glacier
14a. Cornell Creek Bridge at Glacier on Bay to Baker Trail
15. Marine Drive separated multi-use path or shoulders
16. Nooksack River Trail Marine Drive to Hovander Park
16a. Nooksack Dike Trail Hovander Park link
16b. Nooksack River Trail under Slater
17. Peace Portal Drive shoulders and multi-use path
18. Deming Library SR542 Crosswalk
19. Hannegan Road Complete Street or Boulevard
Seniors are the fastest growing demographic segment and seniors benefit from transportation options other than driving.
POLICY RECOMMENDATIONS

Context Sensitive Considerations

As noted earlier in the plan, cycling expertise varies among the many types of people who should be accommodated on the bicycle transportation network in Whatcom County. The list of routes in Appendix 3 indicates priorities for construction of bike lanes or designation of bike routes, as reconstruction of roads occur. Other roads and routes are expected to accommodate bikes sharing the existing roadway width with other mode travelers. Many cyclists prefer to ride on narrow scenic roads where traffic is light. The plan recommends preserving the historic character of low-traffic, low-speed roads where parallel routes offer alternative routes for higher speed and higher volume travel.

The list of roads in Appendix 4 indicates priorities for “Heritage” cycling routes where action strategies should be limited to maintaining low traffic volumes and speeds and facilitating safe sharing of the roads in their existing configuration.

Policy Priorities for Implementation

Implementation strategy - Complete Streets: Give priority to construction of walkways and bike lanes on streets within incorporated cities and small towns.

When streets are reconstructed or when new developments are built changing transportation patterns, facilities for walking and bicycling should be added or enhanced to serve increased non-motorized traffic flow.

Implementation strategy- Walkways: Give priority to walkways within incorporated cities and small towns and along roadways within a one-mile radius of schools in incorporated or unincorporated areas.

Walking trips are generally less than 3 miles (5 km). The provision of walkways has been shown to reduce car use for these types of short trips (75% of U.S. car trips are less than 5 miles; and half of those trips are less than 1 mile). Urban areas have the potential to serve more pedestrian trips than rural areas due to the proximity of multiple destinations within the expected 3 mile radius from home.

Walkways should be considered where road reconstruction projects take place in unincorporated (rural) areas of the county within one mile of commercial centers, as part of a policy of complete streets. Shared-use paths can substitute for walkways where they would serve as an equivalent
pedestrian connection. In rural areas where roadside ditches provide drainage, walking paths should be constructed on the far side of the ditch to provide pedestrians with additional protection from motor vehicles while preserving wetland and habitat functions of the existing drainage facilities. Roadway shoulders, while not a welcoming pedestrian facility, may also be considered in the project design for certain sites.

**Implementation strategy** - Commercial and residential developments: walkways, paths, and other pedestrian accommodations should be funded by the developer of new or redeveloped commercial and residential projects.

Besides walkways along street frontage, internal walkways or paths for on-site circulation are necessary to connect walkers from public streets to building entrances and within and between buildings. Pedestrian ways should be protected from conflict with motor vehicles with clear demarcation of walkways and crossings.

**Implementation strategy** – Bicycle facilities: Design projects to meet the needs of cyclists of all skill levels and for an increased demand.

Whatcom County Comprehensive Plan policies and goals support and encourage an increase in bicycle transportation trips. Commercial, residential, and transportation construction projects should incorporate capacity expansion for bicyclists to ensure support for these increased bike trips. Capacity considerations should include short-term parking, long-term secure parking, sufficient width of shared-use facilities to prevent conflict with other travelers, and other elements described in Chapter 2.

**Implementation strategy**: Develop and apply Bicycle and Pedestrian Level of Service Standards or Level of Quality Standards.

Engineering standards for roadway capacity for motor vehicles are based on regular and systematic vehicle counts on all major roads. Roadway widths, speed limits, and design of intersections are components in calculation of Level of Service and this measurement offers a basis for decisions about when and where to construct changes to the road system.

