Chapter 8. Transportation

Contents

8.1. Transportation Plan Context

The Transportation ~~e~~Element identifies future system improvements derived from the analysis completed in the Port Orchard Capital Facilities Plan and the Kitsap County 20~~16~~24 Comprehensive Plan Update draft. In addition to roadway improvements, this element also identifies ways to provide more opportunities for pedestrians, bicyclists, ~~and~~ transit riders, and all road users.

The policy direction within this element provides new nonmotorized transportation system links between residential areas and nearby employment and shopping areas. The objective of these policies is to reduce automobile dependence within the City and to minimize the need to widen roads to accommodate increasing traffic volumes. This requires a change in priorities from moving as much traffic as quickly as possible, at the expense of other transportation modes and adjacent land uses, to provide choices, balance and connections between driving, transit, walking and bicycling.

The purpose and vision of the ~~transportation policy element~~Transportation Element is to provide a safe, dependable, properly maintained, fiscally and environmentally responsible multi-modal transportation system that is consistent with and supports the other elements of the Comprehensive Plan. The transportation system should respect community character, environment, and neighborhoods; improve mobility and safety; minimize impacts from regional facilities; and promote increased use of transit and nonmotorized travel. The transportation system needs to be both locally and regionally coordinated and connected, adequately financed, and ~~community supported~~community supported.

The goals and policies identified in this element are based upon a technical analysis which utilizes a methodology consistent with regional planning efforts including the draft 2024 Kitsap County Comprehensive Plan update and the 2018 Washington State Department of Transportation (WSDOT) SR 16 Tacoma Narrows Bridge to SR 3 Congestion Study, as well as prior Port Orchard planning efforts including the 2018 Bethel Road and Sedgwick Road Corridor Plan and the 2021 Downtown Subarea Plan ~~existing conditions information and transportation systems analysis contained in the Kitsap County produced joint jurisdiction Port Orchard/South Kitsap Sub-Area Plan and the 2016 Kitsap County Comprehensive Plan Update and Supplemental Environmental Impact Analysis drafts~~. The data collected, analysis conducted, and capital facilities and transportation planning provided in those ~~environmental~~ documents included supporting ~~analysis~~ analyses and mitigation strategies related to transportation facilities within the City~~, transportation impact analysis, proposed projects, performance standards, financial and implementation plan, and mitigation for the various alternatives considered~~. ~~The~~ This document also incorporates the data, analysis, and updates provided in the Port Orchard Transportation Improvement Program (TIP) ~~Capital Facilities Plan 2013 update (Ordinance 028-13)~~ and ~~2015~~ 2020 Transportation Impact Fee Rate Study (Ordinance 0~~23~~07-~~15~~21).

8.2. Transportation Vision

The transportation network of the City of Port Orchard is meant to serve the land use of the community and seek to achieve the most efficient means of transporting people and goods. The City's transportation network shall support the land use of the community. However, the transportation network should not be the sole justification to increase land use densities. Therefore, in order to make consistent and sound land use decisions, the City will evaluate traffic modifications attributed to each land use change.

Transportation improvements are extremely expensive and time ~~-~~consuming. Unlike other public works improvements, there is normally not an identifiable revenue gain that can be attributed to ~~the~~ a road's completion. Road construction planning must accommodate the future needs of the community without the cost of excessively overbuilding the project.

Constructing a road to accommodate the ultimate build-out of a neighborhood is normally not economically feasible. When a project is proposed, the City needs to evaluate the immediate traffic needs, the needs after project completion and the ultimate anticipated volume. Financial constraints may call for phasing the project to allow immediate relief and allowing for future improvements as land use requirements increase.

The City has and is experiencing significant growth placing additional demand on its street system~~.~~, particularly its arterial corridors including Bethel Road, Tremont, Sedgwick, Sidney Road, and Old Clifton Road. Both motorized improvements at intersections and nonmotorized improvements such as bicycle facilities and sidewalks are needed to maintain the viability of the transportation system.

Other investments are needed to preserve and upgrade infrastructure in older neighborhoods. Investments are needed to preserve and upgrade existing sidewalk networks to ensure accessibility and maximize connectivity. Ongoing road maintenance is needed annually to maintain service levels in older neighborhoods and ensure repair costs do not escalate over time.

Our vision for Port Orchard is a community which: offers an inviting, attractive, and pedestrian-friendly waterfront atmosphere that provides a full range of retail and recreational activities while ensuring coordinated City and County regional Land Use Plans which promote a more efficient multimodal transportation system.

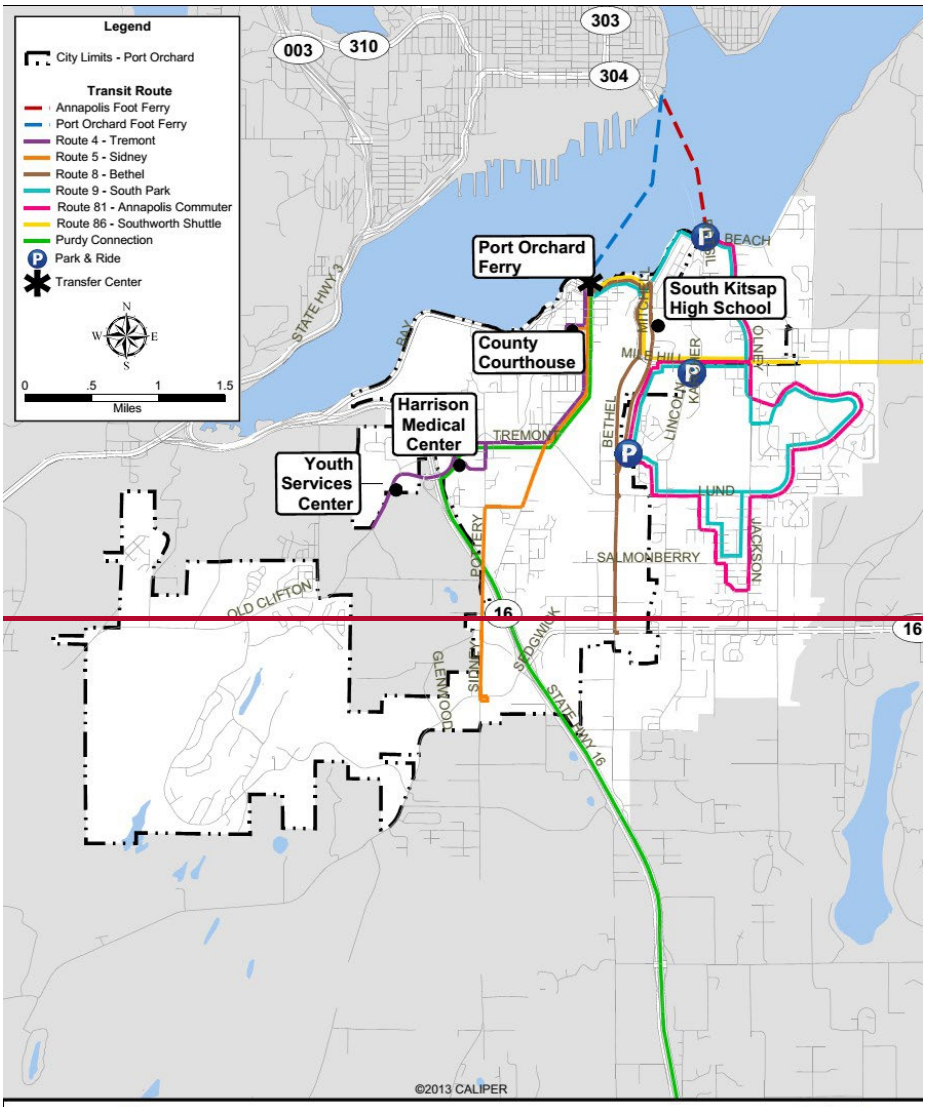

Figure 8-1

Existing Public Transit Routes

City of Port Orchard

8.3. Transportation System Inventory~~Roadway Network~~

8.3.1. Existing ~~State System~~Roadway Network

8.3.1.1. State System

Port Orchard lies along Sinclair Inlet across from Bremerton in the heart of the Kitsap Peninsula. The major north-south route within the County is SR 3 which passes through the community of Gorst, about a mile north of the City of Port Orchard. SR 16 connects with SR 3 at Gorst and passes through Port Orchard ending ultimately in Tacoma by way of the Tacoma Narrows Bridge.

SR 16 is designated a Highway of Statewide Significance (HSS) that passes through the Port Orchard Planning Area. SR 16 is functionally classified as a Freeway by WSDOT, and the highway is rated on the Washington State Freight and Goods Transportation System (FGTS) as a T-1 facility carrying an estimated 12,53~~0,40~~0,000 tons in ~~2015~~ 2021 from the Pierce/Kitsap ~~county~~ County line to the Gorst area. SR 16 serves freight, commuter, neighborhood, business, and recreational travelers. Within the planning area, interchanges with SR 16 are located at Tremont Street SW, and at SW Sedgwick Road (SR 160).

SR 16 is primarily a four-lane divided highway providing major regional access between Kitsap County and the transportation network of the Central Puget Sound area. SR 16 is a ~~full control~~limited access full control highway within Kitsap County and links South Kitsap with Pierce County, eventually connecting to Interstate 5 in Tacoma. Near Gorst, after SR 166 (Bay Street) joins SR 16, SR 16 becomes six lanes, where SR 16 joins SR 3 at Gorst, the number of lanes on SR 3 drops to four.

SR 160 (Sedgwick Road) is the east/west ferry commuter route, connecting Port Orchard with the Southworth ~~ferry~~ Ferry ~~terminal~~Terminal, SR 16, and eventually with SR 3. This highway has two lanes with minimum access spacing of 330 feet. SR 160 is the primary route from SR 16 to the Southworth Ferry Terminal.

SR 166 (Bay Street) runs from SR 16 along the City of Port Orchard waterfront to the east city limits. The road was previously designated SR 160, but in 1992 SR 160 was moved to its present location on Sedgwick Road and SR 166 was formed. The route includes Bay Street from SR 16 to Bethel Avenue, Bethel Avenue from Bay Street to SE Mile Hill Road, and SE Mile Hill Road from Bethel Avenue to the east city limits. SR 166 (Bay Street) is the City of Port Orchard's "Main Street" and serves the Downtown Port Orchard waterfront. It is a primary arterial serving the main street community and Downtown Port Orchard.

Bethel Road is an ~~secondary~~ arterial corridor that links SR 160 to SR 166 forming a business loop parallel to SR 166. The Bethel corridor provides access to much of the retail commercial services for Port Orchard and South Kitsap County and is vital to the local and regional economy.

~~SR166 (Bay Street) is the City of Port Orchards "Main Street" and alsoand serves the Downtown Port~~

~~Orchard waterfront. SR166 is a primary arterial serving the main street community and Downtown Port Orchard.~~

~~Port Orchard is also connected to the Seattle metropolitan area by the Washington State Ferry system. The Southworth ferry terminal is connected to Port Orchard by SR 160 and County roads. The Bremerton Ferry terminal is connected to Port Orchard by SR 304, SR 3, SR 16, and SR 166. However, the Kitsap Transit ferry provides direct pedestrian access timed to meet the Seattle/Bremerton Ferry.~~

8.3.1.2. Kitsap County Roads

~~Minor c~~Kitsap County arterial roads serve as key elements in the ~~county~~ transportation system surrounding Port Orchard. County roadways ~~These minor arterial roads~~ link together state routes or connect the state route system to Port Orchard, to other major centers, and to the ferry system. For example, Mile Hill Drive~~Bethel Road~~ is a two lane ~~north/south~~east/west road located to the east of Port Orchard which connects the city to Southworth Drive and the Southworth Ferry Terminal to the east.~~in eastern Port Orchard. As a north/south road, Bethel Road connects and intersects with Sedgwick Road, Lund Avenue, and SR 166. Bethel Road terminates in Port Orchard at Bay Street~~. The technical analysis described in this Transportation Element included major Kitsap County roadways in the vicinity of Port Orchard, and utilized a methodology generally consistent with the draft ~~Kitsap County roads and Port Orchard roads have been identified and analyzed within the joint Port Orchard/South Kitsap Sub-Area Plan and the 2200~~0246 Kitsap County Comprehensive Plan ~~10-Year~~ Update~~. and Environmental Impact Analysis.~~

~~Kitsap Transit Ferries~~

~~[Insert Description]~~

8.3.1.3. City Street Network

A city's functional classification system provides a planning guide for the development of a transportation network which will serve the needs of a community's growth for the future. Streets within a transportation network must be managed for specific roles in moving people and goods through the ~~City~~city and surrounding region. The functional classification system identifies the role of each street and provides a simplified vision of management needs for each type, including safety, adjacent land uses, multimodal travel demands, and other connecting transportation systems. Ultimately, the functional class of each street determines the typical roadway design, cross-sectional parameters, and design speed, while providing a basis for management practices to minimize conflicts between travel modes.

The City of Port Orchard has defined its functional classification system to be consistent with the Federal Functional Classifications (FFC) provided by the Federal Highway Administration (FHWA) and the arterial functional classifications defined in the Kitsap County Revised Road Standards. These arterial streets qualify for financial assistance under federal or state programs. Table 8-1 identifies the City's functional classes and includes a short description of each classification.

The City's existing arterial network and associated functional classifications are shown in Figure 8-1.

Table 8-1. Street Functional Classifications

Functional Classification	Description
Freeway	High capacity, high speed, regional connections. Maximum mobility with full access control
Principal Arterial	Provide connectivity between different areas of a region. High mobility with partial access control
Minor Arterial	Provide connectivity between different areas of a region. Moderate mobility w/partial access control.
Collector	Collect traffic from local streets and other collectors. Connect neighborhoods to each other and to arterials.
Local Access	Provide direct access to properties in residential, commercial, or industrial areas

Functional Classification	Description

~~Freeway High capacity, high speed, regional connections. Maximum mobility with full access control~~

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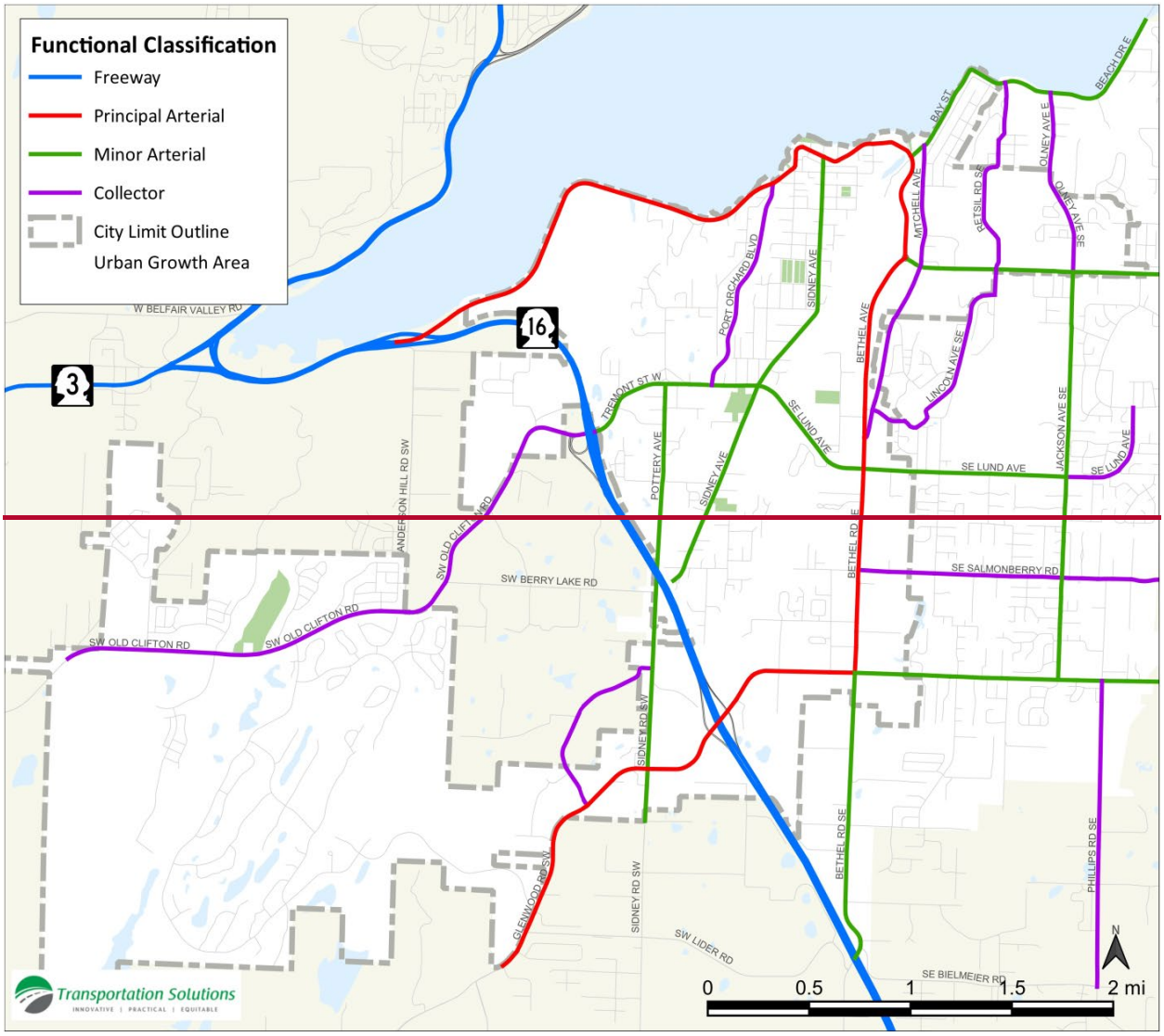
Functional Classification
Freeway
Principal Arterial
Minor Arterial
Collector
City Limit Outline
Urban Growth Area
W BELFAIR VALLEY RD
3
16
TREMONT ST W
SE LUND AVE
SW OLD CLIFTON RD
SW BERRY LAKE RD
SE SALMONBERRY RD
SW LIDER RD
SE BIELMEIER RD
PORT ORCHARD BLVD
SIDNEY AVE
POTTERY AVE
BETHEL AVE
MITCHELL AVE
BAY ST
OLNEY AVE E
BETSIL RD SE
UNION AVE SE
JACKSON AVE SE
BEACH DR E
SIDNEY RD SW
GLENWOOD RD SW
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Transportation Solutions
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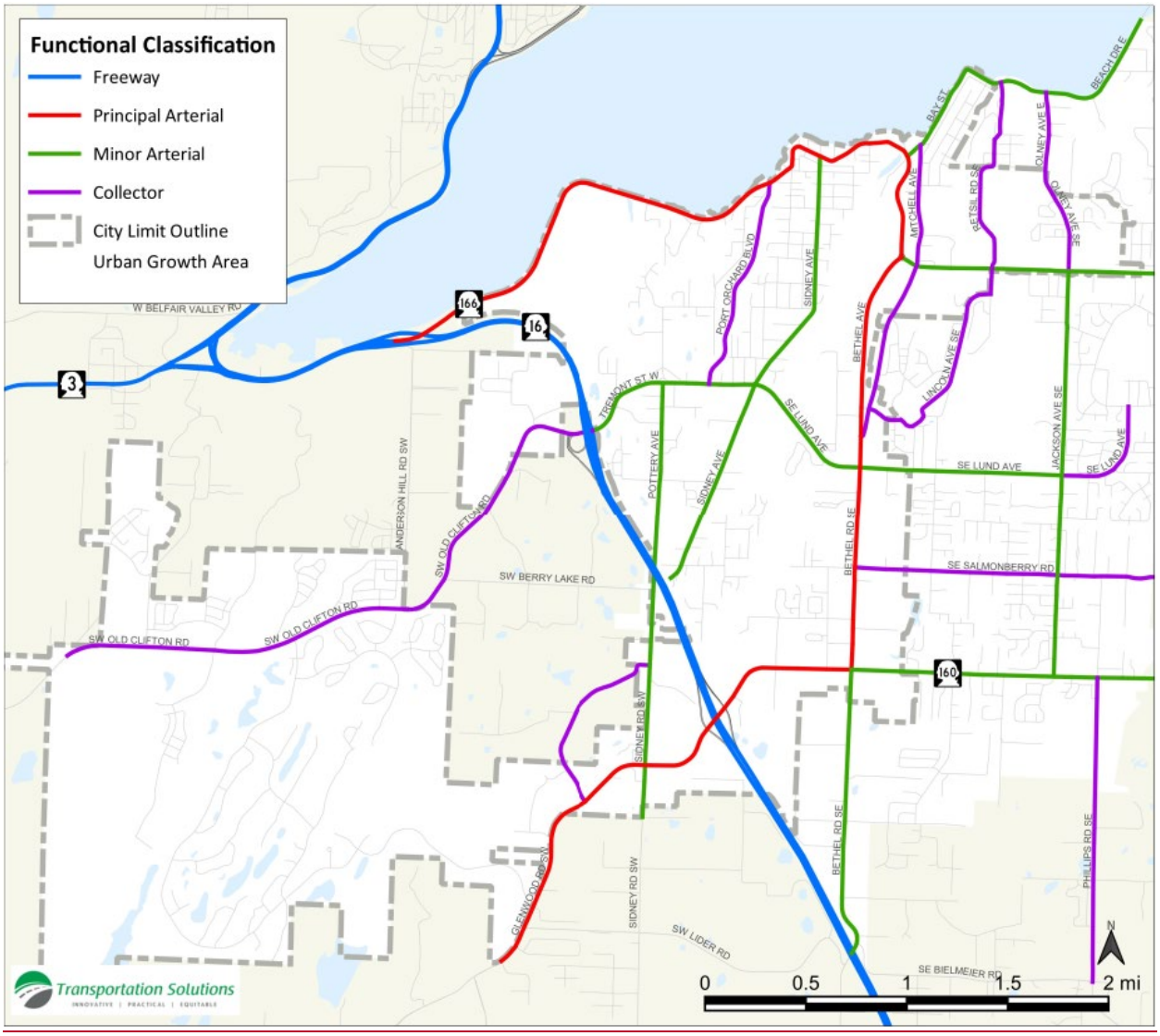


Figure x. 2024 Street Functional Classification

8.3.2. Transit Service

8.3.2.1. Routed Buses

~~[Insert Description]~~

Kitsap Transit operates ~~x~~ seven routed buses within Port Orchard. All seven routes provide weekday service, while Routes 4, 5, 8, and 9 also provide Saturday service. Routes 81 and 86 provide scheduled service during weekday peak commute hours, and the Purdy Connector provides on-demand service during the weekday peak commute hours. Existing routed bus service is summarized in Table 8-x.

Table 8-x. Park and Ride Lots

Route #	Route Name / Service Area	Service Hours	Headway ~~Routes Served~~
4	**Tremont**: PO Ferry, Kitsap Courthouse, Givens Comm. Ctr, Harrison Medical Ctr, Work Release/Youth Services Ctr ~~Annapolis Ferry Terminal~~	M-F 5:30AM–6:55PM; Sa 10:00AM – 5:55 PM	M-F 60min; Sa 30min~~#9, #81, Worker/Driver~~
5	**Sidney**: PO Ferry, Kitsap Courthouse, Givens Comm. Ctr, Cedar Heights Jr HS, Sedgwick Landing~~Burley Bible Church~~	M-F 5:10AM–7:25PM; Sa 10:00 AM-5:25PM	60 min.~~Worker/Driver~~
8	**Bethel**: PO Ferry, Bethel Ave, Walmart, Fred Meyer, Mitchell Ave, South Kitsap High School~~First Lutheran Church~~	M-F 5:00AM-7:52PM; Sa 10:00AM-5:25PM	30 min.~~#8, #81, Worker/Driver~~
9	**South Park**: PO Ferry, Albertson's, Town Square, Walmart, Jackson Ave, Center, Veterans Home on Bay Dr	M-F 6:50AM-8:15PM; Sa 10:30AM-5:15PM	60 min.
81	**Annapolis Commuter**: PO Ferry, Annapolis P&R, Towne Square, Armory P&R, Mitchell, Jackson, Lund, Madrona	M-F 5:15-7:15 AM; M-F 3:00-5:49PM	15 min.
86	**Southworth Shuttle**: PO Ferry, Armory P&R, Mile Hill, Manchester, South Colby, Southworth Ferry	M-F 4:35-10:25AM; M-F 2:00-8:18PM	30-70 min.
PC	**Purdy Connector**: PO Ferry, Mullenix P&R, Purdy P&R	M-F 6:00-9:00AM; M-F 3:00-6:00PM	On-demand

- ~~Route 4~~
- ~~Route 5~~
- ~~Route 8~~
- ~~Route 9~~
- ~~Route 81~~
- ~~Route 86~~

- ~~The Purdy Connection asdf~~

8.3.2.2. ~~Kitsap Transit Ferries~~Ferry Service

Port Orchard is connected to the Seattle metropolitan area by the Washington State Ferry system. The Southworth Ferry Terminal is located to the east of Port Orchard and connected to the City via SR 160 and Kitsap County roads. The Bremerton Ferry Terminal is connected to Port Orchard by SR 304, SR 3, SR 16, and SR 166.

Kitsap Transit Fast Ferries operate passenger-only ferry service between Kitsap County and Seattle on weekdays year-round and on Saturdays from May through September. Kitsap Fast Ferries launched service on the Bremerton-Seattle route in 2017 and the Southworth-Seattle route in 2021.

Kitsap Transit local foot ferries operate two passenger-only routes in Sinclair Inlet. The Bremerton-Port Orchard service runs daily, and the Bremerton-Annapolis service runs on weekdays only. Foot ferry service is timed to meet the Seattle/Bremerton Ferry.]

~~[Insert Description]~~8.3.2.3. Other Transit Services

Kitsap Transit operates several alternative transit services in the Port Orchard planning area:

Worker/driver buses are driven by employees at Naval Base Kitsap (NBK)-Bremerton and NBK-Bangor. The buses operate like a large vanpool where the driver boards the bus near home in the morning and picks up coworkers on the way to work. Kitsap Transit has 32 Worker-Driver routes, including several in the Port Orchard Planning Area.

ACCESS is a demand-response paratransit service under the Americans with Disabilities Act (ADA). ACCESS provides door-to-door transportation for eligible riders who are unable to use the fixed-route bus system. The service is available in Port Orchard and the surrounding area.

VanLink is a shared-cost ACCESS-alternative program which provides local social service agencies with vans to transport their clients. The program gives agencies the ability to schedule client outings, work programs, daycare, and training as their schedule demands.

The **vanpool** program allows groups of three to 14 commuters to share a ride to and from work using a Kitsap Transit van. Kitsap Transit also registers **carpools**, which allow commuters to share a ride in a privately-owned carpool vehicle. The carpool program allows vehicles access to reserved parking spaces, including free spaces at the Annapolis Ferry Dock.

SCOOT is a car-sharing program for commuters who work in targeted areas in Kitsap County, including the Kitsap County Courthouse and downtown Bremerton.

8.3.2.4. Park and Ride Lots

Port Orchard currently has three park-and-ride facilities, which are summarized in Table 8-x. Each lot provides service to at least two bus routes in addition to the Kitsap Transit worker/driver bus program.

