

Peninsula Regional Non-Motorized Connectivity Study

Prepared for
Peninsula Regional Transportation
Planning Organization



January 2019

Prepared by
Parametrix

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ACRONYMS AND ABBREVIATIONS

AASHTO	American Association of State Highway Transportation Officials
BOCC	Board of County Commissioners
DNR	Washington State Department of Natural Resources
FLAP	Federal Lands Access Program
GIS	Geographic Information System
OAR	Olympic Adventure Route
ODT	Olympic Discovery Trail
PNT	Pacific Northwest National Scenic Trail
RTPO	Regional Transportation Planning Organization
SR	State Route
Study	Regional Non-motorized Connectivity Study
TIP	Transportation Improvement Program
UGA	Urban Growth Area
WSDOT	Washington State Department of Transportation

INTRODUCTION

This Regional Non-motorized Connectivity Study (Study) was developed for the Peninsula Regional Transportation Planning Organization (RTPO). The Peninsula RTPO encompasses Clallam, Jefferson, Kitsap, and Mason counties in Washington state. The RTPO's goal of the Study is to bring together existing information on regional non-motorized facility connectivity into a comprehensive map with consistent definitions and identification of non-motorized facility types, gaps, and options to close the gaps. This Study does not prioritize potential projects but provides information to support conversations about priorities within the RTPO.

The four counties contributed substantially to preparing this Study, including Geographic Information System (GIS) information and planning level documents. This Study is not intended to duplicate the comprehensive planning and analyses already provided by each county. Instead, it draws on information regarding the existing and planned facilities to best determine routes that provide connectivity across regional boundaries. More details are provided in Appendix A, which contains a list of the planning documents and data available at the county level at the time of the study.

This document is intended to be a foundation to build from for the Peninsula RTPO. This Study provides an overview of the existing facilities serving as a building block to better connect facilities regionally. As non-motorized projects move forward within the RTPO, this document provides a gap analysis to assist with determining and prioritizing future opportunities that can close the non-motorized gaps on a regional scale.

1. BACKGROUND

The Peninsula RTPO is a voluntary association of cities, towns, counties, ports, tribes, transit agencies, and major employers that work together to develop transportation plans designed to meet the region's future economic and population growth. The Peninsula RTPO includes Clallam, Jefferson, Mason, and Kitsap counties (Figure 1-1). This Study addresses existing conditions, planned improvements and future opportunities for regional non-motorized connectivity across the four counties.

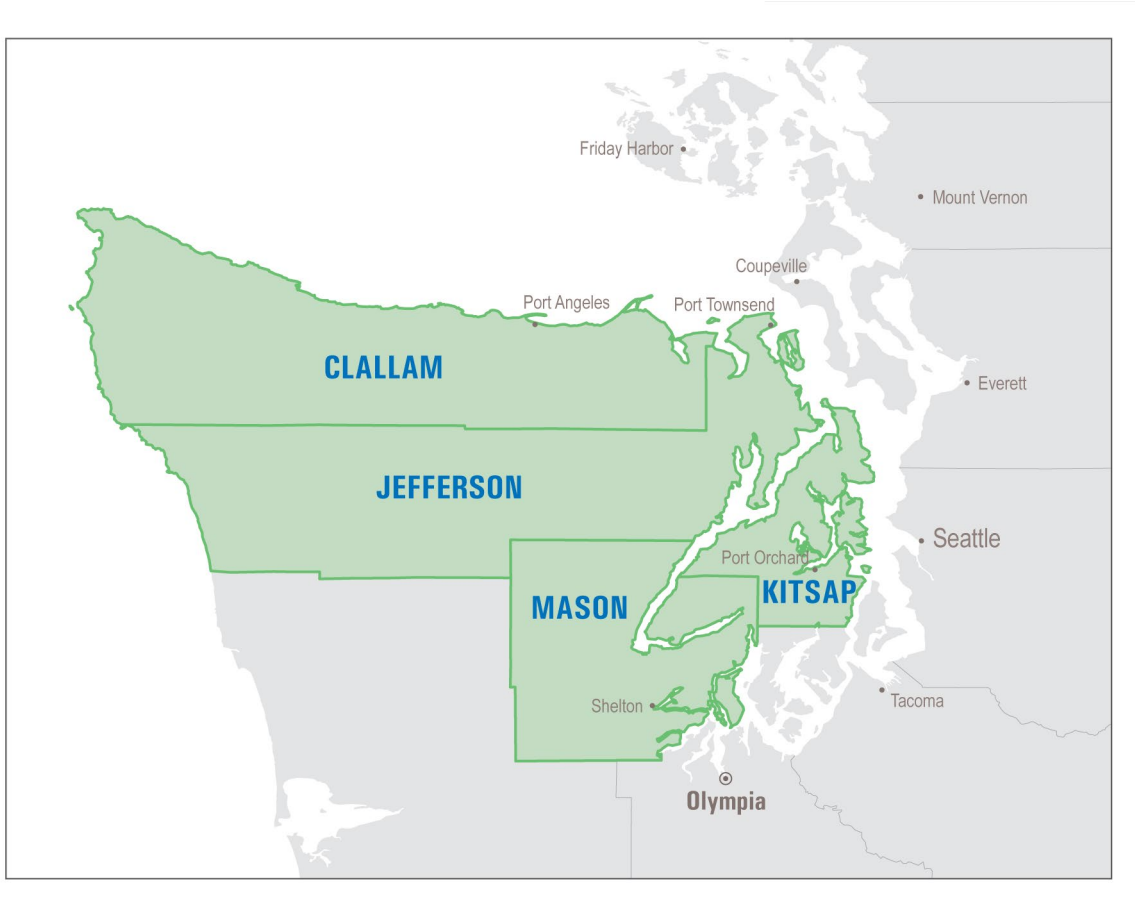


Figure 1-1. Study Area

This Study looks at a variety of non-motorized facilities that serve both transportation and recreation needs and connect communities, major destinations, and urban centers. Ideally, these regional facilities would provide for the widest range of non-motorized travel modes practical (e.g., a shared use path). However, given the distances between some of the major destinations, the rural character of the majority of the study area, and the costs to develop shared use paths, a broader look at how regional non-motorized connectivity can be achieved is appropriate.

This Study does not address non-motorized facilities that are within a smaller community. Likewise, this Study is not intended to address backcountry or water trails that serve exclusively as recreational facilities.

This Study first presents the economic importance of outdoor recreation facilities to the region and then inventories existing and planned facilities that make regional non-motorized connections. Planned

facilities range from conceptual ideas to more fully designed and programmed projects. The inventory also includes transit stops in the four counties because of the potential to add regional multimodal connectivity by linking bicycle facilities and other non-motorized modes with transit. The results are communicated via a web-based map (i.e., webmap). Next, this Study discusses the gaps in regional connectivity, some of which are addressed by existing plans and some of which require higher-level thinking and strategy.

2. ECONOMIC IMPACTS

As described in Appendix B “Economic Impact of Regional Trails,” outdoor recreation facilities have been shown to impart numerous economic benefits to a region, some of which are measurable while others are less tangible. However, these facilities, such as regional trail systems, are not free to plan, construct, or maintain, and they also rarely produce direct revenue through user fees (e.g., the Northwest Forest Pass). Rather, the value generated by outdoor recreation facilities is measured in terms of consumer surplus, increased property values, and health benefits from physical activity and stress reduction.

Enhanced connectivity of trails and other non-motorized facilities results in measurable benefits to the economy at the local and regional levels, such as increased business activity as a result of tourism and increased property value as a result of attracting new residents. The tourism sector currently accounts for approximately 13 percent of all employment and businesses on the Peninsula. Improved non-motorized connectivity may attract non-local visitors to use the regional trail system for long-distance or multi-day outdoor recreation activities, which can stimulate economic activity through spending at restaurants, hotels, and retail businesses. For local community members, access to parks and other outdoor recreation facilities encourages population growth and has the potential to increase residents’ property values. As the population grows in both Washington state and more specifically the Olympic Peninsula region, so will the demand for outdoor recreation access and opportunities.

Additional economic benefits that are more difficult to accurately measure include ecosystem services, livability, and health and wellness. Vegetation and natural landscapes associated with outdoor recreation facilities such as trails provide benefits such as stormwater management and treatment, air quality improvement, carbon sequestration, micro-climate buffering, and habitat support. Livability includes access to outdoor amenities and proximity to natural resources, which is marketed to potential property owners and can influence both population growth and property values. Access to regional trail systems can also increase non-motorized commuting opportunities in rural areas, which is another factor that can influence population and job growth in local and regional economies. Health and wellness impacts resulting from access to recreation, walkable transportation networks, and connected communities can be measured in terms of stress reduction, which can lower healthcare costs and increase workplace productivity.

Government investments in the quantity and quality of outdoor recreation facilities, including maintenance and expansion of regional trails, benefit the entire community. The Olympic Peninsula would benefit as a whole by supporting access to and promoting activities that utilize natural, public goods such as public lands and recreation facilities. See ECONorthwest’s memorandum “Economic Impact of Regional Trails” provided in Appendix B for a more detailed analysis of economic benefits.

3. EXISTING AND PLANNED FACILITIES

Consultant staff collected GIS data and reviewed non-motorized transportation plans to identify existing and planned facilities. Much of this information is synthesized in Chapter 4, and the sources, including a list of the planning documents and data available at the planning level, are provided in Appendix A. Not all of the data collected clearly indicates the type of non-motorized facility, and the terminology applied to describe non-motorized infrastructure is not always consistently applied among the different jurisdictions. To allow for comprehensive analysis of regional connectivity, this Study assigns and uses consistent terminology to describe non-motorized facilities.

Each of the existing and planned facilities in Clallam, Jefferson, and Mason counties was assigned a facility type, described in Table 3-1 below. While the table summarizes the associated recommendations from the Guide for the Development of Bicycle Facilities 2012 by the American Association of State Highway Transportation Officials (AASHTO), state and local jurisdictions may adopt their own standards for each facility type.

Table 3-1. Facility Type and Description

Facility Type	Facility Description (based primarily on AASHTO definitions and recommendations)
Shared Use Paths in Independent Right-of-Way – Paved	A paved path physically separated from motor vehicle traffic by an open space or barrier within an independent right-of-way such as linear corridor in greenway, along waterways, abandoned railroad right-of-way lines, utility corridors, etc. Most shared use paths in independent rights-of-way are designed for two-way travel and are suitable for all ages and abilities.
Shared Use Paths – Paved and Adjacent to Roadways (Sidepaths)	Sidepaths are a specific type of shared use path that runs adjacent to the roadway within a road right-of-way, often where no other right-of-way corridors are available. Sidepaths can be two-way paths on one side of the road or one-way paths on both sides of the road.
Paved Shoulders with Adequate Width	Adequate shoulder width should be dependent on the characteristics/speed and volume of the adjacent roadway. Per AASHTO, shoulder width of at least 4 feet is recommended to accommodate bicycle travel, and this minimum was used to characterize existing conditions as “adequate.” Local requirements may vary.
Shared Use Path – Unpaved	Unpaved shared use paths provide similar services as paved shared use paths, though with more restrictions on some user groups. Bicycles and other wheeled users must use greater effort to travel at a given speed and some users are unable to use unpaved paths. Surfaces include crushed stone and stabilized earth. Unpaved trails better accommodate equestrian use, where allowed and desired.
Shared Lanes, Marked	A shared lane is a combined motor vehicle and bicycle lane. Shared lanes are appropriate for lower-speed and lower-volume streets. Typically provided on narrower streets where bike lanes cannot be accommodated due to space constraints or other limitations.
Shared Lanes, Unmarked	There are no bicycle-specific designs or dimensions for shared lanes or roadways. No specific signage or pavement markings. Typically provided only on low-volume, lower-speed roadways < 25 mph.
Narrow Shoulders	Narrow shoulders serve a similar purpose as paved shoulders but are narrower than 4 feet. Typically provided on lower-volume, lower-speed roadways.

Appendix C provides illustrations of these facilities, based on AASHTO recommendations. As noted previously, state and local jurisdictions may adopt their own standards for each facility type.

Crosswalk tables are provided in Appendix D for Clallam, Mason, and Jefferson counties. These tables show the attributes of the GIS data provided by the counties along with the facility type assigned to each segment. Table 3-2 shows the miles of existing and planned facility types in Clallam, Jefferson, and Mason counties. Table 3-3 shows the miles of non-motorized facilities, trails, and roads in Kitsap County.

Table 3-2. Miles of Existing and Planned Facility Types: Clallam, Jefferson, and Mason Counties

Facility Type	Existing Miles	Planned Miles	Total Miles
Shared Use Path (Paved)	47.4	70.6	118.0
Sidepath	11.1	17.1	28.2
Paved Shoulders (Wide)	74.6	5.1	79.7
Shared Use Path (Unpaved)	29.3	7.7	37.1
Bike Lanes	2.1	0.3	2.4
Sidewalks	2.6	-	2.6
Shared Lanes (Marked)	-	13.0	13.0
Shared Lanes (Unmarked)	50.7	-	50.7
Paved Shoulders (Narrow)	137.9	-	137.9
GRAND TOTAL	355.8	113.9	469.7

*Note: Table includes total miles of existing and planned facility types in Clallam, Jefferson, and Mason Counties.

Table 3-3. Miles of Kitsap County Facilities

Facility Type	Existing Miles	Concept Miles	Total Miles
Non-motorized Routes	379.4	26.2	405.6
Trails	369.9	0	369.9
GRAND TOTAL	749.3	26.2	775.5

*Note: Table includes total miles of existing and concept facility types in Kitsap County.

3.1 Webmap Information

The Peninsula existing and planned facilities are depicted on a webmap, whose permanent host is to be determined. Figure 3-1 shows a screen capture of the webmap and Appendix E provides instructions for accessing and navigating the webmap. After clicking on a route shown in the map, a text box will appear identifying the facility type, status (existing or planned), trail system (if applicable), segment name, jurisdiction, and length.

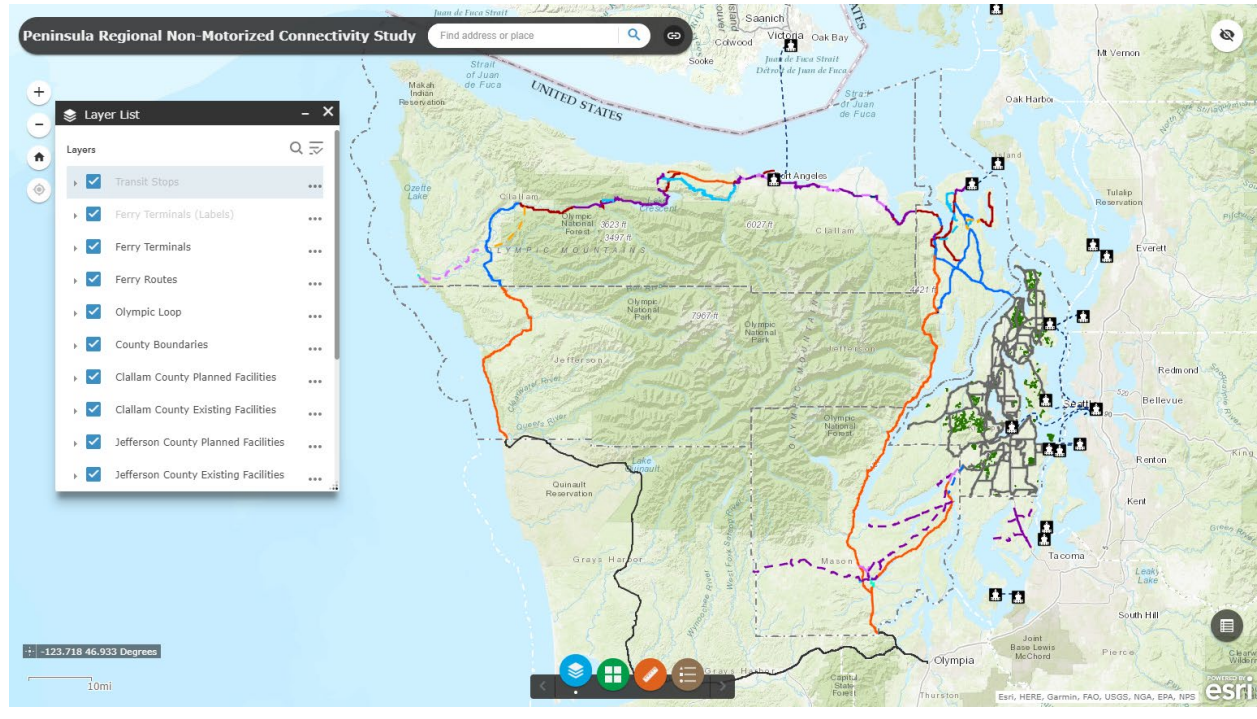


Figure 3-1. Webmap Screen Capture

4. OVERVIEW OF REGIONAL CONNECTIVITY

As shown on the webmap, major entry points to the Peninsula RTPO study area are:

- The Washington State Ferry terminals at Bremerton, Bainbridge Island, and Kingston in Kitsap County
- The Washington State Ferry terminal at Port Townsend in Jefferson County
- The Washington State Ferry terminal at Port Angeles in Clallam County
- The SR 16 corridor from Pierce County into Kitsap County
- The US 101 and SR 3 corridors from Thurston County into Mason County
- The US 101 corridor from Grays Harbor County into Jefferson County

These entry points are important to understanding connectivity within the broader region because they provide both motorized and non-motorized access. Major geographical features including large bodies of water, like the Hood Canal, and large undeveloped wilderness areas, like Olympic National Park, are barriers to regional connectivity for all travel modes and they limit regional connections between the four counties. See the webmap for more detailed information.

4.1 Olympic Discovery Trail

The Olympic Discovery Trail (ODT) is the major east-west non-motorized corridor on the north side of the study area. The ODT is a system of connected facilities, mostly paved shared use paths but also including shared lanes and paved shoulders. It includes the Larry Scott Trail connecting into Port Townsend. The Larry Scott portion of the ODT is a paved shared use path east of State Route (SR) 20 and an unpaved shared use path west of SR 20.

To access the ODT, users coming from the east via ferry terminals in Kitsap County can use the non-motorized routes shown on the webmap to move through the county. From the Hood Canal Bridge, users must continue on the shoulder of SR 104 to the shoulder of US 101 before connecting to the ODT at the south end of Discovery Bay.