Level of Service standards for walkways and bicycling have been developed to offer a measure by which facilities could be ranked and construction priorities could be established. Level of Service for pedestrians and bicyclists must measure different characteristics than capacity and speed. Walkways serve pedestrians well when they have street trees and are adjacent to store fronts, for example. Bicyclists may be well served by a low traffic shared roadway lane in a downtown location but may benefit from a wide shoulder in a higher speed area.
Each of these characteristics can be quantified to result in a measurement of Level of Service that can then be useful for planners, engineers and policy makers.

The Florida Department of Transportation and at the City of Portland, among other areas, have developed effective Level of Service formulae for walking and bicycling. For a successful long term approach to building and maintaining a walking and bicycling transportation network, Whatcom County will benefit from adopting a similar Level of Service (or, as the City of Portland has termed its equivalent measure, Quality of Environment) standard.

*Implementation strategy:* Develop and implement consistent and coordinated education campaigns to assist vehicle drivers and non-motorized travelers to understand and abide by safe and courteous methods for sharing the road.

**Incremental Implementation**

In cases where environmental factors would limit or prohibit the construction of a uniform facility for the entire length of a roadway segment, a modified facility may be provided for a portion of the segment as an interim solution.

**Funding Strategies**

The estimated cost of construction of the recommended facilities will exceed local public resources if implemented without coordination with other development or capital projects. Innovative funding and project programming can extend available funding. For example, roadway shoulder width can be added as part of regularly scheduled roadway reconstruction rather than as a bicycle project. For a residential development, public trail easements connecting to the regional trail system can be included as part of the development permit conditions.

Walking and bicycling are part of the human culture and should be automatically included in standard public policy, planning, design, and construction\textsuperscript{ix}. As guidelines and policy manuals are updated, each should be revised to ensure inclusion of standards and requirements for pedestrian and bicycle infrastructure. For example, if criteria are included in the permitting process for residential or commercial developments to encourage walking and bicycling, the cost of design and construction of these elements do not become a public tax burden.
**Project Cost Range Estimates**

Costs vary widely depending on the type of facility being developed and by the standards used. Funding sources, zoning or land-use designation, and environmental considerations can influence the design and cost of a trail or road-shoulder or other facility.

The major types of facilities considered here include:

- walkways,
- shared-use paths,
- shared-use shoulders,
- crosswalks
  - unmarked,
  - marked,
  - signalized
- on-road bicycle facilities:
  - shared lanes,
  - wide curb lanes,
  - striped paved shoulders,
  - designated bicycle lanes.

Additional facilities to consider include:

- separated grade crossings
- curb ramps
- curb extensions
- audible crossing signals
- signalized crossings
- inter-modal transfer hubs

Each type of facility provides a different level of service to the pedestrian or cyclist, and each has different cost considerations both for initial construction and on-going maintenance. For example, designated bicycle lanes have higher initial and on-going costs than wide curb lanes because of the additional stenciling, striping, and signage required for a bicycle lane.

In some cases, on-road bicycle facilities can be constructed for low cost by retro-fitting an existing roadway with new striping, removing on-street parking, or changing the width or number of travel lanes. In some cases, addition of shared use paths or walkways will require right-of-way acquisition and new construction. Tax advantages are available to property owners through the Whatcom County Code Open Space ordinance for designating a public access trail on private property. Transportation funds can be used for trail development where trails (shared use paths) will reduce motor traffic on roadways.
Sample Federal Funding Sources

Implementation strategy: Ensure that pedestrian and bicycle facilities are given due consideration in all projects using federal transportation funds, as required by federal law. This means including these facilities in all roadway projects where there is a reasonable expectation for usage demand, except where prohibited by law.