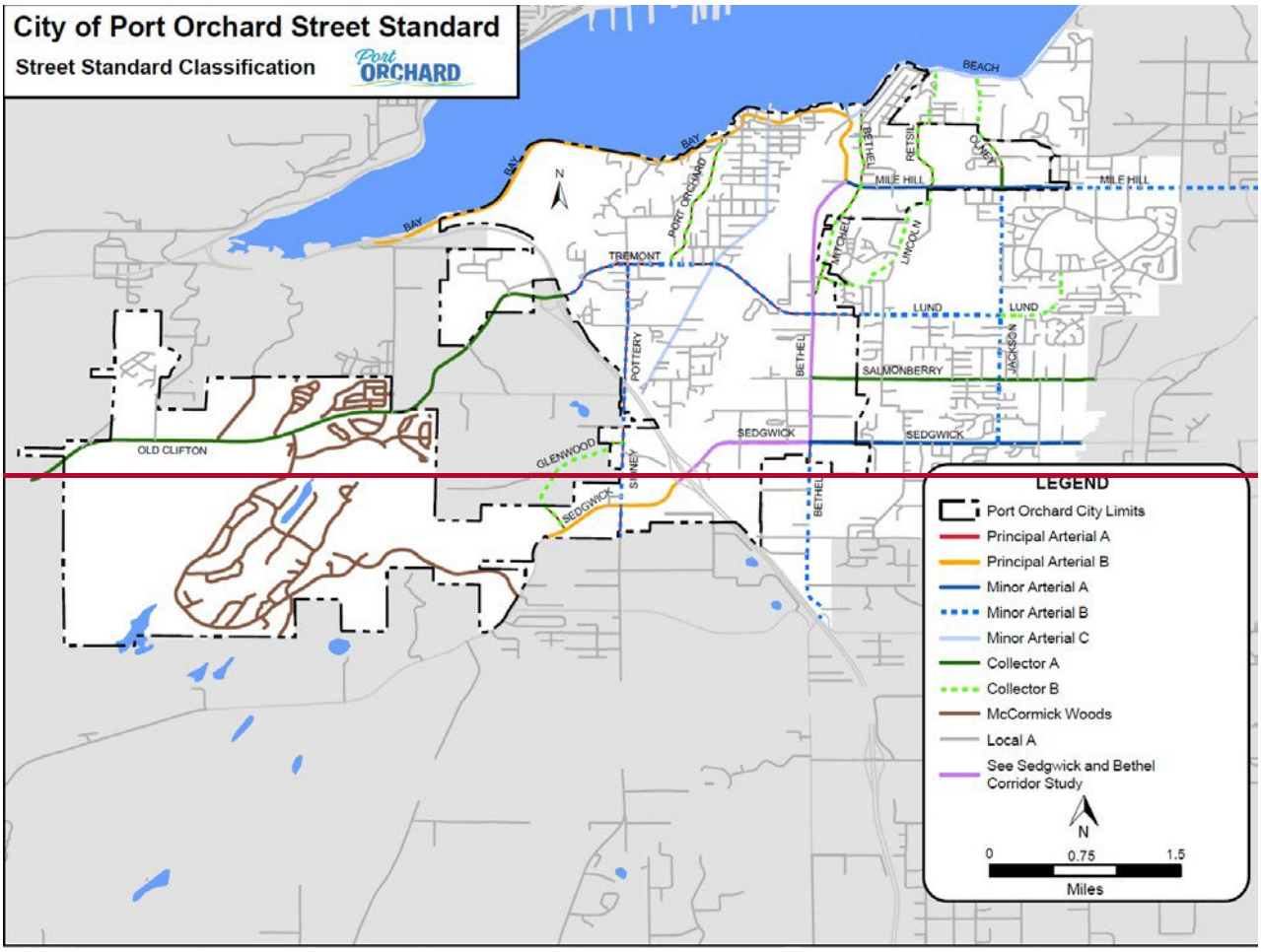
Table 8-x. Park and Ride Lots

Name	Location	Parking Spaces	Routes Served
Annapolis Ferry Terminal	1076 Beach Dr E	81	#9, #81, Worker/Driver
First Lutheran Church	2483 Mitchell Rd SE	40	#8, #81, Worker/Driver
Port Orchard Armory	1950 Mile Hill Dr	105	#9, #81, #86, Worker/Driver

8.3.2.5. Long-Range Transit Planning

The Kitsap Transit Long-Range Transit Plan 2022-2042 (LRTP) defines the long-range vision for public transit service in the Port Orchard planning area. It identifies several major projects which will improve transit access and service in Port Orchard:

- Three new local fixed routes:
  - Port Orchard – McCormick Woods
  - Southworth – Port Orchard
  - Southworth – Sidney Road Park & Ride
- New Bremerton-Tacoma Express Route, including a stop at Sidney Road Park & Ride
- New High-Capacity Transit Route from Port Orchard Ferry Transit Center to Bethel Rd and SR 160
- McCormick Woods On-Demand Transit Zone
- New SR 16 Transit Center near Sedgwick Road interchange
- Expanded Port Orchard Transit Center in downtown Port Orchard
- McCormick Woods Multimodal Hub
- Tremont Street Park & Ride
- Upgraded weekday headway on Kitsap Transit Routes 4, 5, and 9


City of Port Orchard Street Standard
Street Standard Classification
Port ORCHARD
BEACH
BAY
BAY
BAY
N
PORT ORCHARD
BETHEL
RETSIL
OLNEY
MILE HILL
MILE HILL
TREMONT
MITCHELL
LINCOLN
LUND
LUND
POTTERY
BETHEL
SALMONBERRY
JACKSON
SEDGWICK
SEDGWICK
OLD CLIFTON
GLENWOOD
SEDGWICK
SIDNEY
BETHEL
LEGEND
Port Orchard City Limits
Principal Arterial A
Principal Arterial B
Minor Arterial A
Minor Arterial B
Minor Arterial C
Collector A
Collector B
McCormick Woods
Local A
See Sedgwick and Bethel Corridor Study
N
0
0.75
1.5
Miles

~~Figure 8-2~~

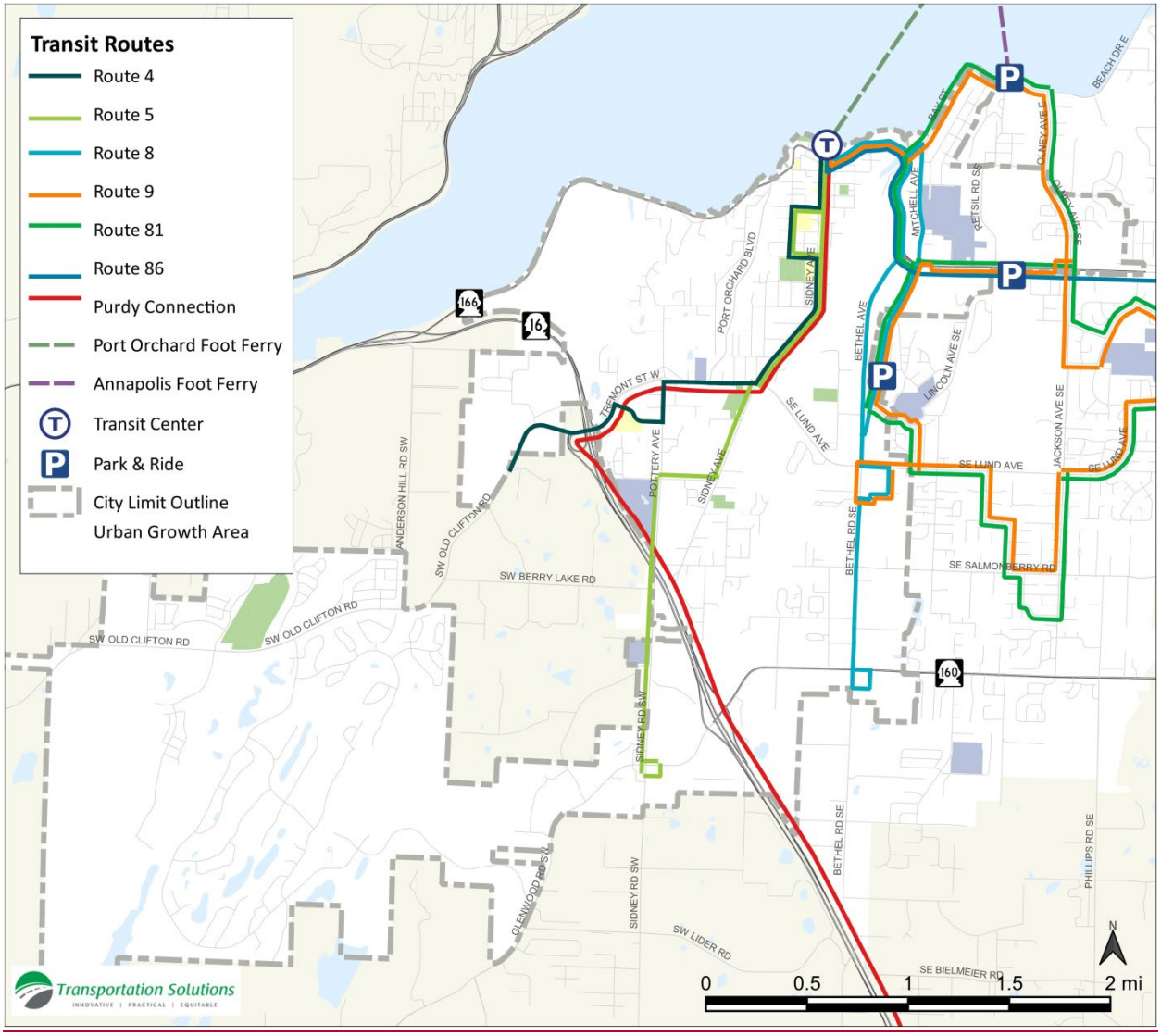


Figure x. Existing Public Transit Facilities

8.3.3. Airport and Aviation Services

Port Orchard is serveicedd by two airports. One is a privately-owned general aviation facility about 5 five miles southwest of the City called the Port Orchard Airport. The second is the Bremerton National Airport (KPWTBNA), owned and operated by the Port oOf Bremerton. BNA KPWT is a general aviation facility serving the communities on the Kitsap and Olympic Peninsulas.

As of 20142022, there were 192 104 aircraft based at the Bremerton National Airport, ranging from ultralight gliders to multi-engine planes. One fixed base operator provides various but limited training, fuel and convenience services. Total annual operations for 2014 2022 were 66,000, or an average of 181 per day. BNA KPWT serves beginning amateurs as well as professional pilots and flights.

The Bremerton National Airport Master Plan forecasts 276 BNAKPWT-based aircraft by 2032, an increase of 44 165 percent from 20142022. Total annual operations are also expected to increase similarly, from 66,000 to 90,500000. This forecast assumes that the airport will continue its role as the only FAA-funded airport in Kitsap County and support most of the FAA-registered aircraft in the county.

The airfield consists of one operational runway (02/20) that is oriented north-northeast/south-southwest. Runway 2/20 is 6,000 feet long and 150 feet wide. BNA KPWT has extensive lighting and instrumentation and a taxiway system that provides access to all areas of the airfield. BNA's KPWT's former crosswind runway (16/34) is closed to aircraft and currently serves as the Bremerton Motorsports Park facility.

Until 2004, BNA KPWT was a Part 139 Certified Airport authorized to serve US Department of Transportation-certified commercial air carriers with more than 30 passengers. The airport could seek to renew this certification in the future if demand requires. For planning purposes, the future operations are forecasted to continue to be dominated by business-oriented flights, private planes, flight training or other forms of noncommercial activity using single- and multi-engine piston aircraft.

The BNA Bremerton National Airport Master Plan recommends an expanded taxiway system to accommodate new aviation- related development. It also identifies locations for future hangar expansion and other aviation- related development, including the redevelopment of the former crosswind runway (16/34).

8.3.4. Freight and Rail Services

Freight and goods are transported within the Port Orchard area on SR 16, SR 166 and SR 160, as well as on City and County roads, and on the Burlington Northern Santa Fe Railroad (BNSF).

The BNSF Railwaroady provides rail service to Kitsap County. Freight use is restricted to the U.S. Military by agreement. The U.S. Navy owns the rails from Shelton to Puget Sound Naval Shipyard and on to Bangor. The railroad is maintained as Federal Railway Administration Class 3 on a scale of 1 (low) to 6 (high). Burlington Northern Railroad provides one train per day service. At its closest point, the railroad right of way passes through the community of Gorst, about five miles north of the City of

Port Orchard.

In Washington State, the highway and roadway system is rated according to the amount of freight and goods that are carried by truck on the system. The Washington State Freight and Goods Transportation System (FGTS) is a ranking of roads in Washington State by annual gross freight tonnage carried. The FGTS classification system is as follows:

- T-1: Over 10 million tons per year
- T-2: Between 4 and 10 million tons per year
- T-3: Between 300,000 and 4 million tons per year
- T-4: Between 100,000 and 300,000 tons per year
- T-5: At least 20,000 tons carried in a 60-day period and less than 100,000 tons per year

The FGTS system is affected by changes in the economy, international trade, and the transportation industry such as changes in truck travel patterns, cargoes and tonnages. Revisions to the FGTS routes and tonnage classifications are developed by the agency having jurisdiction over the roadway segment. The following freight routes are designated within the Port Orchard planning area:

a. SR 16 (Pierce/Kitsap Co. line to Gorst) is designated a T-1 facility carrying 12,530,000 tons annually in 2021~~10,400,000 tons annually in 2015~~;
b. SR 160 (Sedgwick Road between SR 16 and Bethel Road) is designated a T-3 facility, carrying an estimated annual 2,470,000 tons in 2021~~2,060,000 tons in 2015~~;
c. SR 166 is designated a T-3 facility, carrying an estimated annual 1,640,000 tons in 2021~~1,760,000 tons in 2015~~.
d. Designated T-3 routes include:
    1. Bethel Road from South City Limits to North City Limits
    2. Glenwood Road from South City Limits to SW Sedgwick Road
    3. SE Lund Avenue from Sidney Avenue to East City Limits
    4. Mitchell Road SE from Bethel Road to East City Limits
    5. Old Clifton Rd from SR 16 to West City Limits
    6. SW Sedgwick Road from Glenwood Road to SR 16
    ~~2.~~7.Sidney Avenue from Tremont Street to SR 166
    ~~3.~~8.Sidney Road from SW Berry Lake Road ~~E Hovde Road~~ to South City Limits
    ~~4.~~9.Tremont Street from SR 16 to ~~East City Limits~~Sidney Avenue
    ~~5.1.Glenwood Road from South City Limits to SW Sedgwick Road~~
    ~~6. SW Sedgwick Road from Glenwood Road to SR 16~~
    ~~7.1.Mitchell Road SE from Bethel Road to East City Limits~~
    ~~8.1.SE Lund Avenue from Sidney Avenue to East City Limits~~
e. One designated T-4 route is Port Orchard Boulevard from Tremont Street to SR 166.

8.3.5. Non-~~M~~motorized Transportation Facilities

Non-motorized transportation systems include facilities that provide for safe pedestrian and bicycle travel. These include sidewalks, crosswalks, off street trails, bike routes, and ~~bike lanes~~bicycle

facilities. In rural areas, non-motorized facilities can also include roadway shoulders when they are of adequate width.

Some portions of ~~non-motorized~~nonmotorized routes can be used for commuting purposes to reduce potential vehicular traffic volumes. If properly located, designed and maintained, ~~non-motorized~~nonmotorized trails can accommodate a significant portion of local resident travel between residential areas and shopping centers, schools, and places of employment. ~~Non-motorized~~Nonmotorized facilities also provide access to public transit and in this way can help decrease the reliance on single occupant vehicle (SOV) travel. When properly planned and constructed, ~~non-motorized~~nonmotorized facilities are shown to increase the desirability of a ~~City~~city as a place to live and work.

Safe walking and bicycling environments within Port Orchard are a major concern of citizens, whether they are avid or casual recreational walkers or cyclists or bicycle commuters. In many cases, pedestrians and cyclists must share narrow high-volume streets with ~~bicycles and~~ motor vehicles of all sizes. They cross busy intersections with multiple conflict points.

The City can take measurable steps with this Transportation Element toward the goal of improving every ~~citizen's~~ resident's quality of life by creating a safer walking and biking environment. This plan proposes a strategy for implementing a priority system for physical improvements through private ventures, capital projects, grants, and competitive funding sources.

The facilities map in Figure ~~8-3~~X illustrates the extent of the nonmotorized transportation system and the type of facility that each segment supports. It also shows the adopted centers ~~of local importance~~, parks, and schools.

The adoption of this plan does not preclude the implementation of pedestrian and bicycle infrastructure on other streets. The plan acknowledges fiscal constraints and ~~impracticality of~~challenges associated with building new sidewalks, bicycle infrastructure, and other improvements on every street in Port Orchard. Routes designated here should be prioritized due to their potential to fulfill the needs of the community and the citywide connections they will provide.

8.3.5.1. Existing Pedestrian Facilities

There ~~are~~ is an assortment of pedestrian facilities located throughout Port Orchard and its UGA. Pedestrian facilities include sidewalks, trails, and designated crosswalks. ~~The majority of~~Most sidewalks are located along commercial corridors and in some neighborhoods. Sidewalks and designated crosswalks are provided in some residential subdivisions including Flower Meadows, Leora, and Indigo Point. The initial construction of these pedestrian facilities ~~are~~ is typically the responsibility of the developer and are provided as part of plat development, while the ongoing maintenance is the responsibility of the adjacent property owner as outlined in Port Orchard Municipal Code 12.12. Sidewalks are generally promoted throughout the commercial areas such as the Bethel Corridor, creating a grid-system for pedestrians, although many of the streets outside the commercial area have paved or gravel shoulders rather than sidewalks.

The non-motorized network has missing links around some elementary and secondary schools. Many of the schools are ~~located~~ in residential neighborhoods. Continuous sidewalks would improve the

safety and utility of the pedestrian environment for elementary and secondary school children to walk to and from school.

In the past, many of the roads in Port Orchard were constructed to a rural standard with no curb or sidewalk improvements or provisions for safe pedestrian travel. Recent roadway reconstruction projects have provided storm drainage, curbs, and sidewalk improvements, particularly along major streets providing access to schools, parks, and the downtown business district. Sidewalks have also been constructed on many local streets in concert with new development within the ~~City~~city. Curb ramps to allow barrier-free access to sidewalks at street crossings have also been installed at many locations. The City's 2017 ADA Transition Plan included an inventory of existing mobility barriers on sidewalks, curb ramps, and driveway pads. ~~created an inventory of the locations of these facilities in 2011 in order to determine where further improvements are needed to provide for mobility by persons with disabilities.~~

8.3.5.2. Existing Trails

Nonmotorized transportation systems ~~also~~ include separated or off-road recreational trails. A portion of these trail corridors can also satisfy local access needs between residential areas and parks, schools, commercial and employment areas depending on the trail locations. There are currently two public separated trails in the City: the Bay Street Pedestrian Pathway and the McCormick Multimodal Path.

The Bay Street Pedestrian Path is a 0.9-mile-long paved trail which runs along the Sinclair Inlet waterfront from the Port Orchard Boat Launch Ramp to Bay Street approximately 500 feet northeast of Mitchell Avenue. From the Port Orchard Marina to its east terminus, the pathway consists of a 10-foot-wide paved section with centerline striping.

The McCormick Multimodal Path is a 1.85-mile-long, 8-foot-wide paved trail which connects McCormick Woods with McCormick Village. It begins at Gleneagle Avenue west of McCormick Woods Drive and runs parallel to Gleneagle Avenue SW, Telford Way SW, and McCormick Village Drive.

~~At present, there are no formal separated trails within Port Orchard, however, there are informal trails throughout the City. Kitsap County initiated the development of the Mosquito Fleet Trail, which will ultimately include approximately 100 miles of pedestrian and bicycle trails that will link open spaces throughout Kitsap County in an interconnected system. The trail system will include a combination of on-street (sidewalks, bike lanes, shoulders, separated paths) and off-street (off-road trail) facilities. The Mosquito Fleet Trail Master Plan, completed in 2001, identifies the primary corridor through Port Orchard following SW Bay Street and Beach Drive. From Dogwood Hill Road to Kitsap Street, the Master Plan proposes a separated path on the shoreline side of the road. From Kitsap Street to Bethel Avenue, bicycle lanes are recommended. Through downtown Port Orchard (Port Orchard Avenue to Harrison Avenue), bicycle lanes are recommended, but will require eliminating either the center turn lane or on-street parking from one side. From Sidney Avenue to Mitchell Point, a separated path was recommended on the shoreline side. From Mitchell Point to Olney Avenue, paved shoulders were recommended. Through coordination with the Kitsap County Parks and Recreation, a separated path could be developed from Retsil Road to Olney Avenue by~~

~~utilizing property at the Annapolis Recreation Area.~~

~~The City has proposed a number of north-south off-road trails that would link to the Mosquito Fleet Trail. These include the Ross Creek Trail, Center City Trail, and Blackjack Creek Trail. The Ross Creek Trail would connect Bay Street to Tremont Street SW, following the Ross Creek watershed. The City Center Trail would connect Bay Street to Pottery Avenue, following Port Orchard Boulevard for most of its length. The Blackjack Creek Trail would eventually include a trail along the entire Blackjack Creek watershed, from Bay Street to the intersection of Sedgwick Road and Highway 16.~~

The Kitsap Peninsula Water Trail includes launches and amenities at the Port Orchard Marina, Water Street Boat Launch, and ~~Retsil Boat~~Port of Bremerton Marina Park ~~Launch~~. Port Orchard is also part of the Cascadia Marine Trail, which is a National Recreation Trail and one of only 16 National Millennium Trails designated by the White House.

8.3.5.3. Existing Bicycle Facilities

The Port Orchard street network currently includes marked bicycle facilities on the following routes:

- Tremont Street: Bike lanes on both sides from SR 16 interchange to Port Orchard Blvd
- Lippert Drive: Bike lanes on both sides from Sidney Avenue to Pottery Avenue.
- Sidney Avenue: A 600-foot-long bike lane along the east side of Sidney Road at the Haven Apartments frontage, approximately 1,500 feet north of Sedgwick Road.
- Melcher Street: Shared Lane Markings ("sharrows") from Heron Ridge Ave to Sherman Ave.
- SW Yarrow Street: Sharrows from McCormick Village Drive to Feigley Road SW.

~~Today, there are few dedicated bicycle facilities and no dedicated bicycle lanes on streets within Port Orchard. In the past, cyclists within the Port Orchard Planning Area either rode in the lane of traffic, on available road shoulders, or on City sidewalks.~~

The ~~2013~~ 2018 Kitsap County Non~~m~~-Motorized Facilities Plan (KCNMFP) identifies ~~five~~ three bike routes within the Port Orchard planning area. These routes do not cross into the ~~City of Port Orchard~~city limits. They ~~routes~~ include:

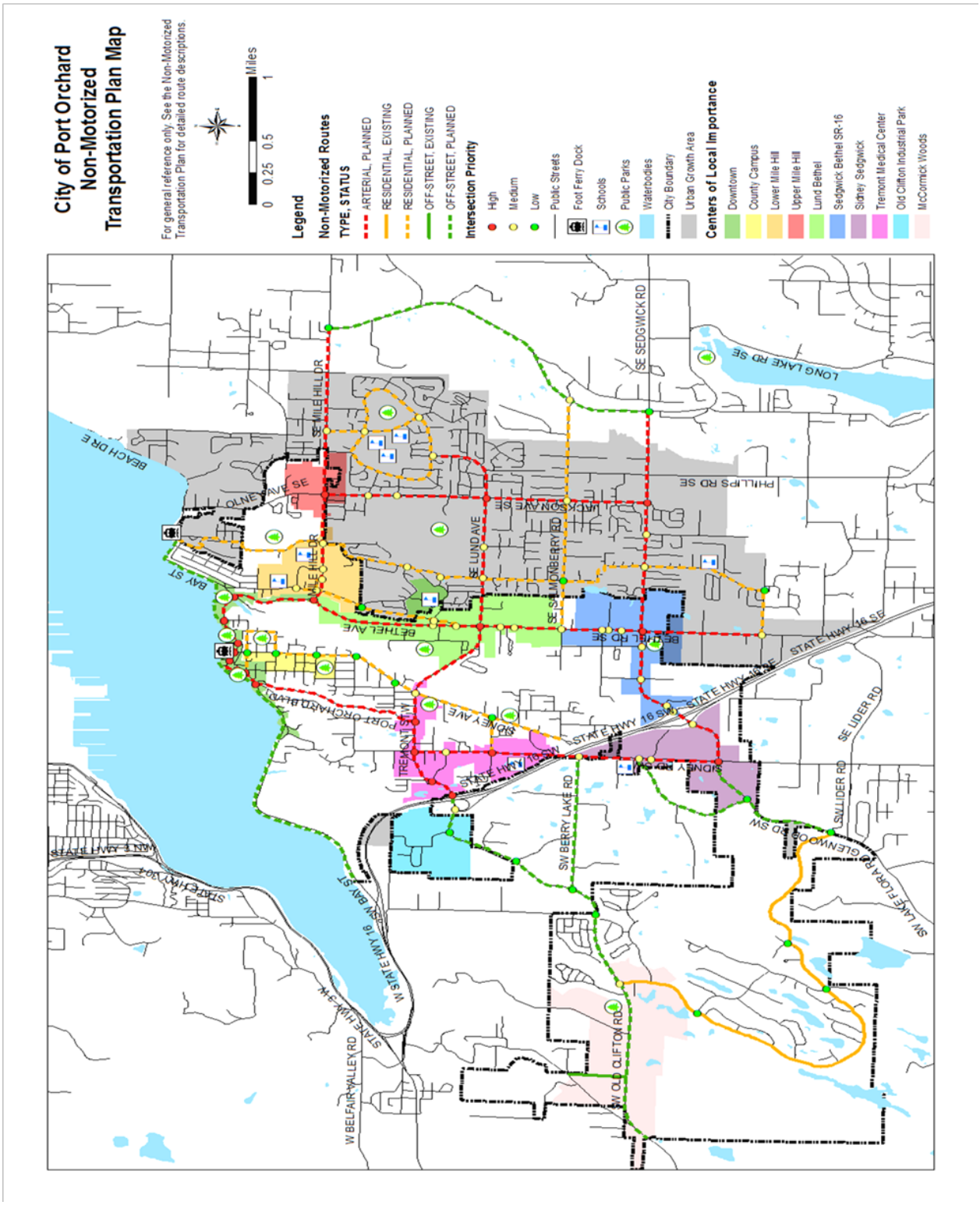
- Route 25 – Begins on Sedgwick Rd just west of Sidney at the city limit. The route runs southwest along Glenwood and turns at Lake Flora, continuing along Glenwood Road to the south of the planning area.~~Sedgwick Road from SR 16 to the southwest, south on Glenwood Road SW~~
- Route 30 – ~~—~~Begins on Mile Hill Dr at the east city limit and continues to the east along Mile Hill Dr/Southworth Dr to the Southworth Ferry Terminal. ~~SE Mile Hill Drive from the east city limits eastward to the Southworth Ferry terminal~~
- ~~—~~Route 37 – From Bethel Rd south of Sedgwick Rd extending south to the county line.~~Bethel Road from Lincoln Avenue to the south into unincorporated Kitsap County~~

~~Route 43 – SW Lake Flora Road from Glenwood Road SW southwesterly into unincorporated Kitsap County~~

~~Route 47 – Beach Drive E, from the city limit to the north~~

~~Figure 8-3 identifies the City's nonmotorized network plan, including planned on- and off-street facilities. Port Orchard's nonmotorized network will improve bicycle and pedestrian access throughout the City while also completing regional connections identified in the Kitsap County Nonmotorized Facilities Plan.~~

~~**Figure 8-3.** Existing and Planned Nonmotorized Facilities Map~~



8.4. Nonmotorized ~~Improvements~~System Vision

8.4.1. Planned Nonmotorized Routes

This section describes the City's vision for a nonmotorized transportation network which will improve bicycle and pedestrian access throughout the City while also completing regional connections identified in the Kitsap County Non-Motorized Facilities Plan (KCNMFP). Planned nonmotorized routes are identified in Table 8-x and shown graphically in Figure 8-x. of nonmotorized facilities. Table 8-2 identifies the major segments which will comprise the nonmotorized network.

Table 8-2X. Planned Nonmotorized Routes

Segment	On-Street/Off-Street	Facility Type*	Length (miles)	Status
Old Clifton Road	Off-street	MUSP	2.77	Planned
Long Lake Road	Off-Street	MUSP	2.40	Planned
Mosquito Fleet Trail	Off-street	MUSP	2.12	Planned
Bay St Pedestrian Path	Off-street	Pedestrian	1.49	Planned
Berry Lake Road	Off-street	MUSP	1.05	Planned
Glenwood Road	Off-street	MUSP	1.01	Planned
Feigley Road	Off-street	MUSP	0.36	Existing
Kendall Trail	Off-street	MUSP	0.26	Planned
SR 16 Crossing	Off-street	MUSP	0.20	Planned
Sedgwick Road	On-Street – Arterial	BL/S	2.98	Planned
Tremont-Lund	On-Street – Arterial	BL/S	2.63	Partially Built
Bethel Road	On-Street – Arterial	BL/S	2.62	Planned
Mile Hill Drive	On-Street – Arterial	BL/S	2.19	Planned
Jackson Avenue	On-Street – Arterial	BL/S	2.01	Planned
Pottery-Sidney	On-Street – Arterial	BL/S	1.91	Planned
Port Orchard Blvd	On-Street – Arterial	MUSP	1.06	Planned
Bay Street	On-Street - Arterial	BL/S	0.85	Planned
McCormick Woods Dr	On-Street – Residential	Shoulder	3.93	Existing
Converse-Harris	On-Street –Residential	BL/S	3.1000	Planned
Fircrest Drive	On-Street –Residential	BL/S	1.53	Planned
Mitchell Avenue	On-Street – Residential	BL/S	1.06	Planned
Retsil Road	On-Street – Residential	BL/S	1.10	Planned
Salmonberry West	On-Street –Residential	BL/S	0.98	Planned
Salmonberry East	On-Street – Residential	BL/S	0.79	Planned
Sidney Ave South	On-Street –Residential	BL/S	0.97	Planned
Sidney Ave North	On-Street –Residential	BL/S	0.72	Planned
St. Andrews Dr / Hawkstone Ave	On-Street – Residential	Shoulder	1.95	Partially Built
Lippert Drive	On-Street – Residential	BL/S	0.28	Planned
		Total	42.3743.1	

MUSP = Multi-Use Separated Path BL/S = Bicycle Lane and Sidewalk

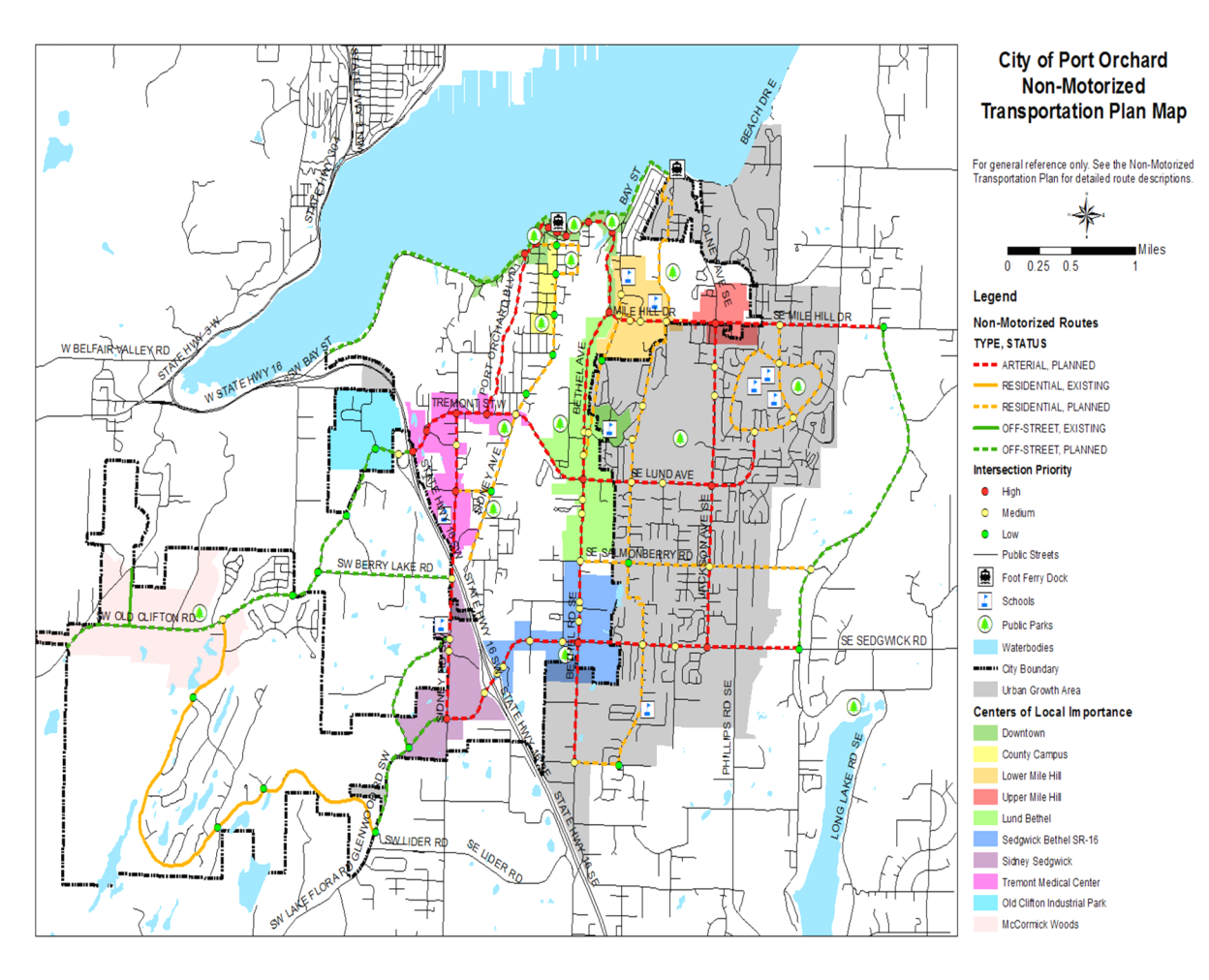


Figure 8-3. Existing and Planned Nonmotorized Facilities Map [TO BE UPDATED]

8.4.2. Arterial On-Street Facilities

Tremont Street/Lund Avenue (SR 16 to Jackson Avenue)

This 2.63-mile route will be the main east-west connection across Port Orchard. It passes through ~~three~~ two local centers ~~of local importance~~ and connects Van Zee Park and South Kitsap Regional Park. It also intersects with a planned connection at Port Orchard Boulevard~~four north-south routes, providing connections between multiple neighborhoods~~. It has the most traffic of any street in Port Orchard: Between ~~State Route~~SR 16 and Bethel Road, Tremont serves approximately 23,000 vehicles per day Average Weekly Daily Traffic (AWDT); east of Bethel, Lund Avenue serves 16,000 AWDT~~carries 22,600 to 23,400 AWDT; east of Bethel, Lund Avenue has 17,000 AWDT~~.

