CITY OF BAINBRIDGE ISLAND

APPENDIX E

Non-Motorized Transportation Plan

Bainbridge Island Parks District, Trail Plan

JANUARY 2003

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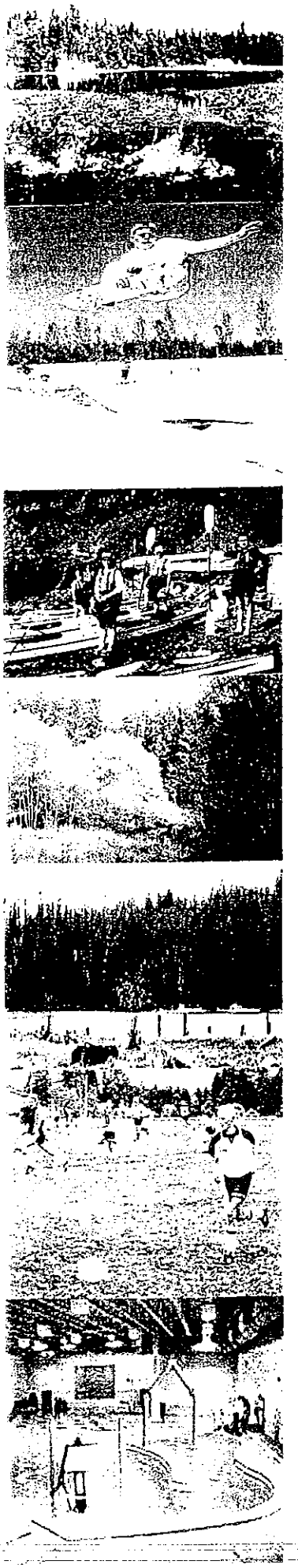

Bainbridge Island Park and Recreation District Comprehensive Plan 2002-2008

Trails Non-motorized Plan

Appendix H

Bainbridge Island Trail and Non-Motorized Master Plan
Goals, Policy and Design Considerations

Goal 1 The Bainbridge Island Park and Recreation District shall develop and maintain a comprehensive trail system that; maximizes public access throughout the Green ways system of Bainbridge Island, establishes nonmotorized access to public greenway land areas, provides increased recreational opportunities for the public, and provides alternatives to motorized transit between residential, commercial, public transportation, schools and recreation areas. The City will assist in acquisition of trail easements through conditioning development proposals as appropriate, and by providing trail access on City utility easements and right-of-way where feasible.

Trails should provide linkages to, from and between parks and schools, neighborhoods, commercial and transportation hub areas. Generally the provision and maintenance of trails will be the responsibility of the Park District. Generally, the provision and maintenance of trails will be the responsibility of the Park District. The City is responsible for provision and maintenance of the roadway bike lanes. The City and the Park District will be in partnership for the dedication of trails through land use actions.

Pol. 1.1 The trail system should serve local and regional users and be linked to th Kitsap County and regional trial systems. Linkages should be provided to the Agate Pass bridge, between residential areas, public transportation, schools, commercial, along the Winslow waterfront and recreation areas. Water links should be identified that will connect Point White Pier to Kitsap County parks as well as to other island water access points.

Pol. 1.2 Trails should provide for the needs of diverse population of differently-abled people engaging in non-motorized passive and active pursuits including:

- recreation and nature study
- exercise
- shopping
- commuting to work or school

Pol. 1.3 Wherever feasible, barrier-free trails, designed and built expressly for access for persons with disabilities, will be provided.

Pol. 1.4 The trail system should be recognized and maintained by the City or Parks District as distinct from informal or private pathways.

Explanation: The Trails Master Plan Map identifies those trail systems recognized and maintained by the City or Parks District as primary trails. Primary trails are distinct from informal or private pathways. Informal or private pathways should form a secondary system and link to the primary system where feasible.