The federal funds that the Regional Transportation Planning Organization (RTPO) allocate every year are passed through to the RTPO, Whatcom Council of Governments, by the Washington State Department of Transportation (WSDOT). Some state funds are allocated for transportation projects in Whatcom County by WSDOT. Before these projects can proceed, federal law requires that the RTPO review and approve the spending of federal transportation funds within its area of jurisdiction.

Several federal funding programs provide opportunities to build or maintain transportation facilities for walking and bicycling. Below is a summary of these funding categories and eligible types of projects and programs from the Federal Highway Administration, Federal Transit Administration, and other federal agencies and departments. There are limitations on the types of projects on which federal funds can be spent.

Interstate Maintenance funds – these funds may be used to improve walkways, shoulders, bicycle lanes, pedestrian crossings at interchanges and overpasses.

Potential project locations: Interstate 5 interchanges at Guide Meridian, Lakeway Drive, Old Fairhaven Parkway, Ferndale Main Street, Blaine H Street.

National Highway System (NHS) funds – these funds may be used for paths within the Interstate highway rights-of-way; walkways, bicycle lanes or paved shoulders on major roads or border crossings; underpasses/tunnels or overpasses on major roads. State transportation departments receive NHS funds by a formula set by Congress and typically program these funds directly with concurrence from the RTPO.

Potential project locations: constructing a shared-use path along Interstate 5 from Bakerview Road to Blaine; constructing bike route shoulders along Pacific Highway and Peace Portal Way; constructing a shared-use path along the Mt. Baker Highway from Bellingham to Deming; acquiring right-of-way and constructing a shared-use path along State Route 9 from Sumas to Nugent’s Corner;
Highway Bridge Replacement funds – Federal guidance directs jurisdictions to presume that people will walk and bicycle on bridges using those funds for reconstruction. Projects using these funds should give due consideration to walking and bicycling as part of project design.

Surface Transportation Program (STP) – these funds may be used to construct new or improved facilities for walking and bicycling as part of roadway projects. STP funds can support publication of maps for bicycling or walking routes, and can fund promotion and encouragement of walking and bicycling transportation.

Transportation Enhancements (TE) – ten percent of STP funds allocated to Washington State are set aside to fund Transportation Enhancements, including bicycle and pedestrian construction, safety education, and rail right-of-way preservation for trails. These funds can be used for bicycle and pedestrian projects that are not part of a roadway development.

Safety Set-aside – an additional ten percent of STP funds allocated to Washington are designated for safety improvements, including safety of people walking and bicycling. The Hazard Elimination Program is one sub-program whose funds can address high priority safety problems. Priority for these funds is based on locations with fatality collision rates statewide, consequently, high speed motor vehicle routes have had precedence in the ranking.

Congestion Mitigation Air Quality Funds – these funds are allocated to areas where air pollution does not comply with federal standards. Funds can be used to reduce automobile trips, the major factor contributing to air pollution. Whatcom County air quality complies with federal standards, consequently these funds are not available here.

Recreational Trails Program – these funds are administered by the Interagency Committee for Outdoor Recreation and they can be used to plan, maintain, restore, and construct recreation trails. Projects are competitive statewide and are generally awarded to Parks and Recreation Departments based on priorities identified in their comprehensive plans.

National Scenic Byways Program – these funds may be used for projects affiliated with a state-designated scenic byway. In Whatcom County, three routes have this designation: Chuckanut Drive (State Route 11), Mt. Baker Highway (State Route 542), and Valley Highway (State Route 9). Walkways, crosswalks, informational signing, bicycle lanes, and bicycle parking are among the eligible projects.

