ACKNOWLEDGMENTS

Special thanks to the citizens, residents and trail users of the City of Mukilteo who participated in the process of drafting this plan.

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Executive Summary

The Bicycle, Pedestrian, and Trails Plan will be referred to in this document as the Trails Plan. The provision of bike paths, pedestrian walkways/sidewalks and trails not associated with the roadway system ranks as one of the most important improvements needed in our community. In the past, roadways and streets were developed without adequate bike and pedestrian facilities. This leaves un-safe conditions for bicycle commuters and walkers, including youth, trying to get to buses or schools. We wouldn’t allow part of a roadway left with gravel for a mile in the middle section of the street, so why do we have missing segments of bike lanes or pedestrian paths? The concept of consistent, connected, and safe bike and pedestrian facilities only becomes more urgent as residents seek alternative ways to get to work and school due to an increasing interest in a more sustainable lifestyle.

Several surveys in our community over the last 20 years show the high use of pedestrian and bicycle trail systems. This trend has continued with between 86-90% of the households showing a need for sidewalks and walkways, while 82% indicated they need trails.

Priorities
The priorities for the Trails Plan come from the Parks Plan with the following two priority areas relating to bike-pedestrian walkways and trails:

Waterfront Access – to increase access to the waterfront through redevelopment; both at Lighthouse Park and the Tank Farm by creating a pedestrian waterfront promenade and constructing water access trails with bridges over the railroad tracks;

Pedestrian Trails, Sidewalks and Bike Ways – to construct pedestrian trails, provide sidewalk and bike way connections, provide access to open space and connect them with a network of bike and pedestrian paths off-road and adjacent to roadways through the community.

In addition, an effort that combines the two concepts above by utilizing “the gulches” to connect upland residential areas to the waterfront has been realized with the first two phases of the Big Gulch Trail. Completion of this trail, ultimately with a safe overpass to Possession Sound, will add a significant nature trail the City’s inventory.

Formal recognition in 2008 of the un-permitted mountain bike trails on private property in Japanese Gulch, the majority being in the City of Everett, indicates the need for these to become part of a regional park through partnership with Everett, Snohomish County and private entities.

Accomplishments
Completion of multiple projects in Mukilteo has resulted in a connected transportation system with bike and pedestrian facilities, as well as trails. The following projects have been constructed since 1998:

- West side of Beverly Park Rd.: three-lane expansion with bike lanes and sidewalks
- Paine Field Blvd.: ten-foot multi-use walkway for bikes and pedestrians up to 44th Ave.
- West side of SR525: multi-use walkway with two bridges constructed north of Paine Field Blvd. to 92nd St. Park
- Sidewalk infill of gaps to create completed pedestrian walking loop on Harbour Pointe Blvd. and Harbour Reach Dr.
- SR525: enlarged to four lanes with median including bike lanes and sidewalks
- 92nd St.: multi-purpose walkway along south side
- Crown Park development: pedestrian trail connection with bridge across Picnic Point to Possession Shores greenbelt trails
- Big Gulch sewer replacement project with access road and pedestrian trail
• East side of Beverly Park Rd. (SR525 to Airport Rd.): three-lane expansion with bike lanes and sidewalks
• New City Hall: sidewalk improvements on Harbour Pointe Blvd. S. and Cyrus Way
• Japanese Gulch Trail North: 1,000 linear feet of trail
• Lighthouse Park Phase 1 Trail
• Pedestrian crossing improvements: Olympic View Middle School, Harbour Pointe Blvd. N. at Fire station 3, Harbour Pointe Blvd. N. and Chennault Beach Rd.

Key Issues, Priorities, and Capital Needs
There are four major categories of facilities: bike/ped (on-road), pedestrian trails (off-road), mountain bike trails (off-road), and waterfront access.

While each of the four types of facilities is used differently, they typically compete for capital improvement funds equally. However, when prioritizing bike-ped facilities that are adjacent to roadways, the highest priority is on projects associated with principal arterial roads. This is due to a higher number of users, and because these roads link to major activity nodes and/or transportation facilities. Gaps in these connections create a regional impact and compromises safety.

The deficit table below shows that an additional mile of bike lanes is needed to meet the City’s current Level of Service (LOS). Comparing the availability of bike lanes along arterials, the following projects would resolve the LOS deficit:
• SR 525: 92nd St. to 76th St.
• SR 526: 84th St. to Airport Rd.
• 5th St. improvements

### Projected 2025 deficits per use in linear miles

<table>
<thead>
<tr>
<th></th>
<th>City</th>
<th>MUGA</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bike lane/pedestrian walkway</td>
<td>-1.0</td>
<td>-6.0</td>
<td>-7.0</td>
</tr>
<tr>
<td>Off-road Pedestrian Trails</td>
<td>-5.4</td>
<td>-5.6</td>
<td>-11.0</td>
</tr>
</tbody>
</table>

**Table 1: LOS deficit summary**

Because safety is an important factor, gaps or unsafe conditions in either on-road bike lanes or combined bike-ped walkways should have the highest priority. These projects are:
• SR 526: North side connection to Boeing
• SR 526: South side connection to Airport Road
• 5th Street improvements
• SR 525: 5th Street to Ferry Terminal
• 9th Street to Goat Trail Road walkway improvements

Off-road trails have a deficit of over five miles. The following projects would address this deficit:
• Big Gulch Trail
• Japanese Gulch Trails
• Waterfront Promenade
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1. Bicycle, Pedestrian and Trails Plan Vision

As Mukilteo nears its development capacity and build-out, it is important to retain the diversity of existing open spaces and parklands and to pursue new recreational opportunities as they present themselves. The goals and policies adopted in the 2009 Comprehensive Plan provide direction for the development of Mukilteo’s trail system and guidance for creating an attainable vision:

**Vision Statement**

*Pedestrian Trails, Sidewalks and Bike Ways – to construct pedestrian trails, provide sidewalk and bicycle route connections adjacent to roadways, provide access to open space and connect them with a network of off-road pedestrian trails throughout the community, and to provide mountain biking access where possible.*

In an effort to achieve this vision, this Bicycle, Pedestrian and Trails Plan provides guidance in creating those connections and networks within Mukilteo’s open space and roadway systems.
2. Introduction

Walking and bicycling opportunities have been a high priority in our community for over 20 years. The City of Mukilteo has directed efforts over the last ten years to create connectivity by filling gaps along Mukilteo Speedway (SR525) and to complete the Harbour Pointe Blvd. loop trail. Additional effort and focus is still needed to create a safe bike route along Mukilteo Speedway, to create the waterfront promenade for pedestrian access in gulches and to support a regional mountain bike park.

The provision for such facilities becomes increasingly important to support healthy lifestyles and decrease reliance on oil. Providing connectivity and linkages between points of interest, parks, and residential areas helps to weave residents and visitors into the fabric of the city and its built and natural environments. Since the 2002 Parks, Recreation and Open Space Plan (Parks Plan), trail development has been a priority for the City of Mukilteo. At that time, the Parks Plan called for the development of a Bicycle, Pedestrian and Trails Plan for the purpose of guiding trail development and providing cost estimates for design, construction, and maintenance. This plan is in response to that identified need.