A 0.65-mile portion of this route from SR 16 to Port Orchard Boulevard was constructed as part of the Tremont Street improvement project~~Part of this route has already been designed with sidewalks and standard bike lanes between SR 16 and Port Orchard Boulevard, and as of 2016 is awaiting funding to begin construction~~. The next phase will extend the route form Port Orchard Boulevard to Sidney Avenue. The eastern end of the route is outside of city limits but within the Port Orchard Urban Growth Area, requiring collaboration with Kitsap County. The Kitsap County Transportation Improvement Program identifies four improvement projects on this corridor by 2028, including sidewalks and bike lanes from the Port Orchard city limit to Jackson Avenue and three new roundabouts. Th~~is~~e route is identified as a nonmotorized route ~~part of High and Medium Priority projects~~ in the ~~Kitsap County Bicycle Facilities Plan~~KCNMFP.

Port Orchard Boulevard (Tremont Street to Bay Street)

This 1.06~~-~~-mile segment is classified an arterial and currently serves approximately 2,~~900~~500 AWDT. It ~~would~~ will provide a ~~flat and shady~~ connection between the Tremont Medical Center and Downtown Port Orchard through a greenbelt on this relatively low-volume roadway. The Bay Street Pedestrian Pathway West Situation Study identifies plans for complete street improvements along Port Orchard Boulevard.

~~. It runs through a greenbelt and serves only one residential driveway. One option is to convert one of the drive lanes into a two-way protected bike lane, which will have minimal impacts due to low traffic volumes on this street.~~

~~Bay Street (Port Orchard Boulevard to Bethel Road)~~

~~This 0.85-mile segment of Bay Street would be the business access alternative to the Bay Street Pedestrian Path through the Downtown countywide center of local importance. It would connect with the Downtown access and egress trails on Port Orchard Boulevard and Bethel Road.~~

Pottery Avenue/Sidney Road SW (Tremont Street to Sedgwick Road)

This 1.91~~-~~-mile route will connect the Tremont Medical Center with the ~~Sidney Sedgwick commercial~~Ruby Creek C~~c~~enter~~,~~ and ~~also~~ provide a safe route to school directly adjacent to Cedar Heights Junior High School and Sidney Glen Elementary School. The 2024-2029 Transportation

Improvement Program (TIP) includes a complete streets improvement project for the Pottery Avenue portion of this corridor.

A ~~very~~ small portion of the route is outside of city limits and within the Urban Growth Area, requiring collaboration with Kitsap County or ~~annexation of ROW~~ROW acquisition for completion. The route carries between 4,500 AWDT (south of Tremont St) and 9,000 AWDT (north of Sedgwick Rd)~~5,900 to 8,000 AWD~~ and is a nonmotorized route in the KCNMFP. ~~T.~~

~~To the south, this project will connect with an Opportunity Project identified in the Kitsap County Bicycle Facilities Plan.~~

Bethel Road (Bay Street to Sedgwick Road)

This 2.62~~-~~-mile route will be the core north-south connection through Port Orchard and its busiest commercial centers. Anyone traveling east or west across the city crosses Bethel Road because it stretches from the northern waterfront to the southern city limits. Bethel Road carries 1~~5~~1,~~4~~500 to 16,900 AWDT. The street has been programmed for improvements, described conceptually in the Bethel Road and Sedgwick Road Corridor Study, which will include bike lanes and sidewalks. The reconstruction of Bethel Road will provide an opportunity to ensure nonmotorized facilities better meet the spirit of this plan~~planned for reconstruction for several years, with standard bike~~

~~lanes and sidewalks. A possible redesign process may provide the opportunity to ensure nonmotorized facilities better meet the spirit of this plan~~.

~~This route will connect with a project identified in the~~ The route is a designated nonmotorized route in the KCNMFP~~Kitsap County Bicycle Facilities Plan~~.

Sedgwick Road (Sidney Road SW to Long Lake Road)

This 2.27~~-~~-mile route will connect the commercial centers of Sidney-Sedgwick and Sedgwick-Bethel SR 16 and residential neighborhoods in the southeastern part of the Urban Growth Area. It is partially outside of city limits and is mostly designated as a state highway, requiring collaboration with Kitsap County and the Washington State Department of Transportation (WSDOT). It a designated nonmotorized route in the KCNMFP~~is identified as an Opportunity Project in the Kitsap County Bicycle Facilities Plan~~.

Jackson Avenue (Sedgwick Road to Mile Hill Drive)

This 2.01~~-~~-mile route is entirely outside of city limits but within the Port Orchard Urban Growth Area~~,~~. ~~and~~ It would connect ~~a number of~~several residential neighborhoods to South Kitsap Regional Park, the Upper Mile Hill commercial center, and connect to four east-west routes. Jackson Avenue carries 1~~2~~2,~~4~~000 to 1~~4~~3,500 AWDT. The route is a designated nonmotorized route in the KCNMFP~~This route is identified as two High Priority projects in the Kitsap County Bicycle Facilities Plan~~.

Mile Hill Drive (Bethel Road to Long Lake Road)

This 2.19~~-~~-mile route will connect the ~~Upper and Lower~~ Mile Hill ~~commercial~~ center~~s~~ with residential neighborhoods to the east, outside of Port Orchard city limits but within the Urban Growth Area. It

will provide a route to school for students at Orchard Heights Elementary School and Marcus Whitman Junior High School. Along with Sedgwick Road, it will link with the off-street trail on Long Lake Road. Mile Hill Drive has ~~16~~13,400 to ~~17~~15,~~6~~200 AWDT. It is partially a state highway, which will require collaboration with Kitsap County and ~~the Washington State Department of Transportation~~WSDOT. The route is a designated nonmotorized route in the KCNMFP.

WSDOT has programmed several improvement projects which will provide nonmotorized improvements along the corridor, including a new roundabout at Wolves Road and new culvert adjacent to Veterans Park.

8.4.3. Residential On-Street Facilities

~~**Outside of Port Orchard city limits, this route is identified as a High Priority project in the Kitsap County Bicycle Facilities Plan.**~~

~~**Residential On-Street Facilities**~~

McCormick Woods Drive (Old Clifton Road to Glenwood Road)

This 3.9-mile segment consists of a wide road shoulder throughout the McCormick Woods neighborhood. It is already a popular route for bicycling and walking. However, it does not currently meet City nonmotorized design standards. The wider shoulder may need to be widened and have parking prohibited; with no homes fronting McCormick Woods Drive, this will have minimal impact on residents, but as a mitigation the opposite shoulder could be widened in key locations to allow on-street parking. The speed limit may need to be lowered from 25 to 20 miles per hour.

St. Andrews Drive/Hawkstone Avenue

This 1.93-mile segment will provide a loop within the McCormick Woods community, beginning on St. Andrews Drive at McCormick Woods Drive adjacent to the McCormick Woods Golf Club clubhouse and terminating on Hawkstone Avenue at McCormick Woods Drive. It is planned as a wide paved shoulder. A portion of this route currently exists on St Andrews Drive from McCormick Woods Drive to Donegal Circle SW.

~~**McCormick WestVillage Drive**~~

~~[add a description for this new road]~~

~~**Telford Way SW**~~

~~[add a description for this new road]~~

Sidney Avenue (Tremont Street to Fireweed Street)

This 0.~~97~~97-mile route will primarily connect residential areas and multi-family developments to Paul Powers Jr. Park, Van Zee Park, Cedar Heights Junior High School, and to the nonmotorized facilities on Tremont Street. Sidney Avenue serves 5,000 AWDT. This project requires the construction of regional stormwater facility at the end of Sherman Ave to facilitate the build out of the non-motorized

improvements within this corridor.

~~**Lippert Drive (Pottery Avenue to Sidney Avenue)**~~

~~This will be a short 0.28 mile segment connecting the Sidney Avenue residential area to commercial services on Pottery Avenue and the Tremont Medical Center. In 2022, the City received CDBG funding to complete planned improvements to this segment of Lippert. A minor section of frontage improvements remains within this corridor and will be constructed as development occurs.~~

Salmonberry Road West (Bethel Avenue to Jackson Avenue)

This 0.98~~-~~mile route will be an east-west connection through residential neighborhoods, connecting the Bethel commercial corridor with Jackson Avenue. Salmonberry Road serves 2,~~600~~ 300 AWDT. About half of this route is outside of City limits but still within the Port Orchard Urban Growth Area, which will require collaboration with Kitsap County for completion. The City is designing improvements for Salmonberry Road West as part of the Bethel Phase 1 project.

Salmonberry Road East (Jackson Avenue to Long Lake Road)

This 0.79~~-~~mile route should only be built if the Long Lake Road trail is built. It will be an east-west connection through residential neighborhoods, extending the east-west connection from the Bethel commercial corridor with the many residential neighborhoods along Jackson Avenue and Salmonberry Road, connecting the Bethel commercial corridor with Jackson Avenue. Salmonberry Road serves ~~2,6~~3,000 AWDT. About half of this route is outside of City limits but still within the Port Orchard Urban Growth Area, and half is outside of the Urban Growth Area, requiring collaboration with Kitsap County for completion. The route is a designated nonmotorized route in the KCNMFP~~This project is identified as an Opportunity Project in the Kitsap County Bicycle Facilities Plan~~.

Mitchell Avenue (Bethel Avenue to South Kitsap High School)

This 1.16~~-~~mile route will connect the central portion of Port Orchard and neighborhoods outside of the city to the high school. It partially passes through unincorporated territory within the Urban Growth Area, which will require collaboration with Kitsap County for completion. Roundabout improvements at Bethel/Lundberg/Mitchell and Lincoln/Mitchell will see the Mitchell Y intersection eliminated except for non-motorized connectivity. These improvements should be complete by 2028.

Retsil Road (Mile Hill Drive to Bay Street)

This 1.1~~-~~mile route will provide safe access through the City's most northeastern residential areas and connect directly to Retsil Park, the waterfront, and the Annapolis foot ferry dock. Rets~~t~~il Road has 4,000 AWDT, which is relatively high for a residential street. Part of the route passes through an unincorporated area within the Urban Growth Area, which will require collaboration with Kitsap County.

Mile Hill Drive to Cedar Road Connection~~**Converse Karcher Harris Lincoln (Mile Hill Drive to Cedar Road)**~~

This 3.~~1~~0 ~~-~~-mile route will provide a connection between multiple residential neighborhoods, East Port Orchard Elementary School, and Hidden Creek Elementary School. It will begin at Karcher Rd SE south of Mile Hill Drive (SR 166), then proceed south on Lincoln Avenue SE, McKinley Place SE, and Harris Road SE. It will cross SE Lund Avenue at the planned Harris Road roundabout and continue south to the existing terminus of Harris Road south of Salmonberry Road. This route will require a new connection between Harris Road and SE Vale Road. From Vale Road, the route will connect to Converse Avenue SE and will continue south past Sedgwick Road (SR 160), ultimately terminating at SE Cedar Road.

This route~~It~~ will ~~-~~connect~~s~~ directly to the Retsil Road route~~,~~ but is distinct because it is entirely outside of Port Orchard city limits. However, it is important because it connects with ~~a number of~~several east-west routes that provide access to the city proper and its commercial areas. Collaboration with Kitsap County will be required for its completion. It also crosses two state highways, which will require collaboration with ~~the Washington State Department of Transportation~~WSDOT. ~~This project will connect with and be part of an Opportunity Project identified in the Kitsap County Bicycle Facilities Plan.~~

Fircrest Drive (Jackson Avenue to Mile Hill Drive)

This 1.53 ~~-~~-mile route will provide a connection throughout the unincorporated Parkwood neighborhood. It will connect with Orchard Heights Elementary School, Marcus Whitman Junior High School, and the Village Greens Golf Course. It will also provide a flatter alternative to reach Mile Hill than the steep northern part of Jackson Avenue. The route is entirely outside of city limits but is within the Urban Growth Area, requiring collaboration with Kitsap County. The route is a designated nonmotorized route in the KCNMFP~~This route is identified as part of High Priority and Opportunity Projects in the Kitsap County Bicycle Facilities Plan~~.

Berry Lake Road (Pottery ~~Road~~Avenue to Old Clifton Road) ~~shoulders~~

This 1.05-mile route will include paved shoulders to provide a nonmotorized connection between Old Clifton Road and Pottery Avenue.

Old Clifton Road (B~~a~~erry Lake Road to west City limits) shoulders

This 2.08-mile route will include paved shoulders on both sides of Old Clifton Road, providing an on-street nonmotorized connection between the McCormick subdivisions and Tremont Street. The route will also include an off-street paved trail, described in the following section.

8.4.4. Off-Street Facilities

Bay Street Pedestrian Path (Water Street to Annapolis Foot Ferry Dock)

This path is envisioned as an off-street connection between Port Orchard's two Foot Ferry docks, one downtown and the other in the Annapolis neighborhood. Part of the path is complete and newly built as modern multi-use path, with completion planned over the next several years (as of 2024). It will run through the downtown area and connect two waterfront parks and a public boat ramp. It will

also connect to a future nonmotorized facility along Port Orchard Boulevard, providing a connection to the Tremont Street/Lund Avenue corridor to the south. The vision for this facility is summarized in the Bay Street Pedestrian Pathway West Situational Study.

This pathway is identified by Kitsap County as part of the Mosquito Fleet Trail, which will ultimately include approximately 100 miles of pedestrian and bicycle trails that will link open spaces throughout Kitsap County in an interconnected system. The Mosquito Fleet Trail Master Plan, completed in 2001, identifies the primary corridor through Port Orchard following SW Bay Street and Beach Drive.

The existing boardwalk on the downtown waterfront and the sidewalk on the back of shoreline buildings are not consistent with the vision of this nonmotorized plan and of the Mosquito Fleet Trail. Completion of this path will require collaboration with Kitsap County, the Port of Bremerton, and waterfront property owners.

Feigley Road (Old Clifton Road to Lone Bear Lane)

This trail is a paved pathway on the east side of Feigley Road ~~that was constructed prior to the adoption of this Transportation Element~~. Improvements may be needed to bring this trail in line with City design standards and to accommodate nonmotorized traffic generated by ~~a future high school on this street~~future development along Feigley Road.

~~**Mosquito Fleet Trail (Sinclair Inlet waterfront)**~~

~~Kitsap County has planned a multi-use trail along the eastern shoreline of the Kitsap Peninsula. In Port Orchard, the trail will extend along the City's entire northern waterfront and is known as the Bay Street Pedestrian Pathway. As of 2016, several portions of the Mosquito Fleet trail are both completed and planned in Port Orchard on its downtown waterfront. To the east and west, it is identified as part of High Priority projects in the Kitsap County Bicycle Facilities Plan.~~

~~**Bay Street Pedestrian Path (Water Street to Annapolis Foot Ferry Dock)**~~

~~This path is envisioned as an off street connection between Port Orchard's two foot ferry docks, one being in downtown and the other in the Annapolis neighborhood. Part of the path is complete and newly built as modern multi-use path, with completion planned over the next several years (as of 2016). It will run through the downtown area and connect two waterfront parks and a public boat ramp.~~

~~The boardwalk on the downtown waterfront and the sidewalk on the back of shoreline buildings are not consistent with the vision of this nonmotorized plan and of the Mosquito Fleet trail. Completion of this path will require collaboration with Kitsap County, the Port of Bremerton, and waterfront property owners.~~

Old Clifton Road (Feigley Road to SR 16)

This trail will connect the McCormick ~~Woods~~ subdivisions with the site of a future high school,

enabling students to safely walk and bike to class. The trail will also extend along Old Clifton Road to connect with the Old Clifton Industrial Park, an employment local center. Special consideration will be needed for how the trail merges with planned bike lanes and sidewalks on Tremont Street. Locating the trail on the north and west sides of Old Clifton Road may minimize conflicts with driveways and intersections. Old Clifton Road serves between 5,500 and 6,100up to approximately 7,500 AWDT. Typical right-of-way width is 60 feet.

A portion of the trail passes through unincorporated Kitsap County and an area not within the Port Orchard Urban Growth Area. Port Orchard will need to collaborate with Kitsap County to complete this trail segment. Part of it isIt is identified as a nonmotorized route n in Opportunity Project in the KCNMFPKitsap County Bicycle Facilities Plan.

McCormick Village Drive (Old Clifton to City Limit)

Berry Lake Road (Old Clifton Road to Sidney Road)

This 1.05-mile trail is entirely outside of Port Orchard City limits, but it will provide an important connection from the McCormick Woods area to the nearby Sidney Glen Elementary School and Cedar Heights Junior High School. Berry Lake Road serves 24,6200 AWDT. Typical right-of-way width is 60 feet.

Sidney-SR 16 Crossing (Sidney Road to Sidney Avenue)

Creating a trail across Highway 16 in this area could create a new connection between neighborhoods and promote better access to the nearby schools and Paul Powers Jr. Park. If a bridge or tunnel is cost prohibitive, another option may be to extend SW Moorea Lane to Sidney Road via a series of switchbacks. Crossing SR 16 would require WSDOT the approval of the Washington Department of Transportation (WSDOT), followed with an airspace trail lease agreement with WSDOT for ongoing maintenance and preservation of the trail facility.

Glenwood Road/SW Sedwick Road (McCormick Woods Drive to Sidney Road SW)

This one-mile trail will connect McCormick Woods and other residential neighborhoods south of Port Orchard to the Sidney-Sedgwick commercial center. It is partially outside of Port Orchard city limits and will require collaboration with Kitsap County to complete. It is identified as part of an Opportunity Projecta nonmotorized route in the KCNMFPKitsap County Bicycle Facilities Plan.

Long Lake Road (Sedgwick Road to Mile Hill Drive)

This 2.4-mile trail is entirely outside of the Port Orchard city limits and has only a small portion within the Urban Growth Area. Nonetheless, it is recognized as an important route between two major arterials that provide access to Port Orchard proper: Mile Hill Drive and Sedgwick Road. It will connect outlying rural residential neighborhoods to Port Orchard and create a pleasant recreational path in a more rural environment. Collaboration with Kitsap County will be needed to complete this trail. The

route is identified as ~~part of a High Priority project~~a nonmotorized route in the KCNMFP~~Kitsap County Bicycle Facilities Plan~~.

8.4.5. Programmed Nonmotorized Improvements

The following projects that include pedestrian or bicycle facility improvements are included in the City's 2024-~~16-2021~~9 Transportation Improvement Program (TIP):

- ~~Tremont Street Widening –This City of Port Orchard project has been recommended to KRCC for federal funding. It would widen 0.65 miles of Tremont Street from two to four lanes with concrete sidewalks, bike paths on both sides, and necessary drainage improvements. This segment would complete the Port Orchard Bypass, which constructed a four-lane arterial from Bethel Road to Port Orchard Boulevard and the four-lane bridge across Blackjack Creek.~~

- Tremont Street Improvements from Port Orchard Blvd to Sidney Ave. Improve approximately 0.25 miles of Tremont Street with concrete sidewalks, bike facilities, and drainage improvements.

- Bay Street Pedestrian Path –~~ The Port Orchard 6-year TIP (2016-2021) includes a project to c~~ Construct a 1.2-mile-long multimodal waterfront pathway and retaining wall along the Mosquito Fleet Trail, between the Sidney Avenue and Annapolis Foot Ferries in Downtown Port Orchard.

- Old Clifton Road - Widen Old Clifton Rd west of SR 16 to include shoulders, street lighting, and a 2.11-mile grade-separated pedestrian path from SR 16 to the west city limit.

- Bethel Avenue – ~~The Port Orchard 6-year TIP (2016-2021) includes a two-phase~~Phase 1 of Bethel Road corridor improvements, including roundabouts at Bethel & Blueberry Rd and Bethel & Salmonberry Rd intersections as well as widening and nonmotorized improvements from Sedgwick Road to Salmonberry Road ~~widening of Bethel Avenue from Mile Hill Drive to Sedgwick Avenue, to include up to four lanes and to include sidewalks, bike lanes, lighting, and stormwater improvements.~~

- Sidney Road SW – Design phase of a project to widen the 0.95-mile segment from Sedgwick Road to Berry Lake Rd to three lanes with bike lanes, sidewalks, and traffic calming.

- SW Sedgwick Road ~~Corridor Improvements –~~ ~~The Port Orchard 6-year~~Preliminary design phase of c~~C~~omplete s~~S~~treets improvements of the 0.75-mile section from SR 16 to Glenwood ~~TIP (2016-2021) includes plans to widen 0.9 miles of Sedgwick Road, from SR 16 to Bethel, to 3 lanes with bike lanes and sidewalks on both sides. A second project is planned to implement~~

~~Complete Streets improvements from SR 16 to Glenwood, a distance of 0.75 miles~~.

- Pottery Avenue – Address sidewalk gaps and construct nonmotorized improvements, including bikeable shoulders, along the 0.95-mile segment from SR 16 to Lippert Drive. Construct safety improvements at the Pottery Avenue & Lippert Drive intersection.~~The Port Orchard 6-year TIP (2016-2021) includes a project to widen the two lane roadway with bike lanes, sidewalks, and stormwater improvements for 0.3 miles from Tremont to Melcher Street; and another project widen to four lanes the segment from Tremont to SR 16, a distance of 1 mile, adding sidewalks, stormwater and traffic calming.~~

- Bay Street Pedestrian Pathway West – Multiuse pathway from Kitsap Transit station to Port Orchard Blvd.

- Port Orchard Blvd – Road diet with downhill bikeable shoulder and multi-use pathway.

The following projects that include nonmotorized facility improvements are included in the City of Port Orchard TIP for 2030-2043:

~~- Bethel Avenue – The Port Orchard 6-year TIP (2016-2021) includes a two-phase widening of Bethel Avenue from Mile Hill Drive to Sedgwick Avenue, to include up to four lanes and to include sidewalks, bike lanes, lighting, and stormwater improvements.~~

~~- Sidney Avenue - The Port Orchard 6-year TIP (2016-2021) includes a project to widen the one-mile segment from SR 16 to Sedgwick Road to three lanes with bike lanes, sidewalks, stormwater, and traffic calming; a second project will overly Sidney/Pottery Avenue from Lippert Drive to SR 16 with reconstructed curb, gutter, sidewalks, curb ramps, and bike lanes.~~

~~- Pottery Avenue - The Port Orchard 6-year TIP (2016-2021) includes a project to widen the two lane roadway with bike lanes, sidewalks, and stormwater improvements for 0.3 miles from Tremont to Melcher Street; and another project widen to four lanes the segment from Tremont to SR 16, a distance of 1 mile, adding sidewalks, stormwater and traffic calming.~~

~~- Old Clifton Road - The Port Orchard 6-year TIP (2016-2021) includes a project to widen the existing roadway west of SR 16 to include shoulders, street lighting, water main, and a grade-separated pedestrian path as identified in the McCormick Urban Village Plan.~~

~~- Sherman Avenue - The Port Orchard 6-year TIP (2016-2021) includes a project to widen the 2-lane roadway with bike lanes and sidewalks for 0.35 miles.~~

- ~~Fireweed Road – The Port Orchard 6-year TIP (2016-2021) includes a project to widen the 2- lane roadway with bike lanes and sidewalks for 0.25 miles.~~
- ~~Cline Avenue - The Port Orchard 6-year TIP (2016-2021) includes a project to rehabilitate the roadway pavement and replace the sidewalk on the west side of the street, in the segment from Kitsap Drive to Dwight Street, a distance of 0.13 mile.~~
- ~~Melcher Street – The Port Orchard 6-year TIP (2016-2021) includes a project to widen Melcher Street from Pottery Avenue to Sherman Avenue to include two travel lanes, bike lanes, sidewalks, and a stormwater system.~~
- Sidney Avenue – Widen Sidney Ave north of SR 16 from Tremont Street to terminus to include bicycle facilities, storm drainage, and sidewalks.
- SW Sedgwick Road ~~West~~ – Design phase of SW Sedgwick Road ~~West~~ TIP improvements.
- Bethel/Sedgwick Corridor – Multi-phase project which will provide widening and nonmotorized improvements along Bethel Road from Sedgwick to Mile Hill Drive and along Sedgwick Road from SR 16 to Bethel Road.
- Pottery Avenue – Widen from Tremont Place to Melcher Street, including two full travel lanes with bicycle facilities, sidewalk, and stormwater improvements.
- Old Clifton Road – Construction phase of Old Clifton Road TIP improvements.
- Melcher Street – Widen 0.40-mile section to include two travel lanes, bicycle facilities, sidewalks, and a stormwater system from Pottery Avenue to Sherman Avenue.
- Fireweed Road – Widen 0.25-mile section of roadway to two full travel lanes with bicycle facilities and sidewalks from Sidney Avenue to S Flower Avenue.
- Sherman Avenue – Widen 0.35-mile section of roadway to two full travel lanes with bicycle facilities and sidewalks from Fireweed Rd to its terminus.
- Port Orchard Boulevard – Construct curb, gutter, bike lanes, and sidewalks along Port Orchard Boulevard from Tremont Street to Bay Street. Construct roundabouts at the Tremont Street and at the Bay Street intersections along Port Orchard Boulevard.
- Ramsey Road – Widen to two full travel lanes with curb, gutter, sidewalks, and bicycle facilities.
- Blueberry Road – Widen to two full travel lanes with curb, gutter, sidewalks, and bicycle facilities.

- Geiger Road – Widen to two full travel lanes with curb, gutter, sidewalks, and bicycle facilities.
- Salmonberry Road – Widen to two travel lanes with curb, gutter, sidewalks, and bicycle facilities.
- New Collector – Construct new east-west street north of Sedgwick Rd between Geiger Road and Ramsey Road, including two travel lanes with curb, gutter, sidewalks, and bicycle facilities.
- Cline Avenue - Rehabilitate the roadway pavement and replace the sidewalk on the west side of the street from Kitsap Drive to Dwight Street, a distance of 0.13 miles.~~The Port Orchard 6-year TIP (2016-2021) includes provision for regular maintenance and repair of existing concrete sidewalks and curb ramps as needed.~~

8.5. Level of Service

Transportation Level of Service (LOS) is a qualitative description of the operating performance of a given element of ~~a~~ transportation infrastructure. It is typically expressed as a letter grade from LOS A, representing free flow operations with almost no travel delay, to LOS F, representing complete breakdown of flow and high delay. LOS establishes a basis for comparison between streets and intersections and helps guide the prioritization of improvement projects.

Port Orchard's street network should maintain consistency with Kitsap County's network while accommodating the City's transportation needs and vision. To establish and maintain this consistency, the City's LOS standards must be suited to the needs of Port Orchard while retaining some similarity to LOS standards in the adjacent urban unincorporated area. This section describes the basis for the City of Port Orchard LOS standards.

8.5.1. Street Segment Level of Service Definition

~~Port Orchard's road network needs to maintain consistency with Kitsap County's network while recognizing the City's transportation needs and vision. In order to establish and maintain this consistency, the City's LOS standards should be similar to those in the adjacent urban unincorporated area while recognizing the transportation goals and needs specific to the City. This section describes the Level of Service standards for the streets and intersections on the City's arterial street network as well as the findings of a citywide LOS analysis.~~

~~Segment Level of Service~~

Port Orchard has adopted a system of planning-level street segment capacity standards for long-range planning and transportation concurrency management. The standards, which are based on Highway Capacity Manual concepts and similar policies adopted throughout Western Washington, define a maximum allowable service volume based on functional classification and presence of left-turn lanes, access control, nonmotorized facilities, and on-street parking. The adopted street segment capacity standards are summarized in Table 8-3.

