



Section 5
Transportation Improvements & Programs

Section 5: Transportation Improvements & Programs

The regional transportation system consists of state highways and ferry services, county roads and ferry services, city streets, non-motorized transportation facilities, transit facilities, airports, marine ports and railroads. This section of Skagit 2045 summarizes the existing and proposed regional transportation system, and regionally significant transportation improvement projects.

highway serving the Skagit region and is the backbone of the region's transportation system. To the north, I-5 connects the Skagit region to Whatcom County, and the border crossings to British Columbia. To the south, I-5 connects the Skagit region to Snohomish County and the central Puget Sound region. With a length of approximately 25 miles within Skagit County, I-5 provides access and connectivity to the population centers along the corridor. I-5 is classified as a Highway of Statewide Significance by Washington state and is part of the National Highway System.

Interstate 5 is a multi-lane divided freeway with full access control. Within the federally designated Urbanized Area – which includes Burlington, Mount Vernon, Sedro-Woolley and some surrounding areas – it includes six interchanges, including its interchange with State Route (SR) 20, another Highway of Statewide Significance. Outside of the Urbanized Area, six additional interchanges along I-5 provide access to smaller communities, agricultural lands and recreation areas.

This facility crosses the Skagit River with a four-lane bridge, providing a critical regional connection across the river.

Traffic Volumes

Within the Urbanized Area, I-5 carries approximately 77,000 vehicles per day (VPD). North of State Route 11, existing volumes decrease to approximately 54,000 vehicles per day. The 2045 travel forecasts for the region show an increase of about 6.5%, which represents an average annual growth rate of approximately 0.3%. The forecast growth in traffic on I-5 by 2045 will result in the freeway mainline operating at or near capacity during p.m. peak period demand hours, particularly in the northbound direction between the Hickox Road interchange and Bow Hill Road interchange. The effect of this will be daily periods of congestion that will likely affect the connecting local

Regional Transportation Facilities

Washington state highways form the core of the regional transportation system and most city and county arterials provide some level of connection to the state highway system. State highways connect the region with other parts of Washington and facilitate travel between counties. Therefore, keeping these routes operating efficiently and safely is critical. The Washington State Department of Transportation and local agencies have identified a wide range of improvements to these highways to address preservation, safety, congestion, operations and other transportation-system needs. Following is a summary of the existing regional transportation facilities for all modes of transportation.

Regional Roadway System

Interstate 5

Interstate 5 (I-5) is the only interstate

Components of Existing and Proposed Regional Transportation System:

- State highways and ferry system;
- County ferry system;
- Principal arterials, other arterials, and collectors that serve a “regional” function (i.e. serves as a regional connection, serves a large employment center, serves an economic/trade center, etc);
- Regional transit facilities;
- Regional non-motorized facilities;
- Regional intermodal facilities including marine ports and airports;
- Railroads;
- Strategic Freight Corridors (Freight and Goods Transportation System: T-1 and T-2; R-1; and W1–W4); and
- National Highway System and Strategic Highway Network (i.e. military significance).

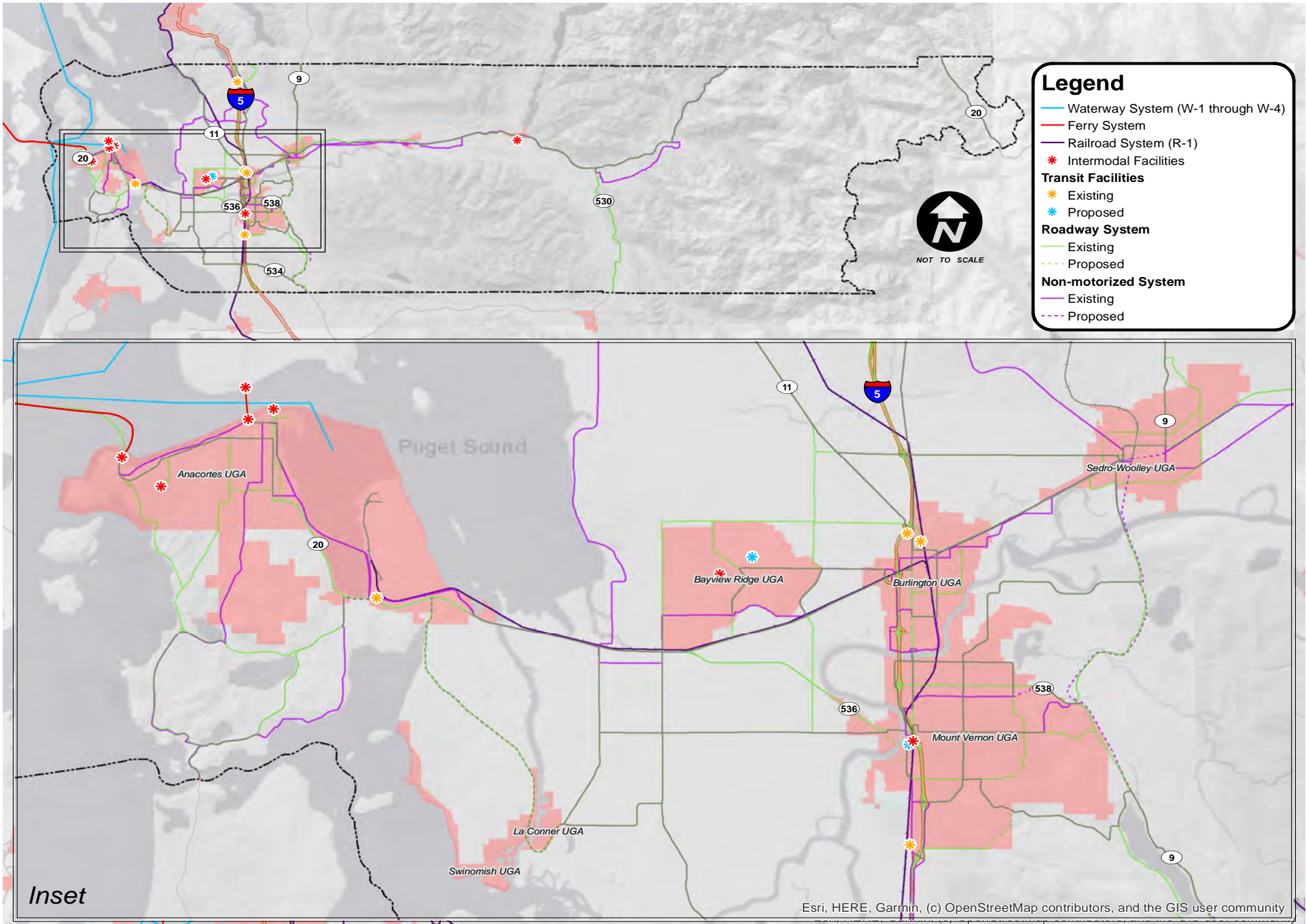


Exhibit 5-1 Skagit Regional Transportation System

Section 5: Transportation Improvements & Programs

street systems, resulting in longer delays than in 2021. The increase in traffic to and from the interchanges could also result in additional safety and operations challenges to local street systems. Other than improvements to the Cook Road interchange, WSDOT has not identified any capacity expansion improvements to address the forecasted congestion. Rather, a strategy of reducing or spreading out traffic demand will be utilized through Intelligent Transportation Systems and operational improvements on Interstate 5.

Improvements on local street networks may compliment operational improvements on Interstate 5 by better integrating local and state transportation systems. And capitalizing on modes of travel, other than single-occupancy vehicles, may reduce vehicle travel demand on Interstate 5.

Freight Travel

Interstate 5 is designated a part of the National Highway Freight Network of the U.S. by the Federal Highway Administration. Interstates form the core of the National Highway Freight Network, which consists of critical highways across the U.S., along with border crossings into Canada and Mexico.

Interstate 5 is classified as a T-1 truck freight corridor, which means it carries more than 10 million tons of truck freight per year. This reflects both through truck trips not beginning or ending in the Skagit region, and local trucking activities using I-5. All T-1 classified facilities are considered Strategic Freight Corridors and receive priority for funding through Washington state's Freight Mobility Strategic Investment Board.

South of State Route 20, 9.4% of daily traffic is trucks. This equates to an average of about 6,900 trucks per day on I-5 through the Skagit

region. North of SR 20, trucks account for 6.7% of the total daily volume, equal to about 3,300 trucks per day.