Potential project locations: Designation of Mt. Baker Highway shoulder from Bellingham to Deming as a bike lane; pedestrian crosswalk installation at Deming Public Library; construction of a shared-use path
along the Mt. Baker Highway right-of-way from Bellingham to Nugent’s Corner; construction of a walkway along Chuckanut Drive from Willow to 12th Street; construction of a shared-use path along the Valley Highway right-of-way from Wickersham to Deming

High Priority Projects/Demonstration Projects/Congressional Earmarks – These are projects inserted into the annual transportation appropriate at the congressional level. Earmarks have specific applicability for pedestrian and bicycle projects for which there is broad public and political support. Expensive projects for which other funding sources are inadequate, they are likely to include bridge projects with walkways and bike lanes, bridges or overpasses for trails, or rail trails.

Kettle Valley Trail in British Columbia attracts millions of dollars in bicycle tourism annually. Whatcom County historic rail lines featured trestles similar to the one pictured above.
APPENDICES

Appendix 1: Glossary of Terms and Definitions

AASHTO – American Association of State Highway and Transportation Officials
Bham - Bellingham

Bicycle route – A system of bikeways, designated by the jurisdiction(s) having the
authority, featuring appropriate directional and informational
route markers. A series of bikeways may be combined to
establish a continuous route and may consist of any or all types of
bicycle facilities.

Bike lane – A portion of a highway or street identified by signs and/or pavement
markings reserved for the exclusive use of Bikes.

Bikeway – Any trail, path, part of a highway or shoulder, or any other traveled
way specifically signed and/or marked for bicycle travel.

Category A bicyclist – Advanced or experienced riders who are generally using
their bicycles as they would a motor vehicle. They want direct
access to destinations with a minimum of delay and are
comfortable riding with motor vehicle traffic.

Category B bicyclist – Basic or less confident adult bicyclists who might be using
their bicycles for transportation purposes. They prefer to avoid
roads with fast and busy motor vehicle traffic unless there is
ample roadway width.

Category C bicyclist – Children, riding alone or with their parents, or other
inexperienced or disabled cyclists who need access to key
destinations in the community such as schools, friends, recreational
facilities, social services, stores, and other sites. Residential streets
with low motor vehicle speeds (linked with shared use paths and
busier streets with well defined pavement marking between
bicycles and motor vehicles) can accommodate Category C
cyclists with shared roadway markings or other means as a way
to facilitate their bicycle travel. These shared roadway routes can
supplement parallel high-traffic roads where Category A cyclists
would ride in the travel lane of highways and major arterials.

Chain of Trails – Project to study the potential trail systems links in the county. The
first phase, begun in 2000, is led by WCOG and focuses on the
Mount Baker Foothills region.

CMT – Coast Millennium Trail. A bicycle route connecting between Skagit County
and the Canadian border, sited primarily along the coast.

COG – Whatcom Council of Governments. Alliance formed to coordinate regional
issues between jurisdictions, such as transportation planning.
www.wcog.org

CZM – Coastal Zone Management. www.ocrm.nos.noaa.gov/czm/

FHWA Federal Highway Administration

IAC – Interagency Committee for Outdoor Recreation. www.iac.wa.gov

PE – Preliminary engineering

Shared roadway – A roadway that is open to both bicycle and motor vehicle
travel. Shared roadways do not have dedicated facilities for
bicycle travel.

Shared use path – A facility on exclusive right of way with minimal cross flow by
motor vehicles. It is designed and built primarily for use by
bicycles but is also used by pedestrians, joggers, skaters,
wheelchair users (both non-motorized and motorized), and others.
TEA-21 – Transportation Equity Act for the 21st century. A federal program to direct additional transportation funding to travel modes other than single-occupant motor vehicles. These grant opportunities expired in 2000.

TEA-3x – Reauthorization of TEA-21, currently being evaluated in congress. These new grant opportunities are expected to become available.

Transportation Demand Management (TDM) Effort to reduce traffic congestion by encouraging multi-modal transportation options. Washington State has a formal TDM program called Commute Trip Reduction

Walkway – Pedestrian facility designed in accordance with AASHTO or WSDOT standards, or as designed per the FHWA standards for recreational trails.