The 2009 Bicycle, Pedestrian and Trails Plan is a planning tool for improving trail facilities within the City of Mukilteo. This plan sets forth an overall vision for a connected trail system and outlines a strategy to accomplish this vision by means of distinct, individual projects which provide new trails and connect existing ones. This plan provides a policy framework to guide the City in meeting the future trail needs of the area’s growing population. It identifies proposed trail linkages for coordination with private and public development. It needs to work in concert with the City of Mukilteo Municipal Code and land use ordinances.

To see this vision through, the City will coordinate street and infrastructure projects with future private development and explore potential land acquisition to make connections. Build-out in the City is estimated to occur by 2015, so opportunities for land acquisition are increasingly scarce. When acquisition opportunities occur, their relative importance will be evaluated alongside the overall goals of the park and transportation system needs. Decisions will be based on the following criteria: expanding existing holdings or facilities, providing high-quality facilities with adequate funding for operation and maintenance, protecting critical areas and taking advantage of the existing properties throughout the City.

Tidelands and steep slopes might be the few remaining opportunities available for trail development and connections. Should opportunities arise which further the objectives of this plan, the City may choose to pursue those opportunities. Where regional connections are desired, the City will coordinate with other appropriate jurisdictions.
3. Adopted Bicycle, Pedestrian and Trail-Related Policies

This Plan addresses policies set forth in the City of Mukilteo’s Comprehensive Plan, as follows:

Comprehensive Plan – General Development Goals
GD5: Provide public infrastructure and services which are cost effective, efficient, and sensitive to the environment and which balances the use of private vehicles, car/vanpools, public transit and non-motorized modes for the transport of people and goods.

GD7: Provide a system of parks and recreational facilities that incorporates both public (City, County, State, Port of Everett, and schools) and private assets to expand opportunities within the City and along the Shoreline.

Comprehensive Plan – Parks and Open Space Element Policies
PK3: Work with other government agencies, businesses, the School District, and non-profit organizations to enhance the City’s park system and recreational facilities.

PK4: Continue to develop a system of community parks connected by a city-wide network of pedestrian and bicycle trails and where feasible create pedestrian off-road trails within parks and open spaces.

PK6: Utilize all land acquisition techniques (including land banking) and available funding sources for the development of future park and recreational facilities to improve levels of service.

PK10: Coordinate neighborhood involvement in the development of future parks and the recreational amenities to be included in them.

PK11: Maintain the City’s parks and open space at a high level of service so that the residents can enjoy the park system in a safe and peaceful manner.

Comprehensive Plan – Transportation Policies
TR3: Development of the Multimodal/Intermodal terminal and redevelopment of the Tank Farm site, shall employ the following urban design techniques: a network of public paths, a waterfront promenade, a chain of waterfront parks, recreational opportunities such as a new marina or visitor dock and boat launch, new mixed use/commercial opportunities, public amenities downtown (e.g. benches, street lights, water fountains, etc.), and pedestrian oriented streetscapes.

TR8: The street standards have flexibility to provide bike lanes, convenient bus stops, discourage high travel speeds, minimize significant environmental impacts and maintain the character of existing residential neighborhoods. Deviations from the street standards are subject to the review and approval of the Director of Public Works provided that the deviations are safe and avoid drainage problems.

TR22: Bicycle and pedestrian facilities shall be developed to link schools, businesses, recreational areas, and other activity centers with public transportation and ferry system facilities to meet the City’s overall transportation goals.

TR23: Convenient and secure bicycle parking shall be provided in activity and transportation centers to accommodate Multimodal/Intermodal connections.
Comprehensive Plan – Land Use Policies
LU5: Adoption of GMA (Growth Management Act) based impact fees to mitigate land use development proposals as they pertain to schools, parks, transportation, and drainage should be considered by the City.

LU26: Create and develop public and semi-public spaces to attract people and allow for public access to the waterfront.

LU27: Develop a functional and aesthetically pleasing downtown and commercial areas that soften the impact of the automobile, provides for alternative modes of transportation connections from site to site.

LU34: Preserve and encourage open space as a dominant element of the community’s character.

Comprehensive Plan – Shoreline Policies
SH1: Work with the Port of Everett, the City of Everett, Snohomish County, Burlington Northern Santa Fe (BNSF), and other entities, or private landowners to develop direct linkages to the waterfront, to provide a diversity of recreational opportunities, and to restore ecological function or natural ecosystems by using Best Available Science (BAS), innovative and Best Management Practices (BMP) approaches.

Comprehensive Plan – Shoreline Public Access and Recreation Policies
SH10: Provide a system of parks and recreational facilities that incorporates both public (City, County, State, Port of Everett, and schools) and private assets to expand opportunities within the City and public access along the shoreline.

SH11: Shoreline development should provide waterfront access as part of the development, expansion, or redevelopment. If public access is not feasible for reasons of public safety or site security, require mitigation that will add to the public’s enjoyment of the shoreline.

SH12: Wherever possible, provide opportunities for the public to walk and visit the tidelands where terrain and shore conditions permit access and where impacts to ecological functions can be avoided.

SH14: The City should acquire, or otherwise make available to the public, shoreline properties and tidelands that would provide for public access.

SH15: Encourage cooperation and joint use between public and private agencies and landowners to increase and diversify recreation opportunities at the shoreline.

Comprehensive Plan – Capital Facility Planning Policies
CF25: Policies and standards included in the Mukilteo Parks, Open Space and Recreation Plan shall be implemented by the Capital Facilities Plan Element.

CF26: Mukilteo shall continue to assess a Growth Management Act (GMA) based Park Impact Fee and shall regularly consider amending the fee amount to keep pace with inflation and adopted levels of service.

CF27: Mukilteo should seek opportunities to use its resources to fund/provide recreational and cultural facilities as needed, or in cooperation with groups, agencies, businesses, the school district, and non-profit groups.
4. Trail Inventory

Inventory Introduction

The City’s current inventory includes a combination of off-road recreational trails, sidewalks, and designated bicycle lanes. To meet the high demand for trails and walkways, the City has focused additional efforts in providing sidewalks, walkways, and on-street connections. In addition, nature trails or off-road trails have been added where feasible and whenever new projects are developed. The total linear feet of nature trails expanded from 7,100 linear feet to approximately 8,375 linear feet in 2007 and 2008 with the construction of Big Gulch Trail. Mountain biking is an off-road activity that requires on-road access to connect and create loop rides, while the off-road portion is enhanced with hills and jumps.

Sidewalks, Bike Lanes and Bike-Ped Routes (On-road/Adjacent)

Sidewalks are adjacent to roadways and are used for both walking and biking. Bike lanes consist of a designated lane within the vehicular travel area of the road and have been developed as part of the City’s transportation plan. Sidewalks and bike lanes are generally associated with improved curb and gutter, a paved surface, and may be developed with urban streetscape improvements (i.e. benches and other amenities). Streetscapes provide for multiple modes of travel use, usually linked with public transit and other vehicular conveyance systems.

To the extent possible, streetscape improvements are developed within the public right-of-way and comply with the design standards established by Mukilteo’s Public Works Department. Bike lanes are developed to meet AASHTO (American Association of State Highway & Transportation Officials) and/or WSDOT (Washington State Department of Transportation) standards with expanded, designated, or marked road shoulders and lanes. In some areas, travel lanes may be simply designated for joint vehicular and bicycle use.