Pol. 1.5 Encourage the retention of existing informal or private pathways and the creation of new pathways which link to the greenways system. These trails should be developed and maintained under joint public and private partnership if appropriate, or privately.

Explanation: Informal or private pathways should form a secondary system with linkages to the public system.

Pol. 1.6 Unopened road rights-of-way should not be vacated and unopened easements should not be revoked without a requirement for permanent public trail access. Trails should be planned to avoid conflict with future road development in these right-of-ways.

Pol. 1.7 New utility easements should include trail access easements.

Pol. 1.8 Existing utility easements should include trail access easements.

Pol. 1.9 The trails system should include parking areas at trailheads located on public land, and not along neighborhood roadways, unless it is not feasible to provide parking on public land for a trail system. Trails that connect with the ferry system should encourage access for bicyclists and walk-on passengers, and discourage the need to drive a motorized vehicle.

Explanation: The trial program for the island will be implemented through the Trails Master Plan. The intent of these policies is to provide a link between the trail program and the Land Use Element of the comprehensive plan. Additional trails are also included in the transportation policies of the comprehensive plan.

Pol. 1.10 In Areas where off-road trails do not exist, roadside ditches, where possible, shall be located at least 4 feet from the edge of the paved road bed to allow for safe pedestrian and equestrian use as well as emergency pull off for bicycles.

Goal 2 Maintain a system of high quality public parks and recreation facilities on Bainbridge Island. Design factors should encourage nonmotorized use compatibility.

Pol. 2.1 The park system for Bainbridge Island should include neighborhood, community and island-wide parks with sufficient acreage and facilities to meet the standards adopted by the Bainbridge Island Parks and Recreation District.

Explanation: The Comprehensive Park and Recreation Plan for Bainbridge Island contains an analysis of the existing and proposed future park and recreation system.

Pol. 2.2 Promote the use of property tax reductions, conservation easements, and other techniques as an incentive to preserve desirable lands as a public benefit and encourage and support the participation of city and community based non-profit organizations offering options and alternatives to development in the interest of preserving desirable lands as a public benefit.

Pol. 2.3 Ensure that future development provides adequate recreational facilities and trail linkages to public parks and recreational facilities.

Goal 3

Construction of trails shall be in a manner that does not cause adverse impacts to the environment. Special consideration will be given to environmentally sensitive areas.

Pol. 3.1 Materials should not add pesticides or herbicides to environmentally sensitive areas.

Pol. 3.2 Tree removal should be avoided where possible.

Goal 4

Develop a Trails Master Plan Map that will identify those greenway land areas and connector links required to connect public lands and other large tracts. The overall goals of the plan are to provide several continuous cross island links east to west and north to south, to enhance the quality of life for island residents, to provide wildlife corridors and improve property values.

Section 2 Planning Considerations

2.1 Barrier Free Trails

2.1.1 Accessibility Requirements for New Trails

The trails setting is the key to determining trail design. Briefly stated, as the trail setting changes from the urban to rural, the trail itself offers decreasing levels of accessibility.

For example, an urban trail in Winslow will call for a sophisticated, heavily developed trail, perhaps paved, designed to assist persons with disabilities. A rural trail, especially those in areas designated natural, may have no designed-in-aids such as ramps, or pavement,; rather, the design will focus on eliminating obstacles.

An urban trail, located in the built environment, can be called a "path of travel" facility. It is easily accessed, linking offices, activity centers, neighborhoods, and services.

Minimum requirements are:

- a firm, stable, slip-resistant surface at least 60 inches wide
- grade of no more than 5 percent
- slope of no more than 2 percent

Slip resistant surfaces include concrete, soil cement, cold mix, graded aggregate, asphalt emulsion, asphalt polymers, and pressurized wood (boardwalks are appropriate if plank spacing is minimized) and surface materials such as wood chips, bark or untreated wood should be avoided.

In a rural setting, for a trail between public lands and neighborhoods, the trail will offer moderate accessibility.