WC – Whatcom county

WCRF – Whatcom county road fund. Primarily from gasoline and property taxes, these funds are administered by the county Public Works Department.

WCPWM – Whatcom county public works, maintenance. Facility maintenance funds administered by the county Public Works Department.

WSDOT – Washington State Department of Transportation.
Appendix 3 Proposed Bike Routes List

Criteria:
- Connectivity between communities
- Scenic by-ways
- All state highways

Existing routes:
- Hannegan Road between Bellingham and Lynden
- Birch Bay-Lynden Road between Birch Bay and Lynden

Proposed routes:
- State Highway 539 from the Bellingham city limits to State Highway 546 (East Badger Road) through Lynden
- State Highway 542 (Mt. Baker Highway) from Bellingham city limits to Mt. Baker
- State Highway 544 (East Pole Road) from State Highway 539 (Guide Meridian Road) to State Highway 9 in Nooksack
- State Highway 546 (East Badger Road) from State Highway 539 to Sumas city limits
- State Highway 548 from Portal Way to Blaine city limits
- State Highway 9 from Whatcom – Skagit county line to Sumas city limits
- State Highway 11 (Chuckanut Drive) from the Bellingham city limits to the Whatcom – Skagit county line
- Northwest Drive between Bellingham city limits and intersection with Wiser Lake Road
- Axton Road from Northwest Drive to Ferndale city limits
- Wiser Lake Road to Hannegan Road
- Smith Road from Ferndale city limits to State Highway 542
- Slater Road from Northwest Drive to Lake Terrell Road to N. River Road to Haxton Way to Lummi Shore Drive to Marine Drive to Bellingham city limits
- From Lummi ferry terminal to Nugent Road to West Shore Drive to Legoe Bay Road to ferry terminal
- Mosquito Lake Road from Acme to Truck Road to State Highway 542
- South Pass Road from Nooksack to Silver Lake/Silver Lake Road to Maple Falls
- From Lawrence at State Highway 9 on Siper Road to Goodwin Road to Telegraph Road to Sumas/South Pass Road
- From Everson on North Washington Street (Van Buren Road) to Hampton Road to Lynden
- From Lynden on Hampton Road to Northwood Road to Timon Road to Stickney Island Road to Everson
From State Highway 542 (Mt. Baker Highway) on Everson-Goshen Road to State Highway 544 (East Pole Road)

On Northshore Drive from Bellingham city limits to the County park trail

From State Highway 542 (Mt. Baker Highway) on Y Road to Northshore Drive

From Blue Canyon to Park to South Bay Road to Lake Whatcom Blvd. to Bellingham city limits

From Lake Whatcom Blvd on Lake Louise Road to Cable Street to Lakeway Drive to Bellingham city limits

From Chuckanut Drive on Lake Samish Road (Old Samish Road) to East Lake Samish Drive to West Lake Samish Drive to North Lake Samish Drive to Lake Samish Road (Old Samish Road)

From Slater Road to Lake Terrell Road to Kickerville Road to Loomis Trail Road to Blaine city limits

From Blaine Road (State Highway 548) on Anderson Road to Birch Bay Drive

From Kickerville Road on Grandview Road (State Highway 548) to Pt. Whitehorn Road

Ferndale city limits on Portal Way (Enterprise RDF) to Brown Road to Kickerville Road

From Ferndale city limits on Portal Way to Blaine city limits

From Loomis Trail Road on Drayton Harbor Road to Blaine city limits

From Ferndale city limits on Mt. View Road to Lake Terrell Road

From Lynden city limits on West Main Street to Berthusen Road to West Badger Road to Line Road to Hayne Road to Sweet Road to Blaine city limits

Point Roberts Proposed routes:

From border crossing on Tyee Drive to A.P.A. Road to Marine Drive to Roosevelt Road to Boundary Bay Road to A.P.A. Road