Pedestrian and/or Bike Trails (Off-road)

Generally, trails that are off-road focus on pedestrian access, but can include more than one mode of recreational use sharing the same area, such as walking and biking. These are designated trails separated from the roadway, either in their own corridor or through other types of facilities such as parks or natural systems such as gulches and tidelands.

The inventory also includes access to the shoreline and public tidelands, and the existing mountain biking trails in Japanese Gulch. Another unique trail system that can be accessed from Mukilteo’s Possession Sound shoreline is the Washington State Water Trail for non-motorized watercraft. This water trail connects many of Washington’s bodies of water. The need to add or expand these trail opportunities as part of the City’s trail network is discussed at length in Chapters 5 and 7 of this plan.
Inventory Table and Maps

The following table summarizes the City’s public trail system.

Table 2: Inventory of Public Trail System

<table>
<thead>
<tr>
<th>Location</th>
<th>Ped/Bike</th>
<th>Length (mi.)</th>
<th>Width (ft.)</th>
<th>Surface</th>
<th>ADA Accessible</th>
<th>Trailhead</th>
<th>Trailhead Amenities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major on-road bike/ped routes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5th St.</td>
<td>Both</td>
<td>1</td>
<td>0-10</td>
<td>Asphalt and gravel</td>
<td>No</td>
<td>Japanese Gulch</td>
<td>None</td>
</tr>
<tr>
<td>Paine Field Blvd.</td>
<td>Both</td>
<td>.5</td>
<td>12</td>
<td>Asphalt</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td>44th Ave.</td>
<td>Both</td>
<td>.25</td>
<td>12</td>
<td>Asphalt</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td>SR525: Harbour Pointe Blvd. to 92nd St.</td>
<td>Both</td>
<td>.4</td>
<td>10</td>
<td>Concrete</td>
<td>Yes</td>
<td>92nd St. Park</td>
<td>Pkg., Restrooms, Benches, Dog-mitt boxes</td>
</tr>
<tr>
<td>SR525</td>
<td>Separated</td>
<td>1.7</td>
<td>Bike lane: 5</td>
<td>Bike lane: Asphalt Sidewalk: Concrete</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
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<tr>
<td>Harbour Pointe Blvd.</td>
<td>Both</td>
<td>3</td>
<td>8</td>
<td>Asphalt</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
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<tr>
<td>Harbour Reach Dr.</td>
<td>Both</td>
<td>1.3</td>
<td>8</td>
<td>Concrete</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
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<tr>
<td>Bev. Park Rd.</td>
<td>Separated</td>
<td>.8</td>
<td>Bike lane: 5</td>
<td>Bike lane: Asphalt Sidewalk: Concrete</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Major off-road trails</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>92nd St. Park</td>
<td>Ped</td>
<td>.1</td>
<td>10</td>
<td>Concrete/ asphalt</td>
<td>No</td>
<td>Yes</td>
<td>Pkg., Restrooms, Benches, Dog-mitt boxes</td>
</tr>
<tr>
<td>Sector 3 to Library</td>
<td>Ped</td>
<td>.5</td>
<td>8</td>
<td>Gravel/ bark</td>
<td>No</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td>Kamiak Trail</td>
<td>Ped</td>
<td>.7</td>
<td>8</td>
<td>Gravel/ bark</td>
<td>No</td>
<td>No</td>
<td>N/A</td>
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<td>Big Gulch Trail</td>
<td>Ped</td>
<td>.17</td>
<td>10</td>
<td>Bark</td>
<td>No</td>
<td>Yes</td>
<td>TBD</td>
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<td>Lighthouse Park</td>
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<td>.05</td>
<td>10</td>
<td>Asphalt</td>
<td>Yes</td>
<td>Yes</td>
<td>Restrooms, Pkg., Benches, Playground, Picnic shelters, volleyball</td>
</tr>
<tr>
<td>Japanese Gulch North Trail</td>
<td>Ped</td>
<td>.25</td>
<td>5</td>
<td>Bark</td>
<td>No</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td>Japanese Gulch Trails</td>
<td>Both</td>
<td>Approx. 10 mi.</td>
<td>Single-track</td>
<td>Dirt</td>
<td>No</td>
<td>No</td>
<td>N/A</td>
</tr>
</tbody>
</table>
Map 1: Existing Pedestrian Trails
Map 2: Existing Bicycle Trails
Opportunities

Opportunities Identified in the Parks, Open Space & Recreation Plan
A priority category identified in the Parks Plan is Trails and Open Space. This category forms an important foundation for the Trails Plan. This category is further divided into distinct project priority areas within the Parks Plan. Project priority areas identified are:

Acquire tidelands and shorelines (on-going) for public access and trail development.

Develop an interconnected pedestrian and bicycle system, on-road, adjacent, or separated, wherever possible.

Develop trails in ravines and gulches for shoreline access and bike/pedestrian system.

Recognize Japanese Gulch as a regional asset.

Given these priorities, the Parks Plan is clear that land acquisition and development is essential to achieve the City’s long-term vision for trails in the community.

Waterfront Opportunities
Re-development of the waterfront is a high priority for the City. Proposed waterfront projects addressed in the Comprehensive Plan and Parks Plan have local and regional importance. Mukilteo has reached a major turning point with the addition of large, highly visible waterfront resources from federal, state and county governments. The City received the lighthouse from the federal government in 2001 and Lighthouse Park from Washington State Parks in 2003. The Mukilteo Lighthouse Park Master Plan adopted in February 2004 is an important component in the re-development of the waterfront area. The U.S. Air Force intends to turn over control of the Federal Fuel Depot (Tank Farm) to the Port of Everett. An updated Multi-Modal Master Plan for re-development is under consideration, which will allow a consortium of agencies to direct improvements along the waterfront. Figure 1 illustrates conceptual enhancements proposed under this plan. Re-development will eventually provide a pedestrian waterfront promenade along 3,000 linear feet of the north shoreline adjacent to Port Gardner Bay and wrapping around Lighthouse Park.

Transfer of the Tank Farm to the Port of Everett will open approximately 3,000 linear feet of shoreline to public access following re-development of the site. Building a pedestrian waterfront promenade is one of the major objectives to be achieved when re-developing the Tank Farm. This walkway will link Edgewater Beach with Lighthouse Park. Both ends of the promenade will supply convenient parking and access. Washington State Ferries, Sound Transit, and the Port of Everett have laid the groundwork for...
this process with Sound Transit opening the Sounder platform in June 2008. If Washington State Ferries provides elevators and second-level walkways over the ferry loading area, this will make crossing the congested area easy and safe for pedestrians. Future additions along the shoreline in conjunction with private development will be similar to the over-water walkway in front of the Silver Cloud Inn. A conceptual drawing of the promenade taken from the Multi-Modal Plan is shown below in Figure 2.