~~Table 8-3 describes a set of street capacity standards which incorporate planning-level vehicle capacity estimates with consideration for the impact of non-motorized facilities on vehicle capacity. These standards can be applied to calculate capacity for every arterial street in Port Orchard.~~

~~These street capacity standards use a base peak hour capacity which is based on Highway Capacity Manual (HCM) and similar methodologies used throughout the region. Base capacity is adjusted based on facility attributes including left-turn lanes, access restrictions, bike lanes, sidewalks, and on-street parking.~~

~~Left-turn lanes are estimated to add the capacity equivalent of one half through lane by removing major approach left-turn delay. Similarly, segments with limited access~~

~~(e.g. physical or natural barriers) experience an increase of the equivalent of 70 percent of one through lane. Capacity reductions for lack of non-motorized facilities are based on the principle that HCM capacity calculations assume fully-built urban street sections. Streets without sidewalk or bike lanes will force nonmotorized users into vehicle lanes, reducing vehicle capacity. Exceptions to these nonmotorized reductions can be made for freeways and state highways which are designed to emphasize vehicle mobility over nonmotorized traffic. The presence of on-street parking, for example along Bay Street, is also expected to reduce capacity slightly.~~

~~The segment LOS described in this Transportation Element is based upon the street capacity methodology outlined in Table 8-3.~~

Table 8-3. ~~Proposed Port Orchard~~Street Segment Capacity Standards

Functional Classification	Base Capacity (vphpl)	Capacity Adjustments (vph)				
		Left-Turn Lane	Access-Restricted Segment	No Bike Lane	No Sidewalk	On-Street Parking
Freeway	~~2,000~~2,000	n/a	n/a	n/a	n/a	n/a
State Highway	950	475	665	0	0	0
Principal Arterial	850	425	595	-85	-170	-45
Minor Arterial	750	375	525	-40	-75	-40
Collector	620	310	435	-30	-60	-30

Left-turn lanes are estimated to add the capacity equivalent of one half through lane by removing major approach left-turn delay. Similarly, segments with limited access, including physical or natural barriers, provide an increase of the equivalent of 70 percent of one through lane. Capacity reductions for lack of nonmotorized facilities are based on the principle that HCM capacity calculations assume complete urban street sections. Streets without sidewalk or bicycle facilities will force nonmotorized users into vehicle lanes, reducing vehicle capacity. Exceptions to these nonmotorized reductions can be made for freeways and state highways which are designed to emphasize vehicle mobility over nonmotorized traffic. The presence of on-street parking also reduces capacity slightly.

Street segment LOS is based on the ratio of traffic volume to roadway capacity, or v/c ratio. Port Orchard has adopted LOS thresholds consistent with the Port Orchard/South Kitsap Subarea Plan and planning-level LOS thresholds defined in Highway Capacity Manual 1994. Adopted street segment LOS thresholds and descriptions are summarized in Table 8-4.

~~Street segment LOS is based on the ratio of traffic volume to roadway capacity and can be described as a roadway's ability to serve all users. POMC 16.71.007 defines LOS thresholds which are consistent with the Port Orchard/South Kitsap Subarea Plan and with the planning-level LOS thresholds defined in Highway Capacity Manual 1994 (HCM1994). These thresholds and descriptions have been adapted and modified to fit the multimodal capacity approach described above. See Table 8-4.~~

Table 8-4. Port Orchard Street Segment LOS Thresholds and Characteristics

LOS	Volume / Capacity	Description
A	≤ 0.60	Facility accommodates all modes of transportation. Vehicles experience free flow, with low volumes and high speeds
B	0.61 – 0.70	Stable flow, with traffic conditions beginning to restrict operating speeds. Drivers still have reasonable maneuverability between multiple lanes. All modes are accommodated
C	0.71 – 0.80	Fairly stable flow, but higher volumes more closely constrict speeds and maneuverability.
D	0.81 – 0.90	Approaching unstable flow, with tolerable operating speeds and limited maneuverability. Facilities without nonmotorized facilities and heavy pedestrian/bike volume may experience unstable flow.
E	0.91 – 1.00	Nonmotorized users in travel lanes will conflict with heavy vehicle volume and cause breakdowns in flow. Vehicles experience unstable flow with reduced operating speeds.
F	> 1.00	Facility is unable to accommodate all modes. Vehicles experience forced flow, operating under stop-and-go conditions

Port Orchard has adopted an "ultimate street LOS policy" which provides a segment LOS exemption to streets which have been fully constructed to their respective design standard. This includes, for example, Tremont Street between the SR 16 interchange and Port Orchard Boulevard. Ultimate street design standards are based on the Port Orchard Public Works Engineering Standards and the street design classifications identified in Figure 8-x. ~~Source: TSI 2015, Port Orchard Transportation Element 2011~~

~~Intersection Level of Service~~

8.5.2. Intersection Level of Service Definition

Intersection LOS is based on the average delay experienced by a vehicle traveling through an intersection. Delay at a signalized intersection can be caused by waiting for the signal or waiting for the queue ahead to clear the signal. Delay at unsignalized intersections is caused by waiting for a gap in traffic or waiting for a queue to clear the intersection.

Table 8-5 shows the amount of delay used to determine intersection LOS. The intersection LOS analysis completed for this Transportation Element was completed using Highway Capacity Manual 6th Edition (HCM6) methodologies for signalized and stop-controlled intersections. Roundabout delays and LOS were calculated using the Sidra capacity methodology, per WSDOT guidelines.

For minor-approach stop controlled intersections, LOS is based on the turn movement with the worst (highest) delay. For all other intersection control types, LOS is based on average delay.

~~Table 8-5 shows the amount of delay used to determine LOS for signalized and unsignalized intersections. For the purposes of this analysis and to maintain consistency with WSDOT practice, roundabouts were analyzed using the HCM2000 signalized LOS thresholds.~~

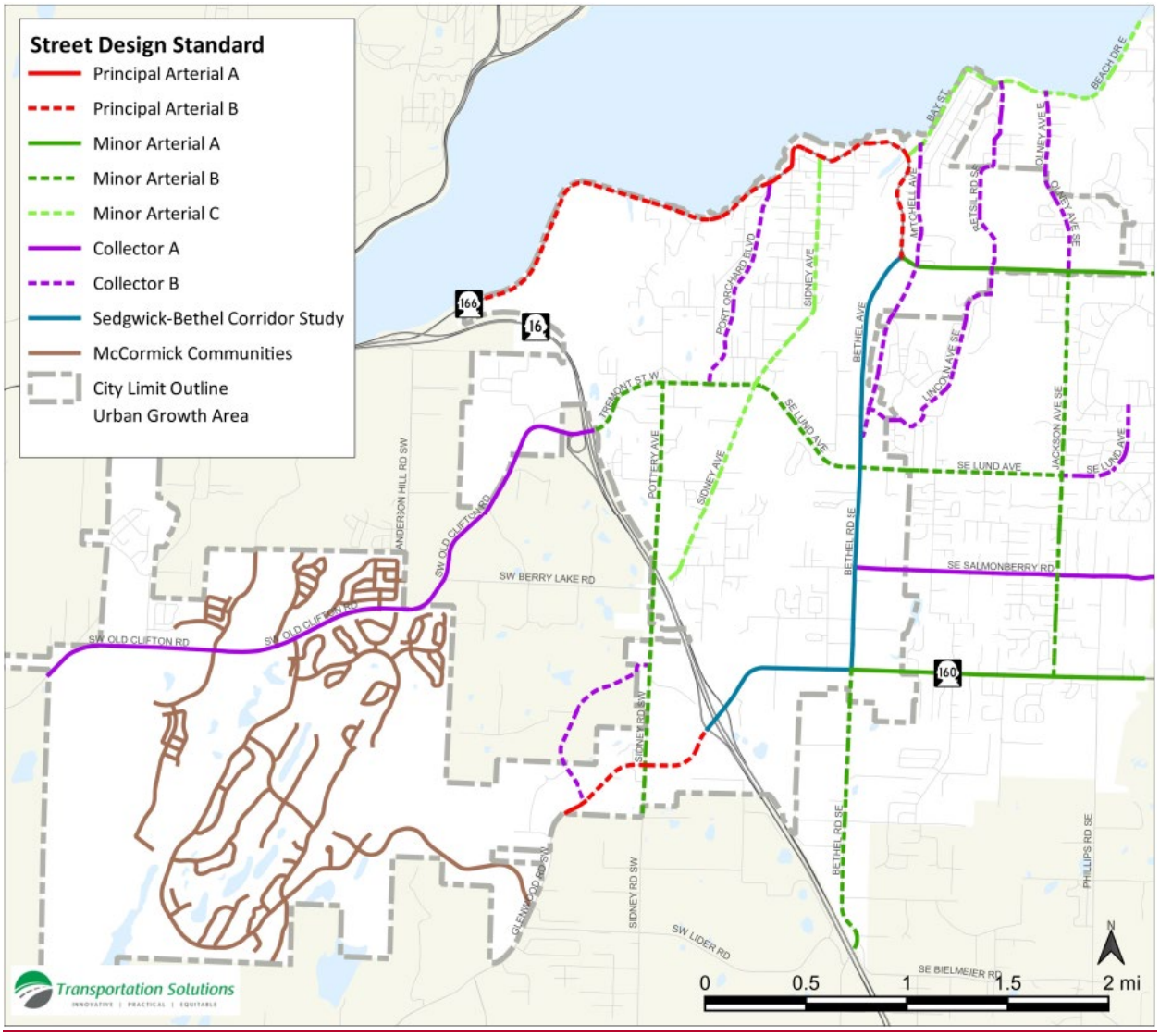


Figure 8-x. Street Design Standards

~~Delay is defined differently for signalized and all-way stop controlled intersections than for two-way stop controlled (i.e. stop control on minor approach) intersections. For signalized and all-way stop controlled intersections, level of service thresholds are based upon average control delay for all vehicles using the intersection. For two-way stop controlled intersections, delay is reported for the movement with the worst (highest) delay.~~

Table 8-5. Intersection Level of Service Thresholds

LOS	Signalized and Roundabout Delay (sec/veh)	~~Unsignalized~~ Stop-Control Delay (sec/veh)
A	≤10	≤10
B	>10 – 20	>10 – 15

C	>20 – 35	>15 – 25
D	>35 – 55	>25 – 35
E	>55 – 80	>35 – 50
F	>80	>50

8.5.3. Level of Service Standards and Concurrency Requirements~~Setting Level of Service Standards~~

~~The Growth Management Act (GMA) requires cities to adopt local Level of Service (LOS) standards and ordinances that prohibit development if the adopted standard would be violated by development approval. Developments must be required to provide for necessary improvements within a six-year period with an additional extension of six years permitted on a case-by-case basis.~~

The Growth Management Act (GMA) requires cities to adopt local Level of Service (LOS) standards and ordinances that prohibit development if the adopted standard would be violated by development approval. Developments must be required to provide for necessary improvements within a six-year period with an additional extension of six years permitted on a case-by-case basis.

GMA requires that a LOS standard be set but acknowledges the need for flexibility by providing for six years and extensions for the development of required improvements. Therefore, during that period, some portion of the facilities may be under development, design and construction. During that period, facilities may be experiencing congestion that exceeds the adopted standard. As facilities are completed, improvements may initially provide transportation service that performs better than the adopted standard.

Port Orchard has adopted a minimum LOS standard of LOS D for the City's functionally classified (i.e. collector and arterial) street system. This represents a compromise between the theoretical "ideal" LOS A and the realities of travel demand, construction, and financial capabilities. At LOS A, people could travel anywhere anytime with no delay. LOS D represents the ability to travel the City's arterial and collector routes with only moderate congestion-related delays. As the City of Port Orchard grows and becomes more urbanized, some additional travel delay will become a reality, particularly during peak periods.

Minimum LOS for intersections on State facilities are set by the Washington State Department of Transportation (WSDOT). SR 16 is designated by WSDOT as a Highway of Statewide Significance (HSS) and is assigned minimum LOS D. SR 160 (Sedgwick Rd) is designated as a non-HSS route with minimum LOS D. SR 166 (Bay St/Bethel/Mile Hill Dr) is a non-HSS route with minimum LOS E Mitigated. Port Orchard may, however, choose to monitor LOS and program improvements at intersections along WSDOT facilities, particularly if they introduce delay to City streets.

8.5.3.1 Level of Service Standards

~~**Washington State's GMA requires that a standard for level of service be set but acknowledges the need for flexibility by providing for six years and extensions for the**~~

~~development of required improvements. Therefore, during that period, some portion of the facilities may be under development, design and construction. During that period, facilities may be experiencing congestion that is over the standard. As facilities are completed, improvements may initially provide transportation service that performs better than the adopted standard.~~

~~Port Orchard has adopted a LOS standard of LOS D for all segments and intersections on the City's arterial street system. Level of Service D represents a reasonable threshold between the "ideal" LOS A and the realities of travel demand, construction, and financial capabilities. At LOS A, people could travel anywhere anytime with no delay. LOS D represents the ability to travel most of the area's arterial and collector routes with only moderate congestion-related delays. As the City of Port Orchard grows and becomes more urbanized, some additional travel delay will become a reality, particularly during peak periods.~~

~~The City's Level of Service standard does not apply to intersections on State facilities within the City of Port Orchard. Minimum LOS for intersections on State facilities are set by the Washington State Department of Transportation (WSDOT). SR 16 is designated by WSDOT as a Highway of Statewide Significance (HSS) and is assigned minimum LOS D. SR 166 is designated by the Puget Sound Regional Council (PSRC) as a Tier 1 highway of regional significance with LOS E Mitigated. SR 160 is designated by PSRC as a Tier 2 highway of regional significance with LOS D.~~

~~Alternative Level of Service and Concurrency~~

A. Pedestrian Safety and Mobility LOS. Developments will provide for pedestrian safety, including adequate connections to existing pedestrian facilities. Proximity to pedestrian oriented establishments, ~~such as~~including~~,~~ but not limited to~~,~~ schools, parks, and commercial establishments shall be considered when evaluating pedestrian safety. Particular attention shall be given to school walk routes.

1. Ultimate Pedestrian LOS. The ultimate pedestrian facility design includes a sidewalk, curb and gutter section or other approved non-motorized vehicle facility. Specific requirements may identify the need for additional safety precautions.

2. Minimum Pedestrian LOS. A minimum pedestrian facility shall include one of the following:

    a. A six-foot-wide paved path separated from the paved roadway surface by either an unpaved ditch or swale, three feet wide;

    b. An eight-to-twelve-foot-wide paved path constructed integral with paved roadway surface and including adequate delineation for safety;

    c. Other conditions may be considered equivalent to the minimum pedestrian safety facility at the sole discretion of the city engineer.

~~B.~~ Traffic Capacity LOS: Traffic

~~C.~~B. Capacity LOS is defined in the ~~2010~~ Highway Capacity Manual and is based on PM peak hour vehicle capacity.

1. The City's ~~arterial~~ functionally classified (collector and arterial) street system~~, including segments and intersections,~~ shall meet the following standards ~~for LOS~~:

   a. Principal arterials – LOS D

   b. Minor arterials – LOS D

   c. Collector arterials – LOS C

2. Exemptions to Capacity LOS. The ~~city~~ City ~~council~~Council, upon recommendation of the ~~city~~ City ~~engineer~~ Engineer may determine as follows:

   a. That it is not practical to improve specific intersections to achieve higher LOS standards;

   b. That other improvements may be considered as equivalent mitigation in lieu of achieving the capacity LOS standard stated in this section;

   ~~b.~~c. That a street segment has been constructed to its ultimate design and to provide additional widening would not support the role and character of the street in the City's transportation network.

   ~~c.~~d. Exempt specific intersections or street segments from the LOS standards set forth in this section for a specific period ~~of time~~.

~~D.~~C. Street ~~Frontage~~ Design LOS

1. Ultimate Design LOS. The street system will meet the geometric, right-of-way width, and street section standards for the classification defined in the arterial street plan, the subdivision code, the comprehensive plan, or other site~~-~~specific project requirements. This will include, but not be limited to, traffic control, drainage, other utilities, pedestrian facilities, transportation facility design, construction, right-of-way, and easement dedications, for all transportation facilities, including frontage improvements and arterial connections in conformance with criteria set forth in the ultimate design LOS. Other utilities and appurtenances shall be constructed to meet ~~city~~ city standards and ~~comprehensive~~ comprehensive ~~plans~~plans~~,~~ concurrent with the street construction.

2. Three-Quarter Street LOS. The street system shall consist of sidewalk, curb, gutter, all utilities, and appurtenances, and one-half of the ultimate pavement width on the development side of the right-of-way, plus a minimum 14-foot pavement width on the opposite side of the street. The total width shall not exceed the ultimate design width. This will include, but not be limited to, traffic control, drainage and other utilities, pedestrian facilities, transportation facility design, construction, right-of-way, and easement dedications, for all transportation facilities, including frontage improvements and arterial connections in conformance with criteria set forth in the ultimate design LOS.

Other utilities and appurtenances shall be constructed to meet city standards and comprehensive plans concurrent with the street construction~~ as stated in project requirements~~.

3. Minimum Street LOS. A minimum 30-foot~~-~~wide paved street section centered on ultimate design cross section with sufficient traffic capacity to serve existing and project generated traffic. Curb, gutter, and sidewalk will not be required; however, pedestrian safety facilities would normally be required. Drainage may be in surface ditches or a subsurface conveyance. This will include, but not be limited to, traffic control, drainage and other utilities, pedestrian facilities, transportation facility design, construction, right-of-way, and easement dedications, for all transportation facilities, including frontage improvements and arterial connections in conformance with criteria set forth in the ultimate design LOS. Other utilities and appurtenances shall be constructed to meet city standards and comprehensive plans~~,~~ concurrent with street construction~~, as stated in project requirements~~.

4. Non~~-~~motorized Transportation LOS. Development proposals shall be evaluated for compliance with city plans and policies, including the Transportation Element of the Comprehensive Plan.~~a comprehensive trail plan.~~ Development proposals shall be evaluated for continuity with the system and may be required to provide off-site improvements. Development proposals may be required to expand the plan in some locations to provide for non~~-~~motorized circulation to neighboring properties or areas. The emphasis shall be on off-street paths, but shall also include selected arterials, collectors, and school walk routes which may require separated bike/pedestrian paths, lanes, or other improvements to ensure access continuity and safety for trips generated in the development.

8.5.3.2. Concurrency ~~requirements~~Requirements~~.~~

All developments shall meet the minimum development standards for Pedestrian Safety and Mobility LOS. The criteria for determining the applicable standard for determining compliance with pedestrian safety LOS, traffic capacity LOS and street design standard LOS concurrency requirements shall include, but not be limited to, the volume of traffic generated or to be generated on the arterial street system from a development at full build-out during the most critical or highest volume hour of the day hereafter referred to as the peak hour. The peak hour volume shall be determined by a traffic impact analysis. Compliance with the concurrency LOS standards will be based on the following criteria:

A. ~~Less~~ Fewer Than 10 Peak Hour Trips. If a project generates ~~less~~ fewer than 10 peak hour vehicle trips, the ~~city~~ City ~~engineer~~ Engineer shall determine the necessity of the project to meet all or a portion of the concurrency LOS requirements.

1. Street Frontage. Minimum street LOS improvements must be in place on the project street frontage.

The ~~city~~ City ~~engineer~~ Engineer shall consider the following when making this determination if non~~-~~motorized safety of traffic capacity LOS is required. In no case shall the concurrency requirements

exceed~~–~~ those of a project with ~~fewer than~~ 29 or fewer ~~P~~peak h~~H~~our ~~T~~trips.

- Proposed developments in the area;
- Proximity of adjacent ultimate, three-quarter street, and/or minimum LOS improvements;
- Adequacy and condition of street frontage improvements;
- Proximity to pedestrian oriented establishments such as, but not limited to, schools, parks, and commercial businesses;
- Anticipated impacts of project;
- Capacity of the affected arterial street system.

B. Ten to 29 Peak Hour Trips. If a project generates 10 to 29 peak hour trips, the following LOS standards are necessary to achieve concurrency:

1. Street Frontage. Three-quarter street LOS improvements must be in place on the project street frontage.
2. Adjacent Street System.
   a. Minimum Street LOS Improvements. Minimum street LOS improvements must be in place on the adjacent street system for a distance of up to 200 feet in the direction ~~to the point where they connect to~~of an arterial street that meets the three- quarter street LOS on the same side of the street as the development.
   b. Minimum Pedestrian Safety LOS. Minimum pedestrian safety LOS improvements must be in place on the adjacent street system to the point where they connect to or intersect with an arterial street that meets the three-quarter street LOS on the same side of the street as the development. Improvements may be considered connected to adjacent improvements on the opposite side of the street, if the connection is made with an approved pedestrian crossing facility at a controlled intersection, providing protection to the pedestrians with a stop sign or traffic signal, at the discretion of the city engineer.
3. Traffic Capacity LOS. Intersections and segments impacted by traffic from the development as identified in the project traffic impact analysis shall be evaluated for ~~traffic~~ capacity LOS standards ~~and street design standards and requirements~~. Intersections and segments on the ~~arterial~~ functionally classified street system that are impacted by peak hour traffic generated by the development shall be required to meet capacity LOS standards ~~and street design standards~~. All or a portion of the development shall be denied or delayed until deficient ~~intersections~~ facilities meet traffic capacity LOS standards ~~and/or street design standards~~.

C. Thirty to 75 Peak Hour Trips. If a project generates 30 to 75 peak hour trips the following LOS standards are necessary to achieve concurrency:

1. Street Frontage. Three-quarter street LOS improvements must be in place on the project street frontage.

2. Adjacent Street System. Three-quarter street LOS improvements must be in place on the adjacent street system to the point where they connect to an arterial street that meets the three-quarter street LOS on the same side of the street as the development.

3. Traffic Capacity LOS. Intersections and segments impacted by traffic from the development as identified in the project traffic impact analysis shall be evaluated for traffic capacity LOS ~~and street design~~ standards ~~and requirements~~. Intersections and segments on the ~~arterial~~ functionally classified street system that are impacted by peak hour traffic generated by the development shall be required to meet capacity LOS standards ~~and street design standards~~. All or a portion of the development shall be denied or delayed until deficient ~~intersections~~ facilities meet traffic capacity LOS standards ~~and/or street design standards~~.

4. Non-motorized Transportation LOS. Development proposals shall be evaluated for compliance with the non-motorized component of the Comprehensive Plan Transportation Element. ~~element of the comprehensive plan.~~ Development proposals shall be evaluated for continuity with the system and may be required to provide off-site improvements. Development proposals may be required to expand the plan in some locations to provide for non- motorized circulation to neighboring properties or areas. The emphasis shall be on off-street paths, but shall also include selected arterials, ~~and~~ collectors, and school walk routes which may require separated bike/pedestrian paths, lanes, or other improvements to ensure access continuity and safety for trips generated in the development.

D. More Than 75 Peak Hour Trips.

5. Street Frontage. Ultimate Design street LOS improvements must be in place on the project street frontage.

6. Adjacent Street System. Three-quarter street LOS improvements must be in place on the adjacent street system to the point where they connect to an arterial street that meets the three-quarter street LOS on the same side of the street as the development.

7. Traffic Capacity LOS. Intersections and segments impacted by traffic from the development as identified in the project traffic impact analysis shall be evaluated for traffic capacity LOS ~~and street design~~ standards ~~and requirements~~. Intersections and segments on the ~~arterial~~ functionally classified street system that are impacted by peak hour traffic generated by the development shall be required to meet capacity LOS standards and street design standards. All or a portion of the development shall be denied or delayed until deficient intersections meet traffic capacity LOS standards ~~and/or street design standards~~.

8. Non-motorized Transportation LOS. Development proposals shall be evaluated for

compliance with the nonmotorized component of the Comprehensive Plan Transportation Element ~~with the non-motorized element of the comprehensive plan~~. Development proposals shall be evaluated for continuity with the system and may be required to provide off-site improvements. Development proposals may be required to expand the plan in some locations to provide for non- motorized circulation to neighboring properties or areas. The emphasis shall be on off-street paths, but shall also include selected arterials, ~~and~~ collectors, ~~and~~ school walk routes which may require separated bike/pedestrian paths, lanes, or other improvements to ensure access continuity and safety for trips generated in the development.

~~Current System Needs~~

~~Existing Network Volumes and LOS~~

~~Three street segments, identified in Table 8-6, currently have levels of service below the City's minimum LOS D. Existing arterial and intersections LOS results are shown in Figure 8-4 and Figure 8-5, respectively.~~

~~**Table 8-6.** Existing Street Segment LOS Deficiencies~~

~~Segment ID~~	~~Name~~	~~Functional Classification~~	~~PM Peak Hour~~		
			~~Volume~~	~~V/C~~	~~LOS~~
~~2004~~	~~Bethel Rd (Sedgwick Rd to Salmonberry)~~	~~Principal Arterial~~	~~1,390~~	~~1.17~~	~~F~~
~~2005~~	~~Bethel Rd (Salmonberry to Lund Ave)~~	~~Principal Arterial~~	~~1,350~~	~~1.13~~	~~F~~

~~The intersections identified in Table 8-7 currently operate below the adopted LOS standard. X City intersections are LOS-deficient.~~

~~**Table 8-7.** 2022 Intersection Level of Service Deficiencies~~

~~Intersection~~	~~Control[1]~~	~~PM Peak Hour~~		
		~~Volume~~	~~Delay[2]~~	~~LOS~~
~~Bay St & Port Orchard Blvd~~	~~TWSC~~		~~42~~	~~E~~
~~Sedgwick Rd & Bravo Terrace~~	~~TWSC~~		~~139~~	~~F~~
~~Sedgwick Rd & Geiger Rd~~	~~TWSC~~		~~36~~	~~E~~
~~Outside City Limits~~				
~~SR16/Sedgwick signalized intersections???~~				

~~[1]TWSC = Two-Way Stop Control; AWSC = All-Way Stop Control; RAB = Roundabout; Signal = Signalized~~

~~[2]Average control delay for all movements, reported in seconds per vehicle. For TWSC, delay is reported for the movement with the worst (highest) delay.~~

~~Existing arterial and intersections LOS results are shown in Figure 8-4 and Figure 8-5, respectively.~~

Table 8-6. Port Orchard Previously Identified Segment Level of Service Deficiencies

Segment IDNameFunctional Classification				V/C	LOS
2005	Bethel	Principal Arterial		1.02	F
3025	Tremont St	Minor Arterial		1.11	F
3026	Tremont St	Minor Arterial		1.13	F

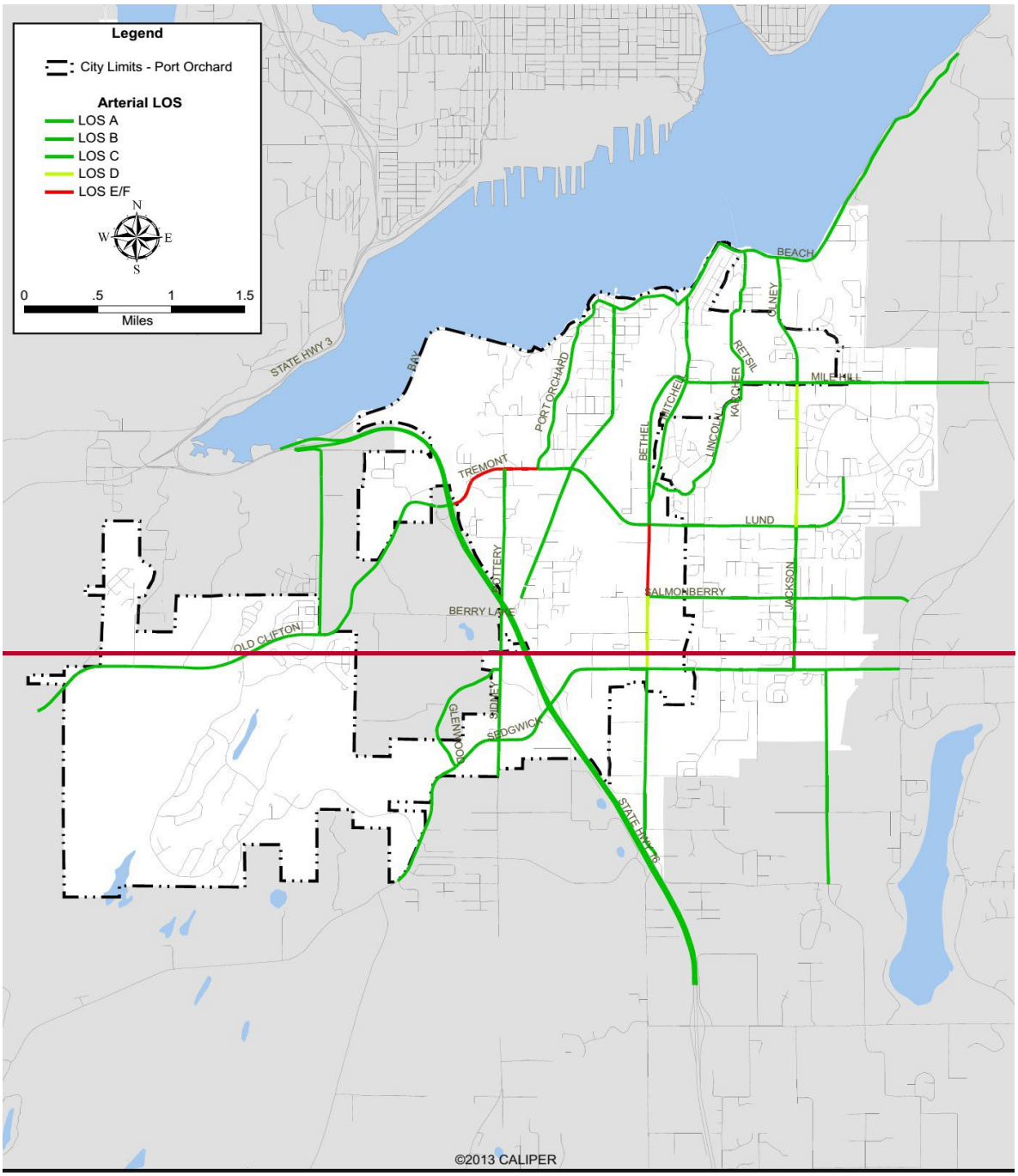


Figure 8-4

Existing Arterial Segment LOS

City of Port Orchard

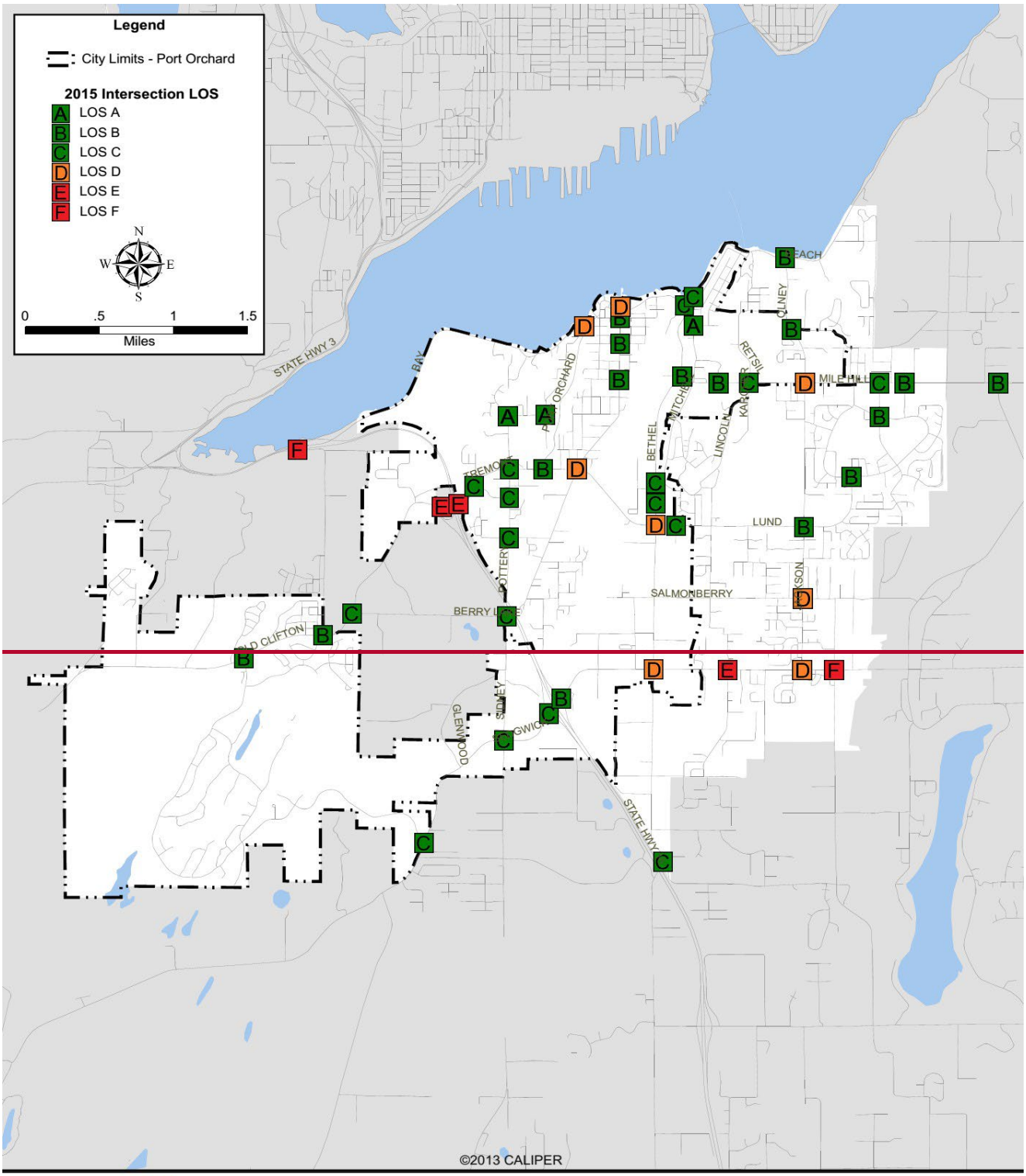


Figure 8-5

Existing Intersection Level of Service

City of Port Orchard

The intersections of Tremont/Old Clifton with the SR 16 ramps are currently operating below the minimum LOS D for City- and state-owned facilities. Three other intersections within the Port Orchard UGA but outside the City also operate below LOS D. These locations are identified in Table 8-7.