From Tyee Drive to Bensen Road to Teller to Gulf to Marine Drive

Not included are proposed highway routes that would parallel the Bay to Baker Trail
Appendix 4: Proposed Heritage Cycling Roads List

Heritage Cycling Roads are those routes which provide a rustic, scenic, low-traffic, low-speed route (generally 35 mph or less) for those cyclists who prefer to share a narrow historic road with a small number of motorists. The roads that have been selected by the committee for the Heritage designation represent routes where one or both of the following conditions is present:

1. A parallel high-traffic route with proposed or existing shoulders or bike lanes exists or has been designated for construction to serve those cyclists who prefer to bike on shoulders or adjacent to higher volumes and speeds of traffic
2. The historic and scenic character of the Heritage road would be compromised by construction of widening or shoulders and might have the unintended effect of attracting higher volumes of motor traffic traveling at higher speeds

Heritage Routes may benefit from educational, and enforcement strategies to maintain the lower-traffic character of the routes and to emphasize the importance of sharing the road safely. Heritage Routes should serve pedestrian travelers with multi-use trails rather than walkways.

The below list provides an initial sample of priorities:

1. Mosquito Lake Road
2. Goodwin, Siper, and Telegraph Roads
3. Noon Road
4. Y Road, Squalicum Lake Loop, Agate Bay Road
5. Douglas Road
6. Deming Road
7. Silver Lake, South Pass, and Reese Hill Roads
8. Pt. Roberts Loop (with trail construction)
9. Timan and Stickney Island Roads
10. Roads that parallel the Bay to Baker Trail route
11. Lummi Island Loop roads
12. Aldergrove Road

Low-traffic, lower-speed roads are shared by people walking, bicycling, and driving.
Appendix 5: Compendium of Recommended Implementation Strategies

- Implementation strategy: Seek outside funding opportunities and coordinate with schools to fund training for elementary school teachers to become certified in a recognized walking and bicycling safety education program.


- Implementation strategy: Follow up educational outreach about courteous and safe road-sharing with enforcement actions that reinforce the message for all types of roadway users. Crosswalk enforcement, residential speed limit enforcement.

- Implementation strategy: Implement a system to periodically count pedestrian and bicyclist transportation mode share in strategic, targeted corridors and report trends and goals in the Transportation Improvement Program.

- Implementation strategy - Complete Streets: Give priority to construction of walkways and bike lanes on streets within incorporated cities and small towns.

- Implementation strategy - Walkways: Give priority to walkways within incorporated cities and small towns and along roadways within a one-mile radius of schools in incorporated or unincorporated areas.

- Implementation strategy - Commercial and residential developments: walkways, paths, and other pedestrian accommodations should be funded by the developer of new or redeveloped commercial and residential projects.

- Implementation strategy – Bicycle facilities: Design projects to meet the needs of cyclists of all skill levels and for an increased demand.

- Implementation strategy: Develop and apply Bicycle and Pedestrian Level of Service Standards or Level of Quality Standards.

- Implementation strategy: Develop and implement consistent and coordinated education campaigns to assist vehicle drivers and non-motorized travelers to understand and abide by safe and courteous methods for sharing the road.

- Implementation strategy: Ensure that pedestrian and bicycle facilities are given due consideration in all projects using federal transportation funds, as required by federal law. This means including these facilities in all roadway projects where there is a reasonable expectation of usage demand, except where prohibited by law.
1 Institute of Transportation Engineers, June, 1978
2 Transportation Research Board Policy Study FR264, North Carolina bicycle routes standards, 1978
3 AASHTO Guide for the Design of Bicycle Facilities, 1999
4 Peter Logerway, Seattle Department of Transportation

\(\text{RCW 84.34.055 Open Space land is defined as Any land area in which the preservation in its present use would enhance the value to the public of abutting or neighboring parks, forest, wildlife preserves, nature reservations or sanctuaries or other open space, or enhance recreation opportunities.}\)

5 Clallam County Olympic Discovery Trail, etc.