Other Modes

Interstate 5 presents a barrier to many modes of travel. At certain locations, Interstate 5 is a barrier for east-to-west non-motorized travel as locations to cross the interstate are limited. This can result in some out-of-direction non-motorized travel for crossing between the east and west sides of the interstate. The number of interchanges in the Urbanized Area provides crossing points, but these are impacted by relatively high volumes of traffic, which can impact safety for non-motorized travel. The City of Burlington completed the Tammi Wilson Memorial Trail along Gages Slough which allows bicyclists and pedestrians to cross under I-5 away from traffic. Future investments in non-motorized transportation should provide connections to this link to reduce bicyclists' and pedestrians' exposure to high traffic volumes near the interchanges and facilitate non-motorized travel across I-5.

Maps of Existing Transportation Facilities

Regional transportation facilities are included in a series of maps in **Appendix G.**

Level of Service

Interstate 5 is a Highway of Statewide Significance with level-of-service (LOS) standards for this route set by WSDOT, in accord with Washington state law. The standards are LOS D in the Urbanized Area and LOS C for the rest of I-5 in the Skagit region.

State Route 20

State Route 20 connects the Skagit region to Interstate 5 and destinations east and west serving both rural and urban transportation needs. Traveling east from I-5, SR 20 covers nearly 70 miles serving the communities of Burlington, Sedro-Woolley, Lyman, Hamilton, Concrete, and Rockport, as well as providing access to North Cascades

Section 5: Transportation Improvements & Programs

National Park, Mount-Baker Snoqualmie National Forest and Ross Lake National Recreation Area. SR 20 is the primary access to these federal lands in east Skagit County and neighboring counties.

West of Interstate 5 towards Naval Air Station Whidbey Island in Island County, State Route 20 is part of the federal Strategic Highway Network, a designation for facilities which have strategic defense significance to the U.S.

A spur branches off State Route 20 from Sharpe's Corner to provide access to Anacortes and both the Washington state and Skagit County ferry systems. SR 20 is classified by Washington state as a Highway of Statewide Significance and State Scenic Byway for the entire alignment through the Skagit region.

This facility crosses the Swinomish Slough with two, two-lane bridges, providing a critical regional connection to Fidalgo Island. The northern bridge also includes a non-motorized connection across the Swinomish Slough.

Traffic Volumes

In the Skagit region, daily traffic volumes on State Route 20 range from 34,000 VPD near Sharpe's Corner to roughly 5,000 VPD near Concrete. Skagit 2045 forecasts show an increase in p.m. peak hour traffic volumes of approximately 23%, with an average annual growth rate of around 1.1% per year from 2018 to 2045.

Freight Travel

State Route 20 is classified as a T-2 truck freight corridor between Sedro-Woolley and Anacortes, carrying over 9 million tons of freight per year. South of Sharpe's Corner, SR 20 is also classified T-2, carrying 3.6 million tons of freight per year. East of Sedro-Woolley, SR 20 is classified as a T-3 truck freight corridor. The SR 20 spur in Anacortes is

also classified T-3.

Between Concrete and the State Route 530 junction, approximately 9 % of the daily traffic on SR 20 is trucks. This equates to approximately 540 trucks per day. On SR 20 west of the SR 536 junction, trucks comprise about 6 % of the 33,000 VPD, or about 2,000 trucks per day.

Other Modes

State Route 20 provides access to a range of recreational activities. Bicycling occurs along sections of the highway, and several sections of SR 20 have been designated as United States Bicycle Route 10. East of Sedro-Woolley, the Cascade Trail provides a parallel alternate route for bicyclists, pedestrians and equestrians to travel to Concrete. Most of the trail is currently unpaved. Skagit Transit operates several routes along SR 20, providing service to Anacortes, Burlington, Sedro-Woolley, Lyman, Hamilton and Concrete.

Level of Service

State Route 20 is a Highway of Statewide Significance with level-of-service (LOS) standards for this route set by WSDOT, in accord with Washington state law. The standards are LOS D in the Urbanized Area and Anacortes Urban Area (including the SR 20 spur through Anacortes), and LOS C for the rest of SR 20 in the Skagit region.

State Route 9

State Route 9 is a north-south highway that provides a parallel corridor to Interstate 5, connecting Skagit County



Roadway Resurfacing in Skagit County

Section 5: Transportation Improvements & Programs

and Sedro-Woolley to Snohomish County to the south and to Whatcom County and the Canadian border to the north. From the Snohomish County border, SR 9 extends approximately two miles before it connects with SR 534 near Lake McMurray, and continues north another 10 miles to connect with SR 538 in Mount Vernon. From SR 538, SR 9 extends approximately six miles to SR 20 in Sedro-Woolley, continuing north another 10 miles to the Whatcom County border.

This facility crosses the Skagit River with a two-lane bridge, providing a critical regional connection across the river.

Traffic Volumes

Daily traffic volumes on State Route 9 range from 1,200 VPD at SR 534 to more than 11,000 VPD near SR 20 in Sedro-Woolley. Skagit 2045 forecasts show a decrease in p.m. peak hour traffic volumes of around 53%, with an average annual

growth rate of approximately 2.6% from 2018 to 2045.

Freight Traffic

State Route 9 is classified as a T-3 truck freight corridor, carrying between 610,000 and 2.8 million tons of freight per year. South of SR 534, around 10.6% of the daily traffic on SR 9 is trucks. North of Sedro-Woolley, approximately 17.3% of the daily traffic is trucks, or 590 trucks per day.

Other Modes

State Route 9 provides access to a range of recreational activities and is a popular bicycling route along some sections of the highway. Skagit County has long-term plans to extend the Centennial Trail from Snohomish County to Whatcom County. Former railroad right of way could be considered for portions of this trail, providing separation between high-speed vehicles and bicyclists, pedestrians and equestrians. Skagit Transit operates on SR 9 from SR 538 to Sedro-Woolley.

Level of Service

State Route 9 is not a Highway of Statewide Significance, so under the Washington state RTPO law, level-of-service standards for this route are set jointly by WSDOT and SCOG through Skagit 2045. The standards are LOS D in the Urbanized Area and LOS C for the rest of SR 9 in the Skagit region.

State Route 530

State Route 530 is a two-lane, north-south highway which connects SR 20 near Rockport south to Snohomish County.

This facility crosses the Skagit River with a two-lane bridge, providing a critical regional connection across the river.



Interstate 5 Bridge over Skagit

Section 5: Transportation Improvements & Programs

Traffic Volumes

Daily traffic volumes on State Route 530 range from 1,600 VPD in the south near the Snohomish County border, to approximately 1,300 VPD near SR 20. Skagit 2045 forecasts show an increase in p.m. peak traffic hour volumes of approximately 30%, with an annual average growth rate of approximately 1.5% from 2018 to 2045.

Freight Traffic

State Route 530 is classified as a T-3 truck freight corridor from SR 20 to the Snohomish County border. SR 530 carries approximately 0.9 million tons of freight per year. Approximately 12.7% of the daily traffic is trucks.

Other Modes

State Route 530 provides access to scenic bicycling activities. The route has narrow shoulders but the relatively low traffic volumes make this route a potential cycle touring route.

Level of Service

SR 530 is not a Highway of Statewide Significance in the Skagit region, so under the Washington state RTPO law, level-of-service standards for this route are set jointly by WSDOT and SCOG through Skagit 2045. The standard is LOS C for SR 530 in the Skagit region.

State Route 534

State Route 534 is a two-lane, east-west highway that connects SR 9 near Lake McMurray to I-5 near Conway. Although only five miles long, this facility provides an important link from I-5 to SR 9 south of Mount Vernon.

Traffic Volumes

Daily traffic volumes on State Route 534 range from 1,200 VPD at SR 9, to 8,000 VPD near I-5. Skagit 2045 forecasts show an increase in p.m. peak hour traffic volumes of approximately 28%, with an average

annual growth rate of approximately 1.0% from 2018 to 2045.

Freight Traffic

State Route 534 is classified a T-3 truck freight corridor, carrying around 580,000 tons of freight per year.

Other Modes

State Route 534 provides access to a range of recreational activities. Some sections of the highway are a popular route for bicyclists.

Level of Service

State Route 534 is not a Highway of Statewide Significance, so under the state RTPO law, level-of-service standards for this route are set jointly by WSDOT and SCOG through Skagit 2045. The standard is LOS C for SR 534.

State Route 536

This east-west highway connects State Route 20 with Interstate 5 in Mount Vernon, and is approximately five miles long. This facility crosses the Skagit River with a two-lane bridge, providing a critical regional connection across the river.