![Conceptual drawing of the Waterfront Promenade](image)

**Figure 2: Conceptual drawing of the Waterfront Promenade looking northeast**

The promenade will return public access to the waterfront – an asset cut off from the rest of the city nearly sixty years ago. Following the Multi-Modal Master Plan, Mukilteo’s waterfront will become a prime Snohomish County attraction and provide recreational opportunities for residents and visitors, specifically a walking promenade along the shoreline, access to the waterfront and trail linkages to parks and open spaces.

Other projects include renovating Lighthouse Park, relocating the Ferry Terminal, improving shoreline access, and restoring marine habitats.

In addition, the Parks Plan promotes a water walk that connects all parklands with a walkable beach and tideland connection during low tides, particularly along the western side of the City adjacent to Possession Sound and east into Everett. This ambitious effort will take years to fulfill. Creating a tideland walk at low tide will require public entry points, requiring either public acquisition or agreements with private tideland owners to allow the public to traverse along Mukilteo’s shoreline. First, tidelands need to be purchased from private homeowners and Burlington Northern railroad to allow “legal access” for pedestrians. Then a trail either under or over the railroad tracks is necessary to provide a safe pedestrian crossing point. Such a structure (e.g., over/under pass) is proposed at Possession View Park (Sector 11), Big Gulch, and from the downtown to the waterfront. Tidelands need to be publicly accessible. Similar structures exist at Picnic Point Park and Meadowdale Park. Over- and under-pass structures would help facilitate the long-range planning concept of “beach-walks,” first proposed in the 2003 City of Everett Shoreline Public Access Plan from Everett to Mukilteo. Figure 3 depicts types of over/under pass structures that could provide shoreline access where feasible and legal, such as at Possession View Park, Big Gulch, for the downtown, and any other feasible locations in the City.
Figure 3: Examples of Safe and Legal Pedestrian Access Structures to Shoreline

Figure 3 shows examples of safe and legal pedestrian access structures to shoreline. Such structures ensure pedestrian safety and access to the coastline. These structures can be adapted to various coastal environments.

Figure 4 (below) shows a cross-section of a proposed beach walk terrace between Mukilteo and Pigeon Creek in Everett (Source: City of Everett, 2003 Shoreline Public Access Plan). This diagram represents a typical trail along a restored beach. A similar design could be employed for proposed shoreline trails in Mukilteo.

Figure 4: Cross-section of Proposed Beach Walk Terrace

Trails and Open Spaces
Within Mukilteo, several natural ravines link upland areas to Possession Sound. Local residents refer to these ravines as “gulches.” Due to the lack of development potential, Mukilteo’s gulches are ideal locations for passive recreation, specifically as access corridors to the shoreline, and they provide an important component of open space. Citizens have expressed concerns about the availability of trails and have expressed an interest in the City taking an active role in the stewardship of gulches and maintaining or enhancing tree and vegetative buffers. The City is responsible for critical area habitats along stream corridors, surrounding wetlands, on steep slopes, and along the shoreline.

Off-road trails and trail connections (nature trails in the gulches/ravines) are necessary components to serve recreational needs. The City is taking steps to meet these public demands. An example of recent trail construction is the development of the Big Gulch Trail as partial mitigation for the Mukilteo Water...
District sewer line replacement project in the gulch. Similar mitigation measures imposed on future development projects within the City will also increase trail inventory.

The City continues to develop and consider trails within the gulches. However, trail construction in geologically sensitive areas presents challenging environmental problems, specifically erosion control and water quality. Since 2002 the City has been responsible for the care of the gulches in addition to providing safe, legal access to the shoreline. Safety is the overriding concern when allowing access in the gulches. The Parks Plan indicates that trails in the three major gulches (Big Gulch, Japanese Gulch and Picnic Point) will be evaluated for feasibility and built where possible, as funds for design and construction are made available.

Management Plans that address trail maintenance are needed before gulch/open space trails are opened up to pedestrians and, where possible, mountain bikes. The Management Plans will also identify the role of volunteers and set general goals for the use of these areas.

Bicycle-Pedestrian Paths and Trails
The bike-pedestrian section in the 2009 Transportation Plan indicates that bike and pedestrian paths will be incorporated along major arterial streets in Mukilteo and the planning area, which includes Mukilteo’s Municipal Urban Growth Area (MUGA) to Hwy. 99 and 148th St., and the Meadowdale and Lake Stickney areas. Developing additional widened paths to provide safe routes for pedestrians and cyclists, including youth, should also be considered, especially in the MUGA, as this area has been identified for annexation in the future.

In addition, bicycle and pedestrian connections are needed in the MUGA because few streets have sidewalks or bike paths. Combination bicycle and pedestrian paths are desirable along Beverly Park Road and 52nd Street south to 148th Street to connect with 156th Street sidewalks. Besides connecting trails, dedicated bike paths are necessary along Airport Way, Highway 99 and SR 525.

Discussions for future off-road bike trail projects should include identified mountain biking enthusiasts, public agencies, and other cycling interest groups such as the International Mountain Bicycling Association (IMBA) to designate and improve existing trails and trailheads and/or develop new off-road trails, rest stops, and other trail services. Off-road bike trails may be developed to provide contained trails within major parks and/or public or utility rights-of-way that are safe and practical. Shared trail corridors may be designated for joint hiking and off-road biking use. Separate routes using power line, pipeline, or other alignments of interest to the off-road biking community may also be developed as off-road biking routes. Off-road bike trails should generally share trailhead services with other trail or park users whenever possible. When off-road trails are provided in separate locations, trailheads may be provided with parking lots, restrooms, and other services.

Facility Demand
In February 2007, the City of Mukilteo contracted with Leisure Vision to conduct a survey of community attitudes and interests. The goal was to establish priorities for future development of parks and recreation facilities, programs, and services within the community. The results of the Leisure Vision survey are summarized in Figure 5 below. The need for walking and biking facilities ranked high in this survey, with 86% of respondents expressing a need for pedestrian paths, 82% wanting more walking and biking trails, and 64% emphasizing a need for a nature center and trails.

Over 15 years ago, eighty percent (80%) of respondents of the 1991 Harbour Pointe Annexation survey supported the establishment of a network of bicycle and walking trails in the southern portion of the City. A statewide survey prepared by the Washington State Interagency Office for Outdoor Recreation in 2002
shows that 54% of those households randomly surveyed do walk or hike and 21% participate in bicycling (Office for Outdoor Recreation 2002).

Thus, walking and biking consistently rate as the highest recreation activity within the City and region. Developing additional facilities to meet demand is a sound long-term investment for the community. See Appendix E in the Parks Plan for an executive summary of the Leisure Vision survey results.