The Olympic Adventure Route (OAR) portion of the ODT is an unpaved shared use path that approximately parallels SR 112 between the Elwha River and Lake Crescent.

The webmap depicts and describes the facility type of each segment of the ODT through both Clallam and Jefferson counties. Ultimately, the ODT will run 145 miles from the Port Townsend ferry terminal to the Pacific Coast (Figure 4-1).



Source: olympicdiscoverytrail.org

Figure 4-1. Olympic Discovery Trail

4.2 Cross-State Trails

Several state agencies, including the Washington State Department of Transportation (WSDOT), Washington State Parks and Recreation Commission, and Washington State Recreation and Conservation Office, along with several bike advocacy groups, are committed to non-motorized connectivity across Washington. Some of the facilities that could connect to the Peninsula RTPO study area are described in the following sections.

4.2.1 Palouse to Cascades State Park Trail

In 2016, the Washington State Parks and Recreation Commission adopted a special resolution reconfirming its commitment to the cross-state trails system. A key component of this system is the Palouse to Cascades State Park Trail (formerly the Iron Horse State Park Trail/John Wayne Trail), which runs 110 miles east-west from the Idaho border through North Bend, Washington. From North Bend, several different routes can be strung together, making a cross-state connection from Tekoa or Spokane to downtown Seattle and onward to the Pacific Ocean at La Push.

North Bend to the Puget Sound

From North Bend, one route continues west to the north of Lake Washington via the Snoqualmie Valley Trail, the Fall City to Preston Road, the Preston Snoqualmie Trail, the Issaquah Preston Trail, the East Lake Sammamish Trail, the Sammamish River Trail, the Burke Gilman Trail, the Ship Canal Trail, and the Elliot Bay Trail to downtown Seattle and the Colman Dock ferry terminal. To skip urban Seattle traffic, a variation of this route diverges from the Burke Gilman Trail at Ballinger Way in Lake Forest Park and instead follows SR 104 to the Edmonds ferry terminal.

From North Bend, another option is a more direct but urban route that follows the I-90 Trail within the Mountains to Sound Greenway. The trail travels along the I-90 corridor from the south end of the East Lake Sammamish Trail, across Mercer Island and Lake Washington, and into downtown Seattle near the Colman Dock ferry terminal.

Puget Sound to Pacific Ocean

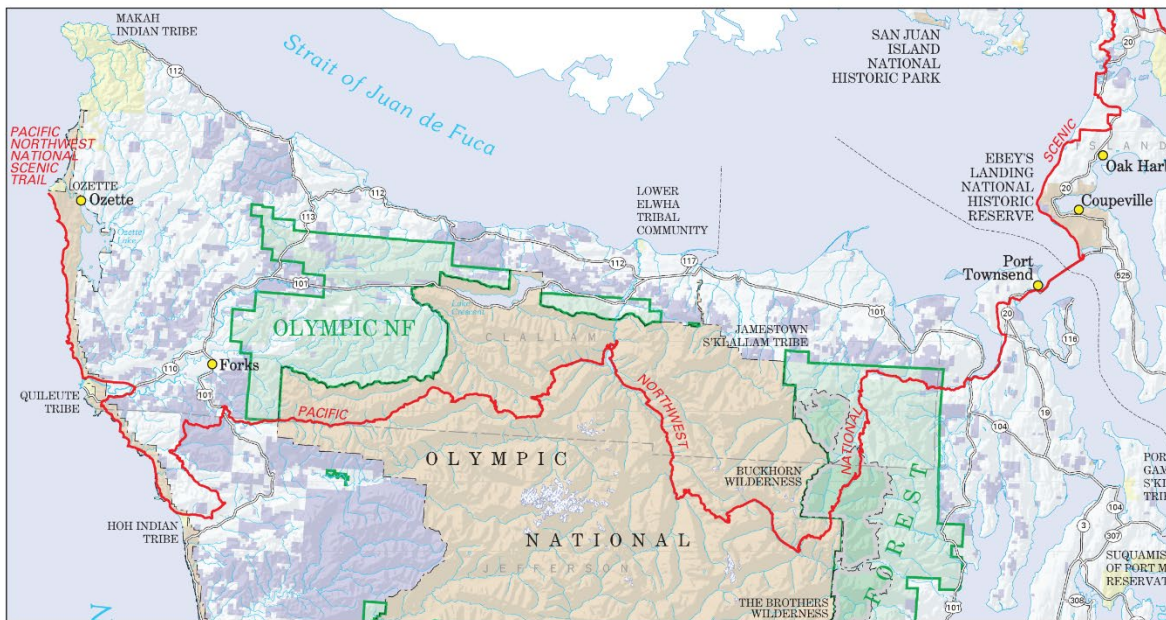
Via the Washington State Ferries, non-motorized users can travel to Bremerton, Kingston, or Bainbridge Island. The Sound to Olympics Trail Interim Route runs from Kingston to Discovery Bay, using the mostly wide shoulders of SR 104 and US 101. From Discovery Bay, the Olympic Discovery Trail continues to La Push.

On Bainbridge Island, the south end of the Sound to Olympics Trail can be accessed for a mile before continuing north on the shoulders of SR 305 for 11 miles to reach Poulsbo and continuing north for an additional 9 miles along SR 3 to reach the Hood Canal Bridge on SR 104. From the bridge, the route is the same as that for Kingston described above.

A variation on both of these routes would turn north off SR 104 at either SR 19 or at Center Road to access Port Townsend.

4.2.2 Pacific Northwest National Scenic Trail

Another cross-state program is the Pacific Northwest National Scenic Trail (PNT). The Larry Scott Trail portion of the ODT is part of the PNT. The PNT was designated by Congress in 2009 as one of America's 11 national scenic trails. It starts in Glacier National Park in Montana, relatively close to the U.S.-Canada border, and continues west through Olympic National Park to Cape Alava (Figure 4-2).



Source: https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd525857.pdf

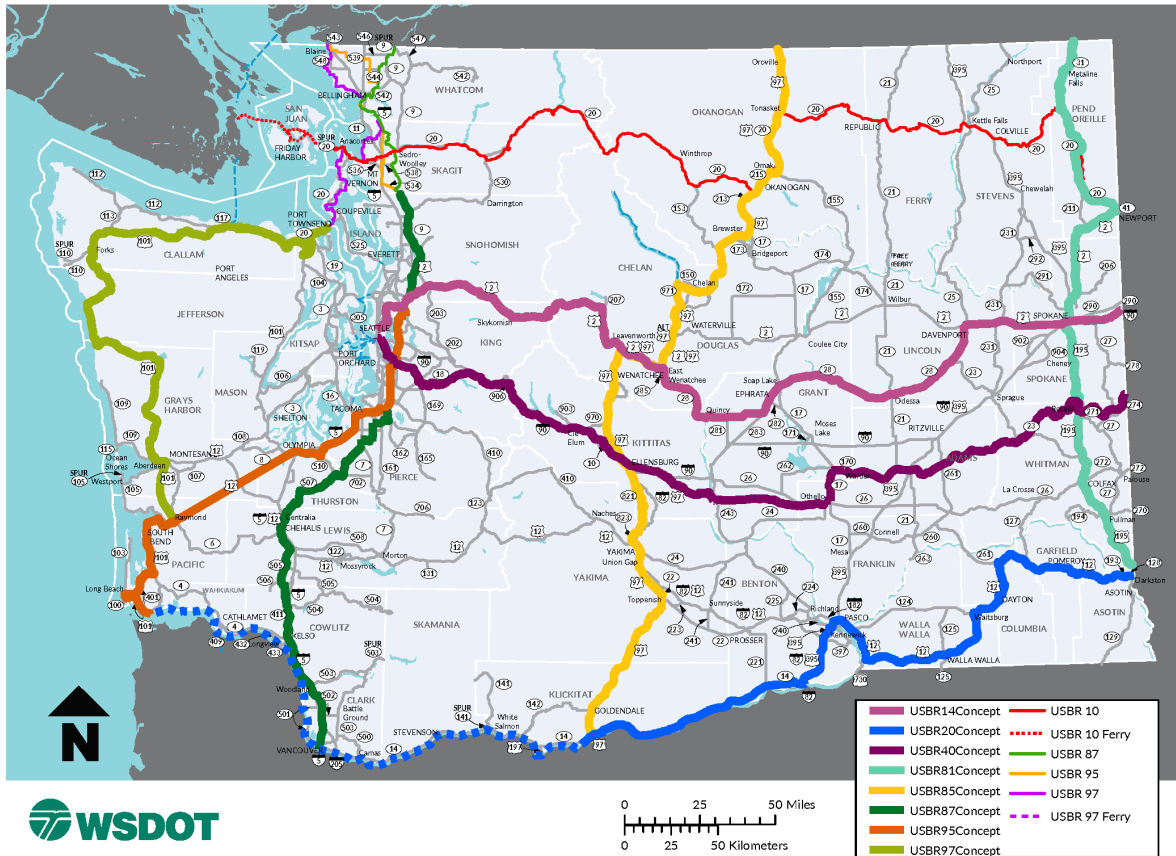
Figure 4-2. Pacific Northwest National Scenic Trail

4.2.3 U.S. Bicycle Route System

The U.S. Bicycle Route System was established in 1978 by AASHTO. As noted on the WSDOT web page, the system is “a network of regionally-significant bike routes that connect communities throughout Washington state” (Figure 4-3). Currently, the Larry Scott Trail/ODT is a proposed route and an extension of one of the approved routes. Several other proposed cross-state routes, as well as the Mountains to Sound Trail, terminate at the Seattle Ferry Terminal. From there, bicyclists can connect via

ferry to Bremerton, Kingston, or Bainbridge Island, and continue through Kitsap County to connect to the ODT and the Sound to Olympics Trail.

Currently Approved (Designated) and Proposed (Conceptual) U.S. Bike Routes



Source: <https://www.wsdot.wa.gov/sites/default/files/2018/08/31/USBRs-WA.pdf>

Figure 4-3. U.S. Bike Routes

4.3 Other Regional Connectivity

Aside from the ODT/Larry Scott Trail, much of the regional non-motorized connectivity is accomplished through the use of roadway shoulders. As noted in the WSDOT Design Manual, Chapter 1520, “Many rural highways are used by bicyclists for commuting between cities or for recreation. Providing and maintaining paved shoulders can significantly improve convenience and safety for both bicyclists and motorists along such routes.” Highways making regional connections across the study area are shown on the webmap. They include, but are not limited to, US 101, SR 3, SR 305, and SR 104. Beyond attempting to characterize segments as having shoulders greater than or equal to 4 feet or less than 4 feet, the Consultant did not assess highway shoulders across the region to evaluate surface conditions, or presence of surface obstacles and adjacent guardrails or barriers.

5. GAPS IN REGIONAL CONNECTIVITY

Gaps are those areas that lack infrastructure for making non-motorized connections and where non-motorized connectivity is inadequately served by existing infrastructure. Assessing the adequacy of existing infrastructure requires understanding the intended users of the infrastructure (e.g., only bicyclists, only pedestrians, equestrian routes, or a variety of non-motorized users). The Olympic Discovery Trail, including the Larry Scott Trail, serves a variety of uses and people of all ages and abilities. Low population densities and long distances between regional destinations characterize much of this study area. These areas are primarily connected by road shoulders or shared roadways. Non-motorized users are allowed on state facilities within the study area. The discussion below first discusses gaps in the ODT and then discusses gaps elsewhere in the study area.

5.1 Gaps in the Olympic Discovery Trail

Currently, much of the ODT east of Port Angeles within Clallam County to the Jefferson County line is a paved shared use path. Six projects in the planning process within both Clallam and Jefferson counties will improve and close existing gaps for east-west multimodal connectivity, as follows:

- La Push to U.S. 101
There is an approximately 13-mile stretch along SR 110 (La Push Road) between La Push and US 101 mostly characterized by narrow road shoulders. In La Push, there is an approximately 0.5-mile segment of existing sidewalk along Ocean Front Drive that begins at Coast Guard Road and becomes a sidepath at Ocean Drive. From Ocean Drive to By-Yak Way, a 0.9-mile paved sidepath currently exists in the SR 110 right-of-way. From By-Yak Way to US 101, existing facilities include 12.6 miles of paved, narrow shoulders along SR 110. Planning is underway to complete the paved sidepath in the SR 110 right-of-way all the way to US 101 in Forks. Land acquisition will be funded by Clallam County and construction costs will potentially be grant-funded by the Federal Lands Access Program (FLAP). The current estimated cost of acquisition and construction for the 13-mile paved sidepath is \$4.7 million, based on the 2017 Board of County Commissioners (BOCC) Annual Progress Report produced by Clallam County.
- Forks to SR 110 (“A” Road)
There is an approximately 1-mile gap from the intersection of SR 110 and US 101 to Forks. Existing facilities include a wide shoulder along most of US 101 that narrows down to a shared lane where the highway crosses the Calawah River. Planned facilities include a paved shared use path from SR 110 to Forks along US 101 and through the Calawah River Park, including a multi-user bridge over the Calawah River. Clallam County estimates the current construction cost at \$1.8 million.
- SR 110 to Sappho
There is an approximately 11-mile stretch between SR 110 and Sappho (Mary Clark Road) where users travel on mostly wide, paved shoulders along US 101. Planning is underway to pave 8 miles of existing Forest Service roads and to construct 3 miles of shared use paths to connect Mary Clark Road in Sappho to Sitkum-Solduc Road in Forks, bypassing US 101. Clallam County estimates the current cost of constructing 3 miles of trail and paving 8 miles of road at \$3 million.

- Lyre to Elwha River

There are approximately 17 miles of the ODT between the Lyre River and the Elwha River where users must traverse a combination of narrow shoulders, shared roadways, or more rugged, unpaved trails:

- The Lyre River to Gossett Road – a 4.9-mile segment is planned between Gossett Road and East Beach Road where it crosses the Lyre River at the northwest corner of Lake Crescent. Existing facilities include shared lanes on Joyce-Piedmont Road and East Beach Road. Alternatively, the OAR is a more rugged, unpaved trail that connects Waterline Road to Joyce-Piedmont Road, and then continues east to SR 112. Planned facilities for this gap include a paved shared use path along railroad grade through Washington State Department of Natural Resources (DNR) land. Clallam County estimates the current construction cost of this segment at \$1.8 million.
- Gossett Road to the Elwha River – the remaining 11.8-mile segment is between Gossett Road and the Elwha River pedestrian bridge. Existing facilities include paved, narrow shoulders along SR 112. Planned facilities for this gap include a paved sidepath within the SR 112 right-of-way. Clallam County estimates the current construction cost of this segment at \$4.9 million.

In total, closing the Lyre River to Elwha River gap would cost approximately \$6.7 million.

- Port Angeles

Currently, there is a 1.8-mile segment of the ODT that does not have a separate shared use path through the Port Angeles city limits. This segment can be broken down into three separate segments, each with unique travel, environmental, and design solutions:

- Segment A – from Valley Creek Estuary to the East Marina. This segment is within a working industrial port and consists of an existing sidewalk and sidepath. Design is currently underway for a shared use path along this stretch. The City of Port Angeles estimates the current construction cost (at 30 percent design) at \$1.9 million.
- Segment B – across Marine Drive and up the environmentally sensitive marine bluff to Crown Park. This segment currently consists of paved road shoulders and sidewalks. Design is currently underway to construct a separated shared use path up the marine bluff at grades meeting the Americans with Disabilities Act (ADA) requirements. The City of Port Angeles estimates the current construction cost (at 60 percent design) at \$3.7 million.
- Segment C – along 4th Street and Milwaukee Boulevard and through residential neighborhoods to the existing 10th Street and Milwaukee Boulevard intersection trailhead. This segment currently consists of an unmarked shared lane, though design is underway to construct a shared use path. The City of Port Angeles estimates the current construction cost (at 30 percent design) at \$1.3 million.

There is also a one-block gap west of Laurel Street between the trailhead at Hollywood Beach and the park improvements on Railroad Avenue. This segment currently consists of a 13-foot-wide concrete sidewalk and a 6-foot-wide, 130-foot-long asphalt crosswalk that needs to be upgraded to a 14-foot-wide shared use path.

- Four Corners to South Discovery Bay

There is a 6.5-mile segment from the current terminus of the Larry Scott Trail to the vicinity of the SR 20/US 101 interchange where bicyclists must share a lane along SR 20 for 5.5 miles and then use road shoulders for the last mile. Jefferson County is currently developing plans for an unpaved shared use path that will accommodate additional types of non-motorized uses such as pedestrian and equestrian use and provide an alternative to the shared lane. This planned trail will not only improve ODT connectivity but will also improve a segment of the PNT. According to the Jefferson County 2019–2024 Transportation Improvement Program (TIP), this gap comprises three segments:

- Project #4 – from the SR 20/US 101 interchange in South Discovery Bay to Anderson Lake State Park. Jefferson County estimates the current construction cost at \$1 million.
- Project #19 (Segment B) – from the existing South Discovery Bay Trail terminus over Salmon and Snow Creeks to the SR 20/US 101 interchange. Jefferson County estimates the current construction cost at \$1.5 million.
- Project #23 – from the current terminus of the Larry Scott Trail at the Four Corners intersection to Anderson Lake State Park. Jefferson County estimates the current construction cost at \$2.5 million.

In addition to enhancing the ODT for local communities and the region, these planned improvements will also improve cross-state connectivity as a primary non-motorized arterial for access to the many recreational opportunities on the Peninsula from the greater Seattle area and beyond. As summarized in Chapter 2, this draw in recreational tourism is an economic benefit to the immediate communities through which the ODT travels. See ECONorthwest’s memorandum “Economic Impact of Regional Trails” provided in Appendix B for a more detailed analysis of economic benefits.

5.2 Gaps in Overall Regional Connectivity

In other areas of the region, the Peninsula RTPO should consider the users they want to serve with regional non-motorized connectivity before identifying gaps. It may not be practical to provide regional connectivity via shared use paths for multiple non-motorized uses and people of all ages and abilities. Other facility types may be more appropriate for closing gaps, depending on nearby land development and roadway infrastructure, until corridor characteristics demand a shared use path facility type that can accommodate all ages and abilities.