Traffic Volumes

Daily traffic volumes on State Route 536 range from 8,100 VPD at SR 20, to 19,000 VPD near the Division Street Bridge in Mount Vernon. Skagit 2045 forecasts show an increase in p.m. peak hour traffic volumes of approximately 30%, with an average annual growth rate of approximately 1.5% from 2018 to 2045. The Division Street Bridge is one of the most congested roadway segments in the Plan's 2045 Baseline Scenario. Mount Vernon has identified the need for additional capacity across the Skagit River, but due to the complexity of rebuilding the existing bridge or adding an additional one, this project is included in the illustrative portion of the Plan.

Section 5: Transportation Improvements & Programs



Guemes Island Ferry

Freight Traffic

State Route 536 in west Mount Vernon is classified as a T-2 truck freight corridor, carrying approximately 4.1 million tons of freight per year. Approximately 5.5% of daily traffic is trucks. The remaining portions of SR 536 (west of the Skagit River and west of McLean Road) are classified as T-3, carrying between 1.3 million and 2.2

million tons of freight per year. Truck percentages on these segments range from 5–6%.

Other Modes

State Route 536 is used by the Skagit Transit 40x route. Also, SR 536 provides access to Skagit Station where travelers can board Skagit Transit, Island Transit, or Whatcom Transit Authority buses to connect to other regions through intercounty bus services. Skagit Station connects to passenger rail services provided by Amtrak and intercity bus services provided by Greyhound Lines. Amtrak and Greyhound services often work in conjunction with one another to provide complimentary services. BoltBus is an operating entity of Greyhound and also provides services to Skagit Station, providing travel opportunities along the Interstate 5 corridor.

The Division Street Bridge has a narrow sidewalk on the south side of the bridge. Additional non-motorized capacity or safety improvements would be beneficial to bicyclists and pedestrians crossing the Skagit

River. West of the Skagit River, State Route 536 has relatively wide shoulders and is a popular bicycle connection to the flat and scenic agricultural areas of the Skagit Valley.

Level of Service

State Route 536 is not a Highway of Statewide Significance, so under the state RTP law, level-of-service standards for this route are set jointly by WSDOT and SCOG through Skagit 2045. The standards are LOS D in the Urbanized Area and LOS C for the remainder of SR 536.

State Route 538 (aka College Way)

State Route 538 is an east-west highway connecting Interstate 5 with SR 9, and is approximately four miles long.

Traffic Volumes

Daily traffic volumes on State Route 538 range from 9,100 VPD at SR 9, to more than 28,000 VPD near Interstate 5. Skagit 2045 forecasts show an increase in p.m. peak hour traffic volumes of approximately 4%, with an average annual growth rate of approximately 0.2% from 2018 to 2045.

Freight Traffic

State Route 538 is classified as a T-3 truck freight route carrying between 1.8 million and 2.9 million tons of freight per year.

Other Modes

This urban route through Mount Vernon provides sidewalks for much of its length. Cyclists and pedestrians can avoid the high levels of vehicular traffic on College Way by using the Kulshan Trail, which runs parallel to State Route 538 between the Skagit Riverwalk in downtown Mount Vernon and Waugh Road. Skagit Transit provides bus service on State Route 538, including connections to Skagit Valley College, which is situated along this state route.

Section 5: Transportation Improvements & Programs

Level of Service

State Route 538 is not a Highway of Statewide Significance, so under the state RTPo law, level-of-service standards for this route are set jointly by WSDOT and SCOG through Skagit 2040. The standard is LOS D for SR 538.

State Route 11 (aka Chuckanut Drive)

State Route 11 is a two-lane, north-south highway which connects Interstate 5 near Burlington to Bellingham in Whatcom County. SR 11 is designated as a State Scenic Byway by Washington state.

Traffic Volumes

Daily traffic volumes on State Route 11 range from 2,400 VPD in the north near West Bow Hill Road, to approximately 4,900 VPD near Interstate 5. Skagit 2045 forecasts show an increase in p.m. peak hour traffic volumes of approximately 8%, with an average annual growth rate of approximately 0.3% from 2018 to 2045.

Freight Traffic

State Route 11 is classified as a T-3 truck freight corridor from Interstate 5 to the Whatcom County border. SR 11 carries between 380,000 and 1.1 million tons of freight per year, and approximately 4–6% of the daily traffic is trucks.

Other Modes

State Route 11 provides access to a range of recreational activities. Bicycling occurs along sections of this state route.

Level of Service

State Route 11 is not a Highway of Statewide Significance, so under the state RTPo law, level-of-service standards for this route are set jointly by WSDOT and SCOG through Skagit 2045. The standard is LOS C for SR 11 in the Skagit region.

Other Regional Roadways

In addition to Interstate 5 and state routes, there are many other roadways that serve regional transportation needs in the Skagit region. The needs on these facilities often vary substantially in rural and urban areas. For example, conflicts on rural roadways, where there are often higher vehicular speeds and sometimes bicyclists and farm equipment, can contrast with conflicts on urban roadways where speeds tend to be lower than rural areas, yet congestion higher with greater levels of pedestrian use. Assessing needs on any roadway will be unique to the situation on that roadway, along with the users of that roadway.

These other regional roadways supplement the state and national roadway system, reduce the reliance on travel along Interstate 5 and state routes, and provide for an integrated regional roadway system for moving people and goods.

Preserving Regional Roadways

According to WSDOT's Capital Improvement and Preservation Program, there are difficult tradeoffs in preserving the state highway system due to funding limitations. Deferring preservation on existing facilities leads to more expensive repairs in the future, reconstruction, extending assets beyond their useful service life and fails to meet public expectations. Deteriorating infrastructure includes the possibility of:

- Closing bridges, or placing weight restrictions on bridges due to deferred maintenance;
- Rougher pavements resulting in increased tire wear, fuel and repair costs;
- Reducing speed limits; and
- Failing roadways.

Section 5: Transportation Improvements & Programs

- Some implications of underfunding pavement and preservation programs include:
- As of 2020, due to insufficient funding, WSDOT paves only higher speed roadways and is not paving roadways under 40 miles-per-hour, including Interstate 5 on- and off-ramps;
- Because bridge painting is being delayed, costs have been increasing by 10% because of the amount of steel repair necessary due to corrosion.

These challenges are expected to grow substantially in the future as costs of deferring necessary preservation increase with no commensurate increase in funding.

Source: 2021–2023 Capital Improvement and Preservation Program, September 2020, WSDOT

Ferry System

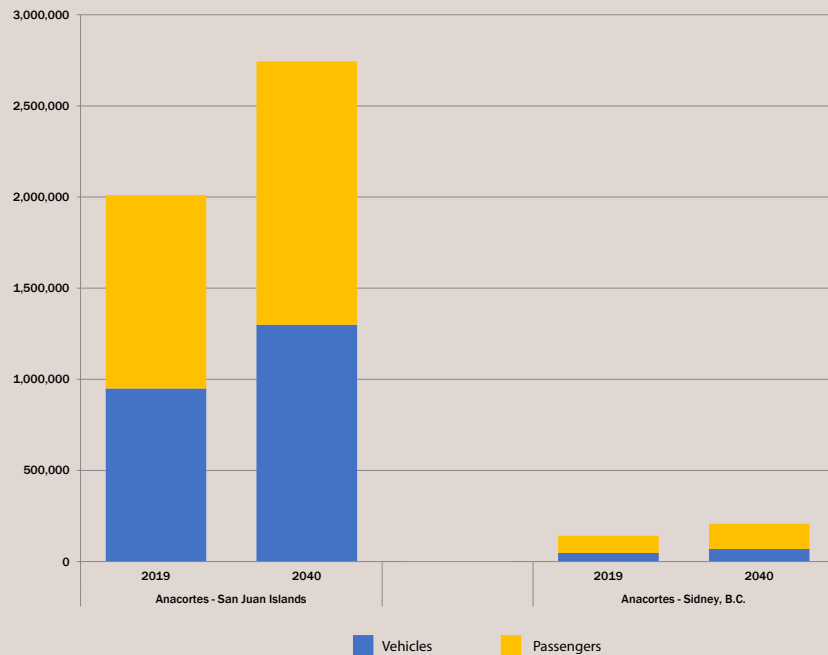
Ferries play a key role in the regional transportation system by connecting residents, workers, goods, and recreationists to various communities within the Skagit region and elsewhere in western Washington. Guemes Island has no bridge connection to the mainland, therefore residents rely on ferry service for transportation off the island. The state ferry system functions similar to a marine highway and high capacity transit system, supporting the Skagit region’s land use and transportation objectives by connecting to transit systems and reducing vehicle miles traveled on regional roadways.