Minimum requirements are:

- a surface width of 40 - 45 inches, with turn-outs or turn-arounds of 60 inch width located at regular intervals.

2.1.2 Inventory and Assessment

One of the most important services to provide people with disabilities is an inventory of the Bainbridge Island Trail system. By providing detailed information, he or she may choose an appropriate experience based on individual desires and abilities.

Action Item:
The Trails Committee will develop an inventory that will identify accessibility of various trails. Important characteristics to include in the inventory include:

- Total change in elevation, with an elevation profile if possible.
- Average grade and inclination changes
- Minimum trail width
- Trail direction
- Overhead obstructions
- Trail surface characteristics
- Side slope

2.1.3 Resources

The National Center on Accessibility
Indiana University, Department of Recreation and Park Administration
Bradford Woods Outdoor Center
5040 State Road 67 North
Martinsville, IN 46151

2.2 Trails in Wetlands

The following text has been adapted from "At Home With Wetlands: A Landowner's Guide," available from the Wetlands Division of the Washington State Department of Ecology.

In general, passive trail activities such as hiking and bird watching are compatible with wetland protection as long as wildlife and their habitat are not disturbed.

Trails can be an important part of wetland enhancement projects. By allowing easy access, trails promote enjoyment and appreciation of the wetland. Trails also protect the wetland by keeping human disturbance within a designated area. It is important to not create too many trails; it is important to limit disturbance and provide wildlife with an unbroken expanse of habitat.

Most trails can be left as natural paths, however where heavily used trails show signs of wear, it is appropriate to cover and protect the tread. One successful approach is to create boardwalks. Boardwalks minimize disruption of soils, vegetation, and waterflows. Other tread surface treatment includes gravel with a protective undertreatment in *seasonally wet pooling areas* which keep with the "nature" experience of the wetland. It is important to note that if gravel is used it may be noisy and disturb some wildlife.

For an extra measure of protection for wildlife it may be wise to close certain trails during the breeding and nesting period. This will provide a sanctuary for species that are sensitive to human disturbance.

It is appropriate to include some resting areas along the trail. Placement of a few benches or comfortable logs in select places provides a good view of wetland areas where people can relax and enjoy themselves. Use of bird blinds may be appropriate in some areas to allow persons to remain unseen by wildlife.

2.3 Use Compatibility

Ideally, each unique trail use would have trails of its own. Each of the major use areas - hiking/walking, equestrian, bicycling, -- have unique needs and present unique management challenges. In reality, of course, limited resources often dictate the compromise of the multiple use trail. Use compatibility is not simply a matter of which groups get along. Several factors must be considered when determining compatible uses of a trail or trail system.

Volume. In all settings, compatibility relies heavily on use volume. In most instances, people appear to be willing to tolerate shared use of a trail with a surprising variety of other uses if and when use volume is dependent on many things, including time of day. For example,

commuter bicyclists would be at their peak usage of trails weekdays from 6-8 am and 5-7 PM. Recreational volume may be at peak usage during weekends or in the 5-7 PM time when there is enough daylight. Volume itself is a subjective reference that depends on the trail's setting and the expectations of the trail's users.

Setting. The trail's setting also has an influence on the user's expectation and tolerance. People using a trail in Winslow expect to share with large numbers of people, and can encounter many others without compromising the quality of the trail experience. On the other hand, people trying to "get away from it all" on a nature or forest trail may find the experience quite negative if more than a handful of other people are encountered. *Natural Resources*
user safety
user skill level and experience, adult versus child.

2.3.1 Spectrum of Uses

It is possible to identify various trail uses along a spectrum based on a key characteristic; that characteristic is the dependence on mechanical or motorized equipment for trail travel. The Use Compatibility Spectrum is based on this characteristic.