**Q6. Percentage of Respondent Households That Have a Need for Various Parks and Recreation Facilities**

By percentage of respondents (multiple choices could be made)

- Waterfront parks: 90%
- Pedestrian paths, i.e. sidewalks/walkways: 86%
- Walking and biking trails: 82%
- Small neighborhood parks: 69%
- Large community parks: 68%
- Nature center and trails: 64%
- Indoor fitness and exercise facilities: 60%
- Picnic facilities and shelters: 59%
- Indoor swimming pools/leisure pool: 59%
- Outdoor gardens: 46%
- Indoor performing arts center: 43%
- Indoor lap lanes for exercise facilities: 39%
- Indoor running/walking track: 32%
- Playground equipment: 31%
- Off-leash dog parks: 31%
- Indoor cultural arts facilities: 30%
- Outdoor amphitheater: 30%
- Outdoor tennis courts: 28%
- Indoor basketball/volleyball courts: 28%
- Outdoor swimming pools: 27%
- Outdoor soccer fields: 27%
- Outdoor basketball courts: 26%
- Senior center: 25%
- Youth baseball and softball fields: 22%
- Adult softball fields: 12%

Source: Leisure Vision/ETC Institute (April 2007)

**Figure 5: Household Park and Recreation Facility Needs Survey**
Level of Service

Level of Service Standards and Future Recreation Needs
An important tool for determining community trail needs is a Level of Service (LOS) standard. LOS is a measure of the amount and quality of park and recreation sites and facilities provided to meet a community’s basic needs and expectations (CTED/IAC 2005). Traditionally, LOS measured the ratio of acres or linear feet to population (i.e., Mukilteo’s current standard for community park is 3.5 acres of parks and open space per 1,000 population, while Bike-Pedestrian Paths are .5/1,000 and trails are .4/1,000 population). Historically, this approach set minimum levels of acreage and quantities of land and facilities. The use of an LOS ratio is still a useful approach for goal setting within a community. Furthermore, different communities may have different local recreational demands based upon usage. LOS standards must reflect the needs, lifestyles, and recreational preferences of the current population as well as being sensitive to changing demands and demographics, when possible.

LOS standards must also be attainable and feasible in regards to timing and funding. They need to merge with the capital facility plan that sets project funding and timing. The proposed LOS target for trails is broken down into two (2) categories: pedestrian trails and bike/pedestrian pathways/routes. The following table summarizes the LOS targets, factors in what is existing versus what is still needed in the City and the MUGA. This table is based upon population and identifies whether there is a surplus or deficit. At population build-out, the city will have a deficit of -1.0 linear mile of bike/pedestrian routes along roads and -5.4 linear miles of off-road pedestrian trails. MUGA deficits include -5.6 linear miles of off-road pedestrian trails and -6.0 linear miles of trails. Meeting established LOS targets, through property acquisition and trail or path development, should be a priority for projected deficits in facilities. Combined City and MUGA will have a deficit of -7.0 lineal miles for bike pathways/routes and -11.0 linear miles of trails.
Table 3: Recommended Trail & Bike/Ped Facility Targets

<table>
<thead>
<tr>
<th>Facility Type</th>
<th>Off-Road Trails</th>
<th>Bike/Ped along Roads</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current City</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Inventory (mi)</td>
<td>3.4</td>
<td>10.0</td>
</tr>
<tr>
<td>Existing Population</td>
<td>20,000</td>
<td>20,000</td>
</tr>
<tr>
<td><strong>Existing LOS (unit/1000)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actual</td>
<td>0.2</td>
<td>0.5</td>
</tr>
<tr>
<td>Adopted</td>
<td>0.4</td>
<td>0.5</td>
</tr>
<tr>
<td>Amount needed at current pop</td>
<td>8.0</td>
<td>10.0</td>
</tr>
<tr>
<td>Current Deficit/Surplus (-/+)</td>
<td>-4.6</td>
<td>0.0</td>
</tr>
<tr>
<td>2025 Pop (1,000s)</td>
<td>22.0</td>
<td>22.0</td>
</tr>
<tr>
<td>Amount needed at 2025 pop</td>
<td>8.8</td>
<td>11.0</td>
</tr>
<tr>
<td><strong>Projected 2025 Deficit/Surplus (-/+)</strong></td>
<td>-5.4</td>
<td>-1.0</td>
</tr>
<tr>
<td><strong>What Existing Population Needs to Provide</strong></td>
<td>-4.6</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>What New Growth Needs to Provide</strong></td>
<td>-0.8</td>
<td>-1.0</td>
</tr>
<tr>
<td><strong>MUGA</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Inventory (mi)</td>
<td>0.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Existing Population (1,000’s)</td>
<td>11.0</td>
<td>11.0</td>
</tr>
<tr>
<td><strong>Existing LOS (unit/1000)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actual</td>
<td>0.0</td>
<td>0.1</td>
</tr>
<tr>
<td>Adopted</td>
<td>0.4</td>
<td>0.5</td>
</tr>
<tr>
<td>Amount needed at current pop</td>
<td>4.4</td>
<td>5.5</td>
</tr>
<tr>
<td>Current Deficit/Surplus (-/+)</td>
<td>-4.4</td>
<td>-4.5</td>
</tr>
<tr>
<td>2025 Pop (1,000s)</td>
<td>14.0</td>
<td>14.0</td>
</tr>
<tr>
<td>Amount needed at 2025 pop</td>
<td>5.6</td>
<td>7.0</td>
</tr>
<tr>
<td><strong>Projected 2025 Deficit/Surplus (-/+)</strong></td>
<td>-5.6</td>
<td>-6.0</td>
</tr>
<tr>
<td><strong>What Existing Population Needs to Provide</strong></td>
<td>-4.4</td>
<td>-4.5</td>
</tr>
<tr>
<td><strong>What New Growth Needs to Provide</strong></td>
<td>-1.2</td>
<td>-1.5</td>
</tr>
<tr>
<td><strong>City &amp; MUGA Combined</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Inventory (mi)</td>
<td>3.4</td>
<td>10.0</td>
</tr>
<tr>
<td>Existing Population (1,000’s)</td>
<td>31.0</td>
<td>31.0</td>
</tr>
<tr>
<td><strong>Existing LOS (unit/1000)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actual</td>
<td>0.1</td>
<td>0.3</td>
</tr>
<tr>
<td>Adopted</td>
<td>0.4</td>
<td>0.5</td>
</tr>
<tr>
<td>Amount needed at current pop</td>
<td>12.4</td>
<td>15.5</td>
</tr>
<tr>
<td>Current Deficit/Surplus (-/+)</td>
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<td>-5.5</td>
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<tr>
<td>2025 Pop (1,000s)</td>
<td>36.0</td>
<td>36.0</td>
</tr>
<tr>
<td>Amount needed at 2025 pop</td>
<td>14.4</td>
<td>18.0</td>
</tr>
<tr>
<td><strong>Projected 2025 Deficit/Surplus (-/+)</strong></td>
<td>-11.0</td>
<td>-7.0</td>
</tr>
<tr>
<td><strong>What Existing Population Needs to Provide</strong></td>
<td>-9.0</td>
<td>-4.5</td>
</tr>
<tr>
<td><strong>What New Growth Needs to Provide</strong></td>
<td>-2.0</td>
<td>-2.5</td>
</tr>
</tbody>
</table>
Bike-Ped Level of Service
The LOS for bike-ped and trails was set with the Parks Plan in 2002. The bike-ped LOS of .5 and trails LOS of .4 were divided out separately in 2002 to more clearly represent what the needs were for the different facilities. Because many roads were developed with sidewalks and some also with bike lanes, the LOS is higher and the deficit is lower. Only one additional linear mile is needed to meet the LOS within the City.