Washington State Ferries (WSF), a division of WSDOT, operates two routes within the Skagit region. These routes provide service to a mixture of automobiles and walk-on passengers. The Anacortes – San Juan Islands route provides service year-round from Anacortes to four of the San Juan Islands. The Anacortes – Sidney B.C. route provides seasonal service during the spring, summer and autumn.

Vehicle trips on these routes, as well as passenger trips, are forecast to increase by about 37% by 2040. This represents an average annual growth rate of 1.9%. Only a modest vehicle capacity increase on these routes is expected by 2040. **Exhibit 5-2** shows ridership forecasts for these routes.

WSF replaced a 144-car vessel on the Anacortes – San Juan Islands route in 2015. Five more 144-car vessel replacements are anticipated

Exhibit 5-2
Skagit Region Ferry Ridership Forecasts



Source: Washington State Ferries 2040 Long Range Plan, 2019

Note: Does not include Guemes Island Ferry route

Section 5: Transportation Improvements & Programs

for this route during the timeframe of the Plan, occurring between 2028 and 2037. One of the vessel replacements, planned for 2037, will add capacity to the route by replacing a 90-car vessel with a 114-car electric hybrid vessel.

The Washington State Ferries 2040 Long Range Plan recommends adding capacity to the Anacortes – Sidney B.C. route in 2028. One strategy to increase capacity on this route is to relocate customs processing to Sidney, B.C. rather than Anacortes. Service enhancements would also expand summer service into May and October.

Level-of-service standards for the two Anacortes state ferry routes serving the Skagit region are established by WSDOT and SCOG. The standards must balance the interjurisdictional movement of people and goods with the needs of local commuters using state facilities.

The following establishes/reflects the level-of-service standards for the two state ferry routes serving the Skagit region:

- **Anacortes – San Juan Islands**, established jointly by WSDOT-SCOG
 - Level 1: 25% in January; 30% in May; 35% in August;
 - Level 2: 65% in January; 75% in May; 85% in August;
- **Anacortes – Sidney B.C.**, established by WSDOT
 - Level 1: 50% in May; 50% in August; and
 - Level 2: 100% in May; 100% in August.

The Level 1 LOS standard indicates when additional pricing and operational strategies might be needed and the Level 2 LOS standard indicates when additional service might be needed. Percentages listed

in the Level 1 and Level 2 standards indicate the percentage of all monthly sailings that are filled to their vehicle capacity. The Anacortes – Sidney B.C. route LOS standards are established by WSDOT due to this being identified as a Highway of Statewide Significance. The LOS methodology and standards are consistent with WSDOT’s Washington State Ferries 2040 Long Range Plan.

Skagit County operates one ferry route to Guemes Island. The M/V Guemes was built in 1979 and has a capacity of 21 vehicles and 99 passengers. The primary users of the ferry system are the permanent and part-time residents of Guemes Island who rely on the ferry as their link to the mainland. The vessel carried 183,130 vehicles and 381,559 passengers in 2015. Vehicles and passengers are counted going to and coming from Guemes Island, so each ride on the ferry counts as one trip.

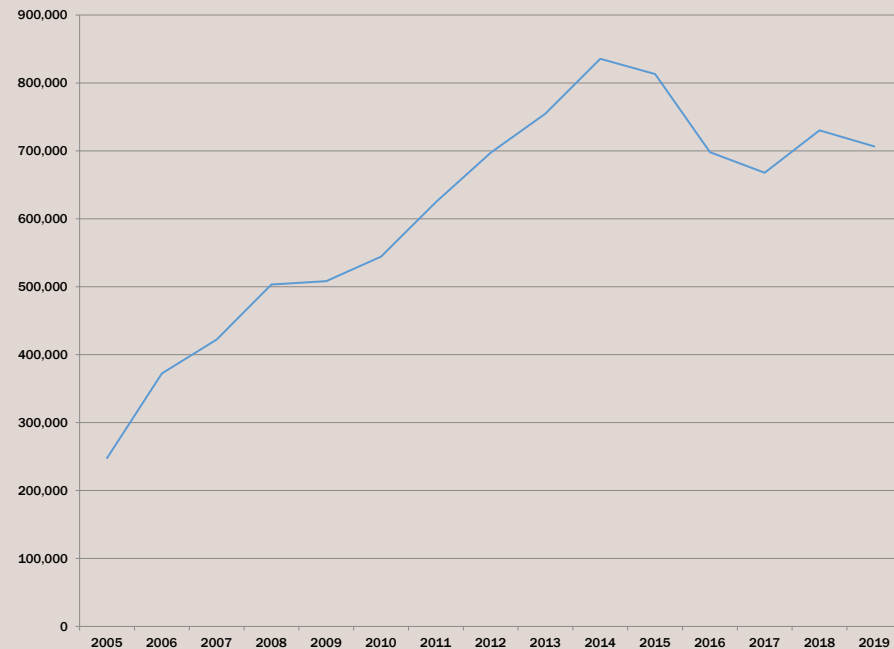
Transit System

Public transportation is a critical component to achieving the Skagit region’s long-range growth management, economic, environmental and transportation goals. Skagit 2045 promotes strategies for expanding transit to meet future travel demands throughout the Skagit region to provide transportation options to reach destinations within and outside the region. Skagit Transit operates 19 fixed routes in the Skagit region including local routes and intercounty commuter routes to Whatcom and Snohomish counties. Vanpools and paratransit services are also offered by Skagit Transit.

The success of the public transportation system is dependent on integrating key elements that comprise the Plan. Integration of the transit system with the ferry system, intercity rail and bus services, street improvements, bicycle facilities and pedestrian facilities is critical to an effective multimodal transportation system.

Section 5: Transportation Improvements & Programs

Exhibit 5-3
Skagit Transit Annual Fixed-route Ridership



Source: Skagit Transit, 2020

Skagit Transit experienced consistent increases in ridership in recent years, peaking at around 835,500 riders per year in 2014, as shown in **Exhibit 5-3**. Since 2004, annual Skagit Transit ridership has increased by over 350%. Transit trips in the Skagit region comprise under 1% of all transportation trips.

Skagit Transit

Skagit Transit has operated express routes over the past several years to serve working commuters better. After the Chuckanut Park and Ride opened in 2011, Skagit Transit connected local fixed

routes with commuter buses there to take customers directly to and from Burlington, Sedro-Woolley, Anacortes, Mount Vernon and other locations. Skagit Transit shares operations of an express route from Mount Vernon to Bellingham, connects to express routes of Island Transit coming from Whidbey and Camano islands, and offers an express route between Mount Vernon and Everett. Skagit Transit is planning ahead for routes reaching further into new communities and to offer more frequency on established routes.

Other Transit Providers

Whatcom Transportation Authority and Island Transit also provide transit services in the Skagit region, providing for an integrated system of intercounty connector transit services linking Skagit, Whatcom, Island and Snohomish counties. These express services primarily offer stops at transit stations and park-and-ride lots in these four counties, and do not offer complimentary paratransit services along these express routes.

The Sauk-Suiattle Indian Tribe provides a tribal transit service to all members of the public from Concrete to Darrington, in Snohomish County.

Pedestrian and Bicycle Systems

Pedestrian and bicycle facilities play a vital role in the Skagit region's transportation system. Skagit 2045 supports the development of a transportation system that provides more travel choices, while limiting the transportation system footprint, preserving and restoring environmental quality and open space. A well-established transportation system encourages healthy recreational activities, reduces vehicle demand on roadways, and enhances safety of all roadway users. Skagit 2045 identifies a regional non-motorized transportation system that includes trails, regional roadways, and other

Section 5: Transportation Improvements & Programs

bicycle and pedestrian facilities.

Walking and bicycling are key components of an integrated, multimodal regional transportation system, and are efficient and low-impact modes of travel that can reduce vehicle miles traveled, lessening impacts to air pollution and reducing traffic congestion. Greater accessibility to safe pedestrian and bicycle facilities provides improved mobility to the young, elderly, persons with disabilities, low-income persons, and others who may not have access to a vehicle.

The 2008–2027 Washington State Bicycle Facilities and Pedestrian Walkways Plan includes a goal to decrease bicycle and pedestrian related collisions by 5% per year out to 2027, while doubling the amount of bicycling and walking. The Washington State Department of Transportation is currently updating this plan and expects to complete it in 2021.

Since 2014, SCOG and WSDOT have worked with volunteers to collect pedestrian and bicyclist data at a number of locations in the Skagit region over the course of a few days. This count program is expected to grow in the future, providing better data on non-motorized use of the regional transportation system.