Table 8-7. Port Orchard Existing Intersection Level of Service Deficiencies

Intersection	Control Type[1]	Existing Delay[2] (s/veh)	Existing LOS
Within City Limits			
Old Clifton Rd / SR 16 EB ramps	TWSC	44.8	E
Tremont Street W / SR 16 WB ramps	TWSC	42.2	E
Outside City Limits			
SR 16 / Anderson Hill Rd SW	TWSC	>180	F
SE Sedgwick Rd / Converse Ave SE	TWSC	43.6	E
SE Sedgwick Rd / Phillips Rd SE	TWSC	>180	F

[1]TWSC = Two-Way Stop Control; AWSC = All-Way Stop Control; RAB = Roundabout; Signal = Signalized [2]Average control delay for all movements. For TWSC, delay is reported for the movement with the worst (highest) delay.

Actions Necessary to Meet LOS Standards

The 2016-2021 TIP includes two corridor improvement projects which will bring all currently failing facilities into compliance with LOS standards. See Table 8-8.

Table 8-8. Projects Necessary to Bring Existing Facilities up to LOS Standards

TIP Project ID	Project Title	Description	Impacted Facilities
1.1	Tremont Widening	Corridor widening, sidewalk, bike lane, and new roundabouts at SR 16 ramps	• Tremont segments 3025, 3026 • Old Clifton Rd/SR16 EB ramps • Tremont/SR16 WB ramps
1.41.7/1.8/1.12/1.19/2.02/2.3/2.4	Bethel Corridor Reconstruction	Capacity improvements along Bethel corridor, including widening, sidewalks, and bike lane	• Bethel segment 2005

8.6. Traffic Forecasting

8.6.1. Land Use Assumptions

~~Existing Land Use~~

8.6.1.1. Existing Land Use

~~For the purposes of transportation planning, land use can be stratified into two general categories: households and employment. Residential land use forecasts are often expressed in terms of population, however for travel demand modeling it is helpful to convert population into trip-generating households.~~Traffic forecasting is based on the relationship of vehicle trips to development or land use. Land use can be organized into two general categories: households and employees. Residential land use forecasts are often expressed in terms of population, however for travel demand modeling it is helpful to convert population into trip-generating households.

Current Port Orchard population and household estimates were obtained from Census 2020 data and are summarized in Table 8-9.

~~Current population and household estimates are summarized in Table 8-9. These figures represent the most recent PSRC estimates.~~

Table 8-9. Port Orchard 2020~~Existing~~ Population Estimate

Total Population	~~13,150~~15,587
Total Households	~~5,231~~6,952

Existing Port Orchard employment is summarized in Table 8-10 and is consistent with the 2021 Kitsap County Buildable Lands Report. Employment inventory is organized into six categories, consistent with the categories used in the Kitsap County transportation model which formed the foundation of the Port Orchard citywide transportation model. Table 8-10 identifies the modeled employment categories, corresponding North American Industry Classification System (NAICS) codes, number of employees, and share of total citywide employment.

~~PSRC publishes citywide employment estimates which are stratified into six different categories, consistent with the categories used in the Kitsap County transportation model which formed the foundation of the Port Orchard citywide transportation model. Table 8-10 identifies the modeled employment categories, including their corresponding North American Industry Classification System (NAICS) code(s), number of employees, and share of total citywide employment.~~

Table 8-10. Port Orchard Existing Employment Estimates

NAICS Code	Classification	Sector	Number	Percent
44, 45	Commercial	Retail	2,6331,503	34%22.1%
51-56, 61, 62, 71, 72, 81		Finance, Insurance, Real Estate, and Services	2,329 3,106	30% 45.6%
Public sector		Government and Education	1,9051,868	25%27.4%
11, 21, 23	Industry	Construction and Resources	274139	4%2.0%
31-33		Manufacturing	19167	2%1.0%
22, 42, 48, 49		Wholesale Trade, Transportation, and Utilities	313128	4%1.9%
		Total	7,6456,809	100.0%

8.6.1.2. ~~Land Use Growth~~Development ~~-~~Forecast

[placeholder pending forecasts]~~In order to maintain internal consistency with the other elements of the Comprehensive Plan Update, the citywide planning model used land use forecasts which are consistent with PSRC and Kitsap County growth allocations. These forecasts include total citywide and UGA population growth of 10,500 and 3,5528,235 and 6,235, respectively, as shown in Table 8-11.~~

~~**Table 8-11.** Port Orchard 20443~~6 Population Growth Forecast

~~Area~~	~~Population Growth~~	~~Average Annual Growth Rate~~
~~City of Port Orchard~~	~~10,5008,235~~	~~2.67%~~
~~Port Orchard UGA~~	~~3,5526,235~~	~~1.66%~~

~~Source: Kitsap County 2015, BERK Consulting 2015~~

~~Kitsap County 20-year employment allocations by employment sector are presented in Table 8-12. The County forecast includes 3,132 new jobs by 2035, which represents a 46 percent increase from 2015.~~

~~**Table 8-12**. Port Orchard 2036 Employment Growth Forecast~~

~~NAICS Code~~	~~Classification~~	~~Sector~~	~~2015 Employment~~	~~Net Growth, 2015-2036~~	~~2036 Employment~~
~~44, 45~~		~~Retail~~	~~1,503~~	~~211~~	~~1,714~~

51-56, 61, 62, 71, 72, 81	Commercial	Finance, Insurance, Real Estate, and Services	3,106	2,013	5,119
Public sector		Government and Education	1,868	347	2,215
11, 21, 23	Industry	Construction and Resources	139	176	315
31-33		Manufacturing	67	250	317
22, 42, 48, 49		Wholesale Trade, Transportation, and Utilities	128	135	263
		Total	6,809	3,132	9,941

Source: Kitsap County 2014, BERK Consulting 2014

8.6.1.2. Land Use Growth Distribution

[placeholder pending forecasts]

The geographic units or Transportation Analysis Zones (TAZs) used to geographically represent the land use in and around Port Orchard are consistent with the structure developed by Kitsap County for the countywide planning model. A total of 60 internal TAZs were used to represent the City and UGA. Residential land use is represented in the traffic model in terms of single-family and multi- family dwelling units while employment is modeled using the categories defined in Table 8-12. The citywide base year household and employment estimates described above were checked against TAZ-based GIS data provided by Kitsap County and minor revisions were made to reconcile the latest land use estimates with Kitsap County's geospatial data. Citywide housing and employment growth forecasts were spatially distributed to the modeled TAZs using zoning and land capacity analysis geospatial data.

Traffic Forecasting Model
8.6.2. Traffic Forecasting Model

8.6.2.1. Background

Port Orchard maintains a citywide travel demand model which is regularly updated and utilized for transportation planning, policymaking, and concurrency management. The Port Orchard model was initially developed in 2015 based on the Kitsap County travel demand model. It was updated in 2019 and most recently in 2022 for this Transportation Element update. The travel demand model calculates growth in units of weekday PM peak hour vehicle trips. This approach is consistent with the Kitsap County travel demand model.

8.6.2.2. Network Development

~~The Port Orchard model was developed in TransCAD 6.0 software and its underlying structure is based on Kitsap County's county travel demand model. Travel demand is represented in terms of PM peak hour vehicle trips. The base year model was calibrated to match intersection turning movement counts collected at 49 locations throughout the City in June of 2015.~~

~~**Network Development**~~

The modeled transportation network was updated based on field review, aerial imagery, and signal timing data obtained from Kitsap County and WSDOT staff. The modeled street network includes all functionally classified roadways and most local streets within the City and UGA, in addition to regionally significant County and state routes in the vicinity.

Turn capacities and volume-delay functions were modeled using Highway Capacity Manual 6th Edition methodologies for signalized and stop-controlled intersections, and TRL/Kimber capacity methodology for roundabouts.

Link capacities and volume-delay functions were modeled based on planning-level Highway Capacity Manual capacity concepts, consistent with the Kitsap County travel demand model.

8.6.2.3. Traffic Analysis Zone Structure

~~An inventory of existing transportation facilities was developed through review of field data and aerial and satellite photography. The network inventory was used to verify and expand street network data provided by Kitsap County in order to ensure that the citywide model accurately represented (1) the City's arterial street system, (2) local streets which are outside the scope of the countywide model, and (3) regionally significant routes including state highways SR 16, SR 160, and SR 166. See Figure 8-6.~~

~~Modeled link and node capacities and volume-delay functions were held consistent with the Kitsap County model.~~

~~**Traffic Analysis Zone Structure**~~

Transportation Analysis Zones (TAZs) are the geographic units used by a travel demand model to represent land use and to generate trips into and out of the transportation network. Each TAZ's land use determines the number of trips that the zone produces or attracts from other TAZs. The Port Orchard travel demand model includes a total of 93 TAZs, including 76 "internal" and 17 "external" TAZs. The TAZ structure is shown in Figure 8-7.

Internal zones are defined geographic areas which represent housing and employment in and near the City and UGA. Internal TAZ boundaries were defined based on Census 2020 block boundaries and refined based on city limit boundaries and zoning. Forty-four of the model's 76 TAZs are located within city limits.

External zones represent trips entering and exiting the planning area via major access routes. The model's 17 external TAZs include major state routes such as SR 3 and SR 16 as well as smaller access

routes such as Victory Drive and the Kitsap Transit Foot Ferry. In contrast to internal TAZs which are based on defined geographic areas, external TAZs represent vehicle trips crossing a specified point, typically determined via traffic count. A portion of the trips generated by an external zone connect with internal TAZs, while the remainder of the trips interact with other external zones outside the planning area. These external-to-external trips have neither an origin nor destination within the study area, yet they pass through the study area, impacting the transportation network.

~~The function of a Traffic Analysis Zone (TAZ) in a travel demand model is to generate vehicle trips to and from the roadway network. In general internal TAZs are specific geographic areas that are associated with specific land use data. The land use data associated with a TAZ determines the number of trips that the TAZ produces to or attracts from the other TAZs in the model. The planning model's traffic analysis zone (TAZ) structure consists of 60 zones, of which 55 are internal to the Port Orchard area. See Figure 8-7.~~

~~There are 5 external zones surrounding the modeled study area. These zones are designed to incorporate trips that are generated to and/or from points outside the network. Although these are labeled zones, they actually represent links to regions outside the model and do not represent a defined area. These zones do not reflect any land use assumptions; only vehicle trips. Trips to and from each external zone are determined from actual traffic counts and future trips are based on historical growth records. These external zones play a two-part role in the model: (1) only a certain portion of the trips in an external zone interact with TAZ's within the model, and (2) the remainder of the trips in any external zone interact with other external zones outlying the study area. These trips are called through trips since they have neither an origin nor destination within the study area yet they pass through the study area, impacting the network.~~

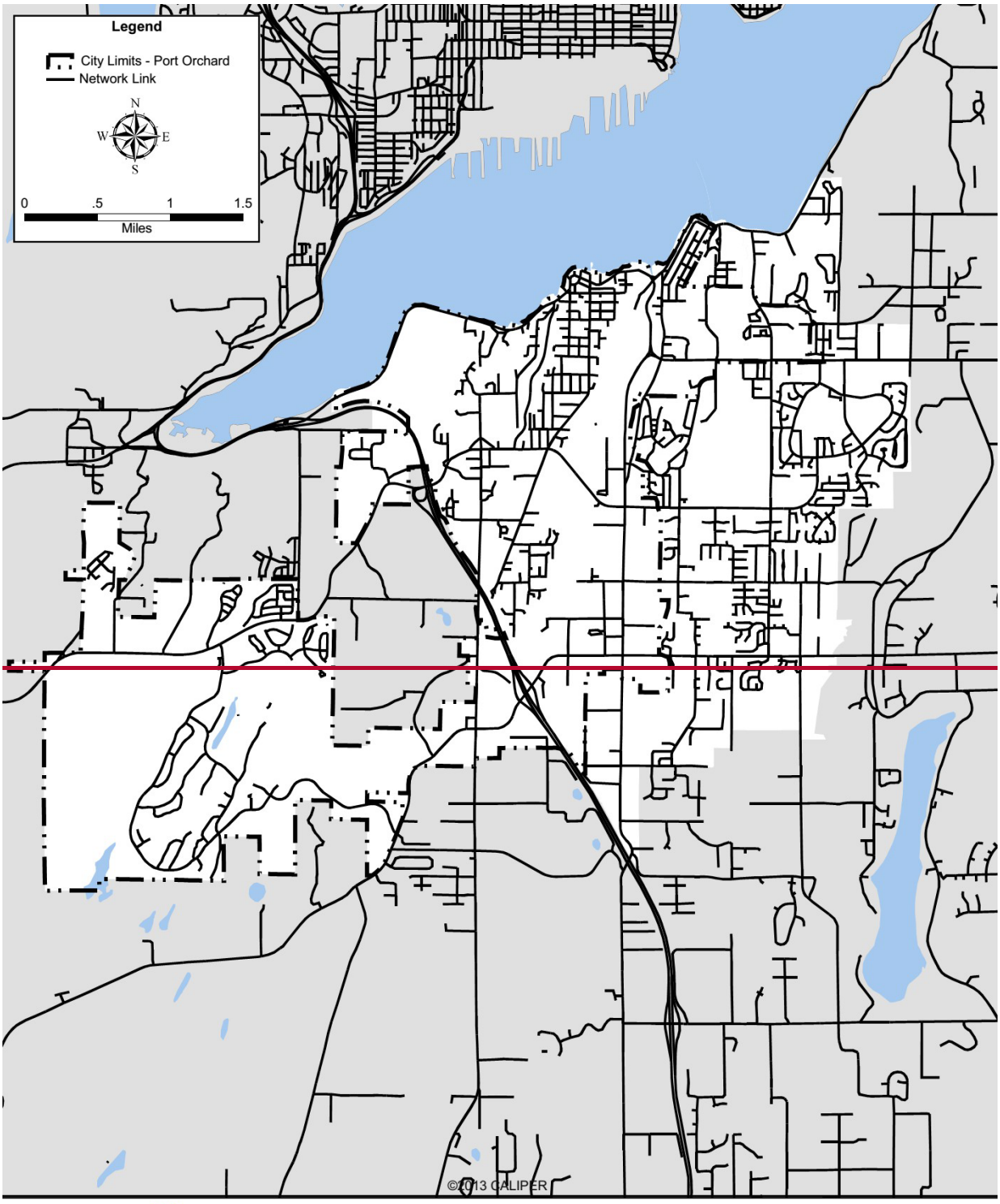


Figure 8-6

Planning Model Street Network

City of Port Orchard

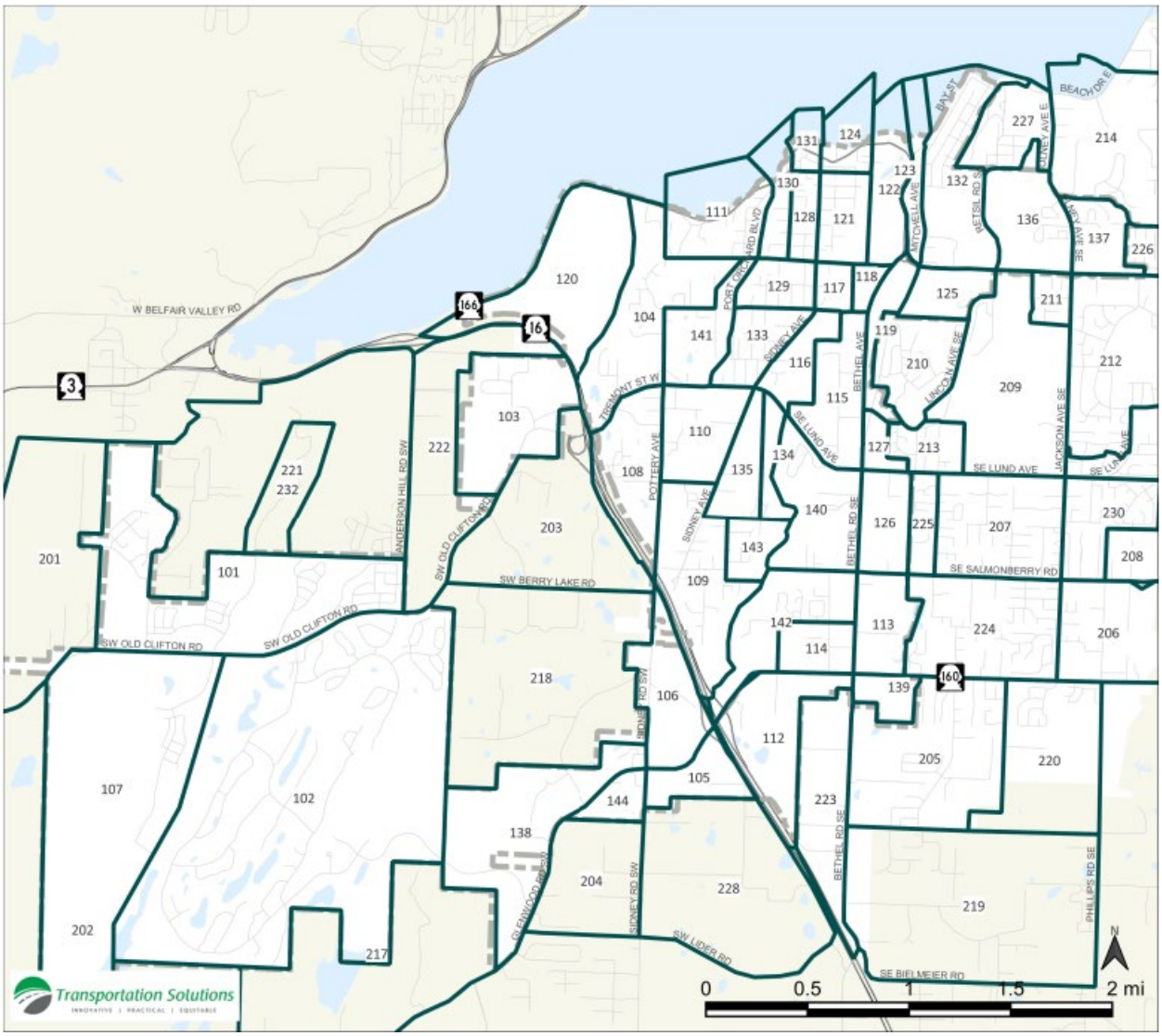


Figure x. Transportation Analysis Zones

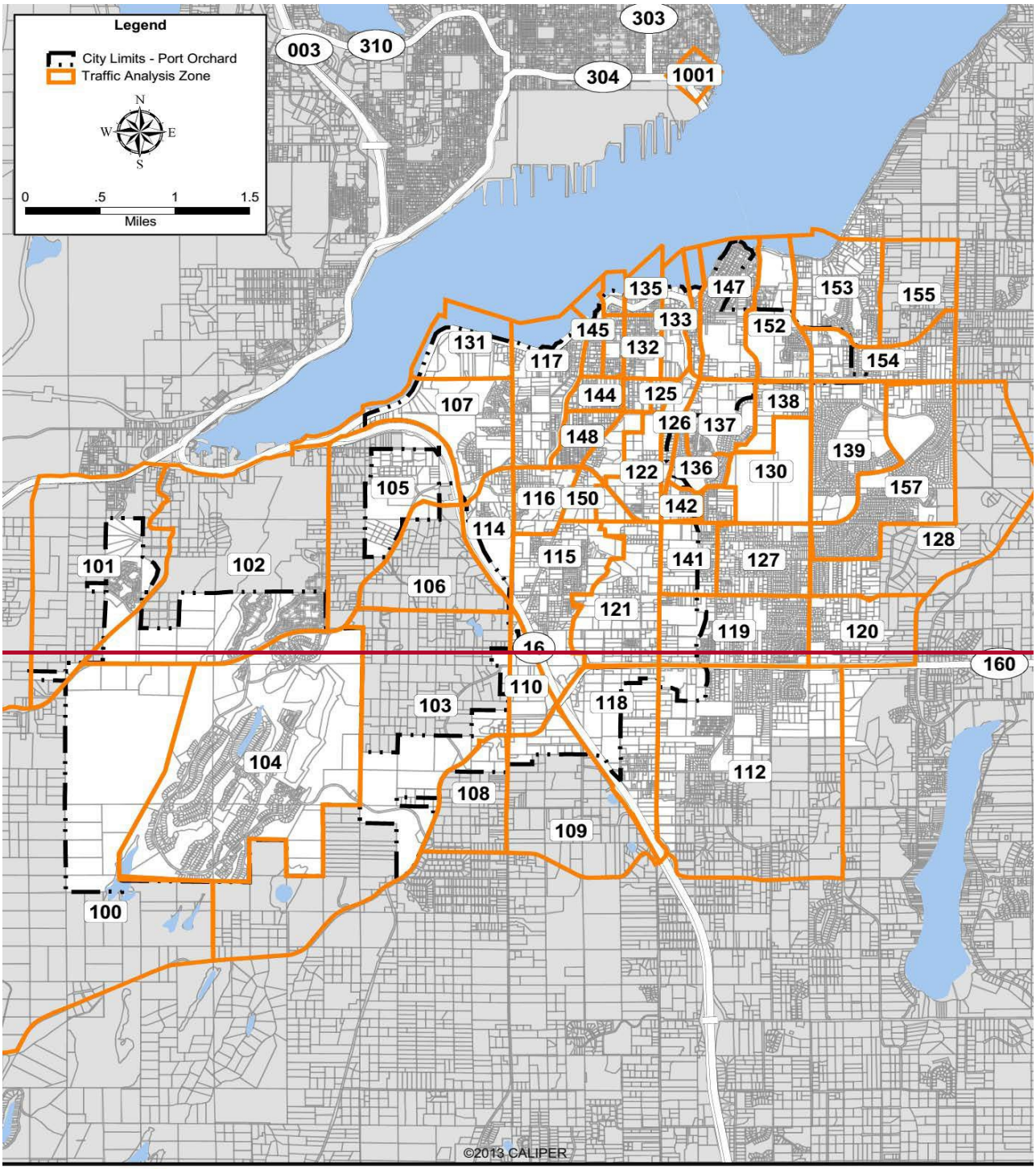


Figure 8-7

Traffic Analysis Zones

City of Port Orchard

~~T~~8.6.2.4. Trip Generation

The first step of the travel demand modeling process is to translate housing and employment into trip origins and destinations for each TAZ. The travel demand model includes five trip types:

- Home-to-Work (HW) and Work-to-Home (WH): Trips with one end at the traveler's home and the other end at the traveler's place of employment
- Home-to-Other (HO) and Other-to-Home (OH): Trips with one end at the traveler's home and the other end at somewhere other than the traveler's place of employment, e.g. shopping trips.
- Non-Home-Based (NHB): Trips without an end at the traveler's home

Modeled trip generation rates were initially based on PM peak hour trip rates published in the Institute of Transportation Engineers (ITE*) Trip Generation Manual 11th Edition*. Rates were calibrated to more closely reflect volumes observed in traffic counts collected in January and February 2022. Modeled trip rates are summarized in Table 8-13.

~~Trips are generated by land uses and are assigned a trip type. In general, three basic trip types are represented in the travel demand model:~~

- ~~Home-Based Work (HBW): Trips with one end at the traveler's home and the other end at the traveler's place of employment~~
- ~~Home-Based Other (HBO): Trips with one end at the traveler's home and the other end at somewhere other than the traveler's place of employment, e.g. shopping trips~~
- ~~Non-Home-Based (NHB): Trips without an end at the traveler's home~~

~~Trip generation rates used in the Port Orchard model are based on Kitsap County and ITE trip generation rates and are representative of PM peak hour vehicle trips. Table 8-13 displays the trip generation rates used in the model. Trip generation for external TAZs was based on current and historical WSDOT and Kitsap County traffic volumes.~~

Table 8-13. Travel Demand Model PM Peak Hour Trip Generation Rates

Land Use	Units	HW[1]		WH[1]		HO[1]		OH`		NHB[1]		Total
		O[2]	D[2]	O[2]	D[2]	O[2]	D[2]	O[2]	D[2]	O[2]	D[2]	
Single-Family Res.	DU	0.025	0	0	0.078	0.441	0	0.011	0.226	0.056	0.008	0.845
Multi-Family Res.	DU	0.012	0	0	0.047	0.291	0	0	0.137	0.018	0.005	0.510
RETAIL	Emp	0	0.015	0.074	0	0	0.502	0.192	0	0.472	0.221	1.476
FIRES	EMP	0	0.009	0.034	0	0	0.344	0.119	0	0.017	0.106	0.629
GOV	EMP	0	0.004	0.022	0	0	0.31	0.066	0	0.022	0.128	0.552
EDU	EMP	0	0.012	0.127	0	0	0.163	0.273	0	0.206	0.408	1.189
WTU	EMP	0	0.017	0.048	0	0	0.211	0.119	0	0.071	0.194	0.660
MANU	EMP	0	0.008	0.023	0	0	0.098	0.057	0	0.034	0.09	0.310
CONRES	EMP	0	0.017	0.017	0	0	0.235	0.042	0	0.025	0.084	0.420

[1]HW: home to work; WH: work-to-home; HO: home-to-other; OH: other-to-home; NHB: non-home-based
[2]O: origin trip rate; D: destination trip rate

~~Source: ITE 2012; TSI 2015~~

8.6.2.5. Trip Distribution

The trip distribution step consists of identifying an origin and a destination for each trip generated by each TAZ in the travel demand model. The trip distribution process uses a gravity model, based on the gravitational theory that the attraction between two bodies is directly proportional to the bodies' masses and inversely proportional to the distance between the bodies. A TAZ's "mass" is represented by the number of trips generated (produced by or attracted to) the TAZ while the distance factor is represented by route travel time. The result of the trip distribution step is an origin-destination matrix for each trip purpose in the travel demand model.

The gravity model calculates the attractiveness between any two TAZs using the utility function:

$$f(U) = a * (U^b) * (e^{cU})$$

In the utility function, the independent variable U is defined as travel time between zones. The parameters a, b, and c are calibration factors which influence the weight of travel time in the gravity model. Gravity model parameters were calibrated with consideration for the Kitsap County travel demand model, *NCHRP Report 716* (TRB 2012), and traffic count data. The calibrated gravity parameters are shown in Table 8-14.