As mentioned above, the focus could be on connectivity for bicyclists with an emphasis on addressing inadequate roadway shoulders. If this is the focus, then additional analysis is necessary to evaluate the existing conditions. For the purpose of this Study, existing shoulders are only characterized by whether or not they meet the 4-foot minimum recommended by AASHTO. As noted in guidance from AASHTO and others, adequate shoulder widths depend on a variety of site-specific conditions such as adjacency to guard rails or barriers and speed of adjacent traffic. Additional assessment would be appropriate to more specifically prioritize locations where improvements are needed. This assessment could be approached by using Bicycle Level of Traffic Stress to assess the comfort and connectivity of bicycle networks. The Bicycle Level of Traffic Stress approach scores bicycle facilities based on how stressful they are for cyclists to traverse. This analysis is based on several criteria, including adjacent roadway speeds, traffic volumes, bicycle facility width, and separation from traffic.

Because of the distances between many of the regional destinations, integrating non-motorized infrastructure with transit can increase the volume and types of non-motorized users. For example, a

person may not be willing to ride or walk 10 miles to reach a destination but would be willing to ride or walk part of that distance if a bus is available for the remainder. With that understanding, a layer depicting existing transit stops and centers has been added to the project's webmap. This information is intended to inform a discussion within the Peninsula RTPD regarding objectives for regional non-motorized connectivity.

The sections below discuss some of the regional connectivity opportunities, presenting options for improvements depending on the users served.

5.2.1 Mason County to Kitsap County

WSDOT will be moving forward with the design of the SR 3 Freight Corridor (formerly known as the "Belfair Bypass") in 2019. The SR 3 Freight Corridor Project will construct a two-lane limited access highway on a new alignment running approximately north-south to the east of the existing SR 3 in Mason County, with a small portion in Kitsap County. The proposed alignment will begin at milepost 22.81 on SR 3 and connect back at milepost 29.49. The northern connection to SR 3 is proposed at Lake Flora Road and the southern connection is just south of the intersection with SR 302. The length of the proposed bypass corridor will be 6.68 miles. The bypass configuration will consist of two 12-foot lanes and 8-foot shoulders that will accommodate bicycle use. As a restricted access facility, pedestrian use will be prohibited. Because the corridor right-of-way will be 120 feet wide, there is some ability to consider additional facilities in the future.

At its northern terminus, the SR 3 Freight Corridor will connect to non-motorized routes that continue through Kitsap County. Through Belfair, the corridor will provide opportunities for connectivity to envisioned trails such as Romance Hill Loop Trail connecting to the Theler Trail, which continues through Belfair and then south to Belfair State Park.

As currently planned, bicyclists at the southern terminus of the SR 3 Freight Corridor would have to proceed using the shoulders of SR 3. The shoulders are variable in width and are at times constrained by drops to the water to the east and climbing topography to the west. As a potential alternative to the SR 3 shoulder, the 2008 Mason County Regional Trails Plan identifies a future trail corridor that would use the Navy railroad connecting south to Shelton. This railroad is currently active and used by the military, although on an infrequent basis. A utility corridor for power transmission is also located in the general vicinity of both the railroad and SR 3, running in a southwest-northeasterly direction. This corridor is not identified as a future shared use path alignment in Mason County planning documents, but it could offer a third option for non-motorized connectivity to the south depending on underlying property ownership and topography.

The SR 3 Freight Corridor project should be considered an opportunity to revisit regional priorities for non-motorized connectivity. There appear to be at least three strategies the Peninsula RTPD could pursue with respect to north-south regional connectivity from Shelton north to Kitsap County:

- 1) Pursue construction of a shared use path as part of the corridor with the idea that, at some point in the future, it could connect at the south end to either the rail-trail corridor or the utility corridor.
- 2) Pursue siting and preliminary design of a shared use path as part of the corridor project to ensure there is a workable plan for the future addition of such a facility, but defer final design and construction until additional connections could be developed.

- 3) Continue to rely on road shoulders for providing bicycle connectivity between regional destinations and focus on prioritizing areas along SR 3 where shoulder improvements are most needed.

These strategies for regional connectivity along the SR 3 Freight Corridor would need to address topographic challenges in terms of user accessibility as it relates to terrain.

5.2.2 Olympic Loop Connectivity

When considering a non-motorized “loop” around the Olympic Peninsula, it is important to identify potential users of this facility. Given the distances involved, it is reasonable to assume that the target user is a relatively advanced touring bicyclist.

The northern leg and a portion of the western leg of a loop around the Peninsula are defined by the ODT. The eastern leg of a loop around the Peninsula could be defined by the Kitsap County non-motorized routes tying into the north-south connection to Shelton described above. A portion of the southern leg could be the old Simpson Railroad trail that extends west from Shelton to Matlock.

It remains unclear, however, how a bicyclist would navigate through Grays Harbor County and potentially Thurston County to complete the loop. The area north of US 12 and south of Olympic National Park is very rural and mostly privately owned. There may be some potential for sharing low volume logging roads, but the area is remote and services are infrequent. It seems more likely that touring bicyclists would opt for a more southerly route along US 12.

5.2.3 Pierce-Kitsap Connectivity

The City of Gig Harbor and Pierce County continue to advance plans to complete the Cushman Power Line Trail north from Gig Harbor to the Pierce County line. Currently, the northern terminus is envisioned to be in Purdy near the Purdy Bridge (SR 302), but the location will be confirmed during an upcoming planning study. Kitsap County non-motorized routes can potentially be accessed from this terminus, allowing users to continue north.

5.2.4 Jefferson County

In Jefferson County, there is a desire to connect the Larry Scott Trail to Chimacum and Port Hadlock. While it is a relatively short connection, the latter is part of the Irondale-Hadlock Urban Growth Area (UGA). This is one of only two UGAs in Jefferson County—the other being the Port Townsend UGA. Currently, non-motorized connectivity between the SR 20 and SR 19 corridors is achieved using road shoulders. The Rick Tollefson Trail provides a non-motorized connection through HJ Carroll Park to Chimacum Road. Jefferson County would like to develop an unpaved shared use path that connects from Lopeman/Chimacum Road to SR 116 at the southern tip of Port Townsend Bay in Port Hadlock.

6. RECOMMENDED NEXT STEPS

As stated above, the purpose of this document is to create a foundation upon which the Peninsula RTPO can build. This study serves as a building block to better connect regional facilities by identifying existing and planned non-motorized facilities and potential gaps within the regional network. As non-motorized projects move forward within the Peninsula RTPO, the gap analysis provides information that helps to determine and prioritize future opportunities that can close the non-motorized gaps on a regional scale. Additionally, the Peninsula RTPO could work with the local bike advocacy groups to obtain information on the conditions of the region's highway shoulders on the routes that serve regional connections or where the shoulders are perceived as gaps in the system. This information will be useful to confirm gaps in the regional system.

Recommended next steps include:

- Continue to address gaps in the ODT by implementing planned improvements. Discuss as an RTPO the pros and cons of promoting the Sound to Olympics Trail as a connection between the cross-state trail system that terminates in the Seattle area and the ODT.
- Identify a strategy to address non-motorized, regional connectivity for the SR 3 Freight Corridor. Consider using this project as a case study for advancing the RTPO conversation and evaluation regarding costs and benefits of shared use paths versus highway shoulders.
- Work with local bike and bike advocacy groups to confirm route and facility assumptions, such as existing shoulder widths and roadway shoulders that connect routes, and to identify priorities for making shoulder improvements.
- Seek out grant funding to provide connections for current non-motorized gaps.

Appendix A

Data Sources



DATA SOURCES

GIS Data Source	File
Washington Recreation and Conservation Office	"WA_RCO_Trails_2015" geodatabase
Clallam County	"ODT_Public" shapefile; "roadcl" shapefile
Jefferson County	"Jefferson_Trails" shapefile; "JC_Roads" shapefile
Kitsap County	"Kitsap_Trails" shapefile; "NM_Routes" shapefile
Mason County	"OffRoad_Trail_Corridors" shapefile; "Street_Centerlines" shapefile
Pierce County	"Pierce_County_Regional_Trails_Plan_PC RTP" shapefile
Grays Harbor County	"Roads" shapefile
Thurston County	"Thurston_Roads" shapefile
WSDOT	"FerryRoutes" shapefile; "ferrytermpriv" shapefile; "TransitStops" geodatabase

Planning Source	Document
Clallam County	BOCC 2017 ODT Completion Plan.pdf; Six Year Transportation Improvement Program, 2018 to 2023 (November 2017)
Clallam County	Comprehensive Plan – Chapter 31.02
Jefferson County	Non-motorized Transportation and Recreational Trails Plan 2010; Six Year Transportation Improvement Program 2019-2024 (November 2018)
Jefferson County	Transportation Improvement Program 2019-2024
Kitsap County	2016 Non-motorized Route Map
Mason County	2008 Regional Trails Plan for the Development of Countywide Trails, Bikeways and Water Trails
Mason County	Lower Hood Canal Discovery Trail – Belfair State park to Theler Community Center Pedestrian and Bicycle Trail Project Conceptual Design
City of Port Angeles	Port of Port Angeles Recreation and Public Access Plan (January 2018)
WSDOT Olympic Region	SR 3 Belfair Bypass Bicycle and Pedestrian Technical Memorandum (2011)

Appendix B

ECONorthwest Memorandum: Peninsula RTPO
Economic Impacts of Regional Trails



DATE: December 27, 2018
TO: Peninsula Regional Transportation Planning Organization
FROM: ECONorthwest Project Team
SUBJECT: PENINSULA RTPO ECONOMIC IMPACTS OF REGIONAL TRAILS

Introduction

This memorandum characterizes baseline regional economic activity resulting from outdoor recreation in Clallam, Jefferson, Mason, and Kitsap counties (the Peninsula region). These findings contribute to the Peninsula Regional Transportation Planning Organization's (RTPO) Peninsula Regional Non-Motorized Connectivity Study by providing a framework for the economic impacts of outdoor recreation, describing how these impacts can be measured, and illustrating how this framework applies to the region. In the context of RTPO and its work, this memorandum applies the term "regional trails" to all regional nonmotorized transportation and recreation facilities. This includes separated bicycling, equestrian and pedestrian trails, as well as modifications to the road network to facilitate use, such as soft shoulders.

Summary of Findings:

- The tourism sector is growing and currently accounts for 13 to 14 percent of all employment and number of businesses in the Peninsula.
- As the population grows in the Peninsula and Washington State, so will the demand for outdoor recreation opportunities and access.
- The indirect and induced economic impacts of outdoor recreation spending in the Peninsula region's economy is approximately 67 percent of direct spending.
- Access to trails and recreation opportunities can potentially support improved health outcomes for users and increased property values for residents.
- All of the value of regional trails is not captured in the regional economy. Since many of the outdoor recreation resources in the region are free to the public, the only cost to access these resources is the travel cost to get there. In many cases, users are willing to pay more than the travel cost and derive consumer surplus from their trip. By increasing quality or number of recreation opportunities, the consumer surplus value will grow.

Overview of Tourism and Outdoor Recreation Economics

Tourism and outdoor recreation are important sectors in many regional economies. These two fields can overlap but do have some key differences. The economic contributions of tourism are based on visitor expenditures on local goods and services, while outdoor recreation refers to the specific activities that individuals chose to participate in during their leisure time.

The economic contributions and benefits of outdoor recreation are measured by the business activity generated from spending by visitors or residents. The value generated by access to outdoor recreation activities is measured in consumer surplus, increased property values, and health benefits from physical activity and stress reduction.

Recreation as a Tool for Economic Development

Quantification of the economic development opportunities related to outdoor recreation helps local communities decide how to spend limited funds for the greatest benefit. Economic development can expand a jurisdiction's tax base through additional jobs and income, which in turn can generate additional revenue that can be used to improve local infrastructure, facilities, and services, and potentially reduce the tax burden on existing residents. Quality of life improvements such as increased access to natural lands and improved outdoor recreation can be captured in increasing property values.

Economic Impacts

Providing amenities like parks or recreation opportunities is not costless and due to its public nature, rarely results in equal direct revenues (through user fees). The financial value to the community is best described through the economic impact of that recreation. Economic impacts are measured by first determining the amount of new money entering the economy from tourism activities. This new spending is then mapped to the industries that directly support that recreation (the purchase of food, lodging, fuel, equipment, and other items that facilitate the recreational activity). Those industries generate indirect economic impacts by acquiring goods and services from other businesses in the region. Finally, the increased income throughout the region as a result of all the increased spending generates induced impacts on the local economy. The indirect and induced effects of that spending to the local economy are quantified as a multiplier that relates that share of indirect and induced impacts to every dollar of direct spending. In a simplified version, this is can be explained by the following equation:



It is important to note that resident spending does not contribute to economic impacts in the same way because, generally, that expenditure does not represent new money in the economy. Unless the quality of local recreation keeps residents from traveling out of town to visit other

areas, it is reasonable to assume that a local resident would have spent that money in the community by purchasing other goods or services.

Increasing the Value of Outdoor Recreation for Local Communities

Outdoor recreation can also represent a benefit that cannot be measured by direct spending. The only costs associated with accessing public facilities like trails or public land access are the travel cost and nominal user fees if any. More importantly, unlike goods available on the private market, there is no price-demand response (e.g., an individual's travel cost is independent of the overall demand for recreation). This discrepancy between the demand for recreation and the cost means that individuals may gain substantial personal benefit from access to the public land and trails. This is called consumer surplus and can be quantified by using nonmarket techniques that capture an individual's "willingness to pay" to access or preserve a recreation space. By measuring the amount that a user would be willing to pay to use a public facility and netting out the costs allows for the calculation of consumer surplus. These benefits are widely used to measure the value of public policies and investments.

However, as a tool of local economic development, local jurisdictions have an opportunity to identify ways to capture the consumer surplus value and ultimately increase the private economic impacts. Unlike retail goods, the supply of public goods is relatively constant, meaning that regardless of demand, the number of trails and cost to access them remains the same. By improving the quality and quantity of trails, a local community can gather more users (who are willing recreate more because of the improved system or availability) resulting in more visitors to the area and subsequent economic impacts.

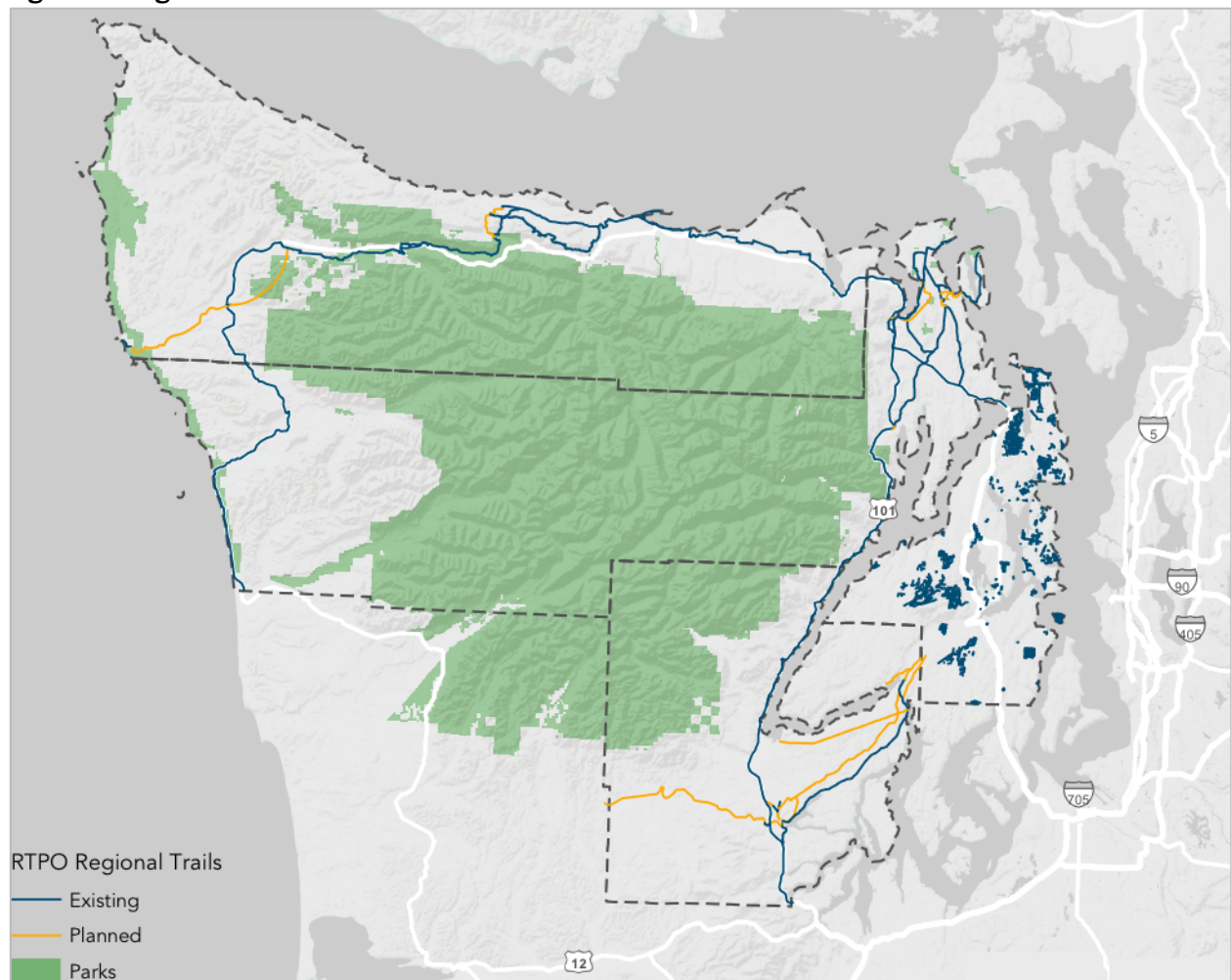
Outdoor Recreation in the Peninsula Region

With over 2.8 million acres of public lands, Washington's Peninsula region offers a wealth of outdoor recreation opportunities.¹ It is home to Olympic National Park, Olympic National Forest, the Dungeness Spit, the Hood Canal and numerous other attractions. The Peninsula counties have 725.5 miles of regional trails that serve as nonmotorized transportation and recreation facilities with an additional 112.2 miles planned.² The longest and most contiguous of these trails is the Olympic Discovery Trail which covers 130 miles from Port Townsend to La Push.