Rail Systems

Passenger Rail System

The Washington State Department of Transportation operates Amtrak Cascades service over the BNSF Railway's north-south main line through Washington state. The alignment roughly parallels Interstate 5 and runs through Skagit County, connecting the region to Seattle, British Columbia and destinations beyond. The Pacific Northwest Rail Corridor, a federally designated high speed rail corridor, has received federal and state funding to support higher rail speeds in the corridor. This 466-mile high speed corridor runs from Eugene, Oregon to

Vancouver, British Columbia in Canada. Amtrak provides long-distance service to Seattle and destinations beyond, as well as regional service to Oregon and British Columbia in the high speed corridor. Incremental improvements are planned to eventually support 110 mile-per-hour service with greater frequencies. Amtrak Cascades service from Eugene to Vancouver is Amtrak's ninth busiest route. Amtrak Cascades ridership has grown steadily over the last 20 years, from 180,000 in 1994 to over 829,000 in 2019.

Two daily Amtrak trains travel each direction through Skagit County. Skagit Station, owned and operated by Skagit Transit, is the multimodal transportation facility located in Mount Vernon where Amtrak connects with Skagit Transit, Whatcom Transportation Authority, Island Transit, Greyhound and taxis. Amtrak Cascades began servicing the station in 2004. **Exhibit 5-4** shows historical Amtrak Cascades ridership information at Skagit Station.

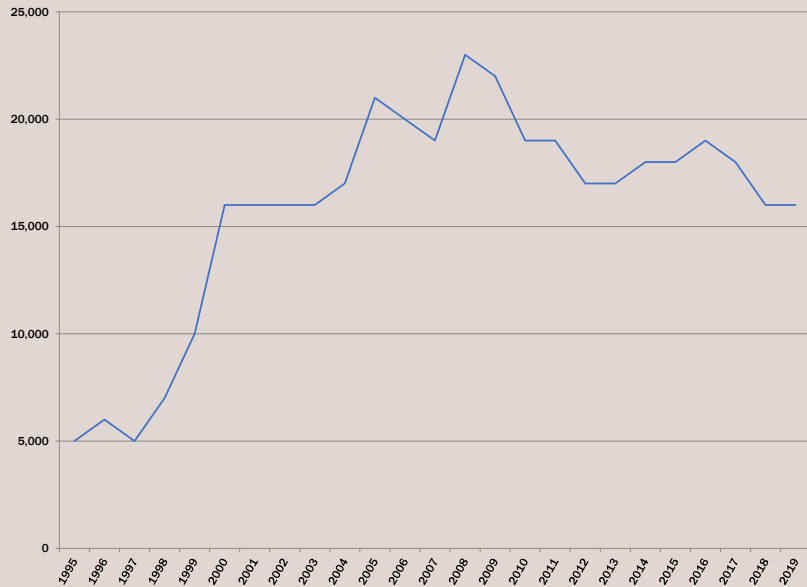
WSDOT has identified three potential growth scenarios for the Amtrak Cascades system by 2040: in the moderate-growth scenario, WSDOT plans to increase passenger rail service provided by Amtrak Cascades to three daily trains between Seattle and Vancouver, British Columbia in each direction; in the high-growth scenario, this frequency would increase to four daily trains.

In the 2019–2040 Washington State Rail Plan, WSDOT acknowledged that Amtrak Cascades has experienced declining on-time performance in recent years, with a sharp decline to 53% on-time performance in 2017. Since this time, on-time performance increased to 60% in 2019. Reasons for delay of passenger trains most commonly included the following:

- Slow order delays from BNSF;

Section 5: Transportation Improvements & Programs

**Exhibit 5-4
Amtrak Cascades Skagit Station On-Off Ridership**



Sources: Amtrak Cascades Annual Performance Reports and WSDOT Rail Division, 2020

- Freight train interference;
- Passenger train interference; and
- Crew and system delays.

The plan to increase service frequency and improve train speeds requires a number of capital investments along the rail corridor, including:

- Working with BNSF to reduce delays for Amtrak Cascades trains;

- Upgrading grade crossings to ensure safe passage of trains, vehicles and pedestrians;
- Increasing speeds to improve corridor capacity and travel times;
- Enhancing train control signals to improve corridor capacity, increase train speeds, and enhance safety;
- Purchasing new passenger train equipment to operate along the corridor to increase frequencies and decrease travel time;
- Improving stations and their ability to serve neighboring communities and to provide connections to other modes of travel; and
- Upgrading tracks and facilities to relieve congestion, improve ride quality and safety, increase train speeds, and improve corridor capacity.

Source: 2019–2040 Washington State Rail Plan, August 2020, WSDOT

Freight Rail System

Freight rail is also growing as a mode of choice for moving manufactured and bulk commodities. There are currently ten major rail corridors in the Washington state. One of these corridors is the Everett–Vancouver, British Columbia mainline, which is owned and maintained by BNSF. The importance of improvements to this corridor is critical to continued efforts to diversify the economy of the Skagit region. Where these railroad corridors intersect is important for switching and storage activities resulting in impacts on adjacent communities that are affected by at-grade crossings. Freight rail traffic along this corridor includes intermodal, forest and agricultural products, refuse, chemicals and finished automobiles.

Source: 2019–2040 Washington State Rail Plan, August 2020, WSDOT

Section 5: Transportation Improvements & Programs

Regional Air Transportation System

The regional air transportation system in the Skagit region complements the rail, motorized, and non-motorized transportation systems in the movement of goods and people. The primary purpose of the regional air transportation system is to provide access to a broad national and international aviation network.

Washington's Aviation System

Washington's 136 public-use airports represent an essential element of the state transportation system and provide critical support to the state economy. The importance of air transportation in Washington is accentuated by the state's unique geographic and topographical features, which produce an unusually high reliance on aviation. Airports provide unique transportation access as part of Washington's multimodal transportation system. They are crucial on a local, statewide, national, and global level as they efficiently move people and goods, promote business and commerce, and contribute to a better quality of life. Washington's airports serve a wide range of transportation, economic and emergency activities, including:

- Disaster management;
- Fire fighting;
- Emergency medical transportation;
- Aviation-related business;
- Search and rescue;
- Access to remote communities; and
- Recreation.

National General Aviation Trends

Since 2008, general aviation activity has declined nationally due to economic conditions and increasing fuel costs. Modest growth in general aviation is projected across the nation by 2035. However, Washington state is projected to have nearly triple the national rate of growth for general aviation operations. Reasons for this include the existing disproportionately high number of based aircraft compared with the rest of the nation, as well as a relatively strong per capita income.

General aviation has historically been dominated by single and multiengine piston-powered aircraft, used primarily for personal use, and flown by Visual Flight Rules. However, high performance aircraft used for business purposes and flown by Instrument Flight Rules account for a growing portion of General Aviation (GA) in the U.S. Increasingly, airports across the country are called to accommodate more demanding aircraft and more diverse types of GA activity. Three GA trends in particular have a significant effect on future demand for Washington's airport facilities and services. These three trends are:

1. Declining GA aircraft shipments and billings as an outcome of the 2008 Recession;
2. Continued growth in jet aircraft and decline in piston aircraft; and
3. Increasing share of sport pilots as a percentage of total certified pilots.

Source: Washington Aviation Systems Plan, November 2017, WSDOT

Federal Airport System and Classification

National Plan of Integrated Airport Systems

The National Plan of Integrated Airport Systems identifies airports that are significant to the national aviation system. These airports

Section 5: Transportation Improvements & Programs

are eligible for Federal Aviation Administration improvement grants. Anacortes Airport and Skagit Regional Airport are included in the this system.

Federal Airport Classification

The federal airport classification system categorizes airports based upon the type of service they provide to the community. Federal classifications are:

- **Commercial Service Airports** – publicly owned airports with at least 2,500 passenger boardings each calendar year;
- **Cargo Service Airports** – served by aircraft providing air transportation of only cargo with a total annual landed weight of more than 100 million pounds;
- **Reliever Airports** – designated by the Federal Aviation Administration to relieve congestion at Commercial Service Airports and provide community access for general aviation; and
- **General Aviation Airports** – public-use airports with under 2,500 passenger boardings each calendar year, and are the largest single group of airports in the National Plan of Integrated Airport Systems (88%).

Both the Anacortes Airport and Skagit Regional Airport are classified as General Aviation Airports under the National Plan of Integrated Airport Systems.