~~Trips are distributed between TAZs using a gravity model, which is based on the gravitational theory that the attraction between two bodies is directly proportional to the bodies' masses and inversely proportional to the distance between the bodies. For the purposes of transportation modeling, a TAZ's "mass" is represented by the number of trips generated (produced by or attracted to) the TAZ while the distance factor is represented by route travel time.~~

~~The gravity model calculates the attractiveness between any two TAZs using the following utility function:~~

~~$f(U) = a * (U^b) * (e^{cU})$~~

~~In the utility function, the independent variable U is defined as travel time between zones. The parameters a, b, and c are calibration factors which influence the weight of travel time in the gravity model. The gravity parameters used in the Port Orchard model are shown in Table 8-14. These parameters were based on the values used in the Kitsap County model and guidance from *NCHRP Report 716* (TRB 2012). They were further refined using 2010 Census commute travel time data for the Port Orchard Census County Division (CCD).~~

Table 8-14. Trip Distribution Gravity Model Parameters

Trip Purpose	Model Parameter		
	a	b	c
Home-to-Work (HW)	28,507	0.400	-0.100
Work-to-Home (WH)	28,507	0.400	-0.100

Home-to-Other (HO)	139,173	-1.017	-0.791
Other-to-Home (OH)	139,173	-1.017	-0.791
Non-Home Based (NHB)	219,133	-0.791	-0.195

~~Traffic Assignment~~

8.6.2.6. Traffic Assignment

The traffic assignment step consists of finding the optimal route from origin to destination for each trip in the travel demand model. The model begins by calculating the shortest travel-time route from each origin to destination based on free-flow conditions. It loads trips into the network based on the initial solution, recalculates traffic delay based on the updated network volume, and recalculates shortest paths based on the updated delay results. This process is repeated until an equilibrium condition is achieved in which every trip has been assigned its shortest path based on congested network conditions.

~~Trips were assigned to the street network using an equilibrium assignment process which routed vehicle trips from origin to destination along the calculated shortest travel time route, iteratively updating travel time as vehicle demand induces congestion throughout the network. As travel time was updated, shortest paths were recalculated and traffic re-assigned. The process continued until the model found an equilibrium condition.~~

~~Calibration~~

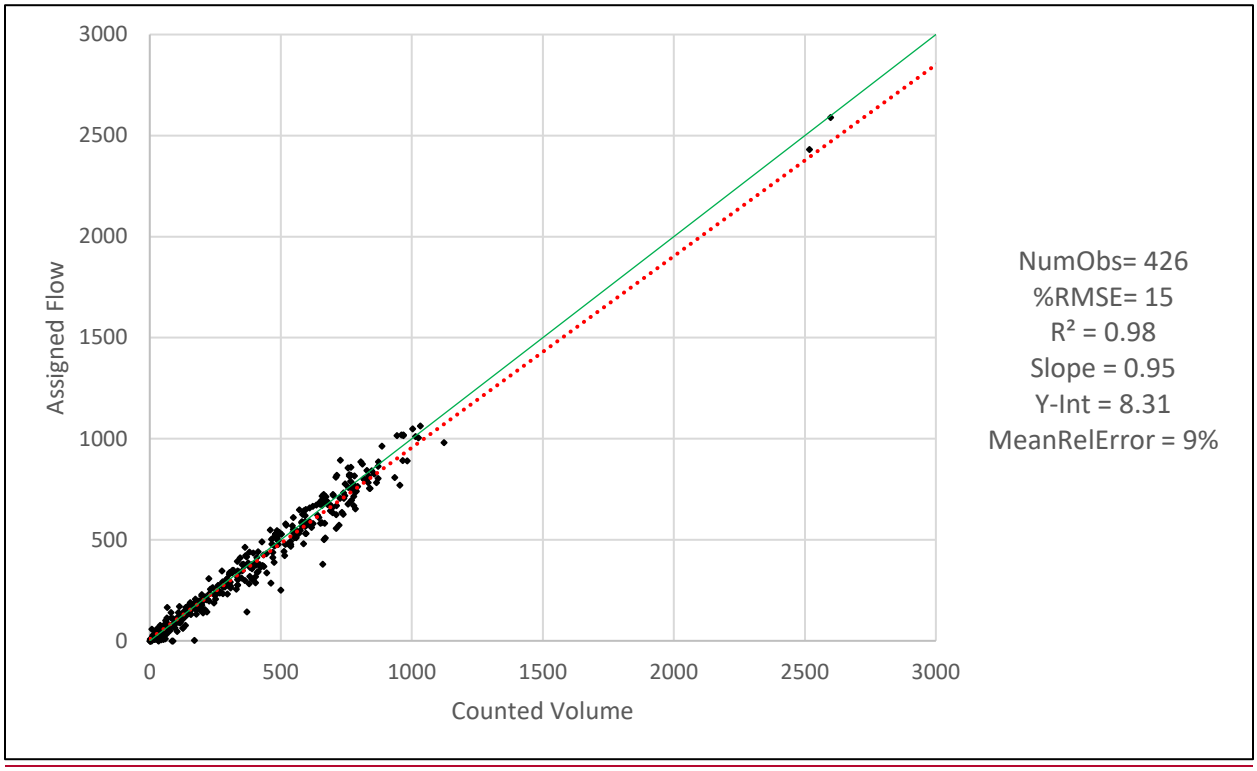
8.6.2.7. Model Validation

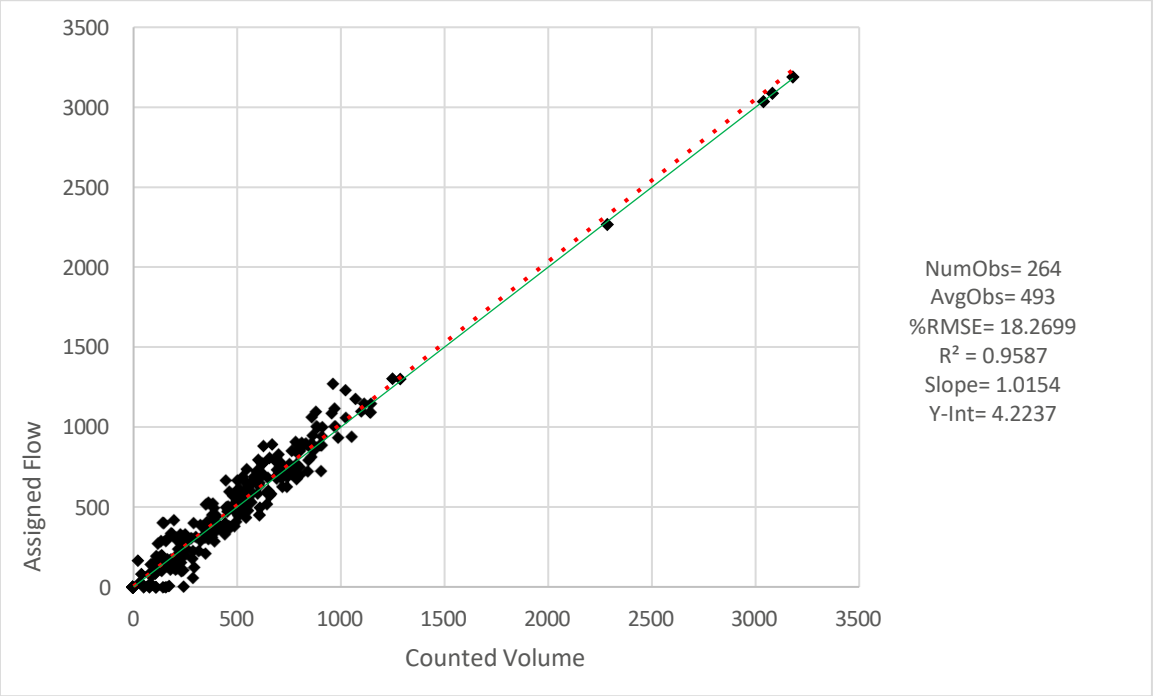
The base year model was calibrated to improve the relationship between modeled flows and observed traffic volumes. Traffic volume data was collected in January and February 2022 and included intersection turning movement counts at 56 intersections and tube counts collected at 6 road segments in and near Port Orchard.

The base year model was calibrated based on guidance from FHWA's *Travel Model Validation and Reasonableness Checking Manual Second Edition* (FHWA 2010). Model inputs and parameters were adjusted iteratively to improve the correlation between modeled traffic volumes and observed traffic volumes. was measured against link volume counts which were derived from the 2015 PM peak hour intersection turning movement counts. Calibration statistics and a scatterplot of assigned vs. counted volume are shown in Figure 8-8.

~~The base year model was calibrated based on guidance from FHWA's *Travel Model Validation and Reasonableness Checking Manual Second Edition* (FHWA 2010). Assigned link volume was measured against link volume counts which were derived from the 2015 PM peak hour intersection turning movement counts. Calibration statistics and a scatterplot of assigned vs. counted volume are shown in Figure 8-8.~~

Figure 8-8. Travel Demand Model Calibration Statistics~~Calibration Statistics, 2015 Citywide Planning Model~~





8.6.3. Long-Range Forecasting Assumptions ~~Forecasting Future Travel Demand~~

The long-range (2044) traffic forecasts were calculated based on housing and employment forecasts identified in the Land Use Element. Traffic growth external to the planning area was calculated based on historical growth rates.

Long-range forecasts included both "Without Improvement" and "With Improvement" scenarios. The "Without Improvement" scenario assumed no transportation capacity improvements would be constructed in the planning horizon. Transportation improvement strategies necessary to maintain minimum LOS standards were identified and modeled in the "With-Improvement" scenario.~~For the 20-year planning horizon (2036), the model used land use forecasts consistent with the updated Land Use Element. Historical growth rates were applied to all roadways external to the City that function as connections between Port Orchard and the surrounding region.~~

~~An initial traffic forecast scenario assumed that the existing street network will be maintained with no improvements in the next 20 years. This "no build" condition was used to identify locations where improvements will be necessary to maintain minimum LOS standards. A proposed street network improvement list was then developed and the improvement projects were tested in the model to identify growth-driven improvement projects.~~

8.7. Transportation System Needs [TO BE UPDATED]

8.7.1. 2022 Traffic Volumes and LOS Deficiencies

An analysis of 2022 volume-to-capacity ratios on 59 functionally classified collector and arterial

segments within city limits identified two street segments which currently operate below their respective minimum LOS standards. Both segments are located along the Bethel Road corridor, which is programmed for complete street improvements in the TIP. Existing street segment LOS deficiencies are identified in Table x.

Table 8-6. Existing Street Segment LOS Deficiencies

Name	Functional Classification	PM Peak Hour		
		Volume	V/C	LOS
Bethel Rd (Sedgwick Rd to Salmonberry)	Principal Arterial	1,390	1.17	F
Bethel Rd (Salmonberry to Lund Ave)	Principal Arterial	1,350	1.13	F

Three City intersections currently operate below minimum LOS standards. Additionally, the WSDOT intersections at the SR 16 Tremont Street/Old Clifton Road interchange both operate below the WSDOT minimum LOS D standard for SR 16. 2022 PM peak hour intersection LOS results at key locations are summarized in Table 8-x.

Table 8-7. 2022 PM Peak Hour Level of Service at High-Interest Locations

Intersection	Control[1]	PM Peak Hour		
		Volume	Delay[2]	LOS
Bay Street & Port Orchard Blvd	**TWSC**	**1,450**	**42**	**E**
Sedgwick Rd & Bravo Terrace	**TWSC**	**1,915**	**139**	**F**
Sedgwick Rd & Geiger Road	**TWSC**	**1,760**	**36**	**E**
WSDOT Intersections within City Limits				
Old Clifton Road & SR 16 EB ramps	**TWSC**	**1,525**	**36**	**E**
Tremont Street & SR 16 WB ramps	**TWSC**	**2,020**	**158**	**F**
Sedgwick Rd & SR 16 EB ramps	Signal	1,980	37	D
Sedgwick Rd & SR 16 WB ramps	Signal	2,080	27	C
Sedgwick Rd & Bethel Rd	Signal	2,620	36	D

Intersection LOS deficiencies indicated in bold

[1]TWSC = Two-Way Stop Control; AWSC = All-Way Stop Control; RAB = Roundabout; Signal = Signalized

[2]Average control delay for all movements, reported in seconds per vehicle. For TWSC, delay is reported for the movement with the worst (highest) delay.

Mitigation strategies for LOS deficiencies are described later in this document.

~~Future System Needs~~
~~Forecasted LOS Deficiencies~~
8.7.2. Anticipated LOS Deficiencies

[Placeholder pending land use forecasts]

[placeholder – this figure will combine existing + anticipated LOS deficiencies]
Figure x. 2044 Level of Service Deficiencies

~~Based on the citywide transportation model, the intersections and street segments identified in Table 8-15 and Table 8-16 will have LOS deficiency by 20443436 if no improvements are made to the existing street network.~~

~~**Table 8-15**. 20443436 Segment Level of Service Deficiencies - Without Improvement~~

~~Segment ID~~	~~Name~~	~~Cross Street A~~	~~Cross Street B~~	~~Functional Classification~~	~~V/C~~	~~LOS~~
~~2004~~	~~Bethel~~	~~Sedgwick Rd~~	~~Salmonberry~~	~~Principal Arterial~~	~~1.30~~	~~F~~
~~2005~~	~~Bethel~~	~~Salmonberry Rd~~	~~Lund~~	~~Principal Arterial~~	~~1.56~~	~~F~~
~~2006~~	~~Bethel~~	~~Lund Ave~~	~~Mitchell Rd~~	~~Principal Arterial~~	~~1.10~~	~~F~~
~~3005~~	~~Bethel Rd~~	~~Bielmeier Rd~~	~~Sedgwick (SR160)~~	~~Minor Arterial~~	~~0.95~~	~~E~~
~~3006~~	~~Jackson Ave~~	~~Sedgwick (SR160)~~	~~Salmonberry Rd~~	~~Minor Arterial~~	~~1.04~~	~~F~~
~~3007~~	~~Jackson Ave~~	~~Salmonberry Rd~~	~~Lund Ave~~	~~Minor Arterial~~	~~1.01~~	~~F~~
~~3009~~	~~Lund Ave~~	~~Sidney Ave~~	~~Bethel~~	~~Minor Arterial~~	~~0.90~~	~~E~~
~~3010~~	~~Lund Ave~~	~~Bethel~~	~~Jackson~~	~~Minor Arterial~~	~~0.93~~	~~E~~
~~3019~~	~~Sidney Ave~~	~~Sedgwick Rd~~	~~Glenwood Rd~~	~~Minor Arterial~~	~~0.92~~	~~E~~
~~3020~~	~~Sidney Ave~~	~~Glenwood Rd~~	~~Berry Lake Rd~~	~~Minor Arterial~~	~~1.11~~	~~F~~
~~3025~~	~~Tremont St~~	~~SR 16 WB ramp~~	~~Pottery Ave~~	~~Minor Arterial~~	~~1.22~~	~~F~~
~~3026~~	~~Tremont St~~	~~Pottery Ave~~	~~PO Blvd~~	~~Minor Arterial~~	~~1.42~~	~~F~~
~~4006~~	~~Lund Ave~~	~~Jackson Ave~~	~~Madrona Dr~~	~~Urban Collector~~	~~0.93~~	~~E~~
~~4009~~	~~Old Clifton~~	~~City limits~~	~~Anderson Hill Rd~~	~~Urban Collector~~	~~1.03~~	~~F~~
~~4010~~	~~Old Clifton~~	~~Anderson Hill Rd~~	~~SR 16~~	~~Urban Collector~~	~~1.02~~	~~F~~

Table 8-16. 20344 6 Intersection Level of Service Deficiencies - Without Improvement

Intersection	Control Type[1]	2036 Delay[2] (s/veh)	2036 LOS
Bay St / Port Orchard Blvd	TWSC	>180	F
Bethel / Lund	Signal	100.3	F
Bethel / Sedgwick	Signal	73.1	E
Mile Hill / Jackson Ave	Signal	61.1	E
Old Clifton / Anderson Hill Rd	TWSC	72.3	F
Old Clifton / Berry Lake Rd	TWSC	>180	F
Old Clifton / SR 16 EB ramps	TWSC	168.6	F
Pottery Ave / Lippert	TWSC	>180	F
Sedgwick / SR 16 WB ramps	Signal	79.8	E
Sidney / Berry Lake Rd	TWSC	>180	F
Tremont / Sidney	Signal	104.9	F
Tremont / SR 16 WB ramps	TWSC	>180	F
Outside City Limits			
Bethel / Bielmeier	TWSC	76.6	F
Jackson / Salmonberry	TWSC	>180	F
Sedgwick / Converse	TWSC	>180	F
Sedgwick / Phillips	TWSC	>180	F
SR 16 / Anderson Hill Rd	TWSC	>180	F

1TWSC = Two-Way Stop Control; AWSC = All-Way Stop Control; RAB = Roundabout; Signal = Signalized 2Average control delay for all movements. For TWSC, delay is reported for the movement with the worst (highest) delay. The locations of forecasted arterial and intersection LOS deficiencies in and near the City are shown in Figure 8-9.

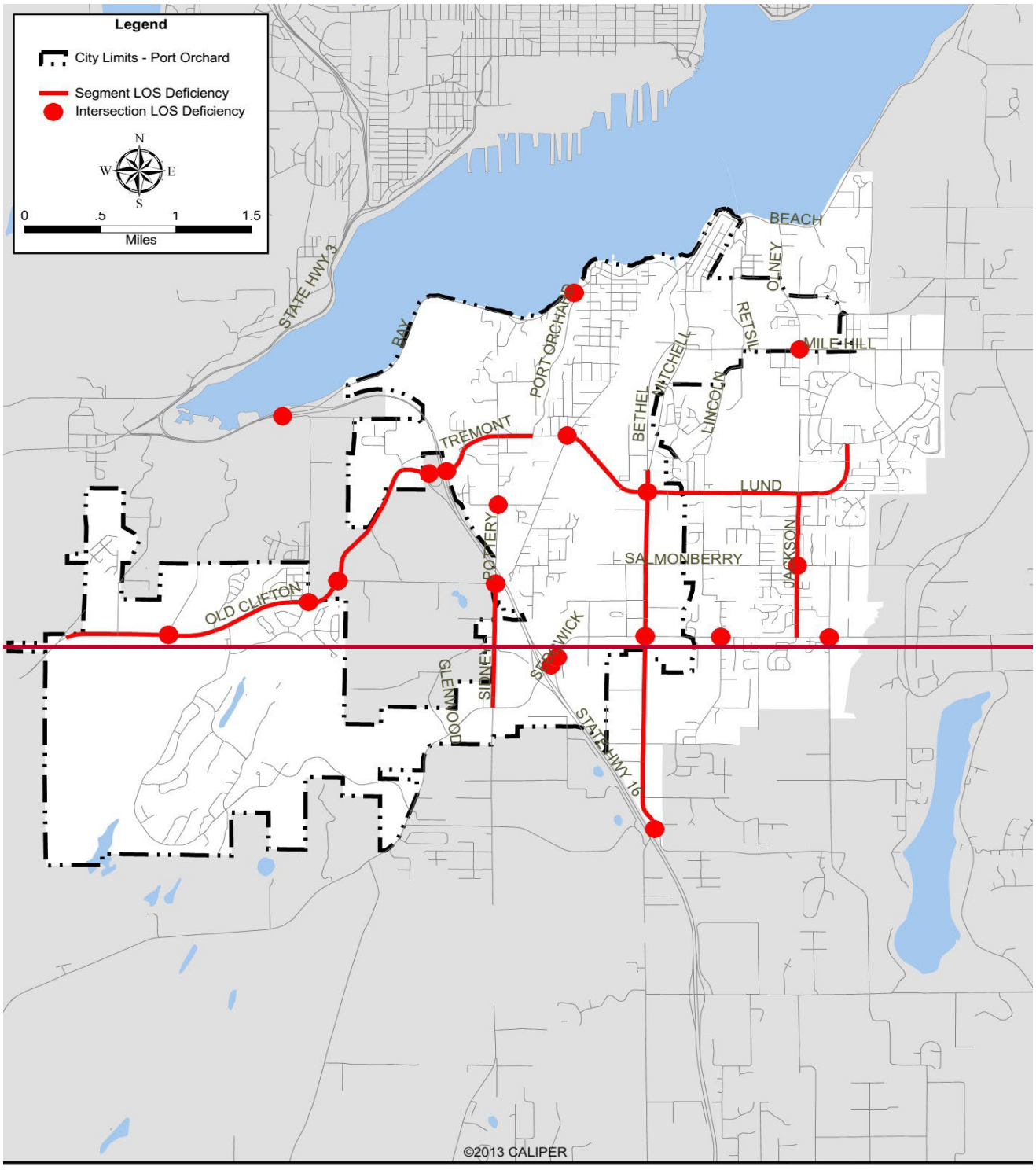


Figure 8-9

TSI Transportation Solutions, Inc.

2036 LOS Deficiencies Without Improvement

City of Port Orchard

~~Actions Necessary to Maintain LOS Standards~~
8.7.3. Actions Necessary to Maintain LOS Standards

[placeholder pending land use forecasts]

~~The projects identified in Table 8-17 are necessary to maintain acceptable LOS in 2044~~36 with forecasted traffic growth. Project numbers are included for projects which are included in the transportation component of the City's 2016-2021 Transportation Improvement Plan (TIP). The projects identified in Table 8-17 are shown graphically in Figure 8-10.

~~The intersection of Old Clifton and McCormick Woods Drive has been identified as a location which will not fail the minimum LOS standard but where safety concerns will arise with increased vehicle and nonmotorized traffic at the existing two-way stop controlled intersection. This intersection has been included in Table 8-17 and Figure 8-10 as a necessary project for safety reasons.~~

~~The list of necessary improvements also includes two new roundabouts on SR 160 east of SR 16. These intersections will provide access to commercial development along the SR 160 corridor and are required to maintain LOS standards with forecasted traffic growth along the corridor.~~

~~Table 8-17~~~~. Projects Necessary to Mitigate Growth-Related LOS Deficiencies~~

~~Plan #~~	~~Project Name~~	~~From/To~~	~~Est.Cost ($$$)~~	~~Description~~
~~1.1~~	~~Tremont Street Widening~~	~~SR 16 / Port Orchard Blvd~~	~~17,500~~	~~Widen Tremont from two travel lanes to four travel lanes with median, sidewalks, bike lanes, and roundabouts at SR 16 ramps~~
~~1.3~~	~~Sedgwick (SR 160) Reconstruction~~	~~SR 16 / Bethel~~	~~3,063~~	~~Corridor plan will determine specific improvements; planning model indicates need for intersection improvements (new roundabouts) at SR 16 ramps~~
~~1.4~~ ~~2.3~~	~~Bethel Corridor Reconstruction~~	~~Mile Hill Dr (SR 166) / 1,000 ft south of Sedgwick~~	~~24,750~~	~~Corridor plan needed to determine specific improvements; planning model indicates need for 3 lane (incl. TWLTL) from Sedgwick to Salmonberry, 5 lane (continuous TWLTL) from Salmonberry to Mitchell, and sidewalks and bike lanes from Mitchell to Mile Hill Dr. Intersection improvements at Sedgwick and at Lund (incl. protected/permitted LT phasing).~~
~~1.5~~	~~Anderson Hill/Clifton Intersection~~		~~1,000~~	~~Intersection improvements~~
~~1.6~~	~~Old Clifton/ Campus Parkway Intersection~~		~~1,000~~	~~Intersection improvements~~
~~2.1~~ ~~2.2~~	~~Sedgwick Road West~~	~~SR 16 / Sidney Ave~~	~~4,624~~	~~Widen to 3 lanes (continuous TWLTL), sidewalks, and bike lanes~~

2.4	SR160 Roundabout #1	Between Bravo Terr & Geiger Rd	1,481	New roundabout
2.5	SR160	Between Geiger	1,481	New roundabout

	Roundabout #2	Rd and Ramsey Rd		
2.8	Sidney Ave Widening	SR 16 overpass / Sedgwick Rd	6,262	Widen to 3 lanes (continuous TWLTL), sidewalks, and bike lanes
2.10	Old Clifton Rd Shoulder and Ped. Improvements	SR 16 overpass / City Limits	2,000	Widen to 4 lanes with grade-separated pedestrian path
2.11	Old Clifton Rd / McCormick Woods Dr Intersection Improvements		1,000	New roundabout[1]
n/a	Lund Ave Sidewalks	Bethel / Jackson	1,325	Complete sidewalks
n/a	Tremont / Sidney Signal Improvements		100	Signal improvements including protected/permitted LT phasing
n/a	Pottery / Lippert Intersection Improvements		1,000	Intersection improvements (signal)
n/a	Mile Hill / Jackson Signal Improvements		100	Improve signal phasing to include protected/permitted LT phasing
n/a	Bay St / Port Orchard Blvd Intersection Improvements		1,000	Intersection improvements (roundabout/signal)
n/a	Jackson Ave Widening (outside City)	Sedgwick / Lund	7,920	Widen to 3 lanes (continuous TWLTL) + sidewalks
		Total Estimated Cost	75,606	

[1]Intersection improvements recommended for safety reasons. Intersection is not forecasted to fail LOS standard but will meet signalization warrant.

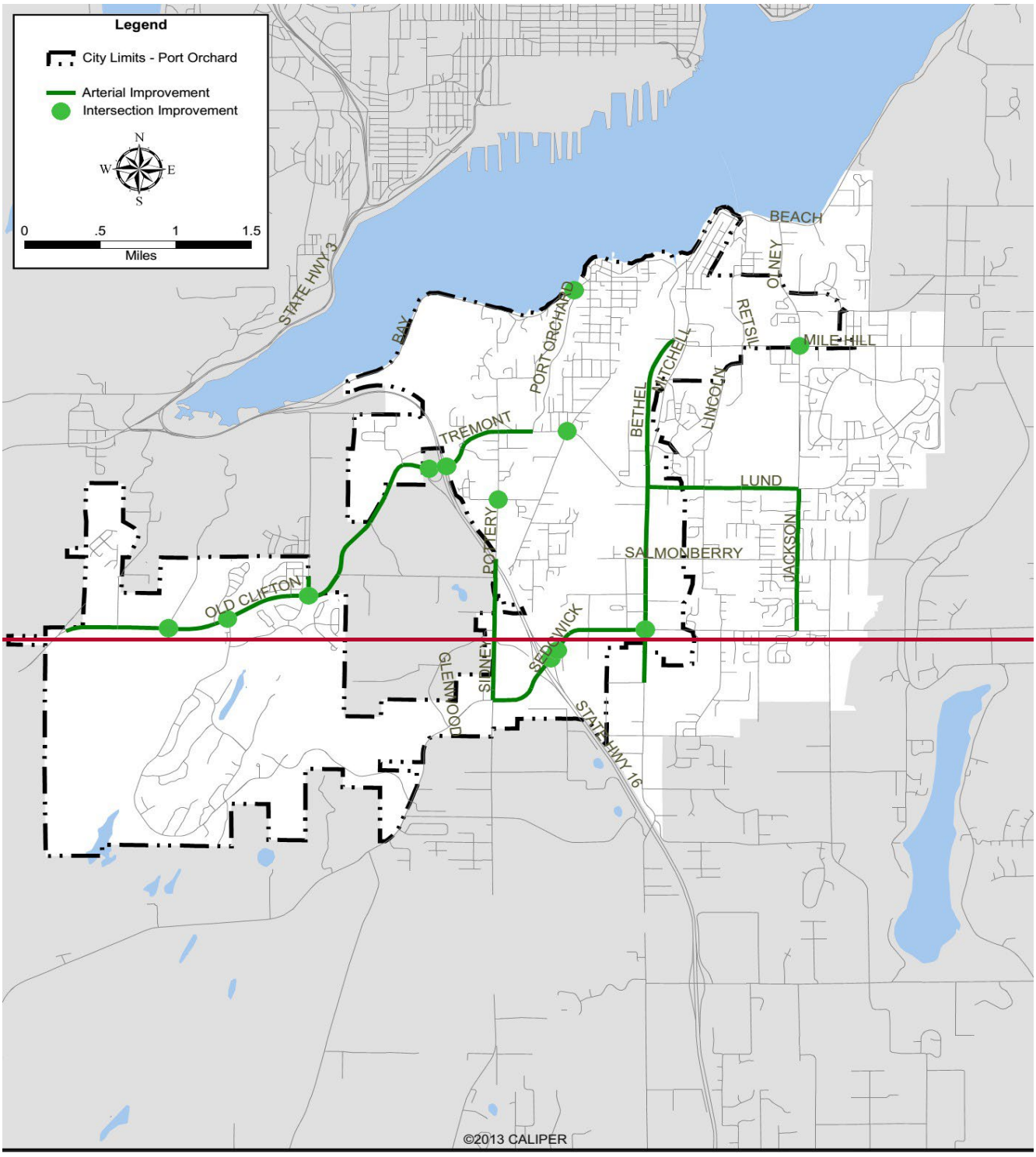


Figure 8-10

TSI Transportation Solutions, Inc.