¹ Washington State Public Lands Inventory

² Parametrix. (2018). Peninsula Regional Nonmotorized Connectivity Plan (DRAFT). Prepared for: *Peninsula Regional Transportation Planning Organization, Washington Department of Transportation.*

Figure 1. Regional Trails Network



Sources: Esri, USGS, NOAA and Parametrix

These attractions not only benefit visitors but also residents. According to the Washington Recreation and Conservation Office (RCO), the top recreation activities for residents in the Peninsula region were picnicking, barbecuing, or cooking out (with 80 percent of the region’s residents participating), walking without a pet (74 percent), observing or photographing wildlife (65 percent), gardening (58 percent), and walking with a pet (55 percent).³ These regional results are similar to participation rates statewide. Popular activities like walking, bicycling, and running show that the regional trail network could be an important resource for the Peninsula.

³ Responsive Management. (2012). Results of General Population Survey in Support of the Development of the Washington State Comprehensive Outdoor Recreation Plan. Prepared for: *Washington Recreation and Conservation Office*.

Table 1. Participation Rates by Activity

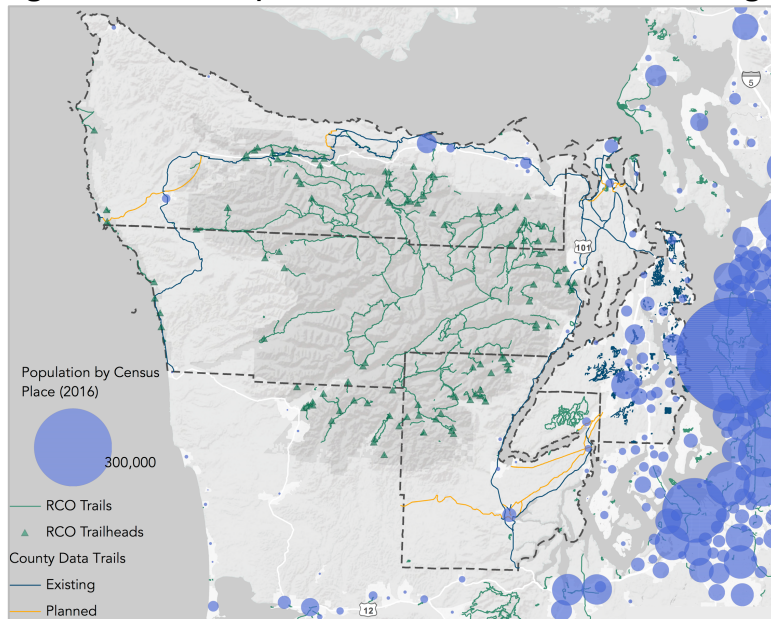
Activity	Washington State (n=3,114)	Peninsula Region (n=312)
Hiking - Trails	51%	42%
Bicycle Riding - Trails	24%	15%
Horseback Riding - Trails	4%	4%
Running or Jogging - Trails	17%	12%

Source: Washington Recreation and Conservation Office, 2013 Statewide Comprehensive Outdoor Recreation Plan (SCORP)

Regional Trends in the Outdoor Recreation

Demand for recreation varies with the size of the regional population. As the number of residents and visitors in a region increases, so does the total number of individuals engaging in recreation activities. While data on the geographical breakdown of users in the Peninsula is not readily available, population growth in the four counties of interest, as well as six of the neighboring counties (Grays Harbor, Island, King, Pierce, Snohomish and Thurston) may lead to an increased pool of recreation users (Figure 2).

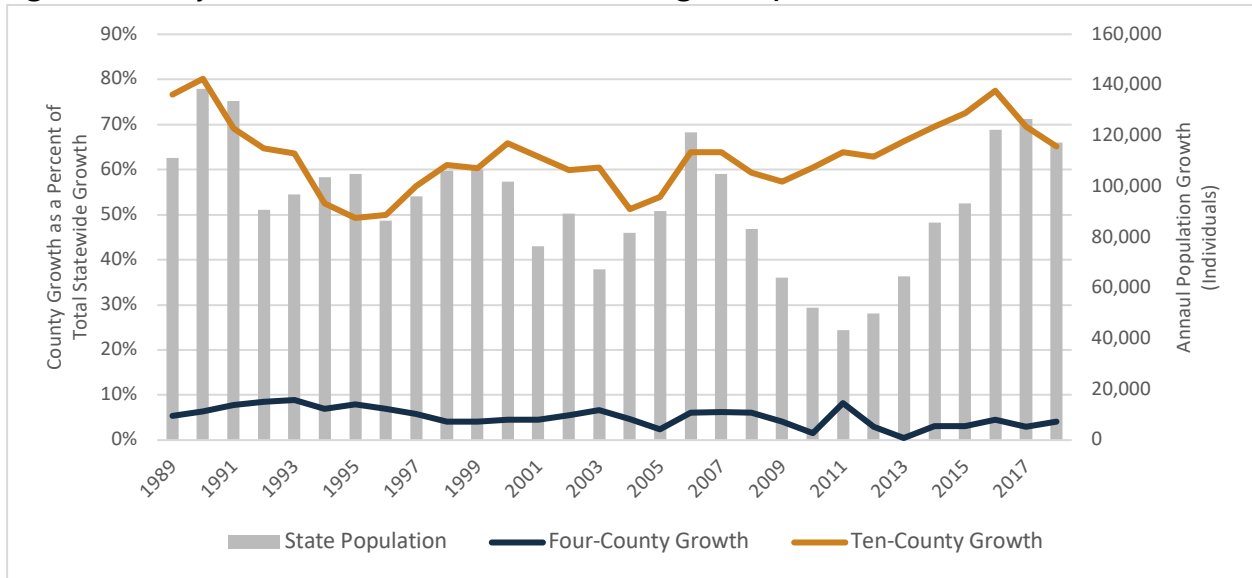
Figure 2. Current Population in and about the Peninsula Region



Sources: U.S. Census, Esri, USGS, NOAA and Parametrix

In the past 30 years, Clallam, Jefferson, Kitsap, and Mason counties have grown by about 43 percent compared with the ten-county region (Peninsula and the six neighboring counties) growing 34 percent. As a percent of statewide growth, the Peninsula counties account for about 4 percent of all state growth while the ten-county region accounts for over 65 percent of the total statewide population growth from 1988 to 2018 (Figure 3).

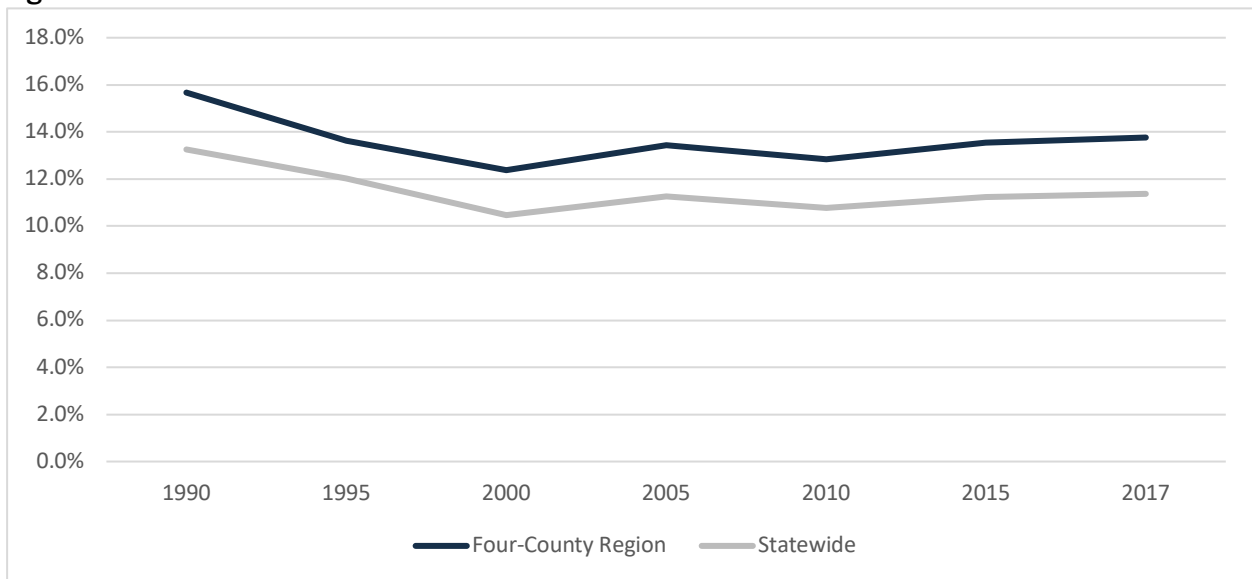
Figure 3. County-Level Growth as a Percent of Washington Population Growth



Source: State of Washington Office of Financial Management

While the Peninsula has followed statewide trends of growth in tourism-related⁴ employment and total businesses, the share of total businesses and employment engaged in tourism is higher in the region (Figure 4, Figure 5).

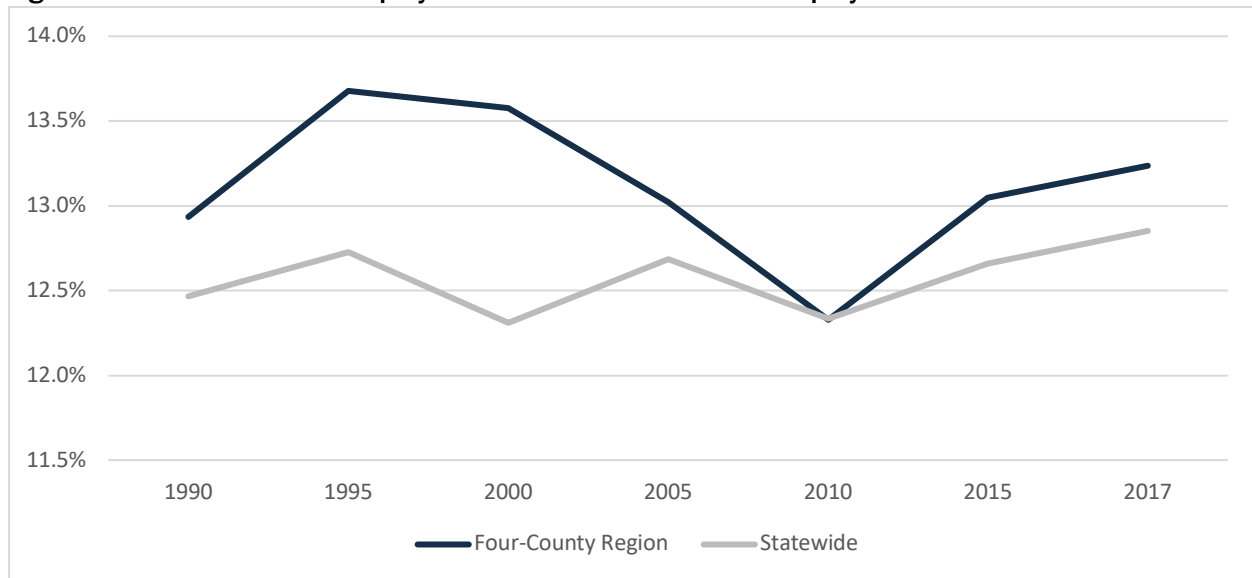
Figure 4. Number of Tourism-Related Businesses as a Percent of Total Businesses



Source: U.S. Bureau of Labor Statistics

⁴ North American Industry Classification System (NAICS) Codes (447, 448, 453, 481, 487, 711, 712, 713, 721, and 722) which includes a spectrum of retail, transportation, arts and the hospitality sectors associated with the tourism sector.

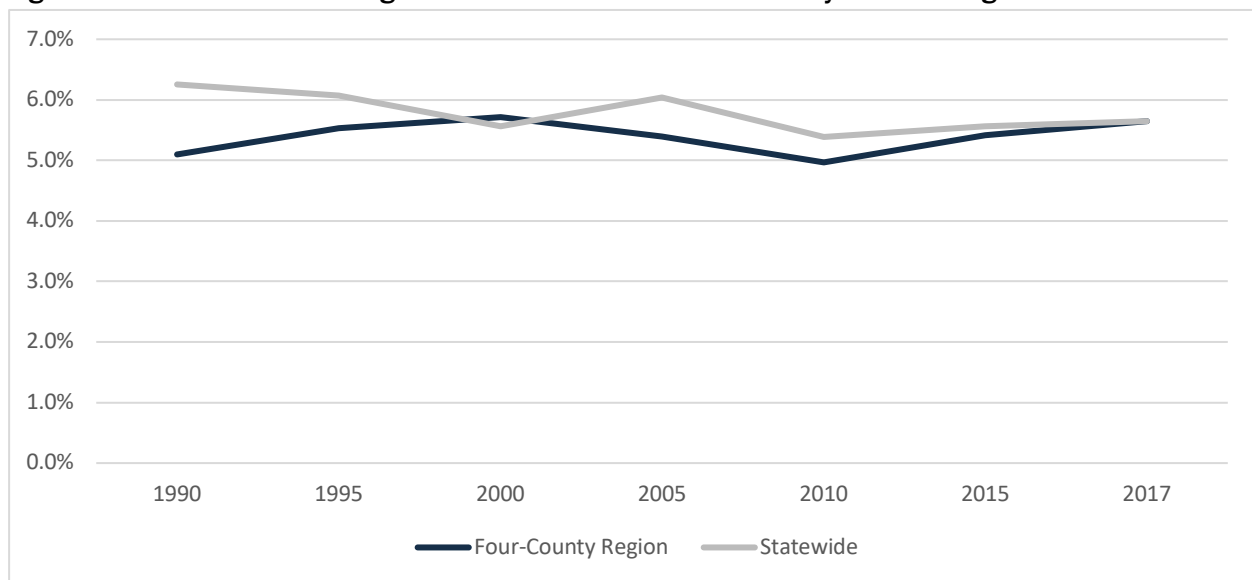
Figure 5. Tourism-Related Employment as a Percent of Total Employment



Source: U.S. Bureau of Labor Statistics

With a greater share of employment and business in the tourism sector, the Peninsula is more reliant on the tourism income than the state as a whole. Despite this larger share of employment, the share of the tourism wages (compared to all labor income) is roughly equal to the statewide value, suggesting that tourism-related employment in the Peninsula brings home a slightly lower wage than those sectors in other areas of the state (Figure 6).

Figure 6. Tourism-Related Wages as a Percent of Total All Industry Annual Wages



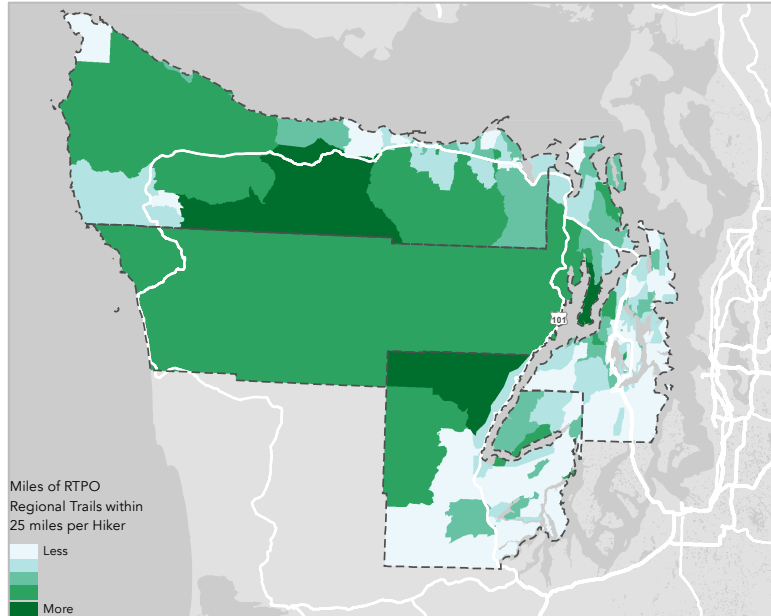
Source: U.S. Bureau of Labor Statistics

Trail Access

Trail use is a function of the network quality as well as the regional population. As new segments of regional trails are built, there will be more individuals that can easily access them. At a census-tract level, there is varying accessibility (measured per capita per mile) within 25

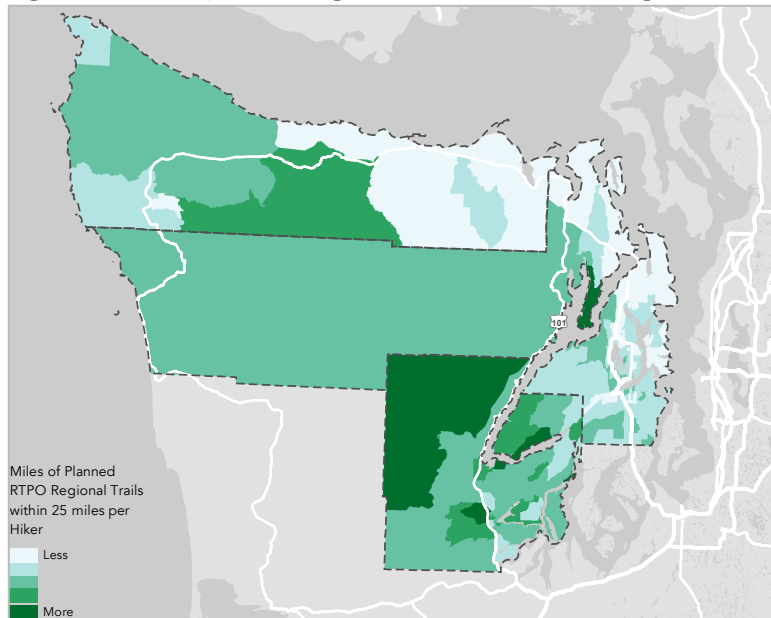
miles of the trail across the Peninsula region (Figure 7). In the planned expansion, the new trails will primarily increase accessibility in and around Mason County (Figure 8). These planned segments will also increase the opportunity that southern communities will have to connect with other populations centers in the region, and potentially increasing the multi-modal interconnectedness of the broader recreation system for activities like long-distance bicycle tourism.

Figure 7. Per Capita Mileage Access to the Existing Regional Trail Network



Source: ECONorthwest analysis of Parametrix RTPO trail data

Figure 8. Per Capita Mileage Access to Planned Regional Trail Network



Source: ECONorthwest analysis of Parametrix RTPO trail data

Economic Impacts of Recreation on the Peninsula Region

Recreation Expenditures

While there is insufficient data to identify specific economic impacts of regional trails, we can characterize the economic impact of outdoor recreation for each of the Peninsula’s counties. Based on the RCO report, *Economic Analysis of Outdoor Recreation in Washington State*, the Peninsula region enjoys a total of \$1.67 billion in annual expenditures contributing a total of \$1.12 billion of additional economic output in the four Peninsular counties.^{5, 6} Previous economic analyses have demonstrated that demand for outdoor recreation from non-local users can stimulate economic activity through tourism spending on local goods and services, such as restaurants, hotels, and retail businesses.