Source: Federal Aviation Administration, Airport Categories, January 2021

Washington Airport Classification System

Washington state’s airport classification system identifies the

roles and service levels of Washington’s public-use airports. State airport classifications do not supersede federal classifications, but supplement them by accounting for airports that may not be significant on a national level, but are important to the state aviation system. State airport classifications, along with the identification of facilities and services appropriate for each classification, are important in helping to identify and prioritize airport improvement and funding needs. Washington state’s airport classification system includes the following categories:

- **Major Airports**– Primary activities include commercial service and aircraft or aerospace manufacturing. These airports are classified with Airport Reference Code C-II or greater, as well as a local population over 40,000;
- **Regional Airports**– Primary activities include corporate general aviation and travel business. These airports are classified with Airport Reference Code B-II or greater, as well as a local population over 30,000;
- **Community Airports**– Primary activities include general aviation for personal transportation and business or recreational purposes, as well as pilot training. These airports are characterized as not metropolitan or regional, but have paved primary runways. Community airports have 15 or more based aircraft;
- **Local Airports**– Primary activities include general aviation for personal transportation and business or recreational purposes, pilot training and agriculture. These airports are characterized as not metropolitan or regional, but have paved primary runways. Local airports have less than 15 based aircraft; and
- **General Use Airports**– Primary activities include general

Section 5: Transportation Improvements & Programs

aviation for personal transportation and recreation, including backcountry access. The primary runway surface of general use airports is unpaved, and this category includes seaplane bases.

State Airport Classification

Washington state classifies Skagit County airports as follows:

- **Anacortes Airport** – Community Airport;
- **Skagit Regional** – Regional Airport;
- **Mears Field** – Community Airport; and
- **Skyline Seaplane Base** – General Use Airport.

As of 2020, 204 aircraft were based in Skagit County. Skagit Regional Airport, owned and operated by the Port of Skagit, is the region’s largest airport with 132 based aircraft. By 2039, the Port of Skagit estimates that registered aircraft in Skagit County will grow by 27%, totaling 364 aircraft and an annual average growth rate of approximately 1.2%.

Source: Port of Skagit, Skagit Regional Airport Master Plan Planning Process (2020)

Facility Descriptions

Anacortes Airport is located in Skagit County, within the Anacortes city limits. The airport has 26 based aircraft, all of which are single-engine. It is served by San Juan Airlines which provides service to five locations in the San Juan Islands using single-engine aircraft. The latest available data, from 2019, indicate that Anacortes Airport experienced 9,000 takeoffs and landings. Anacortes has one runway, Runway 18-36, which is 3,015 feet long and 60 feet wide, has an asphalt

surface, and is equipped with pilot controlled medium intensity runway lights. Both ends of Runway 18-36 have visual approaches. Vertical guidance to both runway ends is provided by visual approach slope indicators (VASI).

Skagit Regional Airport is located three miles west of Burlington. The airport has 132 based aircraft, including 113 single-engine, 8 multi-engine, 3 jets, 1 ultralight and 7 rotor based. An estimated 33,500 takeoffs and landings occurred at Skagit Regional Airport in 2019. Aeronautical Services, FedEx, Methow Aviation, San Juan Airlines and Ameriflite provide cargo service to the Airport. The airport has two runways. Runway 11-29 is 5,477 feet long, 100 feet wide, has an asphalt surface, and is equipped with pilot controlled medium-intensity runway lights. Runway 11 is equipped with runway end indicator lights (REIL) and precision approach path indicators (PAPI). This runway has non-precision, non-directional beacon and global positioning systems approaches. Runway 2829 is equipped with REIL and PAPI, and has a non-precision, global positioning systems approach. Runway 4-22 is 3,000 feet long, 60 feet wide, has an asphalt surface, and has



Anacortes Airport



Skagit Regional Airport

Section 5: Transportation Improvements & Programs



Mears Field

5,036 takeoffs and landings in 2019. Runway 7-25 is the airport's only runway. This runway is 2,580 feet long, 60 feet wide, and has an asphalt surface. Both runway ends have visual approaches. In addition to the runway, the airport has a 40-foot by 40-foot helipad designated as "H1." The 2017 Washington Aviation Systems Plan projects that the demand for aircraft storage at Mears Field will exceed its capacity by 2034.



Skyline Seaplane Base

PAPI.

Mears Field is located in Skagit County adjacent to State Route 20, at the Town of Concrete's southern boundary. Mears Field has a storage capacity of 56 aircraft, and has 46 based aircraft based at the airport: 44 single-engine aircraft; and 2 multi-engine aircraft. The latest available data indicate that the airport experienced

Approaches to this waterway are visual.

Transportation Improvements and Strategies

The Skagit region experiences a wide range of traffic operations, safety and preservation challenges. These challenges are largely a result of commuter traffic, access to and from regional highways, freight movement, access to regional shopping areas, and travel to and from essential public facilities such as schools, hospitals, airports and marine terminals.

This section provides examples of these challenges for roadways, non-motorized transportation facilities, transit and rail.



Roadways

Forecasted travel demand will bring most segments of Interstate 5 between Hickox Road and Bow Hill Road above or near capacity in 2045. Due to the prohibitive cost of capacity improvements to I-5, Skagit 2045 has identified few projects to address capacity issues on the interstate. WSDOT has indicated that Intelligent Transportation Systems, including active ramp metering, adaptive intersection signal systems, variable message signs, variable speed limits and lane use control signs are the preferred method of addressing future capacity deficiencies on I-5. Accordingly, Mount Vernon, Burlington, and Skagit County arterials may experience increased congestion as future drivers look for alternative routes to I-5.

Cook Road near I-5 is also forecast to be significantly congested in 2045. Both Skagit County and WSDOT have plans to make improvements in this area. Capacity improvements on the I-5 ramps as well as Cook Road will provide congestion relief in an area that is already experiencing significant delays. Skagit County and WSDOT

Section 5: Transportation Improvements & Programs

should closely coordinate on the planned improvements on Cook Road to ensure the interchange and busy arterial operate at an efficient level.

Another notable future capacity issue is the Division Street Bridge in Mount Vernon. The existing two-lane bridge is forecast to have insufficient capacity for travel demand in 2045. Mount Vernon has included a new bridge crossing the Skagit River in the downtown area in its local comprehensive plan. While the need for additional capacity over the river is clear, it is unclear where the alignment would be and how it would be funded. At this time this project is included in Skagit 2045 as an illustrative priority.



Non-motorized Transportation Facilities

Project sponsors are encouraged to reasonably accommodate all transportation modes when reconstructing roadways or adding additional capacity. Urban arterials should include adequate facilities for bicyclists and pedestrians to safely travel. Facilities adjacent to or near urban arterials may also serve non-motorized transportation needs and may provide a beneficial alternate connection to placing these facilities directly on the arterial. Wherever possible, rural improvements should include shoulders to accommodate bicyclist, pedestrian and, in limited cases, equestrian travel. Completion of missing links in the regional non-motorized transportation system should be given priority in project selection processes.

Two major non-motorized transportation corridors, the Centennial Trail and Cascade Trail, are planned within or along former railroad rights of way within the Skagit region. These links would provide regional connections both east-west and north-south. Much of the right-of-way of the former Centennial Rail Line is in private ownership. Where possible, efforts should be made to continue the trail along the former

railroad grade. In locations where following the railroad grade is infeasible, alternative options should be explored.

In 2014, the first U.S. Bicycle Route was designated in Washington state by the American Association of State Highway and Transportation Officials. This route, U.S. Bicycle Route 10, follows State Route 20, including the SR 20 spur, from the Anacortes Ferry Terminal to the border of Idaho. Eventually, the route will travel east-west all the way to Maine; one of a number of interstate bicycling routes across the U.S.

Since 2014, several other U.S. Bicycle Routes have been designated by the American Association of State Highway and Transportation Officials that traverse the Skagit region, including:

- **U.S. Bicycle Route 97**, with an alignment from the Canadian border, through Skagit County to Island County;
- **U.S. Bicycle Route 95**, with an alignment from the Canadian border, through Skagit County to Snohomish County; and
- **U.S. Bicycle Route 610**, which provides an alternative alignment to U.S. Bike Route 10 in Sedro-Woolley.



Transit

Skagit Transit provides fixed-route, express, vanpool and paratransit services for much of the Skagit region. A major emphasis of the Plan is to preserve existing transit service, particularly the express routes providing connections



Rainbow Bridge in La Conner

Section 5: Transportation Improvements & Programs

to Everett and Bellingham. Skagit Transit has also identified projects to expand current service to better meet future transportation needs.