Projects Necessary to Mitigate 2036 Deficiencies

City of Port Orchard

[placeholder]
Figure x. Projects Necessary to Maintain LOS Standards

~~Tables 8-18 and 8-19 identify all of the intersections and street segments that are deficient in the 2036 without improvements condition and describes how they meet standards under the 204436 with improvement condition.~~

~~Table 8-18 identifies 5 intersections outside the City which are forecasted to fail by 204436. Intersection operations at Bethel and Bielmeier will be improved by redistribution of traffic associated with other improvements throughout the network. The other failing intersections will continue to fail. Improvements to these intersections are not included in this citywide LOS analysis.~~

~~Table 8-18~~. 204436 Intersection Level of Service Deficiencies - With Improvement

~~Intersection~~	~~2036 No Improvement~~			~~2036 With Improvement~~		
	~~Control Type[1]~~	~~Delay[2] (s/veh)~~	~~LOS~~	~~Control Type~~	~~Delay (s/veh)~~	~~LOS~~
~~Bay St / Port Orchard Blvd~~	~~TWSC~~	~~>180~~	~~F~~	~~RAB~~	~~10.7~~	~~B~~
~~Bethel / Lund~~	~~Signal~~	~~100.3~~	~~F~~	~~Signal~~	~~41.2~~	~~D~~
~~Bethel / Sedgwick~~	~~Signal~~	~~73.1~~	~~E~~	~~Signal~~	~~49.8~~	~~D~~
~~Mile Hill / Jackson Ave~~	~~Signal~~	~~61.1~~	~~E~~	~~Signal~~	~~37.4~~	~~D~~
~~Old Clifton / Anderson Hill Rd~~	~~TWSC~~	~~72.3~~	~~F~~	~~RAB~~	~~7.4~~	~~A~~
~~Old Clifton / Berry Lake Rd~~	~~TWSC~~	~~>180~~	~~F~~	~~TWSC~~	~~28.8~~	~~C~~
~~Old Clifton / SR 16 EB ramps~~	~~TWSC~~	~~168.6~~	~~F~~	~~RAB~~	~~14.5~~	~~B~~
~~Pottery Ave / Lippert~~	~~TWSC~~	~~>180~~	~~F~~	~~Signal~~	~~5.0~~	~~A~~
~~Sedgwick / SR 16 WB ramps~~	~~Signal~~	~~79.8~~	~~E~~	~~RAB~~	~~25.6~~	~~C~~
~~Sidney / Berry Lake Rd~~	~~TWSC~~	~~>180~~	~~F~~	~~TWSC~~	~~29.2~~	~~D~~
~~Tremont / Sidney~~	~~Signal~~	~~104.9~~	~~F~~	~~Signal~~	~~33.7~~	~~C~~
~~Tremont / SR 16 WB ramps~~	~~TWSC~~	~~>180~~	~~F~~	~~RAB~~	~~9.7~~	~~A~~
~~***Outside City Limits***~~						
~~Bethel / Bielmeier~~	~~TWSC~~	~~76.6~~	~~F~~	~~TWSC~~	~~23.9~~	~~C~~
~~Jackson / Salmonberry~~	~~TWSC~~	~~>180~~	~~F~~	~~TWSC~~	~~>180~~	~~F~~
~~Sedgwick / Converse~~	~~TWSC~~	~~>180~~	~~F~~	~~TWSC~~	~~>180~~	~~F~~
~~Sedgwick / Phillips~~	~~TWSC~~	~~>180~~	~~F~~	~~TWSC~~	~~>180~~	~~F~~
~~SR 16 / Anderson Hill Rd~~	~~TWSC~~	~~>180~~	~~F~~	~~TWSC~~	~~>180~~	~~F~~

~~Table 8-19~~. 2036 Segment Level of Service Deficiencies - With Improvement

~~Name~~	~~Cross Street A~~	~~Cross Street B~~	~~2036 No Improvement~~		~~2036 With Improvement~~	
			~~V/C~~	~~LOS~~	~~V/C~~	~~LOS~~

Bethel	Sedgwick Rd	Salmonberry	1.30	F	0.83	D
Bethel	Salmonberry Rd	Lund	1.56	F	0.59	A
Bethel	Lund Ave	Mitchell Rd	1.10	F	0.54	A
Bethel	Bielmeier Rd	Sedgwick (SR160)	0.95	E	0.84	D
Jackson Ave	Sedgwick (SR160)	Salmonberry Rd	1.04	F	0.83	D
Jackson Ave	Salmonberry Rd	Lund Ave	1.01	F	0.81	D
Lund Ave	Sidney Ave	Bethel	0.90	E	0.90	D
Lund Ave	Bethel	Jackson	0.93	E	0.86	D
Sidney Ave	Sedgwick Rd	Glenwood Rd	0.92	E	0.60	B
Sidney Ave	Glenwood Rd	Berry Lake Rd	1.11	F	0.74	C
Tremont St	SR 16 WB ramp	Pottery Ave	1.22	F	0.74	C
Tremont St	Pottery Ave	PO Blvd	1.42	F	0.90	D
Lund Ave	Jackson Ave	Madrona Dr	0.93	E	0.43	A
Old Clifton	City limits	Anderson Hill Rd	1.03	F	0.76	C
Old Clifton	Anderson Hill Rd	SR 16	1.02	F	0.82	D

[1]TWSC = Two-Way Stop Control; AWSC = All-Way Stop Control; RAB = Roundabout; Signal = Signalized

[2]Average control delay for all movements. For TWSC, delay is reported for the movement with the worst (highest) delay.

T8.8. Transportation Demand Management

Travel Demand Management (TDM) is comprised of a broad range of programs, policies, regulations, and in some capital projects that are intended to reduce travel by automobile or to reduce travel in general. For instance, providing preferential parking and/or cost subsides for carpool users reduces the number of automobiles on the road, while allowing employees to work from home eliminates travel altogether. Some TDM programs are mandated or implemented at the State level, such as Washington's Commute Trip Reduction Act and WSDOT's HOV/Toll Lane Program. Others are regional, including vanpool/rideshare programs administered by transit agencies such as Kitsap Transit. Larger cities have sufficient resources to implement bike share and other capital intensive programs.

Cities like Port Orchard can support state and regional efforts, butefforts but can have more influence on travel demand through integrated land use and transportation planning that results in compact mixed-use centers with strong internal non-motorized connectivity and access to regional transit. The subarea plans for these centers that follow the adoption of the Comprehensive Plan should include consideration of non-motorized connectivity standards, a balanced mix of housing, employment, and local services to minimize trips outside of the center. Parking regulations for the centers should consider establishing maximum parking ratios, rather than minimums. Design standards for businesses should include provisions for employees that commute on foot or bicycle and include bicycle storage, changing rooms, and shower facilities. These facilities could be shared in compact or

urban village settings.

Other TDM actions the City could consider are included in the following section on TDM effectiveness. There is no one size fits all approach, and for the City of Port Orchard, a combination of small actions at the individual development scale will likely be more cost-effective than citywide programs that may be effective in one part of the city and not in another. Large-scale City sponsored programmatic TDM measures should be considered with caution and partnerships with adjacent jurisdictions and regional partners should be pursued instead.

8.8.1. Overview

TDM activities produce wide-ranging benefits to individuals and the transportation system as a whole, reducing traffic congestion, vehicle emissions, and fuel consumptions while supporting physical activity and enhanced safety. TDM makes existing transportation investments perform better, extends the life of existing infrastructure, and can improve outcomes for new transportation investments. (*Regional TDM Action Plan, 2013-2018 — Puget Sound Regional Council)*

Before presenting some of the key references on TDM effectiveness, some general comments can be made about TDM effectiveness:

One Size Does Not Fit All – TDM effectiveness is highly dependent on the application setting, complementary strategies, nature of the travel market segment being targeted, and even the "vigor" with which TDM is implemented and promoted. Unlike many physical improvements, TDM strategies require some amount of education and outreach. This is all to say that the transferability of TDM strategy effectiveness is highly dependent on local conditions. Some of the more subjective evaluation findings on why a given TDM initiative was more successful in one location over another are issues such as the presence of a local champion, a history of alternative transportation, and the appropriate selection of a target market of travelers. So, to use another cliché, there is "no one recipe for success" when it comes to TDM effectiveness. There are "ingredients" such as parking pricing that are correlated to program success. However, correlation does not prove causality.

TDM Impacts are Largely Localized – TDM effectiveness is most readily measured at a localized level, and this appears to be where the greatest impacts can be found. TDM is applied to specific worksites, developments, employment centers, venues, or activity centers. Localities with well- defined travel markets tend to produce the most readily available and significant impacts. When the impact of TDM at a broader geographic level is sought, for example at the corridor, city-wide, or regional level, the localized nature of TDM effectiveness diffuses the results at a broader scale. One study of implementing mandatory trip reduction programs in the Twin Cities, with strong parking management in a mixed-use setting, showed that the programs would reduce vehicle trips by 8 to 27 percent at affected worksites translating to only a 2 percent peak period traffic reduction on the adjacent interstate. However, small changes in demand (total demand or the spatial or temporal distribution of travel demand) can significantly affect traffic flow in congested locations and times. Likewise, the benefits of demand management accrue to both those who switch to sustainable modes as well as all travelers, including solo drivers (in terms of reduced delay, improved air quality, safety, etc.).

Travelers Respond to Their Wallets - Most evaluation studies point to the overwhelming effectiveness of financial incentives and disincentives to manage demand. At one level, this makes sense as price influences demand in a classic microeconomic analysis. Cordon pricing in London and Stockholm have reduced traffic volumes entering the city center by as much as 20%. Parking pricing is another widely accepted demand management technique. Adding or increasing parking charges at worksites can produce dramatic mode shifts, as reported in Shoup's seminal reference, The High Cost of Free Parking. However, these examples relate to key disincentives to car use. In the U.S., TDM programs focused on modest financial incentives have been highly effective in inducing a shift to more sustainable modes. These incentive programs are often in the form of "Try-It-You'll-Like-It" inducements. For example, the Atlanta Clean Air Campaign's Cash for Commuters offers drive-alone commuters a daily cash incentive ($3/day) for using an alternative mode (carpool, vanpool, transit, bike, walking) for up to 90 days. An independent evaluation showed that the incentive caused 1,800 commuters to switch modes, resulting in 1,300 fewer vehicle trips and 30,000 VMT on the region's highways. More importantly, over 70% of incentive recipients continued their new commute mode after the subsidy lapsed, and half were still using a non-drive alone mode one year later. In the Netherlands, congestion management efforts have resorted to paying commuters to stay off backed-up highways during the peak, so-called Rush Hour Avoidance. Financial levers, even modest amounts, can influence travel behavior in a very significant manner.

Parking Influences Travel Choices - Parking management is another widely accepted strategy to effectively change travel behavior, especially mode shift, time shift, and location shift. Parking pricing was mentioned above, but parking supply management can be effective as well. If parking is tight, meaning that all cars cannot be accommodated if everyone drives alone, commuters will adapt by sharing rides, shifting to transit, or even bicycling or walking if the distance allows. One study of developer TDM requirements revealed an 11 to 21 percent reduction in parking demand among worksites with aggressive TDM programs. Travel demand can be influenced by time of day and short- vs. long-term parking rates to reduce travel, including cruising for parking, during congested periods.

Packaging is Key - TDM strategies are most effective when packaged into logical, complementary packages to realize synergistic effects. On the other hand, some strategies do not complement one another. One example of an unintended consequence from traditional TDM is flex-time and carpooling. Some employers who implement flex-time strategies as an employee perk or to address congestion at parking entrances have found that this can also serve to discourage ridesharing arrangements, which tend to do better with set work hours. At the same time, flexibility could reduce the peak period volumes and improve flow without changing mode split. Looking at some newer strategies, such as HOT lanes, efficiency improvements can also work to discourage some ridesharing arrangements. HOT lane projects which need to raise vehicle occupancy requirements from 2+ to 3+ in order to create sufficient capacity to sell may serve to break apart existing two- person carpools who choose to drive alone in the mixed flow lanes rather than pay a toll or find another rider.

But complementary measures can lead to greater results than strategies implemented alone. The effect of many TDM strategies is multiplicative: the impact of any one measure on VMT reduction or mode shift might be modest, but the combined effects from improving upon several, complementary measures can be substantial. For example, systems management improvements, such as ramp metering, can be complemented with provisions for HOV bypass lanes, employer trip reduction

programs in the corridor, and traveler information that includes HOV time savings among the traffic statistics provided. One study concluded that employer TDM programs that combined incentives and improved commute alternatives experienced an average trip reduction of almost 25%, where those implementing incentives alone realized a 16.4% reduction and alternatives alone 8.5%. As one international TDM study put it: "Experience throughout the Organisation for Economic Co-operation and Development (OECD) region has shown that… packaged, complementary solutions are usually more effective than a single measure."

TDM is Not a Solution to All Transportation Problems – TDM can be highly effective at a relatively low cost (as compared to capacity enhancements) when applied in the right place, at the right time for the right travel market. However, TDM, in and of itself, is not adequate to solve congestion, air quality, energy, and other urban woes. Too often the expectations are unstated or disconnected from allocated resources and incompatible policies (e.g., developers are required to build a minimum number of parking spaces, often offered for free to employees and customers, that serves to generate even more driving). As mentioned above, TDM is most effective, or at least most measurable, at the localized level. The impact of TDM at a corridor or regional level is very hard to evaluate. Modeling and simulation, such as that done using employer trip reduction data to show the likely impact of TDM on I-5 in Seattle, suggests that aggressive and relatively widespread TDM programs at a local level can have a measurable and significant impact on a corridor. However, it is very difficult to measure empirically given issues of multiple influences, externalities, and causality. This clearly points to the need to carefully marry TDM strategies to smart infrastructure enhancements, such as ATM. When efficiency improvements are combined with efforts to reduce peak demand, the greatest impacts should be realized.

Traditional TDM

- HOV/HOT/ Managed Lanes
- Employer Trip Reduction Programs
- Alternative Work Arrangements
- School-based Trip Reduction
- Event-based Trip Reduction
- Recreation-based Trip Reduction
- Car-sharing
- Vanpool Programs

Land Use/Active Transportation

- Developer Trip Reduction
- Land Use Strategies
- Car-free or Access-restricted Zones

Parking

- Parking Information
- Parking Supply Management
- Parking Pricing

Pricing

- Cordon Pricing
- Congestion Pricing
- General Financial Incentives
- VMT Tax

Systems Management

- Ramp Metering
- Integrated Corridor Management
- Traveler Information

- Bicycle Facilities and Programs
- Pedestrian Facilities and Continuity

Transit

- Transit Service Improvements
- Transit Prioritization/BRT
- Transit Fare Discounts
- ~~Park and Ride Lots~~
- ~~Parking~~

~~Parking Information~~

~~Parking Supply Management~~

~~Parking Pricing~~

~~Pricing~~

~~Cordon Pricing~~

~~Congestion Pricing~~

~~General Financial Incentives~~

~~VMT Tax~~

~~Systems Management~~

~~Ramp Metering~~

~~Integrated Corridor Management~~

~~Traveler Information~~

- ~~Eco-driving~~

- Eco-driving

~~Traditional TDM~~
~~HOV/HOT/ Managed Lanes~~
~~Employer Trip Reduction Programs~~
~~Alternative Work Arrangements~~
~~School-based Trip Reduction~~
~~Event-based Trip Reduction~~
~~Recreation-based Trip Reduction~~
~~Car-sharing~~

~~Vanpool Programs~~

8.8.2. Other Impacts

The sections above have discussed the documented impacts of TDM on travel behavior, traffic, and air quality. This section suggests that TDM can have a positive impact on other policy objectives, such as goods movement, land use, livability, and economic development. Unfortunately, very little empirical research exists documenting the impact of TDM strategies toward these policies in a comprehensive, systematic, and comparative manner. As such, individual case studies are summarized below:

Goods movement – A strategy of consolidated deliveries has been shown to reduce the number of delivery vehicles, in places like Burgos, Spain, but other impacts have not been documented, such as congestion reduction. A delivery scheme in two French cities, using electric vehicles, reduced related CO2 by 58%. Pricing strategies, on the other hand, have been proven to be quite effective. Truck tolling in Germany has resulted in a small shift from truck to rail and a reduction in empty deadheading trips. Peak period fees (Pier Pass) at the Port of Los Angeles have reduced congestion in the terminal areas and have reduced midday truck volumes on I-710.

Land use – TDM is often used as a mitigation strategy to reduce the additional trips generated by new development, and success cases revealing trip reductions on the order of 10-25% are fairly abundant. Land use and design issues, as a longer-term strategy, have the potential to increase non-automobile modes, as revealed in comparisons of the mode split between towns with and without good bike, pedestrian, and transit infrastructure.

Livability – Measuring the impact of TDM on livability can be a subjective process. But livability might be seen as the product of several other effective roles for TDM, namely reduced congestion, increased safety, improved environment, and healthy economic conditions. Mostly, livability can be associated with increased travel choices, a fundamental purpose of demand management.

Economic Development – In mitigating the negative impacts associated with growth (congestion, air pollution, energy consumption, reduced safety), TDM can improve the attractiveness of a region or city to prosper economically. As seen in cases such as Lund, Sweden, and the Sustainable Travel Town pilots in the U.K., economic growth can be decoupled from traffic growth. In Lund, the region grew substantially (population and employment) during a period when TDM was being implemented, reducing VMT by 1-2% overall. The growth in travel demand was met by increases in transit use and bicycling.

FHWA-HOP-12-035, INTEGRATING DEMAND MANAGEMENT INTO THE TRANSPORTATION PLANNING PROCESS: A DESK REFERENCE, August 31, 2012

8.9. Financial Analysis and Concurrency [TO BE UPDATED]

The State of Washington's Growth Management Act (GMA) requires that a jurisdiction's transportation plan contain a funding analysis of the transportation projects it recommends. The analysis should cover funding needs, funding resources, and it should include a multi-year financing plan. The purpose of this requirement is to ~~insure~~ensure that each jurisdiction's transportation plan

is affordable and achievable. If a funding analysis reveals that a plan is not affordable or achievable, the plan must discuss how additional funds will be raised, or how land use assumptions will be reassessed.

The City of Port Orchard is including the financial element in this transportation plan in compliance with the GMA as well as to provide a guide to the City for implementation of this plan.

8.9.1. Federal Revenue Sources [TO BE UPDATED]

The Fixing America's Surface Transportation (FAST) Act (P.L. 114-94), was signed into law by President Obama on December 4, 2015. Funding surface transportation programs at $305 billion for fiscal years (FY) 2016 through 2020, the FAST Act replaces the Moving Ahead for Progress in the 21st Century Act (MAP-21) as the latest long-term highway authorization.

The FAST Act largely maintains much of the policy and programmatic framework established by MAP-21. It includes increased funding for the performance-based Surface Transportation Block Grant Program (STBGP) and makes an additional $116.4 billion available to locally-owned infrastructure.

~~FAST Act Overview in Washington~~

The five-year FAST Act was signed into law by President Obama on December 4, 2015, and covers from October 1, 2015 through September 30, 2020. The FAST Act funds surface transportation programs at $305 billion for federal fiscal years (FFY) 2016 through 2020. The state can expect to receive almost $3.6 billion in Federal Highway Administration funds via the FAST Act, starting with

$687 million in 2016 and growing to $750 million by 2020.

In October 2012, Governor Christine Gregoire convened a Steering Committee to recommend how to distribute the highway funds between the State and local governments. The Committee met twice and agreed to maintain an overall split of 66/34 (66% State / 34% Local).

8.9.2. Other Existing Transportation Revenue Services [TO BE UPDATED]

Funding for road improvements are comprised of numerous sources of revenue. A summary of these sources is shown in Table 8-22.

Table 8-22. Possible Transportation Revenue Sources

Street Fund	The Street Fund for the City is comprised of revenue from the motor vehicle excise fuel tax and a portion of property tax revenue. It is allocated to the City based on the number of residents within the corporate limits. These funds can be used only for road projects.

Current Expense	The City has supplemented the Street Fund with Current Expense money in previous years. Current Expense funds are have many sources including business taxes, local retail sales and use tax, property taxes, and motor vehicle excise tax.
Transportation Impact Fee Program	In 2015 the City adopted a transportation impact fee, a financing tool which allows the collection of revenue to offset the traffic impacts of new development. The impact fee rate is based the net new PM peak hour trips generated by a development and is set at $2,552.24 per vehicle trip.
Transportation Improvement Account (TIA)	The Transportation Improvement Board (TIB) is a ~~Washington State Department of Transportation (~~WSDOT~~)~~ organization used to distribute funds for road projects. The TIA funds are from a 1.3-cent motor vehicle fuel tax and are used for achieving a balanced transportation system. Multi-agency projects are a requirement.
Urban Arterial Trust Account (UATA)	The TIB administers this program which is funded by a 1.74-cent motor vehicle fuel tax. The program funds projects which reduce congestion and improve safety, geometrics and structural concerns.
FAST Act	Fixing America's Surface Transportation (FAST) Act funds are federal funds to allow road improvements. These are programmed through the Metropolitan Planning Organization and the Puget Sound Regional Council. These funds are managed by WSDOT.
Grants	Numerous infrastructure and transportation grants from local, state, federal, and private sources may be identified to assist with the funding of the Port Orchard transportation improvements.

~~Nonmotorized Revenue Sources~~
8.9.3. Nonmotorized Revenue Sources [TO BE UPDATED]

Safe Routes to School

Washington State offers competitive grants to local jurisdictions through the federal Safe Routes to School program. The programs aim to increase the ability of young students to walk and bike to school on their own by providing non-motorized infrastructure between schools and residential areas and on the streets fronting schools. A call for funding requests is made during the biennium state budget cycles.

By partnering with South Kitsap School District, Port Orchard can identify neighborhoods and streets most in need of non-motorized infrastructure and develop stronger grant applications.

Other Nonmotorized Funding Sources

Washington State and the federal government offer a number of competitive grant funding sources for non-motorized infrastructure, including trails, sidewalks, crossing improvements, and transit station amenities.

- Washington State Recreation and Conservation Office: http://www.rco.wa.gov/grants/index.shtml
- TIB Complete Streets program
- WSDOT Pedestrian and Bicycle program
- Puget Sound Regional Council Transportation Improvement Program: http://www.psrc.org/transportation/tip/amendments/applications/
- Federal Transportation Administration Bicycle Funding Opportunities: http://www.fta.dot.gov/13747_14400.html
- Federal Highway Administration Transportation Alternatives Program: http://www.fhwa.dot.gov/environment/transportation_alternatives/
- Federal Highway Administration Recreational Trails Program: http://www.fhwa.dot.gov/environment/recreational_trails/
- Community Development Block Grant: https://www.kitsap.gov/hs/Pages/CDBG--LANDING.aspx

- ~~Washington State Recreation and Conservation Office: http://www.rco.wa.gov/grants/index.shtml~~
- ~~TIB Complete Streets program~~
- ~~WSDOT Pedestrian and Bicycle program~~
- ~~Puget Sound Regional Council Transportation Improvement Program: http://www.psrc.org/transportation/tip/amendments/applications/~~
- ~~United States Department of Transportation TIGER Discretionary Grants: http://www.transportation.gov/tiger~~
- ~~Federal Transportation Administration Bicycle Funding Opportunities: http://www.fta.dot.gov/13747_14400.html~~
- ~~Federal Highway Administration Transportation Alternatives Program: http://www.fhwa.dot.gov/environment/transportatio~~

~~n_alternatives/~~
~~Federal Highway Administration Recreational Trails Program: http://www.fhwa.dot.gov/environment/recreational_trails/~~
~~Community Development Block Grant: https://www.kitsap.gov/hs/Pages/CDBG-LANDING.aspx~~

Local funding from the City's general funds, a transportation impact fee, and a local transportation benefit district are also options.

8.9.4. Revenue Forecast [TO BE UPDATED]

The projected revenues for the City's Street Operation and Street Capital funds are shown in Table 8-23. Approximately 42 percent of funding for the City's Transportation Capital Facilities Plan will come from Intergovernmental Revenue. Transportation Impact Fees and other miscellaneous revenue are expected to fund approximately 7 percent. The City may consider implementing new revenue sources, such as a TBD (discussed above), if deemed appropriate and necessary in the future. The remainder of the Transportation Capital Facilities Plan will be funded by transfers from other City unrestricted revenue sources and issuing debt as needed. This strategy ensures that the City can accomplish the transportation plan and use the available funding options efficiently.

This forecast was prepared by projecting historic trends from the City's financial records. It was then adjusted based on a projected growth of 1% to 3% per year, depending on other known factors that could influence the specific category of revenue.

Table 8-23. ~~Port Orchard~~ Transportation Revenue Forecast, 2024~~16~~ to 2044~~36 ($000)~~ [TO BE COMPLETED]

Funding Source	Description	Revenue Forecast			
		Short Range 2016 - 2021	%	Long Range 2022 - 2036	%
Street Operating Fund - Unrestricted					
Licenses & Permits	Right of way encroachment permit fees	~~$0~~	~~0%~~	~~$0~~	~~0%~~
Intergovernmental Revenue	City Share of motor vehicle fuel tax (MVFT)	~~$1,615,000~~	~~21%~~	~~$3,800,000~~	~~20%~~
Charges for Services	Fees for services rendered by transportation operations staff including plan review and construction inspection	~~$0~~	~~0%~~	~~$0~~	~~0%~~

Miscellaneous	Other sources of unrestricted revenue	~~$60,000~~	~~1%~~	~~$168,000~~	~~1%~~
Transfers/Other	Transfers to support transportation operations, maintenance and administration	~~$6,000,000~~	~~78%~~	~~$16,000,000~~	~~79%~~
TOTAL - Street Operating		~~**$7,675,000**~~	~~**100%**~~	~~**$19,168,000**~~	~~**100%**~~
Street Capital Fund - Restricted					
Intergovernmental Revenue *	Grants & Fuel Tax	~~$17,785,000~~	~~54%~~	~~$200,000~~	~~1%~~
Miscellaneous***	Transportation Impact fees, SEPA Mitigation fees, developer contributions, interest	~~$4,925,825~~	~~15%~~	~~$13,792,310~~	~~99%~~
Transfers In	Transfers to support capital projects	~~$2,471,000~~	~~7%~~	~~$0~~	~~0%~~
Other - New Debt, other new funding sources	Bonds, Low Interest Loans, Possible Transportation Benefit District	~~$ $17,068,175~~	~~40%~~	~~$19,363,690~~	~~58%~~
TOTAL - Street Capital		~~**$42,250,000**~~	~~**100%**~~	~~**$33,356,000**~~	~~**100%**~~

* Includes grants and direct appropriations

** Out of $2 million per year for total revenue from source, assumes 50% for street capital projects

*** Includes estimated 10% increase in transportation impact fee amounts due to planned TIF update in 2015

8.9.4. Capital Costs for Recommended Improvements [TO BE UPDATED]

[placeholder pending land use forecasts]

~~There are several capacity related improvements within the Port Orchard Planning Area that are necessary to maintain minimum levels of service. Table 8-24 identifies the capacity-related improvements that will be necessary to maintain level of service standards in the short term (through 203022). Additional capacity-related improvements will be necessary to meet level of service standards for the long range forecast (204436).~~

~~The capacity-related improvements identified in Table 8-25 will be necessary to meet GMA level of service standards in 203446.~~

~~**Table 8-24.** Previously Identified Projects Necessary to Address Growth~~

~~**Plan #**~~	~~**Project Title**~~	~~**From/To**~~	~~**Estimated Cost ($$$)**~~
~~1.1~~	~~Tremont Widening~~	~~SR 16 / Port Orchard Blvd to Sidney~~	~~17,500~~

		Ave	
1.4/2.3	Bethel Corridor Reconstruction	Mile Hill Dr (SR 166) / 1,000 ft south of Sedgwick	24,750
		Total Estimated Cost	42,250

Table 8-25. Projects Necessary to Mitigate Future Growth-Related LOS Deficiencies

Plan #	Project Name	From/To	Estimated Cost ($$$)
1.3	Sedgwick (SR 160) Reconstruction	SR 16 / Bethel	3,063
1.5	Anderson Hill/Clifton Intersection		1,000
1.6	Old Clifton/ Campus Parkway Intersection		1,000
2.1 2.2	Sedgwick Road West	SR 16 / Sidney Ave	4,624
2.4	SR160 Roundabout #1	Between Bravo Terr & Geiger Rd	1,481
2.5	SR160 Roundabout #2	Between Geiger Rd and Ramsey Rd	1,481
2.8	Sidney Ave Widening	SR 16 overpass / Sedgwick Rd	6,262
2.10	Old Clifton Rd Shoulder and Ped. Improvements	SR 16 overpass / City Limits	2,000
2.11	Old Clifton Rd / McCormick Woods Dr Intersection Improvements		1,000
n/a	Lund Ave Sidewalks	Bethel / Jackson	1,325
n/a	Tremont / Sidney intersectionSignal Improvements		100
n/a	Pottery / Lippert Intersection Improvements		1,000
n/a	Mile Hill / Jackson Signal Improvements		100
n/a	Bay St / Port Orchard Blvd Intersection Improvements		1,000
n/a	Jackson Ave Widening (outside City)	Sedgwick / Lund	7,920
		Total Estimated Cost	33,356

[1]Intersection improvements recommended for safety reasons. Intersection is not forecasted to fail LOS standard but will meet signalization warrant

8.9.5. Summary of Costs and Revenues [TO BE UPDATED]

[To be updated pending land use forecasts]

Based on the revenues and costs listed above, the proposed transportation element improvements are affordable within the City's expected revenues for transportation capital costs. Table 8-26 summarizes costs and revenues for the short and long range forecasts analyzed in the transportation element. It is important to note that the revenues portrayed include the proceeds of additional debt issues. This is based upon an assumption that additional debt will be necessary to fully fund the

transportation improvement program. The new debt is assumed to be bond debt issued over 20 years at 4.5% interest. However, it should also be noted that the City has not made any assumptions related to grant funding or other low interest loans such as from Federal or State programs. The City has traditionally been able to tap these sources, and continuing to do so would reduce the need for new bond issues which similarly could produce more favorable terms for the City's transportation program.

The proposed Transportation Capital Facilities Plan, including both short and long range improvement lists, is estimated to cost $xxxxx~~75,606,000~~. Proposed improvements and expected revenues are therefore balanced as shown in the Table 8-26 below.