Off-road trails are not as common, thus the deficit for trails is -5.4 linear miles within the City. The MUGA has more deficits as roads developed within the County did not include sidewalks or bike lanes. The deficit for each type of facility is -6.0 linear miles for bike-ped and -5.6 linear miles for trails. The County has funded several projects that greatly improve these conditions. Beverly Park Rd. east of SR525 and 148th St. SW. was completed in 2007, and 52nd St. W. was expanded in 2008. The City has made off-road trails a high priority and has added a substantial number of linear miles over the last ten years.

### 2025 Projected Deficits per use in linear miles

<table>
<thead>
<tr>
<th></th>
<th>City</th>
<th>MUGA</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bike lane/ped walkway</td>
<td>-1.0</td>
<td>-6.0</td>
<td>-7.0</td>
</tr>
<tr>
<td>Ped Trails: off-road</td>
<td>-5.4</td>
<td>-5.6</td>
<td>-11.0</td>
</tr>
</tbody>
</table>

**Table 4: LOS deficit summary**
5. Public Involvement

Building upon a history of public involvement in its planning efforts, the City sought out opportunities for public input and comment. Through the active participation of citizens in workshops, an open house, questionnaire, and meetings, the City identified public attitudes towards both current and future trail facilities. This process allowed for continued input from the community to help inform the contents and direction of the Bicycle, Pedestrian and Trails Plan.

<table>
<thead>
<tr>
<th>Event</th>
<th>Description</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAC Study Session</td>
<td>Workshop to provide input on current inventory, goals, and objectives, and to generate ideas regarding future facilities within the service area.</td>
<td>June 5, 2008</td>
</tr>
<tr>
<td>Stakeholders Meeting and Open House</td>
<td>Reviewed bike and pedestrian maps and made suggestions for changes.</td>
<td>July 24, 2008</td>
</tr>
<tr>
<td>PAC Public Hearing #1</td>
<td>Reviewed stakeholders input and changes.</td>
<td>August 7, 2008</td>
</tr>
<tr>
<td>PAC Public Hearing #2</td>
<td>Reviewed final changes and recommend to City Council.</td>
<td>November 6, 2008</td>
</tr>
<tr>
<td>Planning Commission Public Hearing</td>
<td>Reviewed PAC recommendation and recommend to City Council</td>
<td>October 15 and November 19, 2009</td>
</tr>
<tr>
<td>City Council Public Hearing</td>
<td>Review recommendations and adopt</td>
<td>December 7, 2009</td>
</tr>
</tbody>
</table>

Table 5: Public Involvement Process

<table>
<thead>
<tr>
<th>Cascade Bicycle Club</th>
<th>SoundSteppers Volkssport Club</th>
</tr>
</thead>
<tbody>
<tr>
<td>Puget Sound Regional Council</td>
<td>Mukilteo School District N. 6</td>
</tr>
<tr>
<td>Tour-de-Muk Bicycle Event</td>
<td>Mukilteo Family YMCA</td>
</tr>
<tr>
<td>Japanese Gulch Group</td>
<td>Bicycle Centres of Everett</td>
</tr>
<tr>
<td>Northwest Striders</td>
<td>Gregg’s Alderwood Cycle</td>
</tr>
<tr>
<td>B.I.K.E.S. Club of Snohomish Count</td>
<td>Community Transit</td>
</tr>
</tbody>
</table>

Table 6: Community Stakeholders Groups
6. Capital Facilities Plan

Bike and pedestrian improvements have been a priority over the last ten years, with improvements being made both as separate projects and in coordination with road improvements. These are very expensive investments, but have brought the City closer to having a completed system. Additional projects are still needed to realize a community that is accessible for both bikes and pedestrians. Some of the most important projects are those that address gaps or safety issues.

The City will continue construction of a new major gulch trail in 2009 and will also be adding the missing connection from Big Gulch up to 92nd St. Park. The concept of off-road trails has been an important one in the City as they can provide access to and through wetlands and ravines. Because so much of the City’s open space acreage are in these land types, it is important to try to make them accessible to pedestrians. The first several trails in the Harbour Pointe area have been maintained with the help of the high school cross-country team and with Eagle Scout projects. As the new Big Gulch trail nears completion, the issue of maintenance becomes more urgent and important.

All circulation routes work in conjunction with the intent to link into one comprehensive system accessible to pedestrians and bicyclists alike. This system creates a network between natural systems, public and civic facilities, local neighborhoods, schools, commercial and retail centers, and residential areas for a variety of users. For pedestrians and bicyclists this generally means a combination of trails, sidewalks, and designated lanes. Map 4 below illustrates the comprehensive network that would exist if all facilities are constructed.

Just as there are pressures placed on local park and recreation services for maintenance and staffing, there will be an associated cost for trail maintenance and staffing. Determining what the cost is to operate, staff, and maintain trail facilities will continue to be an ongoing challenge, as well as setting aside funding for renovation and new development. The City must estimate maintenance and operation costs before building new trail facilities and consider these costs and applicable funding sources when determining the phasing of development in individual trail projects.
## Proposed Pedestrian and Bicycle Facilities Projects