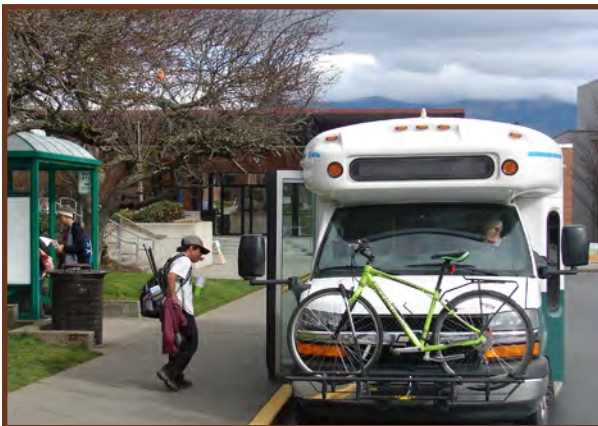


Rail

The 2016 Skagit Rail Crossing Study identified three priority locations for future grade-separation projects in the Skagit region: State Route 538 (College Way) in Mount Vernon; Cook Road in unincorporated Skagit County, and SR 20 in Burlington. Completing grade-separated rail crossings in the Skagit region would alleviate traffic congestion, increase safety at rail crossings and improve emergency services response time.

Regionally Significant Transportation Projects

In Skagit 2045, proposed regionally significant transportation projects were submitted by governments in the Skagit region during the planning process, and evaluated using a least-cost planning methodology, as described in **Section 4**.



Skagit Transit at Skagit Valley College

Project Categories

All of the proposed regionally significant projects are grouped into categories in the Plan. Two of the categories, Funded and Planned, are included in the fiscally constrained portion of Skagit 2045. These projects are reasonably expected to be completed during the timeframe of the Plan. Regional estimates of revenues and expenditures were developed as part of the Plan, and are described in **Section 7**. The revenue and expenditure estimates assist with ascertaining what the total need is for the regional transportation system, while balancing the total need with funding forecast as reasonably available to meet those needs. This financial analysis assists with determining which projects are, and are not, fiscally constrained.

Funded Projects

Funded regionally significant projects have secured full or partial funding and are expected to be constructed during the Plan timeframe, between 2021 and 2045. All but one of the Funded projects is expected to be completed in the short term (2021–2030), during the first ten years of the 25-year Plan. All of the Funded projects are either roadway, non-motorized or ferry projects. Because these projects already have some level of funding, they do not receive the same regional evaluation as the Planned and Illustrative projects, which receive project-level evaluations on each of the six regional priorities described in **Section 4**.

Planned Projects

Planned regionally significant projects have not yet secured funding, but are expected to be completed during Skagit 2045's timeframe. These are regionally significant roadway, non-motorized, and transit projects, as well as planning and corridor studies, that are prioritized by the Skagit region for when eligible funding becomes available.

Section 5: Transportation Improvements & Programs

The financial strategy in **Section 7** incorporates cost estimates for the Planned projects.

Illustrative Projects

Illustrative regionally significant projects are not expected to be funded during the Plan timeframe due to reasonable revenue estimates forecast in Skagit 2045, but may be funded if additional resources become available. These Illustrative projects are still priorities of the Skagit region, but tend to be higher cost and/or longer term projects that may be reliant on federal and Washington state grant funding, or other sources outside of those identified in the financial strategy in **Section 7**, to come to fruition.

The following pages display the Funded, Planned and Illustrative projects through a series of exhibits. **Exhibit 5-5** through **Exhibit 5-14** include maps of regionally significant projects along with information about each project.

Detailed project information is available on project sheets in **Appendix A**.