At one end of the spectrum, uses such as jogging, walking, and hiking demonstrate the least dependence on mechanical equipment. It is possible, for example, to walk or hike in street clothes with no additional special equipment (behavior easily observed on nature paths or trails in virtually any park).

On the opposite end of the spectrum are the various motorized uses, which depend absolutely on mechanical/motorized equipment. Motorized vehicles are prohibited on Bainbridge Island trails.

Relative position on such a spectrum, however, is not the last word on compatibility. For example, the Use Compatibility Spectrum, developed by the Interagency Committee for Outdoor Recreation (IAC) and presented in section 2.6, places both equestrian uses and mountain bicycling near the center. One interpretation could be that proximity on the Spectrum means that these uses are similar and therefore compatible. There are instances when reality can prove otherwise.

For example, mountain biking and horses, two uses toward the center of the Spectrum, can under some circumstances create concerns for one another. There is potential for "close calls" between rapidly descending bicycles and slowly climbing horses. Education among user groups is the recommended approach.

2.3.2 How Users Understand Compatibility

Based on public comment received by Washington State IAC during preparation of the State Trails Plan, public opinion on trail use compatibility follows to a remarkable degree the relative position of user on the spectrum of use from foot to vehicle.

- Hikers, for example, feel compatible among themselves.

- Those in or on motorized vehicles feel generally compatible with everyone

- People represented by the middle of the spectrum, such as mountain bicyclists and equestrians, will vacillate. They seem to prefer to be identified with foot oriented end of the spectrum and tolerate the motorized end in order to maximize opportunity.

2.4 Design Factors Encouraging Compatibility

Trail design factors can help otherwise conflicting uses co-exist. These include:

Surface treatment. Softer surfaces encourage slower wheel speeds. For example, use gravel, or other loose materials to encourage slow bicycle speed on a trail shared with foot traffic.

Note: Multiple, parallel lanes within a right of way can be given different surface treatments, each treatment meant to encourage specific uses . Example: side by side bicycle and foot trail, a hardened (paved) surface for bicycles, and a soft, yielding surface for foot traffic.

Grade to influence speeds. Flat grades are more comfortable for foot use, while steep grades will encourage fast downhill wheel traffic.

Sight distances can enhance notice of oncoming traffic. Plan greater sight distances when planning for a variety of uses.

Turns and curves will determine wheel speeds. Tight turns or switch backs will oblige many wheeled-vehicle operators to slow or dismount, while sweeping or climbing turns will encourage higher speeds, especially when descending.

Trail width to allow passing,

For example, a step, narrow trail switch back up a steep slope is not a good choice for mixing foot and wheeled traffic. There would be little "escape" room for a person on foot or bicycle who encounters a descending bicycle or vehicle.

A better choice for mixing foot and wheeled traffic might be an unpaved road-side trail in a rural setting. On this kind of trail, various characteristics -- flat grade, sweeping curves, long sight distances, wide tread, and natural surfaces (gravel) which encourage slower wheel speeds -- contribute to a margin of safety and compatibility between foot and wheeled uses.

Identification and signage. The City of Bainbridge Island and the Bainbridge Island Park and Recreation District shall adopt a uniform signage standard that identifies each publicly maintained trail and designates its intended use (e.g. equestrian, hiking/walking, bicycling, multi-use, etc.)

2.5 General Characteristics of Major Use Groups

Generalities are always a risk. There are exceptions to every rule and especially to every generalization. However, each of the major trail use groups presents certain characteristics that require planning for distinct needs.

Hiking / walking. People with good fitness can walk about 3 miles per hour. Casual walkers, those "out of shape," and others might manage 1 to 2 miles per hour.

Hikers / walkers generally seek an experience that minimizes encounters with motor vehicle traffic. Soft or yielding surfaces (compacted soil, gravel, boardwalks) are preferred over hard surfaces (asphalt, concrete); foot travel on hard surfaces over a long period of time can lead to leg and back discomfort. Out-and-back trails are generally acceptable when the trail leads to an interesting destination such as a view, natural feature, or interpretative site. Loop opportunities are less important.