### Table 7: Proposed Pedestrian and Bicycle Facilities Projects

<table>
<thead>
<tr>
<th>Project ID</th>
<th>Map ID</th>
<th>Ped</th>
<th>Bike</th>
<th>Name</th>
<th>Description</th>
<th>Length (miles)</th>
<th>Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>P17</td>
<td>1</td>
<td></td>
<td></td>
<td>Cascadia Marine Trail</td>
<td>Beach access facilities for non-motorized watercraft</td>
<td>n.a.</td>
<td>$225,000 (trailhead)</td>
</tr>
<tr>
<td>P16</td>
<td>2</td>
<td>X</td>
<td></td>
<td>Shoreline Trail</td>
<td>Shoreline walk with signage program. May include both public and private tidelands. Access subject to property owner permission. May include BNSF over/underpasses.</td>
<td>8.0</td>
<td>Cost per mile: $27,000 Each BNSF Crossing: $2.6 million</td>
</tr>
<tr>
<td>P12</td>
<td>3</td>
<td>X</td>
<td>X</td>
<td>Waterfront Promenade</td>
<td>Multipurpose Trail from Lighthouse Park to Tank Farm</td>
<td>0.4</td>
<td>$4.75 million</td>
</tr>
<tr>
<td>P3-P5</td>
<td>4</td>
<td>X</td>
<td>X</td>
<td>Japanese Gulch Connections</td>
<td>Neighborhood Trail/Sidewalk Improvements</td>
<td>2.5</td>
<td>$2.4 million</td>
</tr>
<tr>
<td>T12</td>
<td>5</td>
<td>X</td>
<td>X</td>
<td>SR 526 to 84th St. &amp; Paine Field Blvd to Airport Road</td>
<td>Sidewalk improvements</td>
<td>1.1</td>
<td>$600,000</td>
</tr>
<tr>
<td>T12</td>
<td>6</td>
<td>X</td>
<td>X</td>
<td>84th St from SR 525 to Naketa Ln</td>
<td>Sidewalk improvements</td>
<td>0.4</td>
<td>$215,000</td>
</tr>
<tr>
<td>T12</td>
<td>7</td>
<td>X</td>
<td>X</td>
<td>88th Street SW from SR 525 to 56th Pl</td>
<td>Sidewalk improvements</td>
<td>0.4</td>
<td>$215,000</td>
</tr>
<tr>
<td>T12</td>
<td>8</td>
<td>X</td>
<td>X</td>
<td>Intersection of SR525 &amp; 88th St.</td>
<td>Sidewalk and signage improvements</td>
<td>0.1</td>
<td>$30,000</td>
</tr>
<tr>
<td>P13-P15</td>
<td>9</td>
<td>X</td>
<td></td>
<td>Big Gulch Trail</td>
<td>North Fork Big Gulch Gap Estuary Trail</td>
<td>0.2 0.25 0.25</td>
<td>$285,000</td>
</tr>
<tr>
<td>P20 T12</td>
<td>10</td>
<td>X</td>
<td></td>
<td>Harbour Heights Blvd to Shoreline Trail</td>
<td>Sidewalk improvements, nature trail, BNSF overpass</td>
<td>0.25</td>
<td>$2.4 million</td>
</tr>
<tr>
<td>P28 T12</td>
<td>11</td>
<td>X</td>
<td>X</td>
<td>St. Andrews Rd to WindandTide Dr</td>
<td>Sidewalk/shoulder improvements</td>
<td>1.5</td>
<td>$792,000</td>
</tr>
<tr>
<td>Project ID</td>
<td>Map ID</td>
<td>Ped</td>
<td>Bike</td>
<td>Name</td>
<td>Description</td>
<td>Length (miles)</td>
<td>Estimated Cost</td>
</tr>
<tr>
<td>------------</td>
<td>--------</td>
<td>-----</td>
<td>------</td>
<td>------</td>
<td>-------------</td>
<td>---------------</td>
<td>----------------</td>
</tr>
<tr>
<td>T1 T12</td>
<td>12</td>
<td>X</td>
<td>X</td>
<td>Harbour Reach Drive to South Rd and Beverly Park Rd</td>
<td>Sidewalk improvements and signage</td>
<td>1.0</td>
<td>$475,200</td>
</tr>
<tr>
<td>P21</td>
<td>13</td>
<td>X</td>
<td></td>
<td>Picnic Point Gulch to Harbour Point Blvd.</td>
<td>Nature and neighborhood trail</td>
<td>0.7</td>
<td></td>
</tr>
<tr>
<td>P23</td>
<td>14</td>
<td>X</td>
<td></td>
<td>Picnic Point Elementary to Harbour Point Blvd SW</td>
<td>Nature trail</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>P22</td>
<td>15</td>
<td>X</td>
<td></td>
<td>Possession Way (Harbour Pointe Blvd.) to Beverly Park Rd.</td>
<td>Nature trail</td>
<td>1.0</td>
<td>$8.7 million</td>
</tr>
<tr>
<td>P24 T12</td>
<td>16</td>
<td>X</td>
<td></td>
<td>Lake Serene Loop</td>
<td>Sidewalk improvements</td>
<td>1.9</td>
<td></td>
</tr>
<tr>
<td>P25 T12</td>
<td>17</td>
<td>X</td>
<td>X</td>
<td>Lincoln Way from SR525 to Beverly Park Rd</td>
<td>Sidewalk improvements</td>
<td>0.7</td>
<td></td>
</tr>
<tr>
<td>P30 T12</td>
<td>19</td>
<td>X</td>
<td></td>
<td>Picnic Point Park to Lake Serene Loop</td>
<td>Neighborhood trails, sidewalk improvements, signage program</td>
<td>2.8</td>
<td>$4.13 million</td>
</tr>
<tr>
<td>P31 T12</td>
<td>20</td>
<td>X</td>
<td>X</td>
<td>East 148th St.</td>
<td>Neighborhood trails, sidewalk improvements, signage program</td>
<td>2.4</td>
<td></td>
</tr>
<tr>
<td>P29 T12</td>
<td>21</td>
<td>X</td>
<td>X</td>
<td>Norma Beach Rd to Shoreline trail</td>
<td>Neighborhood trails, sidewalk improvements, signage program</td>
<td>1.4</td>
<td></td>
</tr>
<tr>
<td>P27 T12</td>
<td>22</td>
<td>X</td>
<td></td>
<td>SR99 Connections</td>
<td>Striping and signage SR525 (132nd-SR99) Lincoln Way SR99 – City limits</td>
<td>0.7 0.8 2.1</td>
<td>$126,000</td>
</tr>
<tr>
<td>P18</td>
<td>23</td>
<td>X</td>
<td></td>
<td>Waterfront ped bridge</td>
<td>Bridge from 2nd Street to waterfront</td>
<td>n.a.</td>
<td>TBD</td>
</tr>
</tbody>
</table>

City of Mukilteo 2009 Bicycle, Trails & Pedestrian Plan (adopted 12-7-09)
Map 3: Proposed Pedestrian and Bicycle Trails
Map 4: Future Comprehensive Trail Network
7. Trail Standards and Requirements

General Requirements for Bike-Ped Facilities or Trails

Drainage Requirements
1. Where trails coincide with or cross streets, drainage shall be according to City of Mukilteo standards.

2. Where soft surface trails are made accessible to bicycles, trails shall have a structural base with adequate drainage to support bicycle use.

Critical Areas
(This section provided for planning purposes only. It is not a complete list of City critical areas guidelines and does not supersede any City, state, or federal regulations).
1. Critical areas in, and within 100 feet of, the proposed trail corridors shall be delineated and rated in order to determine appropriate buffers based on the Critical Areas Guidelines (MMC 17.52).

2. The following trails are allowed in critical areas: soft surface pedestrian, multi-purpose, neighborhood, and forest path trails. All other trail types are prohibited, except in a regional mountain-bike park or regional trail system.

3. Trails shall be located to avoid construction impacts to critical areas and their buffers. Trail corridors may meander to avoid impacts to critical areas and to correspond with topographical conditions.

4. In areas where critical areas impacts are unavoidable, trails will be located and designed to minimize construction impacts. Examples of impact minimization include, but are not limited to: trail design adjusted to minimize trail footprint, use of elevated boardwalks through wetlands and bridges over streams, and trails through buffers located as far as possible from the critical area.

5. Trails can be located in wetlands, wetland buffers, or stream buffers only if a critical areas study demonstrates to the satisfaction of the Planning Director that construction will not adversely disturb the critical area, increase the impervious surface of the buffer, or decrease the functions of the associated habitat. Based on the results of the critical areas study, additional mitigation, such as increased buffer widths, buffer averaging, or wetland creation/restoration/enhancement may be required.

6. Trails on steep slopes (geologic sensitive areas) or within required setbacks may be allowed provided they receive site specific approval from the Planning Director. Approval will consider the standards described in the Critical Areas Guidelines (MMC 17.52).

Planting and Maintenance Requirements
7. Border plantings shall be compatible with adjacent landscaping in terms of irrigation, maintenance, species, and design layout (from native to urban landscapes).

8. Trails which will be maintained by the City shall contain low maintenance border plantings.

9. The use of drought tolerant or native habitat plant materials where appropriate.

Site Furnishings and Signage
10. A signage and lighting program should be developed to facilitate both safety and way-finding.

11. If used, pedestrian lighting shall be designed and located to minimize impacts to abutting uses or critical area habitats.
12. Rest facilities (benches and trash receptacles) may be incorporated where appropriate.