Using the average daily expenditures and the pattern of spending on outdoor recreation, we can calculate what the potential magnitude of indirect and induced impacts may accrue if more users were to visit the region after trail expansion is completed. Based on this analysis, the Peninsula counties may receive \$460,950 to \$850,560 of new local economic activity from each additional \$1 million in visitor spending (Table 2). This is due to an increase in demand for local goods and services. For example, when a tourist pays for a local hotel, that company pays employees and other local business to support its operations. The induced economic contribution reflects the degree to which each dollar spent recirculates in the region. Both state and local taxes receive a boost, as well as employment (as shown as a number of full-year job equivalents).

Table 2. Outdoor Recreation Economic Impacts by County (USD 2018)

County	Direct Recreational Expenditures (in thousands, 000s)	Induced Economic Contribution per Dollar of Direct Recreational Expenditure	State and Local Taxes Generated per Dollar of Direct Recreational Expenditure	Employment Generated per \$100,000 in Direct Recreational Expenditure ⁷
Clallam	308,115	\$0.85	\$0.07	1.2
Jefferson	338,845	\$0.68	\$0.06	1.0
Kitsap	741,733	\$0.68	\$0.05	0.9
Mason	275,604	\$0.46	\$0.06	0.6

Source: Derived from Earth Economics, 2015.

⁵ Earth Economics. (2015). *Economic Analysis of Outdoor Recreation in Washington State*. Prepared for: *Washington Recreation and Conservation Office*.

⁶ In the most recent data available for Washington, the definition of outdoor recreation encompasses a wide variety of activities including golfing, hunting and fishing. This analysis generated expenditure profiles by land type (e.g., state parks, federal forests and private lands), and results were modeled by county based on their specific land make-up. The expenditure profiles do not include equipment purchases based on activity.

⁷ Shown as a number of full-year job equivalents

Of the four Peninsular counties, Kitsap observes the largest amount of recreational expenditures. The variation in induced economic contribution between counties illustrates the recirculation of those recreation expenditures and is reflective of the relative size of the tourism sector within each county. A larger value, e.g., \$0.85 in Clallam County, means that every \$1 of recreation expenditure leads to an additional \$0.85 in spending to other businesses in the County.

To gather more information on the potential for trail-based recreation revenues, the expenditure for each participant day by activity can also provide useful insight into the economic impact potential (Table 3). Based on conversations with local stakeholders and a recognized opportunity for the regional trail network, we took a deeper look into the economic effects of bicycling. For example, a 2008 study (on overnight bicycle-tourism) found that the average participant spent \$115.11 per day on the 132-mile Great Allegheny Passage, connecting Cumberland, Maryland to McKeesport, Pennsylvania (near Pittsburgh), and draws visitors from all over the country.⁸ The Peninsula Trails Coalition is looking to position the Olympic Discovery Trail with a similar pattern of use, attracting bicyclists not only from the region but from other areas of the country and the world. Existing measures found that Washington cyclists spend an average of \$49.74 per day, which is notably lower than values seen on other long-distance linear trails in the U.S. It is reasonable to expect average expenditures on the Olympic Discovery Trail to increase as connectivity improves and it becomes a destination for long-distance bicycle tourism. In gauging the economic impact, all users should be reflected in the average expenditure, but it is important to highlight the different levels of economic engagement that can occur.

Table 3. Expenditure by Activity (USD 2018, By Participant Day)

Activity	Washington State Average Expenditure ^{9, 10}	Great Allegheny Trail System ¹¹	North Carolina Outer Banks ¹²	Central Shenandoah Valley ¹³
Horseback Riding	\$193.88			
Bicycle Riding	\$49.74	\$115.11	\$206.16	\$165.38
Hiking	\$48.79			
Running/Jogging/ Trail running	\$5.77			

Source: see Footnotes 10 through 13

⁸ Campos, Inc. (2009). The Great Allegheny Passage Economic Impact Study. Prepared for: *The Progresses Fund's Trail Town Program, Laurel Highlands Visitors Bureau and Allegheny Trail Alliance.*

⁹ Earth Economics (2015).

¹⁰ At this time, there is no Washington-specific economic impact analyses of long-distance bicycle tourism similar to the studies done on the Great Allegheny Trail System or the Central Shenandoah Valley.

¹¹ Campos, Inc (2009).

¹² Lawrie, J. et al. (2004).

¹³ Central Shenandoah Planning District Commission (2016).

For both resident and visitors, research on the Great Allegheny Passage, Central Shenandoah Valley and in North Carolina's Outer Banks found that bicycle users tended to be wealthier, older and more educated.^{14,15,16} Visitors tended to ride longer distances and spent more time in the region (staying between two to five nights) while residents were more likely to use bicycle facilities for day-use and describe themselves as beginner/intermediate riders.

Improvements like increasing trail connections to recreation sites, communities can encourage more intensive pattern of use to attract visitors from outside the region who want to use the trail system for various other long-distance or multi-day outdoor recreation activities. Enhanced facilities bring additional value to residents by improving amenities and increasing connectivity between communities.

As noted in the overview, determining the total economic contributions (including resident expenditures), or net economic impact is beyond the scope of this analysis, due to the intensive data collection effort required to identify the reallocation of local resident spending. However, RCO is currently updating the 2015 recreation expenditure study with a focus on non-motorized recreation that will inform how recreation spending and user trips have evolved over the last few years.

Economic Benefits of Recreation on the Peninsula Region

Consumer Surplus

The regional trail network provides access to outdoor recreation for Peninsula residents. Visitors to the region benefit from these opportunities as well. Quantifying the direct community benefits provided by the trail system is complex because users do not always pay directly for their use. This is especially true for parks, trails, and natural areas.

Benefits to users are measured by consumer surplus, which is the difference between the amount a user would be willing to pay for a good or service and the price they actually pay. Consumer surplus can serve as a proxy how much benefit a user is receiving net of the direct costs to the user. For example, while some trail access requires payment of a user fee (e.g., Northwest Forest Pass), on some public lands and most regional trails, there is no direct charge. State, County, and Local governments provide resources to maintain outdoor recreation facilities like the regional trails. Without a mechanism to restrict access and engage in price

¹⁴ Ibid

¹⁵ Lawrie, J., et al. (2004). *The Economic Impact of Investments in Bicycle Facilities: A Case Study of the Northern Outer Banks*. Prepared for: *North Carolina Department of Transportation's Division of Bicycle and Pedestrian Transportation*.

¹⁶ Central Shenandoah Planning District Commission (2016). *The Economic Impact of Bicycling in the Central Shenandoah Valley*.

discrimination¹⁷ in order to maximize profits, these resources will never be developed by a private entrepreneur. Public lands and recreation facilities are a public good where governments are supporting access and promoting activities that benefit the entire community. The Peninsula as a whole is better off when its population is healthy, active and engaged, and has areas and opportunities to socialize and develop bonds.

Despite the lack of a market price, there are well developed non-market valuation methods for measuring the consumer surplus for public goods. Existing research provides numerous sources that illustrate the value of the regional trail network for activities identified through stakeholder engagement and research. The values shown below (Table 4) are illustrative and show the potential user-day benefit that is not captured by the market. These values vary depending on the activity, location (rural, suburban, or urban) and trail characteristics.

Table 4. Consumer Surplus by Activity (USD 2018)

Activity	Consumer Surplus per Day
Running and Bicycling ¹⁸	\$9.00-14.00
Walking and Bicycling ¹⁹	\$28.26
Hiking and Bicycling ²⁰	\$38.90
Equestrian Trail-riding ²¹	\$484.00

Source: See Footnotes 16 through 19

¹⁷ Defined as charging a price based on an individual's willingness to pay. This is regularly observed in private markets for all types of goods and services.

¹⁸ Based on the Old Dominion Trail in Northern Virginia which is a transportation and running corridor primarily used by residents.

Bowker, J., et al. (2004). "The Washington & Old Dominion Trail: An Assessment of User Demographics, Preferences, and Economics." Prepared for: *Virginia Department of Conservation*.

¹⁹ Based on a rail-to-trail study looking at three different states (IA, CA and FL) on multi-use corridors with differing road surfaces. There was significant variation between the states. The user profile of the Florida trail serving residents with an average consumer surplus value of \$4.81 while the Iowa and California trail-use characterized by visitors and longer time used at a much higher rate of consumer surplus.

Siderelis, C. & Moore, R. (1995). "Outdoor recreation net benefits of rail-trails." *Journal of Leisure Research*, 27(4): 344-359.

²⁰ Based on the Virginia Creeper Trail, multi-use trail in rural Virginia near the intersection of several long-distance hiking trails used equally by locals and visitors.

Bowker, J., Bergstrom, J. & Gill, J. (2007). "Estimating the economic value and impacts of recreational trails: a case study of the Virginia Creeper Rail Trail." *Tourism Economics*, 13(2): 241-260.

²¹ Based on a study of trail-rider demand on public lands in Kentucky.

Blackwell, M. et al. (2009). "Recreational Demand for Equestrian Trail-Riding." *Agricultural and Resource Economics Review*, 38(2): 229-239.

Ecosystem Services

Native vegetation and associated ecological processes accessible from the regional trails network provide additional benefits to Peninsula residents. Trees, vegetation and related biophysical processes along the trails provide benefits such as stormwater management and treatment, air quality improvement, carbon sequestration, micro-climate buffering of weather extremes, and habitat support for terrestrial, avian, and aquatic species. Access to the regional trails can also generate physical benefits to users, increased productivity in the workplace, and reduced healthcare costs. The trails themselves also have a positive impact on local property values. Ecosystem service benefits are not quantified in this analysis, but other research has reported values and benefits that could occur in the context of the Peninsula's regional trail network.

Livability

Access to outdoor amenities increases the attractiveness of particular geographies, driving population growth in those areas. While economic growth is not always equitable, there are benefits from improving the average income and stimulating regional economic development. Research done by the U.S. Department of Agriculture found that rural tourism and recreation development improved socioeconomic well-being, generated higher employment growth rates and increased income.²² Rural areas with natural amenities are attracting new residents. In a survey on motives for moving to high natural-amenity counties, 45 percent of respondents considered social/environmental amenities to be the most important, while 34 percent cited employment, and 18 percent ranked the physical environment highest.²³ In subsequent questions which ranked the secondary drivers, responses like outdoor recreation and pace of lifestyle demonstrated the appeal of moving to more rural and natural areas. For the Peninsula, access to natural-amenities and facilities like a connected regional trails network may increase its attractiveness to new residents.

A more tangible measurement of how outdoor recreation and demand influences location decisions is the impact on property values. There are a number of studies that demonstrate that access to parks and greenways increases local property values in urban settings. Fewer studies evaluate the property value impacts of amenity access in more rural areas because open space is less scarce. However, one study on an outdoor and amenity-oriented community in Utah found that a positive influence of proximity to trailheads on property value, by decreasing the travel time to a trailhead by one minute increased the property value by 0.6 percent on average.²⁴ Additionally, studies in Indiana and Delaware have found that proximity to bicycle trails

²² Reeder, R., & Brown, D. (2005). Recreation, Tourism and Rural Well-Being. *U.S. Department of Agriculture: Economic Research Service*, 7.

²³ Rudzitis, G. (199). Amenities Increasingly Draw People to the Rural West. *Rural Development Perspectives*, 14(2).

²⁴ Gnagey, M. & Grijalva, T. (2018). The Impact of Trails on Property Values: A Spatial Analysis. *Annals of Regional Science*, 60 (1), 73-97.

increase property values.^{25,26} As public lands and recreation facilities become more accessible to the Peninsula's residents, this property value growth could provide a tangible benefit to the region.

While these effects have not been specifically studied in the Peninsula, regional trends in population and home values suggest that natural amenities influence population growth. Anecdotally, the region's natural resources are prominently marketed to potential property owners, with some even advertising proximity to regional trail networks. The population growth statewide suggests that people are relocating not just for new jobs, but also because those employment opportunities are surrounded by accessible outdoor recreation.

Health and Wellbeing

Access to recreation, walkable transportation networks, and connected communities provide other benefits to residents. As our lives become more sedentary, community adaptation to facilitate physical activity has become more important. In the United States, research has shown that people living in walkable neighborhoods engage in about 35 to 45 minutes more moderate-intensity physical activity per week and are substantially less likely to be overweight or obese (controlling for socioeconomic factors) compared to those living in non-walkable areas.²⁷ Similarly, when measuring the association between natural amenities and physical activity, areas with high levels of natural resources also have higher levels of access to those natural resources like trailheads and bike facilities.²⁸ Based on research in Wisconsin, if residents engaged in 120 minutes of moderate physical activity or 60 minutes of vigorous activity, the avoided healthcare costs would total about \$453 a year per resident (USD 2018).²⁹ While this is not a direct cost reduction due to trail accessibility or availability, these outcomes indicate the potential economic implications of improved access to outdoor recreation resources.

Conclusion

This memorandum frames how the economic impacts of the regional trail network can inform economic development and outdoor recreation planning in the Peninsula region. Outdoor recreation is an important source of businesses' revenue and employment in the four-county study area. Regional demand for recreation is expected to continue to grow as the Peninsula region's population increases. As a visitor destination, the growth of the eight-county area (the Peninsula region and four adjacent counties) is an important driver of demand as well. Part of

²⁵ Lindsey, G., Man, J., Payton, S., & Dickson, K. (2004). Property Values, Recreation Values, and Urban Greenways. *Journal of Park & Recreation Administration*, 22(3), 69–90.

²⁶ Racca, D. & Dhanju, A. (2006). Property Value/Desirability Effect of Bike Paths Adjacent to Residential Areas. Prepared for: *Delaware Center for Transportation and the State of Delaware Department of Transportation*.

²⁷ Heath, G., et al. (2006). The Effectiveness of Urban Design and Land Use and Transport Policies and Practices to Increase Physical Activity: A systematic Review. *Journal of Physical Activity and Health*, 3 (suppl. 1), 55–76.

²⁸ Michimi, A. & Wimberly, M. (2012). Natural Environments, Obesity, and Physical Activity in Nonmetropolitan Areas of the United States. *The Journal of Rural Health*, 28(4), 398–407.

²⁹ Grabow, M., M. Hahn, and M. Whited. (2010). Valuing Bicycling's Economic and Health Impacts in Wisconsin. *The Nelson Institute for Environmental Studies Center for Sustainability and the Global Environment at University of Wisconsin-Madison*.

that increased use could occur on the regional trail network, and the Peninsula will benefit from the greater access that the network provides.

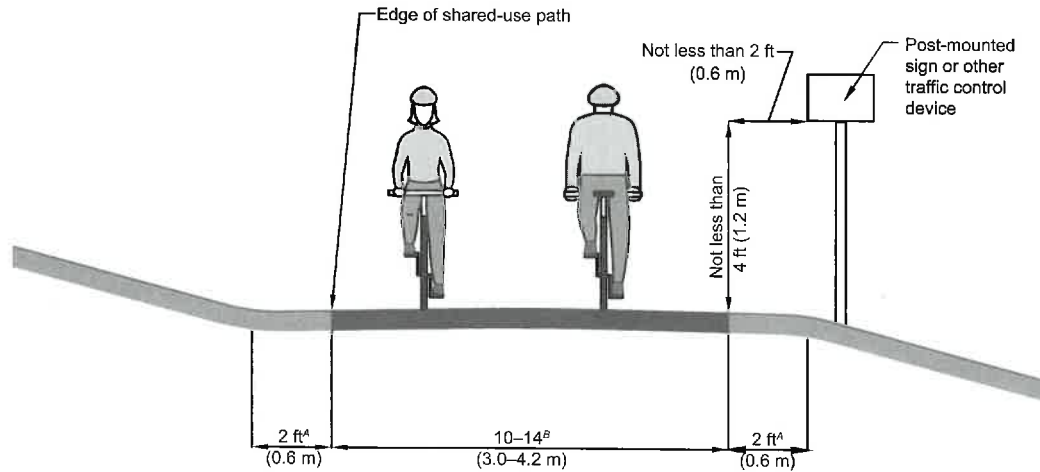
While existing data is insufficient to attribute a monetary value to the regional trail system, spending by visitors to the regional trail network contributes to the greater economic growth of the community and the outdoor recreation sector in the area. Government investments in maintenance and expansion of regional trails will translate into benefits in health and property value for residents and increase the attractiveness for new residents and the additional economic development that they bring.

Appendix C

Typical Sections Based on AASHTO



- On steep grades to provide additional passing area; or
- Through curves to provide more operating space.



Notes:

^A (1V:6H) Maximum slope (typ.)

^B More if necessary to meet anticipated volumes and mix of users, per the *Shared Use Path Level of Service Calculator* (9)

Figure 5-1. Typical Cross Section of Two-Way, Shared Use Path on Independent Right-of-Way

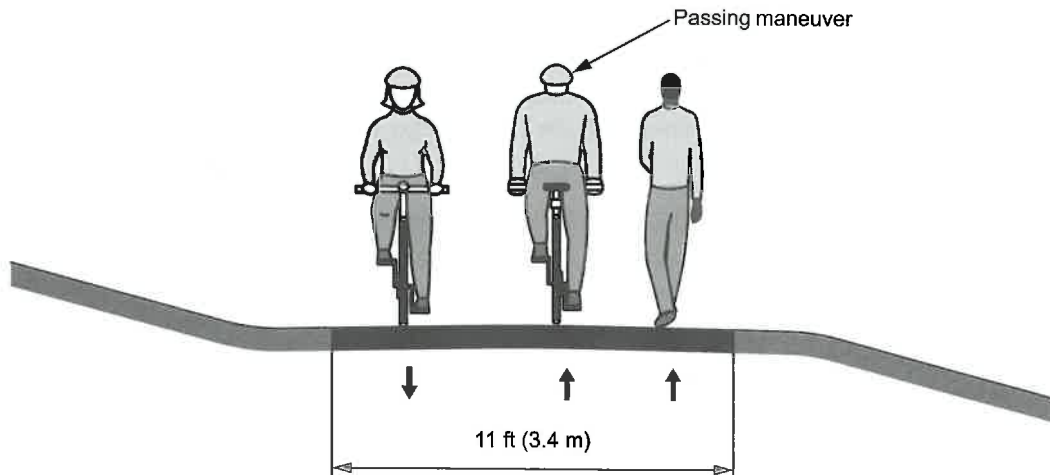


Figure 5-2. Minimum Width Needed to Facilitate Passing on a Shared Use Path

Under most conditions, there is no need to segregate pedestrians and bicyclists on a shared use path, even in areas with high user volumes—they can typically coexist. Path users customarily keep right except to pass. Signs may be used to remind bicyclists to pass on the left and to give an

way and bridge deck. Bridge deck lips, formed by differences between pathway and bridge deck heights, should be avoided because they can cause tire blowouts, bent wheels, crashes, and injuries. These lips can be eliminated by placing a transitional layer of asphalt between the path surface and the bridge deck.