People on foot seem to be highly sensitive to the trail setting. Hikers, for example, seem to avoid trails that are intersected frequently by roads. Walking along a road is generally not a satisfactory substitute for trail walking.

Bicycling. Bicyclists can be placed tin two general categories: on-and off-road. On -road bicycling is done on all varieties of bicycle, including the typical "10 speed" or "racing" style bicycle with narrow, slick tires; and "mountain" bicycle with straight, upright handle bars and wide, raised tires. It is important not to confuse the choice of machine with a preferred riding experience.

On-Road cyclists including commuter and recreational cyclists. Both prefer low traffic routes with smooth, hard surfaces and a minimum of debris such as glass or rock. Bicycle commuters have some different needs than tourist bikers. They use roads and trails at different times, and choice of routes reflects not just aesthetics, but also ease of access, lighting, safety etc. Many commuters use Highway #305 for shortening their commute time, but complain about safety, noise and dust. Skilled adult cyclists, will be willing to ride in or adjacent to traffic lanes, usually on 3 foot or wider roads shoulders. Cyclists under age 16, and casual or lesser skilled adult cyclists, especially adults accompanying children seem to prefer vehicle-free facilities separated from roadways.

Off-road (mountain) bicyclists seek out unpaved facilities from roads to trails (referring to the classic narrow trail as "single track"). The more aggressive and experienced riders will welcome the opportunity to ride trails designed with banked turns, hardened surfaces, and the general absence of foot traffic. Less experienced or less aggressive riders will seek out quiet roads, or flat, smooth trails.

Bicyclists in either category seem to prefer loop trips to out-and-back experiences. Mountain bicyclists will not object to trails that intersect roads or that incorporate road segments as part of loop or route.

Bicycle speeds are as variable as the rider. General categories include the following:

Slow recreational riders	5-10 mph
Fast recreational riders	10-15 mph
Commuter and Experienced tourist	15-18 mph
Fitness rider	18-22 mph
Performance rider	22 + mph
Racers	25 + mph

Equestrians. Equestrians seek out a variety of trails, from easy to difficult in a variety of settings. A major factor in the choice of trail will be access. The ability to negotiate the access road to a trailhead or area wide enough to accommodate long truck-trailer combinations is essential. Pull through type parking is more convenient and therefore more inviting than head-in style parking.

Once on a trail, soft or yielding surfaces are preferred. Loop trails are preferred over out-and - back trails. Encounters with road crossings or use of low traffic roads to complete a loop or route seems to be generally acceptable.

Off-road Vehicle Users are prohibited on Bainbridge Island trials. Off-Road Vehicle (ORV) users include motorcyclists, all-terrain vehicle (ATV) operators, and four-wheel drive operators.

2.6 The Use compatibility spectrum: A guide

The following spectrum of uses has been developed as a guide. It makes general recommendations on trail use compatibility in various settings. As a guide, it cannot account for the unique circumstances of each trail or management setting.

Trail Use Spectrum

Non-motorized	Non-mechanized	Mechanized	Motorized
Walking			
Jogging			

Skating
Hiking

Backpacking
Equestrian
Llama

Bicycle:
Mountain
Road Commuter

ATV Motorcycle,etc
Not Allowed

It needs to be recognized that as usage of our trail system increases, the potential for conflicts of multiple-use increases. It is likely that when volume reaches or exceeds a moderate level, it will be necessary to widen trails, create separate trails for some uses that are not compatible with one-another, or to introduce a timeshare policy if the conflicts can be solved based on peak usage times. The following charts illustrate where we may need to plan for separation of uses.

Setting: ***Urban*** Winslow area. Characterized with paved roads, street-facing buildings, more people, slower moving traffic, and developed facilities. An example of trail use is the Winslow waterfront trail.