13. The use of bollards or other devices for limited controlled access at street connections shall be used where appropriate for emergency and maintenance access. Signage or other indicators are encouraged for trail user safety at intersections with streets.

14. Signs indicating prohibited uses, e.g., “no motorized vehicles,” shall be installed at major trail entrances. Trail signs shall conform to a design approved by the City.

15. Where there is potential for conflict between different types of users, signage, lighting and maintenance of sightlines shall be used to minimize conflicts.

**Location and Accessibility**

16. Trails shall be located to minimize light and noise impacts on neighboring residential uses.

17. Trails should be located in areas with minimum slopes, where possible, to provide recreational access to people of various age groups and abilities.

18. Where feasible, trails will conform to the Americans with Disabilities Act (ADA) as required by ADA Accessibility Guidelines.

19. Trail corridors shall allow for adequate sight distances, based on uses and location, when connecting to on-street transportation systems.

**Maintenance for Safety and Security**

20. Trail borders shall be maintained to provide safe trail side and head clearances.

21. The City should develop a management plan to ensure continued maintenance and selective pruning and removal of vegetation which may be hazardous to the safety, visibility, and clearances of pedestrians and bicyclists.

22. All pruning shall be done in accordance with International Society of Arboriculture (ISA) standards. Topping (the severe reduction of branches without consideration of the pruning specifications) is prohibited.

**Bicycle and Pedestrian Facility Standards**

To the extent possible, streetscape improvements should be developed within the public right-of-way and comply with the design standards established by Mukilteo’s Public Works Department. Bike lanes should be developed to meet AASHTO (American Association of State Highway & Transportation Officials) and/or WSDOT (Washington State Department of Transportation) standards with expanded, designated or marked road shoulders and lanes. In some areas, travel lanes may be simply designated for joint vehicular and bicycle use.

Whenever possible, ped-bike facilities should be developed in alignments separate from vehicular or other motorized forms of transportation; for example drainage corridors, ravines, gulches, and utility easements. The following trail types and standards are specific to the context of Mukilteo’s natural environment and trail needs.

**Multi-Purpose Pathway or Route**

Multi-purpose trails are high-use paved trails designed to provide recreational opportunities for pedestrians and non-motorized wheel users. Multi-purpose trails are intended to provide or connect with community-wide or regional routes for pedestrians and non-motorized wheel users. They should be located to link major community facilities, recreational complexes, schools, other multi-purpose trails and major transportation access points to community-wide or regional routes.

Multi-purpose pathways/routes consist of the following:
• A paved trail section that varies from a minimum of ten (10) feet to a maximum of twelve (12) feet in width to accommodate different mode mixtures. Width is determined by the mixture of the modes and routes the trail connects to.
• Where feasible, shoulders should be provided on both sides of trail. Trail shoulders should consist of a soft surface material a minimum of two (2) feet wide on each side of the trail or one (1) foot wide on one side of the trail and three (3) feet wide on the other.
• A border of four (4) feet wide on each side consisting of new or existing vegetation.
• A trail corridor which varies in width from a minimum of twenty-two (22) feet to a maximum of twenty-four (24) feet.

![Multi-Purpose Trail](image)

**Figure 6: Multi-Purpose Trail**

**Combined Use Trail**
Combined use trails are designed to provide recreational opportunities for pedestrians and bicyclists on maintenance vehicle access roads, especially those associated with utility systems. They are intended to supplement the recreational trail experience in and around open space areas.

Combined use trails consist of the following:
- Meet public works standards for access roads
- Provide a surface navigable by pedestrians and bicyclists
- Provide a border of four (4) feet on each side consisting of new or existing vegetation.
Neighborhood Trail

Neighborhood trails are hard or soft surface pedestrian trails designed to provide connections between neighborhoods or between neighborhoods and community facilities and to interconnect sidewalk systems. They serve as walking route alternatives to sidewalks within the area served or provide a relatively “secret” connection between the sidewalk system in an area and a neighborhood or community-wide trail. For example, a neighborhood walk may be used to connect two neighborhoods or provide a mid-block shortcut. Typically, neighborhood trails should be located in or adjacent to neighborhoods, open spaces or critical areas.

Neighborhood trails consist of the following:

- A paved surface (or soft surface in critical areas and around storm detention ponds) trail section six (6) feet in width.
- Through critical area buffers the trail section shall be a soft surface, except if there is a boardwalk.
- A border four (4) feet in width consisting of new or existing vegetation bordering both sides of the trail. The border may be reduced to three (3) feet in width when consisting only of low shrubs and groundcover.
- A trail corridor fourteen (14) feet in width.
Nature Trails (Critical Areas)
Nature Trails are narrow, soft-surface, low-impact trails that meander through critical areas, critical area buffers and forested areas with existing vegetation. Nature trails are constructed to minimize and adapt to existing conditions such as steep slopes and heavily vegetated areas. Nature trails are low-usage trails that provide an environmental and recreational experience.

Nature Trails consist of the following:

- A three (3) to five (5) foot wide path.
- A border up to three (3) feet in width consisting of new or existing vegetation bordering both sides of the path.
- A trail corridor up to ten (10) feet wide.
Shoreline Trail
Shoreline trails are designated on an informal basis across public and some private tidelands (subject to property owner permission) along shorelines and between various destinations along the Mukilteo waterfront.

In some instances, trail routes cross over private tidelands (where property owners are agreeable) located between the public holdings and public trailheads.
**Water Trail Trailhead**

A water trail is a route across bodies of water for people using small beachable boats like kayaks, canoes, day sailors or rowboats. Water trails are most often identified by the land facilities that support water travel. These include launch and landing sites (i.e. trailheads), campsites, rest areas, and other points of interest.

Water trail facilities consist of:

- Launch and landing sites appropriate for non-motorized watercraft.
- Rest areas convenient to public waterways.

**Waterfront Promenade**

A waterfront promenade is a public place that often coincides with a hub of civic cultural or retail activity. It may incorporate a public plaza, public gathering spaces, performance spaces, scenic vistas and other cultural amenities. Promenades may incorporate spaces for pedestrians, non-motorized vehicles such as bicycles, and slow motorized maintenance and emergency vehicles.

Waterfront Promenades consists of:

- Trail sections with a minimum width of ten (10) feet, which can be constructed of boardwalk, concrete, or other special paving.
- Public plaza(s), viewpoints and amenities integrated into the promenade route.

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**Figure 10: Waterfront Promenade**
# Trail Surfaces and Amenities

The following table identifies appropriate surfacing types and amenities for trail types:

<table>
<thead>
<tr>
<th>Trail Type</th>
<th>Surface Type Alternatives</th>
<th>Possible Appropriate Amenities</th>
</tr>
</thead>
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<tr>
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<td>Asphalt</td>
<td>Concrete</td>
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<td>2. Combined Use</td>
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<td>3. Neighborhood Trail</td>
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<td>4. Forest Path</td>
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<td>5. Shoreline Trail</td>
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<td>6. Water Trail Trailhead</td>
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<tr>
<td>7. Waterfront Promenade</td>
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</tbody>
</table>

Table 8: Trail Surfacing and Amenities