Where grade separation is desired between a path and a roadway or railroad, designers sometimes have the choice between constructing a bridge over the roadway or railroad, and constructing a tunnel or underpass under the roadway or railroad. The adjacent topography typically is the greatest factor in determining which option is best; however, bridges are preferred to underpasses because they have security advantages and are less likely to have drainage problems.

When a bridge or underpass is built over a public right-of-way (such as a road), a connection is often needed between the path and roadway; as this represents a potential access point for pedestrians and bicyclists. This often involves significant ramping or other means to provide an accessible connection between the two.

Protective railings, fences, or barriers on either side of a shared use path on a stand-alone structure should be a minimum of 42 in. (1.05 m) high. There are some locations where a 48-in. (1.2 m) high railing should be considered in order to prevent bicyclists from falling over the railing during a crash. This includes bridges or bridge approaches where high-speed, steep-angle (25 degrees or greater) impacts between a bicyclist and the railing may occur, such as at a curve at the foot of a long, descending grade where the curve radius is less than that appropriate for the design speed or anticipated speed.

Openings between horizontal or vertical members on railings should be small enough that a 6 in. (150 mm) sphere cannot pass through them in the lower 27 in. (0.7 m). For the portion of railing that is higher than 27 in. (0.7 m), openings may be spaced such that an 8 in. (200 mm) sphere cannot pass through them. This is done to prevent children from falling through the openings. Where a bicyclist's handlebar may come into contact with a railing or barrier, a smooth, wide rub-rail may be installed at a height of about 36 in. (0.9 m) to 44 in. (1.1 m), to reduce the likelihood that a bicyclist's handlebar will be caught by the railing (see Figure 5-11).

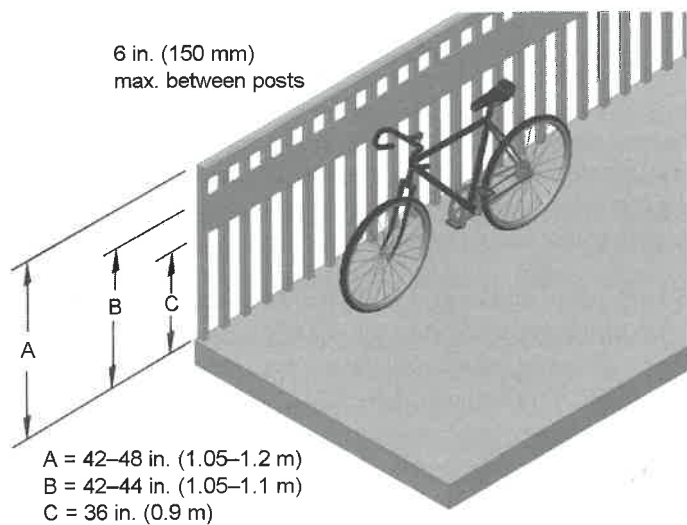


Figure 5-11. Bridge Railing

This guide therefore presents bikeway design dimensions that accommodate a range of bicyclists and other non-motorized users, as appropriate. Critical physical dimensions for upright adult bicyclists are shown in Figure 3-1. The minimum operating width of 4 ft (1.2 m), sufficient to accommodate forward movement by most bicyclists, is greater than the physical width momentarily occupied by a rider because of natural side-to-side movement that varies with speed, wind, and bicyclist proficiency. Additional operating width may be needed in some situations, such as on steep grades, and the figure does not include shy distances from parallel objects such as railings, tunnel walls, curbs, or parked cars. In some situations where speed differentials between bicyclists and other road users are relatively small, bicyclists may accept smaller shy distances. However this should not be used to justify designs that are narrower than recommended minimums. The operating height of 8.3 ft (2.5 m) can accommodate an adult bicyclist standing upright on the pedals. Other typical dimensions are shown in Figure 3-1 (4).

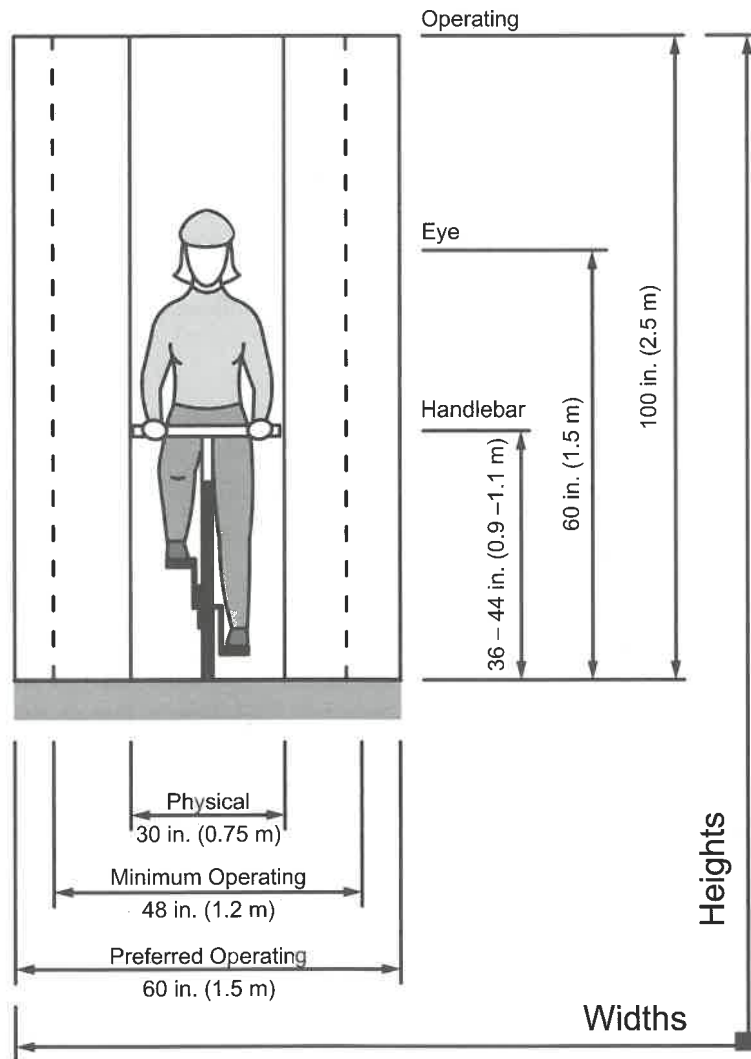


Figure 3-1. Bicyclist Operating Space

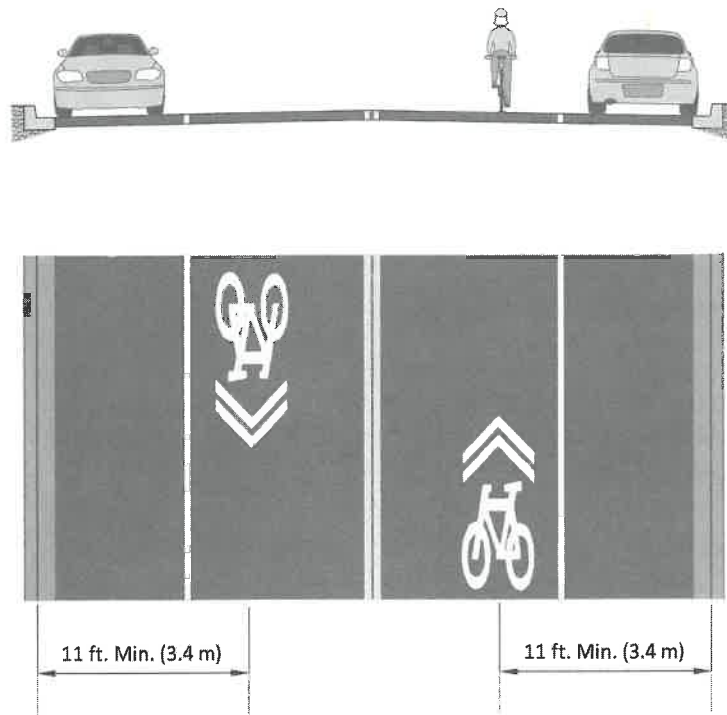


Figure 4-5. Typical Shared-Lane Marking Cross Section on Street with Parking

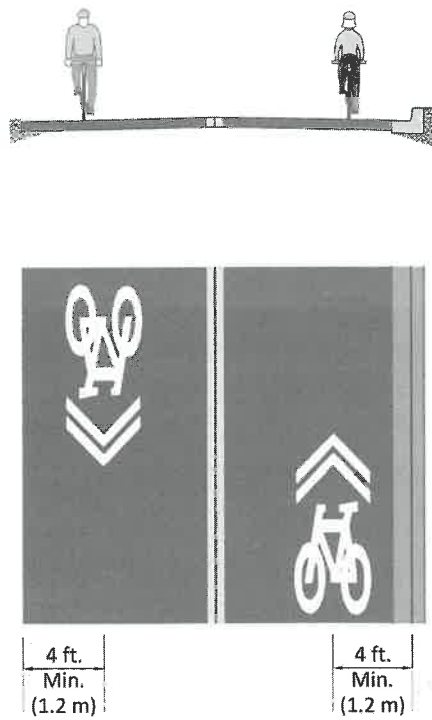
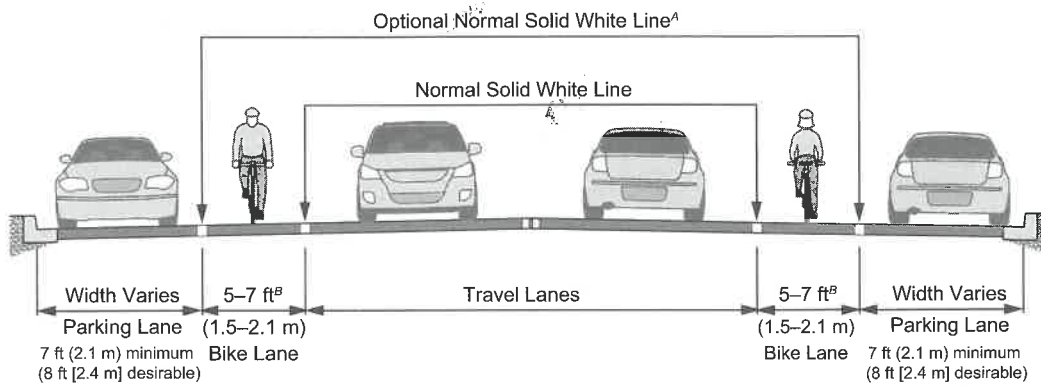
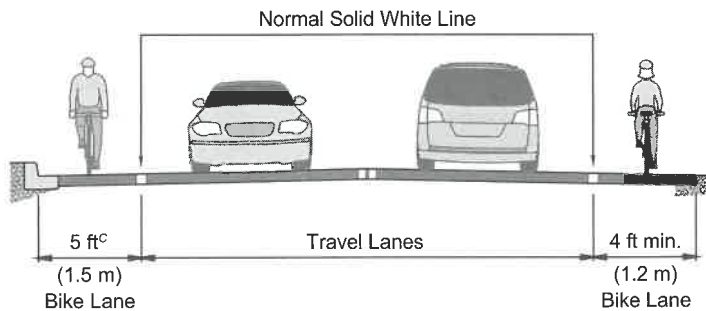


Figure 4-6. Typical Shared-Lane Marking Cross Section on Street with No On-Street Parking



On Street Parking



Parking Prohibited

Notes:

- ^A An optional normal (4–6-in./100–150-mm) solid white line may be helpful even when no parking stalls are marked (because parking is light), to make the presence of a bicycle lane more evident. Parking stall markings may also be used.
- ^B Bike lanes up to 7 ft (2.1 m) in width may be considered adjacent to narrow parking lanes with high turnover.
- ^C On extremely constrained, low-speed roadways (45 mph [70 km/h] or less) with curbs but no gutter, where the preferred bike lane width cannot be achieved despite narrowing all other travel lanes to their minimum widths, a 4-ft (1.2-m) wide bike lane can be used.

Figure 4-13. Typical Bike Lane Cross Sections

Where bicycle lanes are provided, appropriate marking or signing should be used so the lanes are not mistaken for motor-vehicle travel lanes or parking areas. For roadways with no curb and gutter and no on-street parking, the minimum width of a bicycle lane is 4 ft (1.2 m). For roadways where the bike lane is immediately adjacent to a curb, guardrails, or other vertical surface, the minimum bike lane width is 5 ft (1.5 m), measured from the face of a curb or vertical surface to the center of the bike lane line. There are two exceptions to this:

- In locations with higher motor-vehicle speeds where a 2-ft (0.6 m) wide gutter is used, the preferred bike lane width is 6 ft (1.8 m), inclusive of the gutter.
- On extremely constrained, low-speed roadways with curbs but no gutter, where the preferred bike lane width cannot be achieved despite narrowing all other travel lanes to their minimum widths, a 4-ft (1.2 m) wide bike lane can be used.

Along sections of roadway with curb and gutter, a usable width of 4 ft (1.2 m) measured from the longitudinal joint to the center of the bike lane line is recommended. Drainage inlets and

Appendix D

Data Crosswalk Tables



Clallam County ODT

OBJECTID	Segment_Name	Trail_System	RTP_Facility	RTP_Status	Jurisdiction	Length_miles	LABEL	ROUTE_TYPE	SURFACE	ODT_Use	STATUS
47	Olympic Discovery Trail	Olympic Discovery Trail	Sidepath	Existing	Clallam County	0.99	Olympic Discovery Trail	Paved Trail	Chip_Seal	Multi-Use	Existing Trail
48	Olympic Discovery Trail	Olympic Discovery Trail	Sidepath	Existing	Clallam County	1.38	Olympic Discovery Trail	Paved Trail	Asphalt	Multi-use >no horses	Existing Trail
48	Olympic Discovery Trail	Olympic Discovery Trail	Sidepath	Existing	Clallam County	1.38	Olympic Discovery Trail	Paved Trail	Asphalt	Multi-use >no horses	Existing Trail
49	SR 110	Olympic Discovery Trail	Sidepath	Planned	Clallam County	12.53	Olympic Discovery Trail Access	Paved Road	Asphalt	Multi-use	Complete - On Road
49	SR 110	Olympic Discovery Trail	Sidepath	Planned	Clallam County	12.53	Olympic Discovery Trail	Paved Road	Asphalt	Multi-use	Complete - On Road
49	SR 110	Olympic Discovery Trail	Sidepath	Planned	Clallam County	12.53	Interim Trail Route	Paved Road	Paved	Multi-Use	Complete - Interim
49	SR 110	Olympic Discovery Trail	Sidepath	Planned	Clallam County	12.53	Interim Trail Route	Paved Road	Paved	Multi-Use	Complete - Interim
49	SR 110	Olympic Discovery Trail	Sidepath	Planned	Clallam County	12.53	Olympic Discovery Trail	Paved Road	Asphalt	Multi-use	Complete - On Road
49	SR 110	Olympic Discovery Trail	Sidepath	Planned	Clallam County	12.53	Olympic Discovery Trail Access	Paved Road	Asphalt	Multi-use	Complete - On Road
50	Ocean Front Drive	Olympic Discovery Trail	Sidewalk	Existing	Clallam County	0.45	Olympic Discovery Trail	Paved Road	Paved	Multi-Use	Complete - On Road
51	Olympic Discovery Trail	Olympic Discovery Trail	Sidewalk	Existing	Clallam County	0.13	Olympic Discovery Trail	Paved Trail	Asphalt	Multi-use >no horses	Existing Trail
52	Olympic Discovery Trail	Olympic Discovery Trail	Shared use path (paved)	Existing	Clallam County	0.03	Olympic Discovery Trail	Unpaved Trail	Gravel	Multi-use	Existing Trail
53	Olympic Discovery Trail	Olympic Discovery Trail	Shared use path (paved)	Existing	Clallam County	0.19	Olympic Discovery Trail	Unpaved Trail		Multi-use >no horses	Existing Trail
54	Olympic Discovery Trail	Olympic Discovery Trail	Shared use path (paved)	Existing	Clallam County	0.93	Olympic Discovery Trail	Paved Trail	Asphalt	Multi-use >no horses	Existing Trail
55	Olympic Discovery Trail	Olympic Discovery Trail	Sidepath	Existing	Clallam County	0.60	Olympic Discovery Trail	Unpaved Trail	Gravel	Multi-use	Existing Trail
55	Olympic Discovery Trail	Olympic Discovery Trail	Sidepath	Existing	Clallam County	0.60	Olympic Discovery Trail	Unpaved Trail	Gravel	Multi-use	Existing Trail
56	Olympic Discovery Trail	Olympic Discovery Trail	Sidewalk	Existing	Clallam County	0.21	Interim Trail Route	Paved Road	Paved	Multi-use >no horses	Complete - Interim