Trail uses generally compatible with setting and with other indicated trail uses in moderate to high volume	Jog Run	Walk Hike	Equestrian	Bicycle
jog/run	x	x		x
walk/hike	x	x		x
equestrian				
bicycle	x	x		x

Setting: ***Rural Area Trails or Passive use land.*** Characterized as land outside of Winslow. These are scattered residential areas, farms, forest and foundation properties. The underlining zoning is largely 1 unit per 2.5 acres. Passive recreation parks include nature preserve areas. These parks have narrow trails that may have wildlife as well as human use. Examples include Grand Forest trails, Manzanita Park Trails, and Gazzam Lake Preserve (area outside of Gazzam Lake Park).

Trail uses generally compatible with setting and with other indicated trail uses in moderate to high volume	Jog Run	Walk Hike	Equestrian	Bicycle
jog/run	x	x		x
walk/hike	x	x	x	x
equestrian		x	x	
bicycle	x	x		x

Setting: ***Developed Park Land.*** These parks have paved areas that may be used by bicycles as well as areas designated for specific uses. An example is Battle Point Park. There is a separate trail primarily for equestrian use at Battle Point.

Trail uses generally compatible with setting and with other indicated trail uses in moderate to high volume	Jog Run	Walk Hike	Equestrian	Bicycle
jog/run	x	x		x
walk/hike	x	x	x	x
equestrian		x	x	
bicycle	x	x		x

Section 3 Trail Types, Dimensions and Materials

Currently most island trails are multi-use and shared by foot, bicycle and equestrian traffic. As island population increases and creates enough pressure to cause conflicts between pedestrian, bicyclists and equestrian users, widened or separate use trails will be required. Motor vehicles are not allowed on trails. One alternative for keeping motorized vehicles off recreational trails is the use of steps or log barriers. These devices pose problems for motorized vehicles, while horse and hiker travel are easily maintained. On trails that are accessible for persons with disabilities, such barriers must be negotiable by wheelchairs.

Objective: To provide a general guideline for trail planning, construction and right-of-way acquisition; to provide non-motorized transportation facilities. These standards are not intended to restrict imaginative or unique design solutions.

EASEMENTS

Easements provide a method to formalize access for trails across privately owned lands. The width of the easement should include adequate trail surface and buffer space. The buffer will usually serve many functions such as to protect the privacy of surrounding uses, enhance trail user's enjoyment, provide a wildlife corridor and define the trail boundaries.

3.1 Planting Guidelines

New plantings within trail corridors should consist of native plants and trees. The following list should be used as a guide, depending on soil conditions and the surrounding landscape.

A. Tree Species

Alnus rubra	Red Alder
Acer macrophyllum	Big Leaf Maple
Acer circinaturm	Vine Maple
Cornus nuttallii	Pacific Dogwood
Pseudotsuga Menziesii	Douglas Fir
Thuja plicata	Western Red Cedar
Tsuja heterophylla	Western Hemlock

B. Shrub species

Spiarea douglas	Hardback

Symphoricarpus albus	Snowberry
Cornus stolonifera	Red Osier Dogwood
Manhonia aquifolium	Oregon Grape
R. Nootka	Wild Rose spp.
Vaccinium parvifolium	Red and Green Evergreen Huckleberry
V. Ovatum	Red and Green Evergreen Huckleberry
C. Ground Cover	
Arctostaphyllos uva-ursi	Kinnickinick
Caultheria shallon	Salal
Mahonia repens	Creeping Oregon Grape

3.2 CONSIDERATIONS FOR TRAILS ON HILLSIDES AND SLOPES

Good drainage is one of the most important considerations in trail construction and maintenance. Where possible, the most current USFS, USNPS, IAC, DNR or other nationally recognized or approved methods shall be used to control runoff, prevent erosion, and maintain all-weather usability.