Table 8-26. Summary of Capital Costs and Revenues [TO BE UPDATED]

Category	Short Range 2016-2021	%	Long Range 2022-2036	%	Total 2016-2036	%
Projected Revenues	~~$42,250,000~~	~~100%~~	~~$33,356,000~~	~~100%~~	~~$75,606,000~~	~~100%~~
Predictable sources	~~$25,181,825~~	~~60%~~	~~$13,992,310~~	~~42%~~	~~$39,174,135~~	~~52%~~
Debt sources	~~$17,068,175~~	~~40%~~	~~$19,363,690~~	~~58%~~	~~$36,431,865~~	~~48%~~
Projected Expenditures	~~$42,250,000~~	~~100%~~	~~$33,356,000~~	~~100%~~	~~$75,606,000~~	~~100%~~

The proposed financial strategy relies upon a conservative assumption for state and federal grants and an assumption that additional city debt may be necessary to balance the plan financially. If state and federal grant availability increases over the planning period the reliance on future debt financing will be reduced.

~~8.10. Intergovernmental Coordination~~
8.10 Intergovernmental Coordination

The City of Port Orchard works to maintain positive relationship with neighboring jurisdictions, regional agencies and service providers, and state and federal governments. The City has a shared interest and concern in maintaining a vital local and regional economy, and a high quality of life for its citizens, which depend on transportation mobility across jurisdiction boundaries. The City has agreements in place that demonstrate its active commitment to working with Kitsap County, other regional partners and state and federal agencies to address transportation issues, share information and solve problems. The development and ongoing monitoring of the City's Comprehensive Plan demonstrates that commitment. The Growth Management Act requires that plans between neighboring jurisdictions maintain a level of consistency through coordination of planning efforts.

Increasingly, Port Orchard's transportation system functions as an integral part of a larger regional system – of roadways, transit routes, park and ride lots, ferry routes, and non-motorized facilities that allow walking and/or biking the first and final mile~~,~~ and making connections in~~-~~between.

The development of this Plan depended on land use forecasts provided by the Puget Sound Regional Council. Coordination efforts are expected to be ongoing with:

- Washington State Department of Transportation (WSDOT) on the recommended revisions to the City's Roadway Functional Classification System, the addition of new truck routes to the state Freight and Goods Transportation System (FGTS), and needed improvements on designated State Routes within the city;

Kitsap Transit on Transportation Demand Management activities by major employment sites, providing access to ferry and transit facilities and services, and on maintaining and expanding transit service quality within the City;

-

- Kitsap County to address the needs of travel across jurisdiction limits, including mitigating the impacts of land use development outside the City, providing for needed street improvements in annexation areas, and furthering the expansion of the regional non-motorized trail system.

Lastly, the City anticipates a certification review of this Comprehensive Transportation Plan Element by the Puget Sound Regional Council to ensure its conformity with the adopted regional VISION~~ision 2040~~ 2050 plan.

~~8.11. Transportation Goals and Policies~~
8.11. Transportation Goals and Policies [TO BE UPDATED]

The goals and policies for transportation provide the primary foundation for this Transportation Chapter and support the overall vision of the Comprehensive plan. These goals and policies are organized under the following categories: general transportation goals; transit goals, non-motorized goals; vehicular travel and roadways; performance standards; linkages with other elements; and community character.

State Objectives: Encourage efficient multimodal transportation systems that are based on regional priorities and coordinated with county and city comprehensive plans. [RCW 36.70A.020 (3)]

~~8.11.1.~~8.10.1. General Transportation Goals

Goal 1. Encourage development of an efficient multi-modal transportation system based on local, municipal, tribes, countywide, and regional priorities in coordination with existing comprehensive and corridor development plans.

Policy TR-1 Implement the roadway design standards, including acquisition of right-of-way as needed, as defined in the City's transportation Capital Facilities plans and Port Orchard Road Standards.

Policy TR-2 Implement necessary transportation improvements as development in the City occurs, consistent with the City's Concurrency policies and SEPA requirements.

Policy TR-3 Require new development and redevelopment to incorporate transit, pedestrian and other non-motorized transportation improvements, including bus shelters and/or pullouts, sidewalks, pathways, crosswalks, and bicycle lanes.

Policy TR-4 Prioritize transportation improvements, including non-motorized transportation and mass transit facilities, within designated centers of local importance.

Goal 2. Provide a safe, comfortable and reliable transportation system.

Policy TR-5 Control the location and spacing of commercial driveways and the design of parking lots to avoid traffic and pedestrian accidents, confusing circulation patterns, and line-of-sight obstructions.

Policy TR-6 Designate and clearly demarcate appropriate routes for through truck traffic, hazardous materials transport, and oversized traffic.

Policy TR-7 Require new development and redevelopment to incorporate appropriate street lighting as defined in the Port Orchard City Road Standards.

Policy TR-8 Include sidewalks as required in the Port Orchard City Road Standards.

Goal 3. Develop a funding strategy and financing plan to meet the multi-modal and programmatic needs identified in the transportation element.

Policy TR-9 Provide sufficient flexibility in the funding process to maximize the ability of local government to develop partnerships with federal and regional governments, other jurisdictions and the private sector to optimize funding sources for transportation projects.

Policy TR-10 Establish public/private partnership programs for funding the needed transportation improvements. Private sector funding generated within the City should primarily be allocated to improvements in or adjacent to Urban Growth Areas near the City.

Policy TR-11 Require developers to provide on-site and off-site road, safety, and other transportation improvements where necessary to serve the needs of the proposed developments and mitigate the impacts of their development on the surrounding neighborhoods.

Policy TR-12 Consider potential funding mechanisms such as, creation of a Port Orchard Traffic Impact Fee (TIF Program), establishment of a Transportation Benefit District (TBD), Proportional Share Mitigation via SEPA, grant funding, and Road Improvement Districts.

Policy TR-13 Work with Washington State Department of Transportation, Kitsap Transit, and the private sector to seek additional state and federal grant revenues for infrastructure improvements.

Policy TR-14 Allow phased development of transportation improvements.

Goal 4. Ensure the citizens and businesses in South Kitsap have the opportunity to participate in the development of transportation planning policy.

Policy TR-15 Establish and maintain a program for accessing and responding to local, community, and residential neighborhood traffic control concerns.

Policy TR-16 Maintain a transparent prioritization process for the development of the Port Orchard Six-Year Transportation Improvement Program.

Goal 5. Develop and implement Transportation programs within the City to assist in the application, monitoring, and review of transportation goals and policies.

Policy TR-17 Monitor the success of Transportation Demand Management (TDM) and Commute Trip Reduction Program (CTR) for the City of Port Orchard and the entire South Kitsap Area in coordination with Kitsap County.

Policy TR-18 Develop one or more Transportation Management Programs (TMP) for the major development components of the City or communities within Port Orchard.

Policy TR-19 Encourage TMPs to be developed for commercial, business park, and industrial uses within the City.

~~8.11.2.~~8.10.2. Transit and Non-Motorized Goals

Goal 6. Provide a range of infrastructure incentives to encourage the use of non-single-occupancy vehicle modes of travel.

Policy TR-20 Provide preferential treatments for transit, such as queue bypass lanes, traffic signal modifications, and safe, convenient, transit stops.

Goal 7. Work with Kitsap Transit to provide increased transit service to the City as development occurs.

Policy TR-21 Identify possible corridors for future mass transit development such bus rapid transit, etc.

Policy TR-22 Encourage new development and redevelopment to include provision for bus pullout lanes, bicycle storage facilities, and safe, attractive transit shelters where appropriate.

Policy TR-23 Support efforts to expand usage and infrastructure for mass transportation. Promote public/private partnerships, joint-use facilities, and Transit Oriented Developments within the City and adjacent Urban Growth Areas.

Policy TR-24 Encourage installation of bicycle racks on buses and other transit vehicles.

Policy TR-25 Work closely with Kitsap Transit in development of Park and Ride locations within and adjacent to the City. Ensure that land use and the site development are compatible with the goals and policies of the community.

Policy TR-26 Park-and-Ride locations should be close to areas of housing, preferably within the City or adjacent Urban Growth Area boundary.

Policy TR-27 Work closely with Kitsap Transit in the development of Transfer Centers and Multi-Modal Terminal locations within and adjacent to the City. Encourage and ensure that land use and site development are compatible with the goals and policies of the community.

Goal 8. Create a Transit Oriented Development (TOD) program in coordination with Kitsap Transit, Port Orchard Public Works Department, the Kitsap County Public Works Department, Port Orchard Planning Department and the Kitsap County Department of Community Development, with a special focus on the City's approved centers of local importance.

Policy TR-28 Work with Kitsap Transit to develop a model Transit Oriented Development ordinance, policy, and development regulations to ensure that the program is compatible with the goals and policies of the community.

Policy TR-29 Throughout the City, promote pedestrian and transit oriented development that includes access to alternative transportation and, in the interest of safety and convenience, includes features such as lighting, pedestrian buffers, and sidewalks.

Policy TR-30 Develop site-specific Transit Oriented Development standards and incentives for the City's approved centers of local importance, to encourage development and redevelopment that efficiently utilizes existing public services and that provides a diverse mix of land uses accessible by transit to center visitors and residents.

Goal 9. Work with Kitsap Transit to establish and designate convenient park and ride locations.

Policy TR-31 Give priority to establishing park and ride lots in existing parking lots.

Policy TR-32 Form partnerships with community organizations along easily accessible arterials that have underutilized or dormant parking during traditional commuting hours (i.e. churches, movie

theaters, etc.).

Policy TR-33 Support development of park-and-ride lots to serve the transportation needs of the City and adjacent Urban Growth Areas.

Policy TR-34 Encourage park and ride lots within the City and adjacent Urban Growth Areas that are near residential areas.

Goal 10. Promote pedestrian, bicycle and other non-motorized travel.

Policy TR-35 Require that internal streets make provision for non-motorized transportation opportunities, consistent with Port Orchard City Road design standards or approved variances.

Policy TR-36 Require new development within the city to provide internal trails or paths that connect residential, neighborhood commercial, business parks, and other land uses within the city.

Policy TR-37 Ensure that trails and paths provide convenient connections within City.

Policy TR-38 Require new development and redevelopment to provide safe neighborhood walking and biking routes to schools.

Policy TR-39 Adopt and require Kitsap County Bicycle Facilities Plan or similar recommended design standards for development of bicycle improvements including surfacing materials, signage, striping, drainage, barriers, bridges, lighting, parking facilities, width, grade separation, design speed, sight distances and horizontal and vertical clearances.

Policy TR-40 Maintain existing and create new, engineered ~~bike lanes~~bicycle facilities.

Policy TR-41 Require new development and redevelopment to comply with adopted street standards that require ~~bike lanes~~bicycle facilities on identified bike routes.

Policy TR-42 Promote completion of "Mosquito Fleet" trail and pedestrian path components along Beach Drive. Require new development or redevelopment to provide paved shoulders along Beach Drive within Port Orchard City Limits extending to E. Ahlstrom Road.

Policy TR-43 Require all new development and redevelopment projects to install frontage improvements, including new sidewalks, and ~~bike lanes~~bicycle facilities along Bay Street and Bethel Avenue.

Policy TR-44 All new developments and redevelopment projects along the waterfront shall be encouraged to install a minimum 10-foot wide boardwalk adjacent to the shoreline, to be dedicated to the City, along the entire width of the property.

Goal 11. Work to decrease the number of single-occupant vehicle (SOV) trips generated within the City, and support a mix of land uses to help internalize traffic within the City and to provide a relatively balanced use of transportation capacity during peak travel periods.

Policy TR-45 Emphasize moving people rather than vehicles by providing a variety of ways to commute to work.

Goal 12. Create a walking and bicycling network for Port Orchard that prioritizes safety, connectivity, convenience, and cost effectiveness.

Policy TR-46 Increase the share of Port Orchard residents who bike and walk to work and school, and who walk and bike for social and recreational purposes.

Policy TR-47 Prioritize walking and bicycling paths which connect schools, centers of local importance, grocery stores and shopping centers, and parks.

Policy TR-48 Prioritize the walking and bicycling paths that will serve the greatest numbers of residents and businesses and facilitate economic development opportunities.

Policy TR-49 Develop a program to collect data on nonmotorized traffic volumes on a regular basis and to report collisions involving people walking and bicycling.

Policy TR-50 Integrate walking and bicycling facilities with other transportation options, include park-and-ride lots, parking facilities at public parks, and transit stops.

Policy TR-51 The design of intersections on designated walking and bicycle routes shall prioritize people walking and bicycling through intersection geometry, signal phasing, pavement materials, and other means.

Policy TR-52 Within centers of local importance, on arterial streets there should be a designated pedestrian crossing at least every 500 feet or less.

Policy TR-53 Consider creative options for protecting walking and bicycle facilities from vehicle traffic, such as with parked cars or planters.

Goal 13. Create a citywide pedestrian and bicycle network for Port Orchard.

Policy TR-54 "On street - arterial" shall be assigned to any trail designated in public right-of-way with more than three vehicle traffic lanes, where AADWT is more than 5,000, or at the discretion of the Public Works director. Maximum speed limits on arterial streets with this designation shall be 30 miles per hour. The following standards apply to such trails.

Walking

Option 1: Sidewalks at least 6 feet wide on both sides of the street. Option 2: One sidewalk at least 10 feet wide on one side of the street.

At intersections people walking are prioritized with improved signal timing, curb ramps, and curb bulbs. At mid-block, crossings shall be user-activated flashing beacons. Preferably, crosswalks are paved with materials that contrast in color and texture with standard roadway pavement.

Bicycling

Option 1: One-way bicycle lanes at least 6 feet wide on both sides of the street located curbside. Preferably they have a visual or physical safety buffer of at least 2 feet from vehicle lanes, in which case the bicycle lane can be narrowed to 5 feet.

Option 2: One 10 feet wide two-way bicycle lane with a buffer of at least 2 feet on one side of the street.

Option 3: One-way (at least ~~5~~ 6 feet wide on both sides of the street) or two-way (at least 10 feet wide on one side of the street) bicycle lanes raised up from the roadway on the outside of the curb and adjacent to the sidewalk.

At intersections bicycle paths are marked by painted lanes and signage shall indicate the presence of people bicycling. Enhanced treatments, such as bicycle traffic signals or pavement sensors for bicycles, shall be installed where vehicle traffic is significant.

Policy TR-55 "On street – residential" shall be applied to trails designated in public right-of-way with two or less vehicle traffic lanes AND where the predominant surrounding land uses are residential. Maximum speed limits on residential streets with this designation shall be 20 miles per hour. The following standards apply to such trails.

Walking

Option 1: One sidewalk at least 6 feet wide on one side of the street. At intersections there are curb ramps.

Option 2: Road shoulders at least 8 feet wide on at least one side of the street. Parking is prohibited in the road shoulder designated for walking.

At intersections there are painted crosswalks.

Bicycling

Option 1: One-way bicycle lanes at least ~~5~~ 6 feet wide on both sides of the street and preferably curbside.

Option 2: There are no dedicated bicycle lanes, but pavement markings and street signage indicate people bicycling share the road with people driving. Preferably there are also speed bumps, roundabouts, and other traffic calming features.

Policy TR-56 "Off street" shall be applied to trails designated in public right-of-way or access easements where the predominant surrounding land uses are rural, residential, or greenbelt. The following standards apply to such trails.

Paved and continuous multi-use trail at least 12 feet wide separated from vehicle traffic. If parallel to a roadway, it shall have a landscaped buffer with trees that is at least 4 feet wide. Pedestrian-scale

lighting illuminates the trail at night where appropriate. Preferably, there are other amenities spaced along the trail like seating areas, waste bins, and wayfinding signage.

Enhancement Option 1: Signage and pavement markings indicate separate areas for people walking and people using wheeled devices.

Enhancement Option 2: Grade separation and rolled curb separates areas for people walking and people using wheeled devices.

Policy TR-57 Where right-of-way is unavailable and traffic volumes permit, the City shall consider road diets (reduction and/or narrowing of vehicle lanes) to meet the trail standards.

Goal 14. Integrate walking and bicycle facilities into private development in a way that minimizes impacts on the development process and property owners.

Policy TR-58 Set minimum bicycle parking quantities and secure bicycle parking and storage standards for private development.

Policy TR-59 As much as possible, locate nonmotorized transportation facilities within existing public right-of-way.

Policy TR-60 Nonmotorized connections between residential and commercial developments should be required. Through paths shall be required between residential subdivisions, large commercial parcels, and through the ends of dead-end streets where applicable.

Policy TR-61 Limit the number of driveways crossing citywide walking and bicycling facilities.

Policy TR-62 Design nonmotorized transportation facilities to safely accommodate business deliveries and freight traffic.

Goal 15. Commit to an implementation plan and partner with other local jurisdictions, including Kitsap County and the

Port of Bremerton, to complete the trail network outside of the City's jurisdiction.

Policy TR-63 Build out the trail network on a mile-by-mile basis during major street rehabilitations.

Policy TR-64 Pursue local, state, and federal funding options for design and construction of nonmotorized transportation facilities.

Policy TR-65 Partner with Kitsap County in design and funding to complete the trail network in the Port Orchard Urban Growth Area prior to a planned annexation. Encourage Kitsap County to complete the trail network in unincorporated areas outside of the Urban Growth Area, as these trails would still serve Port Orchard residents.

Policy TR-66 Partner with South Kitsap School District to pursue non-motorized infrastructure funding through the Safe Routes to School funding. Prioritize projects that will help students walk and bike to schools.

Policy TR-67 Set a goal towards implementation of this plan, such as completing the trail network within 10 years or building at least two miles per year.

Goal 16. Design and implement enforcement and education programs that promote the safety of people walking and bicycling.

Policy TR-68 The Police Department should conduct traffic patrols when students are arriving to and departing from schools to emphasize traffic safety.

Policy TR-69 Install speed cameras in school speed zones to enforce 20 mile per hour speed limits when they are applicable.

Policy TR-70 Post route and safety information about walking and bicycling facilities on the City website, at local schools, at community centers, at transit centers, and other places of public

gathering.

Policy TR-71 Designate a Public Works, Community Development, or Police Department position as a “street safety officer”, or contract with a private outreach firm, to teach public education on street safety for school groups, community organizations, and to organize community events.

Policy TR-72 Promote participation in walk/bike to school and work days.

~~8.11.3.~~8.10.3. Vehicular Travel and Roadways

Goal 17. To provide an adequate system of arterials and collector streets which connect the City and adjacent development areas to the State highway system and adjacent arterials.

Policy TR-73 Plan, design, and implement roadway widening and intersection improvements needed to provide additional capacity, and resolve potential operations and safety issues. Ensure that designs address non-motorized travel within and to/from the City.

Policy TR-74 Develop a collector road system to provide for access and circulation between the various developments in and adjacent to the City. Design the collector road system to reduce the potential need for local traffic to use the arterials.

Policy TR-75 Phase street and arterial improvements to meet the anticipated traffic generation of each development within the City.

Policy TR-76 Wherever possible, require that industrial, commercial or multi-family development has access from a collector road. Minimize through-traffic on local residential streets.

Policy TR-77 When allowed, encourage access consolidation onto all streets to better utilize the roadway system.

Policy TR-78 Encourage whenever possible, reciprocal access agreements between adjacent compatible developments.

Policy TR-79 Reduce speed while maintaining connectivity on neighborhood streets using street design devices such as curb bulbs, "median obstacles", chicanes, traffic circles, speed tables, or other measures proven safe and effective at reducing travel speeds.

Policy TR-80 Minimize local street widths and crossing distances.

Goal 18. Provide aesthetically pleasing streets.

Policy TR-81 Develop design guidelines and standards for street wise landscaping, sidewalks, and maintenance within new developments.

Policy TR-82 Street Design Guidelines: Reflect the more urban nature of roadways within the City and within residential developments by encouraging, where appropriate, crosswalks and sidewalks, street trees and landscaping, traffic-calming strategies.

Policy TR-83 Minimize impacts of road construction on environmentally sensitive areas by properly managing damaging stormwater runoff and minimize and pollution from road use and maintenance.

Policy TR-84 Where possible for new development and redevelopment, require underground relocation or the under-grounding of overhead utilities to reduce the need for removal and maintenance of roadside vegetation.

Goal 19. Recognize the importance of easily accessible, attractive, and well dispersed parking as a valuable community asset.

Policy TR-85 Implement safety standards for interior parking and circulation for development in the City.

Policy TR-86 Consider reduction of parking requirements if a development provides alternatives for multi-modal uses such as Transportation Demand Management measures.

Policy TR-87 Consider reciprocal parking agreements and joint development of off-street parking facilities between adjacent and compatible developments.

Policy TR-88 Discourage parking on arterials within the City unless absolutely necessary.

Policy TR-89 Encourage the development of a public / private joint-use parking garage to facilitate downtown parking requirements.

Policy TR-90 Coordinate parking and transportation planning and projects with the Port of Bremerton in order to make the best use of the waterfront.

~~8.11.4.~~8.10.4. Performance Standards

Goal 20. Improve connectivity and mobility within the City through the identification and implementation of improvements that maintain Level of Service standards.

Policy TR-91 Review large land development applications and mitigation requirements as they occur over time based on traffic analyses using up-to-date traffic data.

Policy TR-92 Establish standards for local roads and monitor cut-through, non-local traffic. Establish a process for increasing control responses based on the severity of the disturbance to the neighborhood.

Goal 21. Promote environmentally sensitive and "Green" transportation solutions.

Policy TR-93 Encourage transit providers and organizations with large fleets of vehicles to utilize "Green" fuel and reduce emissions/air pollution including through the establishment of idling policies.

Goal 22. Support and reinforce coordination between land use and transportation.

Policy TR-94 Promote creation of coordinated corridor development plans for Tremont Street, Bay Street/Beach Drive (SR-166), Sedgwick Road (SR-160) and Mile Hill Drive/SR-166.

Policy TR-95 Promote application and development of a Bethel Road Corridor Development Plan

for Bethel Road SE extending from Beach Drive (SR 166) to the State Route 16 overpass.

Policy TR-96 Make transportation improvements available to support planned growth and adopted levels of service concurrent with development. "Concurrent" shall mean that improvement or strategies are in place at the time of development, or that a financial commitment has been made.

Policy TR-97 Implement the Road Design Standards shown on the City's transportation plan and acquire needed right-of-way.

Policy TR-98 Require dedication of anticipated right-of-way for any land use approvals of developments for all roadways.

Goal 23. Require implementation of the Bethel Road Corridor Development Plan.

Policy TR-99 Work with Kitsap Transit to focus transit funding of proposed transit improvements on Bethel Road Corridor.

Policy TR-100 Promote separated bicycle lanes, separated sidewalks, and Access Management Plans as proposed in the Bethel ~~Road~~ Sedgwick Corridor Plan.

Policy TR-101 Seek funding for widening and improvements along Bethel Avenue.

Goal 24. Provide a transportation system that will support economic development.

Policy TR-102 Establish and identify through clear signage, a truck and oversized load route.

Policy TR-103 Apply appropriate street design standards for industrial and commercial districts, which allow for the easy movement of goods and services.

~~8.11.5.~~8.10.5. Community Character

Goal 25. Develop transportation improvements that respect the natural and community character and are consistent with both the short- and long-term vision of the Comprehensive Plan.

Policy TR-104 Restore / create unique neighborhood aesthetics via formation of distinctive streetscapes and traffic controlling devices.

Policy TR-105 Minimize the impacts of traffic on residential neighborhoods by discouraging the use of local access streets by non-local traffic.

Policy TR-106 Prohibit commercial development from utilizing local residential roads as access points.

Policy TR-107 Analyze accident data to determine where safety related improvements are necessary. Prioritize and implement safety related improvements during the transportation planning process.

Policy TR-108 Install sidewalks along Bay Street, Bethel Avenue, and side streets where none currently exist. Sidewalks should be on both sides of the street in the Downtown Gateways.

Policy TR-109 Enhance current crosswalks on Bay Street to increase pedestrian safety.

Policy TR-110 Encourage easements and interconnectivity between properties for vehicles and pedestrians.

Policy TR-111 Encourage bicycle commuting with a waterfront pathway that minimizes conflict with vehicles.

Policy TR-112 Provide street wise landscaping on City streets.

Recommended Actions

- Budget annually for at least one improvement to street landscaping including parkways, traffic islands and pedestrian ways.

-

- Develop design guidelines and standards for landscaping, sidewalks, and maintenance within new developments.

-

- Develop a bikeway and pedestrian plan consistent with the Kitsap County Greenways Plan.

PSRC Multicounty Transportation Goals and Policies

GREATER OPTIONS AND MOBILITY GOAL

Goal: The city will invest in transportation systems that offer greater options, mobility, and access in support of the city's growth strategy.

MOBILITY OPTIONS

T-: Increase the proportion of trips made by transportation modes other than driving alone.

T-: Integrate transportation systems to make it easy for people to move from one mode or technology to another.

T-: Promote the mobility of people and goods through a multi-modal transportation system consistent with regional priorities and VISION 2040.

T-: Address the needs of non-driving populations in the development and management of local and regional transportation systems.

T-: Site and design transit facilities to enable access for pedestrian and bicycle patrons.

T-: Encourage local street connections between existing developments and new developments to provide an efficient network of travel route options for pedestrians, bicycles, autos, and emergency vehicles

T-: Support effective management of regional air, marine and rail transportation capacity and address future capacity needs in cooperation with responsible agencies, affected communities, and users.

TRANSPORTATION DEMAND MANAGEMENT

T-: The city should reduce the need for new capital improvements through investments in operations,

demand management strategies, and system management activities including: transit, vanpools, broadband communication systems, providing for flexible work schedules, and public transit subsidies.

T-: The city should consider local transportation demand management programs (education and/or local regulations) to reduce the impacts of high traffic generators not addressed by the Washington State Commute Trip Reduction Act including: recreational facilities, schools, and other high traffic generating uses.

T-: The city should support the reduction of vehicle ownership in the city by supporting "ride share" and on-demand car/bike services.

OPERATIONS, MAINTENANCE, MANAGEMENT, AND SAFETY GOAL

Goal: As a high priority, the city will, maintain, preserve, and operate its transportation system in a safe and functional state.

- **Maintenance, Preservation, Operations, Transportation Systems Management, Safety and Financial Policies**

MAINTENANCE AND PRESERVATION

T-: Maintain and operate the city's transportation systems to provide safe, efficient, and reliable movement of people, goods, and services.

T-: Protect the investment in the existing system and lower overall life-cycle costs through effective maintenance and preservation programs.

T-: Prioritize essential maintenance, preservation, and safety improvements of the existing transportation system to protect mobility and avoid more costly replacement projects.

TRANSPORTATION SYSTEMS MANAGEMENT

T-: Maintain a citywide concurrency monitoring system to determine how transportation investments are performing over time.

T-: Design or redesign roads and streets, including retrofit projects, to accommodate a range of motorized and non-motorized travel modes in order to reduce injuries and fatalities and to encourage non-motorized travel. The design should include well-defined, safe and appealing spaces for pedestrians and bicyclists.

T-: Apply technologies, programs and other strategies that optimize the use of existing infrastructure in order to improve mobility, reduce congestion, increase energy-efficiency, and reduce the need for new infrastructure.

T-: Strive to increase the efficiency of the current transportation system to move goods, services, and people to and within the city before adding additional capacity.

T-: Protect the transportation system against major disruptions by developing prevention and recovery strategies and by coordinating disaster response plans.

SAFETY

T-: Continue to improve the safety of the transportation system to achieve the state's goal of zero deaths and disabling injuries.

T- Provide education on safe biking and walking.

T-: Enforce motorized and non-motorized safety laws

FINANCIAL

T-: Emphasize transportation investments that provide and encourage alternatives to single-occupancy vehicle travel and increase travel options, especially to and within commercial and mixed use areas and along corridors served by transit.

T-: Prioritize investments in transportation facilities and services that support compact, pedestrian- and transit-oriented development.

T-: Focus on investments that produce the greatest net benefits to people and minimize the environmental impacts of transportation.

T-: Encourage public and private sector partnerships to identify and implement improvements to personal mobility.

T-: Consider transportation financing methods that sustain maintenance, preservation, and operation of facilities

T-: Consider transportation impact fees for the expansion of multi-modal transportation capital facilities necessary to support growth.

T- Consider local financing methods that sustain or expand local transit service.

T-: If projected funding is inadequate to finance needed capital facilities that provide adequate levels of service, adjust the level of service, the planned growth, and/or the sources of revenue to maintain a balance between available revenue and needed capital facilities. The city should first consider identifying additional funding, then adjusting level-of-service standards, before considering reassessment of land use assumptions.

T-: A multiyear financing plan should serve as the basis for the six-year transportation improvement program and should be coordinated with the state's six-year transportation improvement program.

SUSTAINABILITY GOAL

Goal: The city's transportation system is well-designed and managed to minimize the negative impacts of transportation on the natural environment, to promote public health and safety, and achieve optimum efficiency.

- **Sustainability AND Natural Environment, Human Health and Safety, Environmental Justice Polices**

SUSTAINABILITY AND NATURAL ENVIRONMENT

T-: Foster a less polluting system that reduces the negative effects of transportation infrastructure and operation on the climate and natural environment, including the use of rain gardens or other techniques to reduce pollutants in storm drains.

T-: Seek the development and implementation of transportation modes and technologies that are energy-efficient and improve system performance.

T-: Design and operate transportation facilities in a manner that is compatible with and integrated into the natural and built environment including features, such as natural drainage, native and water wise plantings, and local design themes.

T-: Promote the expanded use of alternative fuel vehicles by converting public fleets, applying public incentive programs, and providing for electric vehicle charging stations throughout the city.

T-: Plan and develop a citywide transportation system that reduces greenhouse gas emissions by shortening trip length or replacing vehicle trips with other modes of transportation to decrease vehicle miles traveled.

HUMAN HEALTH AND SAFETY

T-: Develop a transportation system that minimizes negative impacts to human health, including exposure to environmental toxins generated by vehicle emissions

T-: Provide opportunities for an active, healthy lifestyle by integrating the needs of pedestrians and bicyclists in the local and regional transportation plans and systems.

T-: Develop a transportation system that minimizes negative impacts to human health from vehicle emissions, noise, or a lack of non-motorized options.

ENVIRONMENTAL JUSTICE

T-: Implement transportation programs and projects in ways that prevent or minimize negative impacts to low-income, minority, and special needs populations.

T-: Ensure mobility choices for people with special transportation needs, including persons with disabilities, the elderly and the young, and low-income populations.