Clallam County ODT

TRAIL_TYPE	EDIT_DATE	EDIT_NOTE	CLASS	MAPNAME	Begin_MP	End_MP	SEG_MILES	DCD_ROAD_N	RD_NAME	STATUS_old
On Road Paved Bike Shoulders	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	193.6	201.2	0.754345	ODT_E	Olympic Discovery Trail	complete-on road
On Road Paved Bike Shoulders	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	191.1	193.6	0.249885	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Trail on Low Volume Paved Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	154.7	168.9	0.253107	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Trail on Paved Road - Interim	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	8.7004499	ODT_W	Olympic Discovery Trail	
Proposed Multi-User Trail - Unbuilt	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	2.2420399	ODT_W	Olympic Discovery Trail	
Trail on Paved Sidewalk	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	0.418019	ODT_W	Olympic Discovery Trail	complete-mixed
Proposed Trail on Low Volume Paved Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	0.346948	ODT_W	Olympic Discovery Trail	Proposed - On Road
Trail on Paved Road - Interim	42578	Mapped with Rich James	Trail	Interim Trail Route	0	0	0.625817	ODT_W	Interim Trail Route	
On Road Paved Bike Shoulders	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	4.92874	ODT_W	Olympic Discovery Trail	Proposed - On Road
On Road Paved Bike Shoulders	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	0.166203	ODT_W	Olympic Discovery Trail	Proposed - On Road
On Road Paved Bike Shoulders	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	3.5636599	ODT_W	Olympic Discovery Trail	Proposed - On Road
Trail on Paved Road - Interim	42578	Mapped with Rich James	Trail	Interim Trail Route	0	0	5.0462098	ODT_W	Interim Trail Route	Proposed - On Road
Trail on Paved Road - Interim	42578	Mapped with Rich James	Trail	Interim Trail Route	0	0	4.05935	ODT_W	Interim Trail Route	Proposed - On Road
Trail on Paved Road - Interim	42578	Mapped with Rich James	Trail	Interim Trail Route	0	0	1.16445	ODT_W	Interim Trail Route	Proposed - On Road
Trail on Low Volume Paved Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	1.31036	ODT_W	Olympic Discovery Trail	Existing potential route-unimproved
Trail on Low Volume Paved Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	251.4	256.6	0.521994	ODT_E	Olympic Discovery Trail	complete-on road
Trail on Low Volume Paved Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	1.99718	ODT_W	Olympic Discovery Trail	complete-mixed
Trail on Paved Road - Interim	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	3.05322	ODT_W	Olympic Discovery Trail	
Proposed Multi-User Trail - Unbuilt	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	0.0440946	ODT_W	Olympic Discovery Trail	
Trail on Paved Road - Interim	42578	Mapped with Rich James	Trail	Interim Trail Route	0	0	0.847957	ODT_W	Interim Trail Route	Proposed - On Road
Trail on Low Volume Paved Road	42578	Mapped with Rich James	Trail	Gossett ODT Access	0	0	0.277045	ODT_W	Olympic Discovery Trail	
Trail on Paved Road - Interim	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	2.08055		Olympic Discovery Trail	
Trail on Low Volume Paved Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	0.865645	ODT_W	Olympic Discovery Trail	
Trail on Existing Gravel Logging Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	0.307236	ODT_W	Olympic Discovery Trail	
Trail on Low Volume Paved Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	268	270.5	0.256279	ODT_E	Olympic Discovery Trail	complete-on road
Trail on Low Volume Paved Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	1.02943	ODT_W	Olympic Discovery Trail	
Trail on Low Volume Paved Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	4.9374399	ODT_W	Olympic Discovery Trail	Proposed - On Road
Trail on Low Volume Paved Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	1.80826	ODT_W	Olympic Discovery Trail	x
Trail on Paved Road - Interim	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	0.0782316	ODT_W	Olympic Discovery Trail	Existing potential route-unimproved
Trail on Low Volume Paved Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	1.28813	ODT_W	Olympic Discovery Trail	Proposed - On Road
Trail on Paved Road - Interim	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	0.647501	ODT_W	Olympic Discovery Trail	Existing potential route-unimproved
Trail on Low Volume Paved Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	0.292285	ODT_W	Olympic Discovery Trail	Existing potential route-unimproved
Trail on Low Volume Paved Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	0.390771	ODT_W	Olympic Discovery Trail	Proposed - On Road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	256.6	268	1.13291	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	0.160763	ODT_W	Olympic Discovery Trail	Proposed
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	3.0762999	ODT_W	Olympic Discovery Trail	Existing potential route-unimproved
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	1.17035	ODT_W	Olympic Discovery Trail	Existing potential route-unimproved
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	0.249277	ODT_W	Olympic Discovery Trail	Existing potential route-unimproved
Paved Multi-User Trail - Off Road	42669	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	0.258657	ODT_W	Olympic Discovery Trail	
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	0.0846595	ODT_W	Olympic Discovery Trail	x
Paved Multi-User Trail - Off Road	42669	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	1.6559	ODT_W	Olympic Discovery Trail	
Paved Multi-User Trail - Off Road	42669	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	0.230487	ODT_W	Olympic Discovery Trail	x
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	262.6	308.1	4.553	ODT_W	Olympic Discovery Trail	Existing potential route-unimproved
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	1.24106	ODT_W	Olympic Discovery Trail	Proposed
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	297	309	1.17974	ODT_W	Olympic Discovery Trail	Existing potential route-unimproved
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	0.306115	ODT_W	Olympic Discovery Trail	
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	0.507516	ODT_W	Olympic Discovery Trail	Existing potential route-unimproved
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	0.224837	ODT_W	Olympic Discovery Trail	
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	0.77703	ODT_W	Olympic Discovery Trail	Existing potential route-unimproved
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	0.179173	ODT_W	Olympic Discovery Trail	
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	1.6033601	ODT_W	Olympic Discovery Trail	Existing potential route-unimproved
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	6.6	0.605702	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Gravel Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	7	8.5	0.19269	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	8.5	10.8	0.28314	ODT_E	Olympic Discovery Trail	complete - interim
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	18.5	40.4	1.99022	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	48.9	55.1	0.613171	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	40.4	46.4	0.739496	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	0.050714	ODT_Eac	ODT Access	Paved Trail - off road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	0.143054	ODT_E	Olympic Discovery Trail	
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	83.5	96.1	0.132966	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	61.3	67.4	0.616584	ODT_E	Olympic Discovery Trail	Paved Trail - off road

Clallam County ODT

TRAIL_TYPE	EDIT_DATE	EDIT_NOTE	CLASS	MAPNAME	Begin_MP	End_MP	SEG_MILES	DCD_ROAD_N	RD_NAME	STATUS_old
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	67.4	71.6	0.42119	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	71.6	83.5	1.19435	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	83.5	96.1	0.954351	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	96.1	98.9	0.283079	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	46.4	48.9	0.102977	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	6.6	7	0.0555759	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	18.5	40.4	0.208617	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	11.5	18.5	0.278998	ODT_E	Olympic Discovery Trail	complete - interim
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	10.8	11.5	0.0326166	ODT_E	Olympic Discovery Trail	complete - interim
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	55.1	61.3	0.637396	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	122.9	125.5	0.283952	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	125.5	136.5	0.0962491	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	154.7	168.9	0.614035	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	136.4	141.5	0.52569	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	141.5	154.7	1.32199	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	154.7	168.9	0.53801	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	168.9	177.4	0.872016	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	232	244.4	1.2388999	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	247.4	249.8	0.234234	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Trail on Low Volume Paved Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	246.6	247.4	0.0852162	ODT_E	Olympic Discovery Trail	complete-on road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	227.5	232	0.455713	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	210.5	227.5	0.0246744	ODT_E	Olympic Discovery Trail	Paved Trail - off road
On Road Paved Bike Shoulders	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	210.5	227.5	0.101959	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	244.4	246.6	0.218785	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	249.8	251.4	0.163504	ODT_E	Olympic Discovery Trail	complete-on road
On Road Paved Bike Shoulders	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	274.1	305	1.65455	ODT_E	Olympic Discovery Trail	complete-on road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	270.5	280.6	1.0032099	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Trail on Low Volume Paved Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	297.1	305.1	0.795984	ODT_E	Olympic Discovery Trail	complete-on road
Spruce Railway Trail - 5 Foot Gravel	42578	Mapped with Rich James	Trail	Spruce Railway Trail	253	297	3.15962	ODT_spr	Spruce Railway Trail	Existing Trail
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Spruce Railway Trail	253	297	0.434593	ODT_spr	Spruce Railway Trail	Existing Trail
Gravel Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Spruce Railway Trail	253	297	0.773811	ODT_spr	Spruce Railway Trail	Existing Trail
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Hwy 101 Access	308.1	309.6	0.153858	ODT_W	Hwy 101 Access	Existing potential route-unimproved
Trail on Low Volume Paved Road	42578	Mapped with Rich James	Trail	Oly Disc Trail Adventure Rt	234	237.1	0.31339	ODT_Adv	Adventure Route	Proposed - On Road
Trail on Existing Gravel Logging Road	42578	Mapped with Rich James	Trail	Oly Disc Trail Adventure Rt	220	253	3.0130501	ODT_Adv	Adventure Route	
Proposed on Old RR Grade - Unimproved	42578	Mapped with Rich James	Access	Howard/Gossett ODT Access	0	0	1.61842	ODT_Aac	Howard/Gossett ODT Access	Proposed
Proposed Multi-User Trail - On Existing Gravel Road	42578	Mapped with Rich James	Access	Howard/Gossett ODT Access	0	0	0.126385	ODT_Aac	Howard/Gossett ODT Access	Proposed
Mount Muller - Natural Tread 3 Foot	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	1.77358	ODT_W	Olympic Discovery Trail	
Mount Muller - Natural Tread 3 Foot	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	0.38884	ODT_W	Olympic Discovery Trail	Existing potential route-unimproved
Adventure Route - Natural Tread 3 Foot	42578	Mapped with Rich James	Trail	Oly Disc Trail Adventure Rt	201	214	1.23025	ODT_Adv	Adventure Route	
Adventure Route Access Road/Trail	42578	Mapped with Rich James	Trail	Oly Disc Trail Adventure Rt	214	220	0.547739	ODT_Adv	Adventure Route	
Adventure Route - Natural Tread 3 Foot	42578	Mapped with Rich James	Trail	Oly Disc Trail Adventure Rt	64	72	0.808115	ODT_Adv	Adventure Route	
Adventure Route - Natural Tread 3 Foot	42578	Mapped with Rich James	Trail	Oly Disc Trail Adventure Rt	107	128	1.70048	ODT_Adv	Adventure Route	
Adventure Route - Natural Tread 3 Foot	42578	Mapped with Rich James	Trail	Oly Disc Trail Adventure Rt	72	81	0.886805	ODT_Adv	Adventure Route	
Adventure Route - Natural Tread 3 Foot	42578	Mapped with Rich James	Trail	Oly Disc Trail Adventure Rt	83	88	0.425757	ODT_Adv	Adventure Route	
Adventure Route - Natural Tread 3 Foot	42578	Mapped with Rich James	Trail	Oly Disc Trail Adventure Rt	45	64	1.70121	ODT_Adv	Adventure Route	
Adventure Route - Natural Tread 3 Foot	42578	Mapped with Rich James	Trail	Oly Disc Trail Adventure Rt	163.9	201	3.3271799	ODT_Adv	Adventure Route	
Adventure Route - Natural Tread 3 Foot	42578	Mapped with Rich James	Trail	Oly Disc Trail Adventure Rt	88	107	1.87246	ODT_Adv	Adventure Route	
Adventure Route - Natural Tread 3 Foot	42578	Mapped with Rich James	Trail	Oly Disc Trail Adventure Rt	81	83	0.314736	ODT_Adv	Adventure Route	
Adventure Route - Natural Tread 3 Foot	42578	Mapped with Rich James	Trail	Oly Disc Trail Adventure Rt	83	88	0.0247965	ODT_Adv	Adventure Route	
Adventure Route - Natural Tread 3 Foot	42578	Mapped with Rich James	Trail	Oly Disc Trail Adventure Rt	31	45	1.12874	ODT_Adv	Adventure Route	
Gravel Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Oly Disc Trail Adventure Rt	162	163.9	0.182005	ODT_Adv	Adventure Route	
Adventure Route - Natural Tread 3 Foot	42578	Mapped with Rich James	Trail	Oly Disc Trail Adventure Rt	13	31	1.49113	ODT_Adv	Adventure Route	
Adventure Route - Natural Tread 3 Foot	42578	Mapped with Rich James	Trail	Oly Disc Trail Adventure Rt	0	13	1.30985	ODT_Adv	Adventure Route	
Adventure Route - Natural Tread 3 Foot	42578	Mapped with Rich James	Trail	Oly Disc Trail Adventure Rt	128	162	3.3808999	ODT_Adv	Adventure Route	
Trail on Paved Sidewalk	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	1.0133801	ODT_W	Olympic Discovery Trail	Proposed - On Road
Trail on Paved Sidewalk	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	0.334405	ODT_W	Olympic Discovery Trail	Proposed - On Road
Trail on Paved Road - Interim	42578	Mapped with Rich James	Trail	Interim Trail Route	0	0	0.148966	ODT_W	Interim Trail Route	Proposed - On Road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	1.22532	ODT_W	Olympic Discovery Trail	complete-mixed
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	210.5	227.5	1.67796	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	98.9	114.4	1.49405	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	114.4	122.9	0.87462	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	126.5	133.9	0.738993	ODT_E	Olympic Discovery Trail	Paved Trail - off road

Clallam County ODT

TRAIL_TYPE	EDIT_DATE	EDIT_NOTE	CLASS	MAPNAME	Begin_MP	End_MP	SEG_MILES	DCD_ROAD_N	RD_NAME	STATUS_old
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	133.9	136.4	0.249448	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	186.2	191.1	0.498643	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	177.4	186.2	0.878684	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Trail on Paved Road - Interim	42578	Mapped with Rich James	Trail	Olympic Discovery Trail Access	0	0	3.7734799	ODT_W	Olympic Discovery Trail	
Trail on Paved Road - Interim	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	0.514926	ODT_W	Olympic Discovery Trail	
Trail on Paved Road - Interim	42578	Mapped with Rich James	Trail	Interim Trail Route	0	0	1.26113	ODT_W	Interim Trail Route	Proposed - On Road
Trail on Paved Road - Interim	42578	Mapped with Rich James	Trail	Interim Trail Route	0	0	1.29378	ODT_W	Interim Trail Route	Proposed - On Road
Trail on Paved Road - Interim	42578	Mapped with Rich James	Trail	Interim Trail Route	0	0	4.0019398	ODT_W	Interim Trail Route	Proposed - On Road
Trail on Paved Road - Interim	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	1.8041199	ODT_W	Olympic Discovery Trail	
Trail on Paved Road - Interim	42578	Mapped with Rich James	Access	Olympic Discovery Trail Access	0	0	0.0191228	ODT_W	Olympic Discovery Trail	
Trail on Low Volume Paved Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	0.15959	ODT_W	Olympic Discovery Trail	Proposed - On Road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	0.129423	ODT_W	Olympic Discovery Trail	complete-mixed
Gravel Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	0.0296087	ODT_W	Olympic Discovery Trail	
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	0.19332	ODT_W	Olympic Discovery Trail	
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	201.2	210.5	0.929536	ODT_E	Olympic Discovery Trail	Paved Trail - off road
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	0.217237	ODT_W	Olympic Discovery Trail	
Paved Multi-User Trail - Off Road	42578	Mapped with Rich James	Trail	Olympic Discovery Trail	0	0	0.386657	ODT_W	Olympic Discovery Trail	
Trail on Paved Road - Interim	42578	Mapped with Rich James	Trail	Interim Trail Route	0	0	0.212907	ODT_W	Olympic Discovery Trail	complete-mixed

Jefferson County Roads

OBJECTID	Segment_Name	Trail_System	RTP_Facility	RTP_Status	Jurisdiction	Length_miles	ROAD_NUM	ROADNAME	ALIAS	HWY_NUM	OWNER	FUNCLASS	ROAD_NAME
1	SR 104		Paved shoulder (wide)	Existing	Jefferson County	14.87	10104	SR 104		104	State	2	SR 104
2	Eaglemount Rd		Shared lane (unmarked)	Existing	Jefferson County	5.34	51050	Eaglemount Rd			County	8	EAGLEMOUNT RD
3	US HWY 101		Paved shoulder (narrow)	Existing	Jefferson County	19.70	10101	US 101	Pacific Pacific Coast Scenic Byway	101	Federal	2	US 101
4	US HWY 101		Paved shoulder (wide)	Existing	Jefferson County	2.57	10101	US 101	Pacific Pacific Coast Scenic Byway	101	Federal	2	US 101
6	Old Gardiner Rd (ODT Interim Route)	Olympic Discovery Trail	Shared lane (unmarked)	Existing	Jefferson County	3.86	50140	Old Gardiner Rd			County	9	OLD GARDINER RD
8	Old Gardiner Rd (ODT Interim Route)	Olympic Discovery Trail	Shared lane (unmarked)	Existing	Jefferson County	1.81	50110	Old Gardiner Rd			County	9	OLD GARDINER RD
9	US HWY 101 (ODT Interim Route)	Olympic Discovery Trail	Paved shoulder (wide)	Existing	Jefferson County	1.54	10101	US 101	Pacific Pacific Coast Scenic Byway	101	Federal	2	US 101
10	US HWY 101 (ODT Interim Route)	Olympic Discovery Trail	Paved shoulder (wide)	Existing	Jefferson County	0.45	10101	US 101	Pacific Pacific Coast Scenic Byway	101	Federal	2	US 101
15	SR 20	Olympic Discovery Trail	Shared lane (unmarked)	Existing	Jefferson County	2.89	10020	SR 20	SR 20	20	State	2	SR 20
16	SR 20	Olympic Discovery Trail	Shared lane (unmarked)	Existing	Jefferson County	3.80	10020	SR 20	SR 20	20	State	2	SR 20
17	SR 20	Olympic Discovery Trail	Paved shoulder (wide)	Existing	Jefferson County	0.77	10020	SR 20	SR 20	20	State	2	SR 20
18	SR 20	Olympic Discovery Trail	Paved shoulder (wide)	Existing	Jefferson County	0.58	10020	SR 20	SR 20	20	State	2	SR 20
19	SR 20	Olympic Discovery Trail	Shared lane (unmarked)	Existing	Jefferson County	0.89	10020	SR 20	SR 20	20	State	2	SR 20
20	Discovery Rd (ODT Interim Route)	Olympic Discovery Trail	Shared lane (unmarked)	Existing	Jefferson County	0.31	80403	Discovery Rd			City	7	DISCOVERY RD
21	Center Rd		Paved shoulder (wide)	Existing	Jefferson County	15.00	93150	Center Rd			County	7	CENTER RD
22	US HWY 101		Paved shoulder (wide)	Existing	Jefferson County	2.57	10101	US 101	Pacific Pacific Coast Scenic Byway	101	Federal	2	US 101
23	SR 19		Paved shoulder (wide)	Existing	Jefferson County	9.08	10019	SR 19	SR 19	19	State	6	SR 19
24	SR 116		Shared lane (unmarked)	Existing	Jefferson County	7.70	10116	SR 116	SR 116	116	State	7	SR 116
25	Irondale Rd		Paved shoulder (wide)	Existing	Jefferson County	1.93	93350	Irondale Rd			County	7	IRONDALE RD
26	W Uncas Rd		Shared lane (unmarked)	Existing	Jefferson County	2.02	50020	W Uncas Rd			County	9	W UNCAS RD
27	SR 19		Paved shoulder (wide)	Existing	Jefferson County	4.03	10019	SR 19	SR 19	19	State	6	SR 19
28	SR 19		Shared lane (marked)	Planned	Jefferson County	0.97	10019	SR 19	SR 19	19	State	6	SR 19
29	SR 116		Shared lane (marked)	Planned	Jefferson County	2.69	10116	SR 116	SR 116	116	State	7	SR 116
31	Boat Street		Shared lane (unmarked)	Existing	Jefferson County	0.19	89035	Unknown			City	0	Unknown
32	Sims Way		Bike lane	Existing	Jefferson County	0.88	81907	Sims Way	SR 20	20	State	2	SIMS WAY
33	Water St		Sidewalk	Existing	Jefferson County	0.16	82305	Water St	SR 20	20	State	7	WATER ST
35	US HWY 101		Paved shoulder (narrow)	Existing	Jefferson County	9.46	10101	US 101	Pacific Pacific Coast Scenic Byway	101	Federal	2	US 101
36	US HWY 101		Bike lane	Planned	Jefferson County	0.31	10101	US 101	Pacific Pacific Coast Scenic Byway	101	Federal	2	US 101
37	US HWY 101	Olympic Loop	Paved shoulder (narrow)	Existing	Jefferson County	32.90	10101	US 101	Pacific Pacific Coast Scenic Byway	101	Federal	2	US 101
38	SR 20 (ODT Interim Route)	Olympic Discovery Trail	Paved shoulder (wide)	Existing	Jefferson County	0.4520724	10020	SR 20	SR 20	20	State	2	SR 20