Basic construction standards that should be followed when developing a trail on a hillside include:
drain culverts at suitable intervals
a drainage ditch on the uphill side of the trail
native vegetation planting on exposed spoils above and below the trail
the trail should be sloped toward the downhill edge for proper drainage.

3.3. Drainage Considerations

Good drainage isimportant in trail construction.:

set below a depression or wash
oriented at the uphill entrance to sharp curves
set just above the break in the trail grade change.

In areas that have high water tables or experience periodic shallow flooding, the construction of a board walk may be required. For stream crossings a bridge may be appropriate. Alternative solutions include placement of stepping stones.

3.4. PEDESTRIAN TRAILS

Pedestrian trails are routes used for human foot travel that may include a network of

1. Access
2. Jogging
3. Recreational hiking trails

3.4.3.1 Recreational Hiking Trail Design Standards:

Surface Width:	2 foot minimum, six foot optimal
Horizontal Clearance:	2 foot minimum each side of path
Vertical Clearance:	8 foot minimum
Surface Material:	Recreational hiking trails do not require any special surfacing materials. The trail surface should be cleared to bare soil. With heavy use it will come compacted and require minimal maintenance.
ADA:	IAC guidelines
GRADE:	Maximum 20% for short stretches, 7% average maximum grade.

3.4.3.2. Use Regulations

In order to invite heavy hiking use, recreation trails should be primarily for pedestrians. Bicyclists and equestrians may use the trails, however larger trail widths would be required if they were primary users. Bicyclists and equestrians should yield to foot traffic.

3.5. Equestrian Trails

Equestrian trails are routes that provide horseback riders access to outdoor areas for recreational purposes. As horseback riding and related recreational activities increase, more trail development will be needed.

The equestrian trail system includes two types of riding routes.

1) Horse Lane - a route located within existing road right-of-ways. Unpaved shoulders of lightly used roads are sometimes suitable.
2) Horse Path - a separate route located away from a roadway. These are usually paths located in large parcels of land and may be combined with recreational hiking trails.

When planning for equestrian development, the following criteria should be considered.

Trails should be developed away from motorized vehicle routes. Noise from vehicles can startle horses and pose considerable damage to both the horse and rider. Trails on the road right-of-way should be at least 5 feet beyond the edge of the traffic lane, unless a barrier is constructed between the trail and the edge of the traveled way. Ten feet of separation would be best.

Horseback trails should be planned and developed with compatible user groups such as hikers and joggers. Combined use will provide multi-purpose trails and reduce development costs.

Horseback trails should be longer than hiker trails because horse and rider can cover greater distances.

Parking areas should include room for horse trailers at equestrian trailheads.

4. Skaters.

Below are written description of design standards and regulations that relate to each type of pedestrian trail.

3.4.1 Access Trails

Access trails are walking trails that serve the same purpose as sidewalks but are generally located within outlying areas. They provide entry from outlying areas to parks, schools, historic, cultural and scenic areas, island business center, etc. These trails often perform a transportation rather than recreational function. Located within their own right-of-way, they supply walking access to a location for a specific purpose.

When planning such a route, special attention to user safety should be considered. The access trail should be removed from the roadway to reduce conflicts with motorized traffic, yet still be accessible for the elderly and persons with disabilities, special consideration must be given to safety. Well designed and signed crosswalks should be provided where access trails cross roads. These crosswalks should be provided where access trails cross roads. These crosswalks should be located at street corners to help ensure pedestrian safely. When evening use is expected, lighting should be provided.

3.4.1.1. Access Trail Design Standards

Access trails serve the same purpose as sidewalks but are generally located within outlying areas of a community.

Surface Width:	2 foot minimum, 6 foot maximum
Trail to road buffer:	5 foot on road side of trail
Vertical clearance:	8 foot minimum
Surface material:	asphalt, wood chips or dirt
ADA standards:	*IAC*

3.4.1.2. Use Regulations

In order to invite heavy walking use, access trails should be primarily for pedestrian traffic. Bicyclists and equestrians may use the trails, however larger trail widths would be required if they were the primary users. Bicyclists and equestrians should yield to foot traffic.