Jefferson County Trails

OBJECTID	Segment_Name	Trail_System	RTP_Facility	RTP_Status	Jurisdiction	Length_miles	FACILITYID	NAME	LENGTH	WIDTH	SURFTYPE	HIKING	MTBCYCLE	ROADCYCLE	EQUESTRIAN
5	Larry Scott Memorial Trail	Olympic Discovery Trail	Shared use path (unpaved)	Planned	Jefferson County	6.53		Larry Scott Memorial Trail	7.3	0	Gravel	Yes		Yes	Yes
7	Discovery Bay section	Olympic Discovery Trail	Shared use path (paved)	Existing	Jefferson County	0.85									
11	Larry Scott Memorial Trail	Olympic Discovery Trail	Shared use path (unpaved)	Existing	Jefferson County	4.70		Larry Scott Memorial Trail	7.3	0	Gravel	Yes		Yes	Yes
12	Rick Tollefson Memorial Trail		Shared use path (unpaved)	Existing	Jefferson County	0.34		Rick Tollefson Memorial Trail	0.0	0					
13	H. J. Carroll Park Perimeter Trail		Shared use path (unpaved)	Existing	Jefferson County	0.78		H. J. Carroll Park Perimeter Trail	0.0	0					
14	Rick Tollefson Memorial Trail		Shared use path (unpaved)	Planned	Jefferson County	1.19		Rick Tollefson Memorial Trail	0.0	0					
30	Larry Scott Memorial Trail	Olympic Discovery Trail	Shared use path (paved)	Existing	Jefferson County	2.60		Larry Scott Memorial Trail	7.3	0	Gravel	Yes		Yes	Yes
34	Olympic Discovery Trail	Olympic Discovery Trail	Shared use path (paved)	Planned	Jefferson County	0.37	883.1	Olympic Discovery Trail	22.8	0	Native	Yes			

Mason County Roads

OBJECTID	Segment_Name	Trail_System	RTP_Facility	RTP_Status	Jurisdiction	Length_miles	RD_OWNER	SURF	RDNAME	FLOW	SIDES	ONEWAY	FUNCT_CLAS	CITYCD	DATA_EDITO	WHO_EDITED	DATE_MODIF	ADDRESS_RA
21	US HWY 101		Paved shoulder (narrow)	Existing	Mason County	34.53	FED	PAVED	N US HIGHWAY 101	2	B			2 SHE	MASON PW GIS	MATT_S	39183	YES
21	US HWY 101		Paved shoulder (narrow)	Existing	Mason County	34.53	FED	PAVED	N US HIGHWAY 101	2	B			2 LIL	MASON PW GIS	MATT_S	39184	YES
21	US HWY 101		Paved shoulder (narrow)	Existing	Mason County	34.53	FED	PAVED	N US HIGHWAY 101	2	B			2 LIL	MASON PW GIS	Matt_S	39449	YES
21	US HWY 101		Paved shoulder (narrow)	Existing	Mason County	34.53	FED	PAVED	N US HIGHWAY 101	2	B			2 SHE	ESU & MASON PW GIS	MATT_S	39435	YES
21	US HWY 101		Paved shoulder (narrow)	Existing	Mason County	34.53	FED	PAVED	N US HIGHWAY 101	2	B			12 SHE	MASON PW GIS	MATT_S	39436	YES
21	US HWY 101		Paved shoulder (narrow)	Existing	Mason County	34.53	FED	PAVED	N US HIGHWAY 101	2	B			2 SHE	MASON PW GIS	MATT_S	39436	YES
21	US HWY 101		Paved shoulder (narrow)	Existing	Mason County	34.53	FED	PAVED	N US HIGHWAY 101	2	B			2 SHE	MASON PW GIS	MATT_S	39589	YES
21	US HWY 101		Paved shoulder (narrow)	Existing	Mason County	34.53	FED	PAVED	N US HIGHWAY 101	2	B			2 LIL	MASON PW GIS	Matt_S	39449	YES
21	US HWY 101		Paved shoulder (narrow)	Existing	Mason County	34.53	FED	PAVED	N US HIGHWAY 101	2	B			2 SHE	ESU & MASON PW GIS	MATT_S	39787	YES
21	US HWY 101		Paved shoulder (narrow)	Existing	Mason County	34.53	FED	PAVED	N US HIGHWAY 101	2	B			2 SHE	ESU & MASON PW GIS	Jennifer_R	40190	YES
21	US HWY 101		Paved shoulder (narrow)	Existing	Mason County	34.53	FED	PAVED	N US HIGHWAY 101	2	B			2 SHE	ESU & MASON PW GIS	Jennifer_R	40192	YES
21	US HWY 101		Paved shoulder (narrow)	Existing	Mason County	34.53	FED	PAVED	N US HIGHWAY 101	2	B			2 HOO	MASON PW GIS	MATT_S	40239	YES
21	US HWY 101		Paved shoulder (narrow)	Existing	Mason County	34.53	FED	PAVED	N US HIGHWAY 101	2	B			2 HOO	ESU & MASON PW GIS	Nicole_B	41064	NO
21	US HWY 101		Paved shoulder (narrow)	Existing	Mason County	34.53	FED	PAVED	N US HIGHWAY 101	2	B			2 HOO	MASON PW GIS	Nicole_B	41339	NO

Mason County Trails

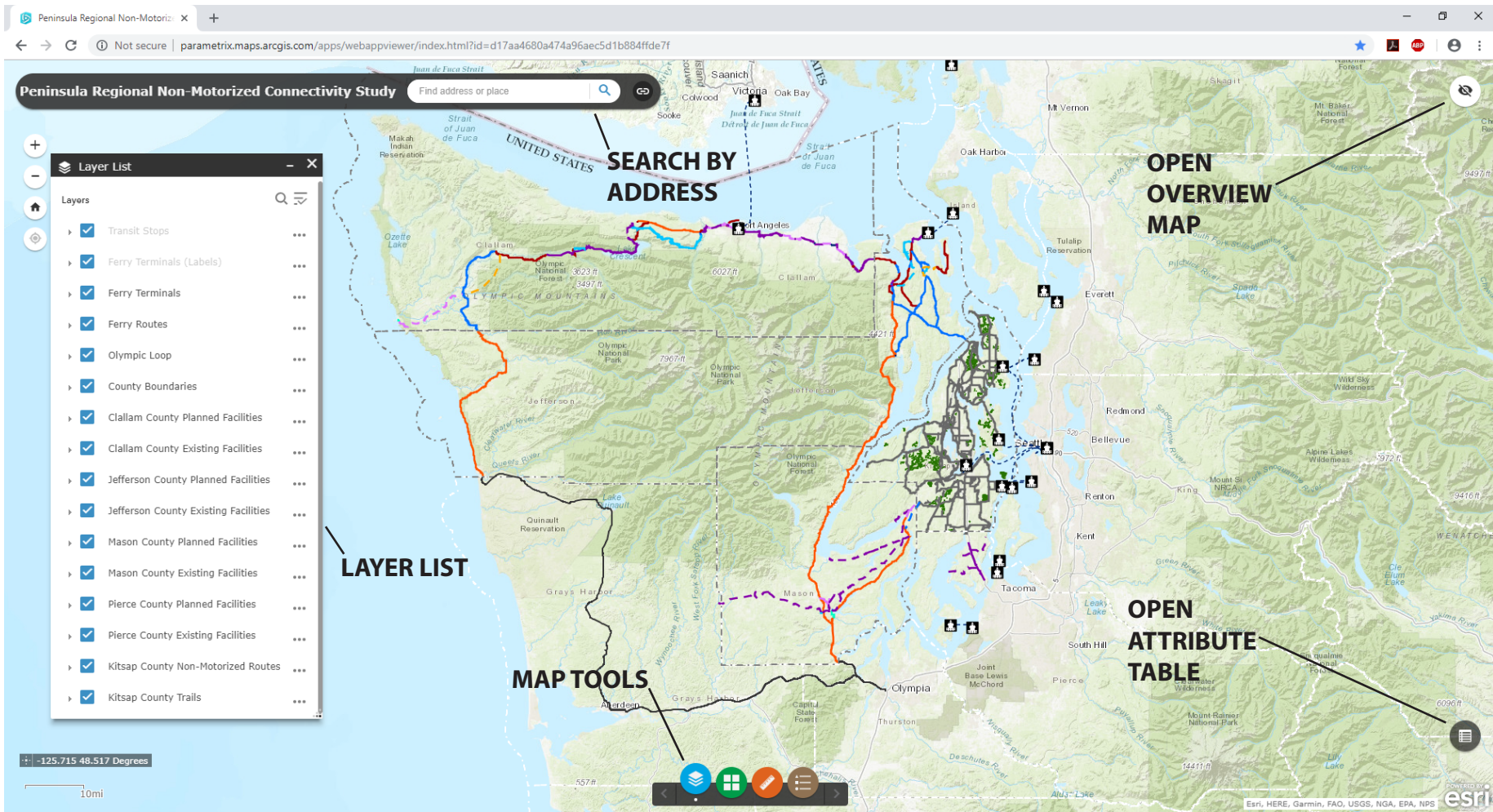
OBJECTID	Segment_Name	RTP_Facility	RTP_Status	Trail_System	Jurisdiction	Length_miles	ROUTE_NAME	FROM	TO	CONDITION	SCHOOLS	PRIORITY	LENGTH_FT	LENGTH_MI	ADA	OWNER	USERS	EX_STD	PRO_STD
6	Goldsborough Creek Trail	Shared use path (paved)	Planned		Mason County	12.08	Goldsborough Creek Trail	E R/R bridge	Matlock junction	UNDEV	N	2	54812.1	10.4	Y	GREEN	EM		H
6	Goldsborough Creek Trail	Shared use path (paved)	Planned		Mason County	12.08	Goldsborough Creek Trail	Shelton SR3	Goldsborough Cr Trail	UNDEV	Y	2	8555.5	1.6	Y	PRIV	HM		H
11	Shelton-Belfair Trail	Shared use path (paved)	Planned		Mason County	19.73	Shelton-Belfair Trail	BPA Transmission line	SR3	UNDEV	N	2	75293.9	14.3	Y	USA	EM		M
11	Shelton-Belfair Trail	Shared use path (paved)	Planned		Mason County	19.73	Shelton-Belfair Trail	SR3	Leave R/R r/w	UNDEV	Y	2	14828.8	2.8	POT	USA	HM		M
3	Belfair Trail	Shared use path (paved)	Planned		Mason County	3.26	Belfair Trail	Belfair SP	Old Belfair Hwy	UNDEV	Y	2	14381.6	2.7	POT	WSDOT	HM		H
3	Belfair Trail	Shared use path (paved)	Planned		Mason County	3.26	Belfair Trail	Old Belfair Hwy	SR3	UNDEV	Y	3	958.8	0.2	Y	MASON	HM		H
13	Shelton Creek Trail	Shared use path (paved)	Planned		Mason County	0.87	Shelton Creek Trail	7th St	Northcliff Rd	UNDEV	Y	1	4485.3	0.8	POT	PRIV	H	W	M
11	Shelton-Belfair Trail	Shared use path (paved)	Planned		Mason County	19.73	Shelton-Belfair Trail	MCRA	Puget Sound-Pacific R/R	UNDEV	N	2	18503.8	3.5	POT	BPA	EM		M
8	Oakland Bay Trail	Shared use path (paved)	Planned		Mason County	3.59	Oakland Bay Trail	WDFW access	E beach	FAIR	N	1	1569.1	0.3	POT	WDFW	H	W	M
6	Goldsborough Creek Trail	Shared use path (paved)	Planned		Mason County	12.08	Goldsborough Creek Trail	US101	E end existing	UNDEV	N	2	442.0	0.1	POT	PRIV	EM		H
6	Goldsborough Creek Trail	Shared use path (paved)	Planned		Mason County	12.08	Goldsborough Creek Trail	E end existing trail	W end existing trail	GOOD	Y	1	3018.3	0.6	Y	PRIV	EM	M	H
17	Tacoma Power Corridor	Shared use path (paved)	Planned		Mason County	7.32	Tacoma Power Corridor	McReavy Rd	Mason-Twanoh Trail	UNDEV	N	2	33826.4	6.4	POT	TACOMA	EM		M
17	Tacoma Power Corridor	Shared use path (paved)	Planned		Mason County	7.32	Tacoma Power Corridor	McReavy Rd	Near Union	UNDEV	N	2	4808.9	0.9	POT	TACOMA	EM		M
17	Tacoma Power Corridor	Shared use path (paved)	Planned		Mason County	7.32	Tacoma Power Corridor	Mason-Twanoh Trail	SR3	UNDEV	N	2	21770.8	4.1	POT	TACOMA	EM		M
17	Tacoma Power Corridor	Shared use path (paved)	Planned		Mason County	7.32	Tacoma Power Corridor	SR3	Allyn	UNDEV	Y	2	6060.4	1.1	POT	TACOMA	HM		M
3	Belfair Trail	Shared use path (paved)	Planned		Mason County	3.26	Belfair Trail	Belfair SP	Old Belfair Hwy	UNDEV	Y	2	1855.5	0.4	Y	WSDOT	HM		H
11	Shelton-Belfair Trail	Shared use path (paved)	Planned		Mason County	19.73	Shelton-Belfair Trail	Leave R/R r/w	SR3	UNDEV	Y	2	7415.7	1.4	POT	PRIV	HM		M
11	Shelton-Belfair Trail	Shared use path (paved)	Planned		Mason County	19.73	Shelton-Belfair Trail	Brockdale Rd	Shelton city limits	GOOD	Y	3	1697.0	0.3	Y	MASON	HM	H	H
11	Shelton-Belfair Trail	Shared use path (paved)	Planned		Mason County	19.73	Shelton-Belfair Trail	Shelton city limits	Mason Co Rec Area	UNDEV	Y	1	8581.9	1.6	Y	MASON	HM		H
12	Shelton-Skokomish Trail	Sidepath	Planned		Mason County	0.98	Shelton-Skokomish Trail	Shelton Springs path end	US 101	UNDEV	Y	1	5195.9	1.0	POT	MASON	EM	UNDEV	H
12	Shelton-Skokomish Trail	Sidepath	Planned		Mason County	0.98	Shelton-Skokomish Trail	Shelton Springs Rd	SR 102	UNDEV	N	1	2970.9	0.6	POT	WSDOT	EM	UNDEV	H
12	Shelton-Skokomish Trail	Sidepath	Planned		Mason County	0.98	Shelton-Skokomish Trail	SR 102	Skokomish River	UNDEV	N	2	24288.8	4.6	POT	WSDOT	EM	UNDEV	H
8	Oakland Bay Trail	Shared use path (paved)	Planned		Mason County	3.59	Oakland Bay Trail	SR 3 trestle	Shelton-Belfair Trail	UNDEV	N	2	16221.1	3.1	POT	USA	EM	UNDEV	H
8	Oakland Bay Trail	Shared use path (paved)	Planned		Mason County	3.59	Oakland Bay Trail	Railroad Ave	SR 3 - R/R trestle	UNDEV	N	1	2532.0	0.5	POT	WSDOT	EM	UNDEV	H

Appendix E

Instructions for Accessing the Webmap



Peninsula Regional Non-Motorized Connectivity Study Webmap



WELCOME

Parametrix has developed a web-based map in coordination with the Peninsula Regional Trail Planning Organization (RTPO) to support the Peninsula Regional Non-Motorized Connectivity Study. The webmap provides a dynamic view of the trail information collected as part of the project.

For help please
Please contact:
Josh Ahmann
Parametrix
503.416.6861

GETTING STARTED WITH THE MAP The map operates similar to Google Maps or other web based map prod-ucts. Use your mouse to zoom and pan anywhere in the project study area. You also have access to the following tools:

LAYER LIST

Clicking this tool will open the layers list dialog box where you can turn data layers on/off. Clicking on the three dots to the right of any layer in the list will provide a dropdown of additional tools for that layer.

BASEMAP GALLERY

Clicking this tool will open the Basemap Gallery where you can choose from a number different basemaps.

MEASURE TOOL

Clicking this tool will open the Measure dialog box where you can access tools to measure lengths and areas on the map in various units.

LEGEND TOOL

Clicking this tool will open the Legend dialog box.

ATTRIBUTE TABLE

Clicking this tool will open the Attribute Table at the bottom of the screen. The Attribute Table provides additional data for each layer.