3.4.3. Recreational Hiking Trails

Recreational hiking trails are planned to form an integrated trail network linking existing recreation facilities and to provide access to areas such as the Grand Forest. These routes are generally unpaved, on publicly owned land, and provide a natural in setting. They offer individuals an opportunity for nature study and a change from the built environment. Trail layout should complement the natural setting and provide access to features of interest and scenic viewpoints and roadends.

Horseback trails should be of various lengths forming loops that offer the rider a chance to return to the starting point via a different route.

3.5.0.1. Equestrian Trail Design Standards

Equestrian Standards:	Horse Lane (within a public road right-of-way)	Horse Path
Surface Width	10 ft. Minimum	Equestrian only: 2 ft minimum in most areas, 4 foot minimum if located next to steep slope or hazardous areas or if multi-use trail.
Clearance		
Horizontal	at least 5 ft., to 10 feet if possible, beyond edge of traffic lane, unless a barrier is constructed between the trail and the edge of the traveled way.	2 ft on each side of trail
Vertical	10 ft	10 ft
Surface Material	gravel	soil
Grade	grade of roadway	from 15% maximum / 10% desirable , to 8% maximum for short stretches, 4% average maximum grade.

3.6. BICYCLE TRAILS

Roadways should be designed to allow safe movement of bicyclists within the roadway vehicular lanes. This shall include:

all catch basin grates to be bicycle safe
widen vehicular lanes where feasible

3.6.0.1 All-Terrain Bicycle Trails

All-terrain bicycles are designed for use on all types of trails and paths. Most of the recreational trails on Bainbridge Island are multi-use and shared by foot, bicycle and equestrian users. As island population increases and creates more needs, separate or widen trails will increasingly be important.

3.6.0.2. Roadside Bicycle Trails

The City of Bainbridge Island Transportation Element addresses the use of island roads by bicyclists and identifies bicycling as an important transportation alternative.

Island roadsides need significant improvements before most could be designated as safe routes for bicycles. In some cases, a sub-standard trail of considerable length would be preferred over a short trail that meets design criteria. The following design standards provide recommended guidelines. These standards reflect the recommendations of the American Association of State Highway and Transportation Officials (AASHTO) and the Interagency Committee for Outdoor Recreation (IAC).

AASHTO

Bicycle Trail

Road way 20' - 30' minimum Bike trail
(vehicle lane)(hedge, fence, or guard rail)(Bike Trail)

Two way bike traffic not recommended unless lanes are separated
(Bike lane)(vehicle lanes)(Bike lane)

⇑

Stripping or markers

Criteria

number of lanes	minimum	desirable
1	3.5'	4'
2	7'	8'
3	10.5'	12.5'
4	14'	17'

Width Add Adjustments:

	minimum	desirable
Raised Curb:		
1 side	.5'	1.'
2 side	1.'	2.'
Adjacent parking	2.'	2.'

IAC

	bicycle path	bicycle lane	shared bicycle	roadway
Surface Width				
One-way	not recommended	4' min.	12' min.	Width of roadwa
Two-way	7.5' desirable	not recommended	not recommended	
Clearance				
horizontal	2' desirable	clearance of roadway	clearance of roadway	clearance of roadway
vertical	8' min.	8' min.	8' min.	8' min.
Surface Material				
asphalt	surface	surface	surface	surface
grade	4" layer crushed 5/8" or less	material of roadway	material of roadway	material of roadway
Grade	5% max.	grade of roadway	grade of roadway	grade of roadwa

3.7 Multiple Use

Trails intended for regular use by mulitiple modes of non-motorized transportation (i.e. foot, bicycle, horse) should be designed and built to withstand the use that causes the heaviest impact.