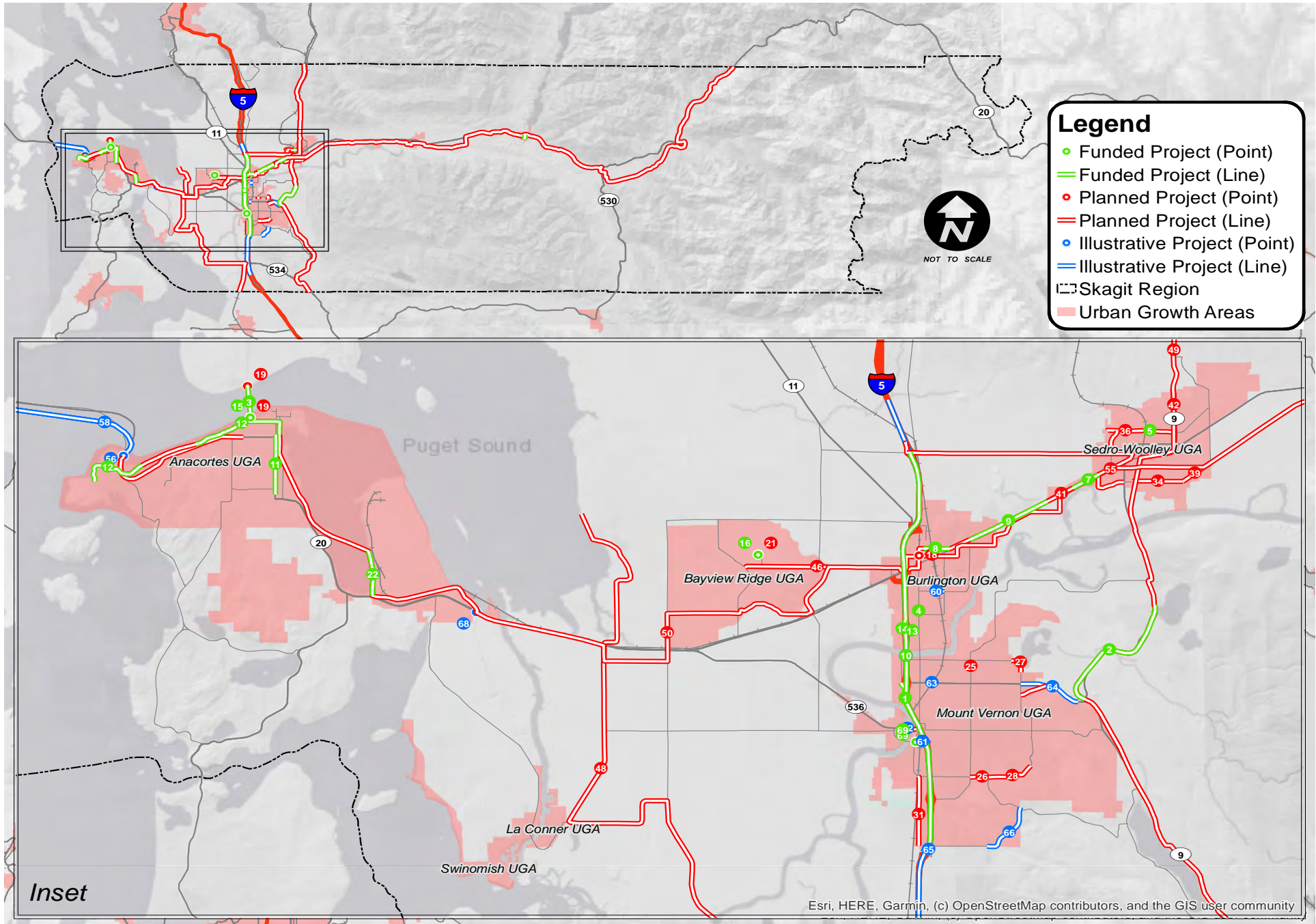


Exhibit 5-5 Regionally Significant Transportation Projects

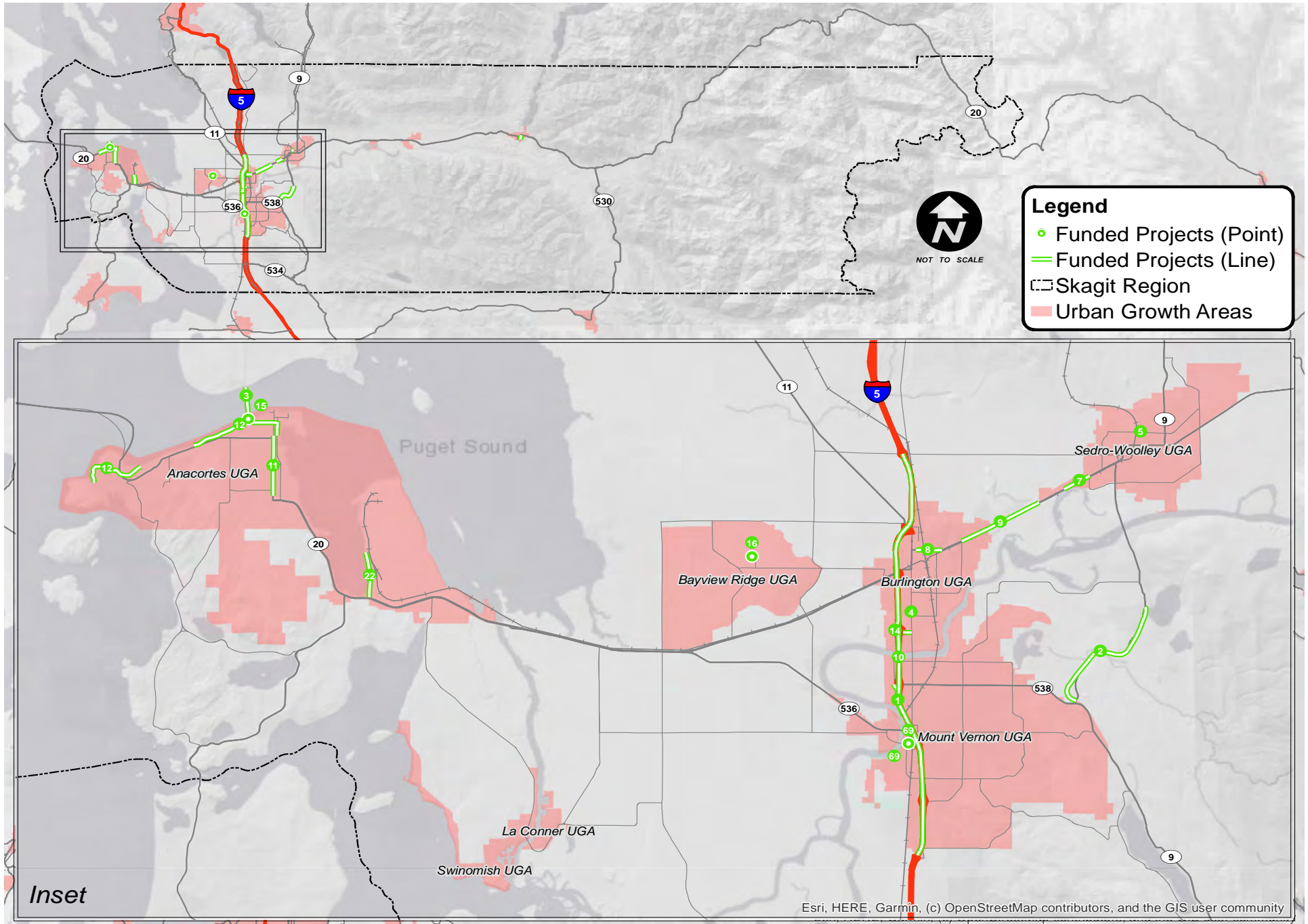


Exhibit 5-6 Funded Regionally Significant Transportation Projects (Fiscally Constrained)

Section 5: Transportation Improvements & Programs

Exhibit 5-7

Funded Projects (Fiscally Constrained)

Cost
 \$ = up to \$1 million
 \$\$ = \$1 - \$10 million
 \$\$\$ = \$10 - \$100 million
 \$\$\$\$ = over \$100 million

Timeframe
 Short Range = 2021 - 2030
 Long Range = 2031 - 2045

ID	Agency	Project Name	Project Description	Mode Type	Cost	Time Frame
12	Anacortes	Guemes Channel Trail Phase II, III, V & VI	Complete Guemes Channel Trail from Washington Park to Tommy Thompson Trailhead at 10th Street and Q Avenue. This project requires coordination with WSDOT.	Non-Motorized	\$\$	Long
22	Anacortes	March Point Road Widening	Widen March Point Road and South March Point Road to safely accommodate bike lanes and/or separated bike/pedestrian path	Non-Motorized	\$\$	Short
11	Anacortes	South Commercial Avenue Corridor Improvements	Corridor-long complete streets and economic development project. This project requires coordination with WSDOT.	Non-Motorized	\$\$\$	Short
13	Burlington	George Hopper Interchange Improvements, Phase II	Lane addition on east side of freeway, including lighting and improving sidewalk. This project requires coordination with WSDOT.	Roadway	\$\$	Short
14	Burlington	George Hopper Interchange, Phase III	Construct partial cloverleaf in northwest quadrant of interchange; bridge lane modifications. Projects on state highways require the coordinated development of Practical Solutions with WSDOT.	Roadway	\$\$	Short
4	Burlington	Pease Road Cascade Mall Non-Motorized	Shared-use trail parallel to Burlington Boulevard on west side.	Non-Motorized	\$	Short
8	Burlington	SR 20 Nonmotorized & Safety	Road widening including stormwater improvements, utility relocation, lighting, sidewalks, bicycle wayfinding, and bike lanes. This project requires coordination with WSDOT.	Roadway & Non-Motorized	\$\$	Short
6	Concrete	Secondary Access Road	Construction of a second access road to school and airport to include traffic lanes, shoulder, traffic curb and gutter, planter strip, and bicycle/pedestrian path as well as possible storm drainage, sewer and water facilities and fire hydrant improvements. This project requires coordination with WSDOT.	Roadway	\$\$	Short
1	Mount Vernon	Freeway Drive Improvements (Cameron Way to College Way)	Add center left turn lane to increase capacity; include traffic calming measure(s); additional lighting; bicycle lanes; minimum 4-foot paved shoulder with fog strip; add or improve sidewalks/walkways; and physical buffer between pedestrians and roadway.	Roadway & Non-Motorized	\$\$	Short
69	Mount Vernon	Library Commons: Regional Transportation Supporting Elements	The Mount Vernon Library Commons project is a multi-use infrastructure project located in historic downtown Mount Vernon along Interstate 5. In addition to a library and community center, the project supports regional transportation with 75 public EV charging spaces, Skagit Transit bus stop facilities, and over 150 spaces available for park & ride use by Skagit Station, a multi-regional bus/Amtrak transit facility, effectively tripling existing parking capacity at Skagit Station.	Transit	\$\$\$	Short

Section 5: Transportation Improvements & Programs

**Exhibit 5-8
Funded Projects (Fiscally Constrained)**

Cost
 \$ = up to \$1 million
 \$\$ = \$1 - \$10 million
 \$\$\$ = \$10 - \$100 million
 \$\$\$\$ = over \$100 million

Timeframe
 Short Range = 2021 - 2030
 Long Range = 2031 - 2045

ID	Agency	Project Name	Project Description	Mode Type	Cost	Time Frame
5	Sedro-Woolley	Jones/John Liner RR Undercrossing	Construct new BNSF railroad undercrossing and new major collector from East Jones Road to John Liner Road, including drainage, curbs, sidewalks, HMA, pavement markings and illumination. This project requires coordination with BNSF.	Roadway	\$\$	Short
7	Sedro-Woolley	SR 20/Cascade Trail West Extension, Phase 2A	Shared-use path. This project requires coordination with WSDOT.	Non-Motorized	\$	Short
2	Skagit County	Centennial Trail (Big Rock to Clear Lake)	Design and construct a multi-use trail that will link Mount Vernon to Clear Lake.	Non-Motorized	\$\$	Short
3	Skagit County	Guemes Ferry Boat Replacement (Electric)	Replace the current rural Guemes Island Ferry with a new electric powered ferry that will include shore side facilities to meet present and future needs of the ferry service.	Ferry	\$\$\$	Short
15	Skagit County	Guemes Ferry Electric Shore-side Facilities	Construction of electric shore side facilities that include a charging station, battery storage facility, charging hookup from shore side charging station to the ferry, and other miscellaneous components required to complete the shore side facilities.	Ferry	\$\$	Short
16	Skagit Transit	Skagit Transit's Maintenance Operations and Administration Facility: Phase 1	Phase I will complete the energy envelope infrastructure of the south and east section of the facility. Utilities will be readied (rough-in and rough-on) for Phase II construction of the south and east section of the facility.	Transit	\$\$	Short
10	WSDOT	I-5 Operations and Demand Management Study	Washington's transportation system is evolving and growing; and to meet that need WSDOT will initiate a study assessment on I-5 through Mount Vernon and the Burlington area to identify what is working well and what actions are needed to address the growing demands on the transportation system. The project will first determine if there is a problem on the corridor and second develop strategies and solutions that may be necessary to improve and enhance the operating capacity of the system through the deployment of intelligent transportation systems and demand management options to meet near and long-term needs.	Planning & Corridor Studies	\$	Short
9	WSDOT	SR 20/Burlington to Sedro-Woolley - Corridor Improvements	State Route 20 has been identified as a Crash Analysis Corridor. Northwest Region Traffic will developed a strategy with alternatives to improve safety. This project requires coordination with Skagit County, Sedro-Woolley and Burlington.	Roadway	\$\$	Short

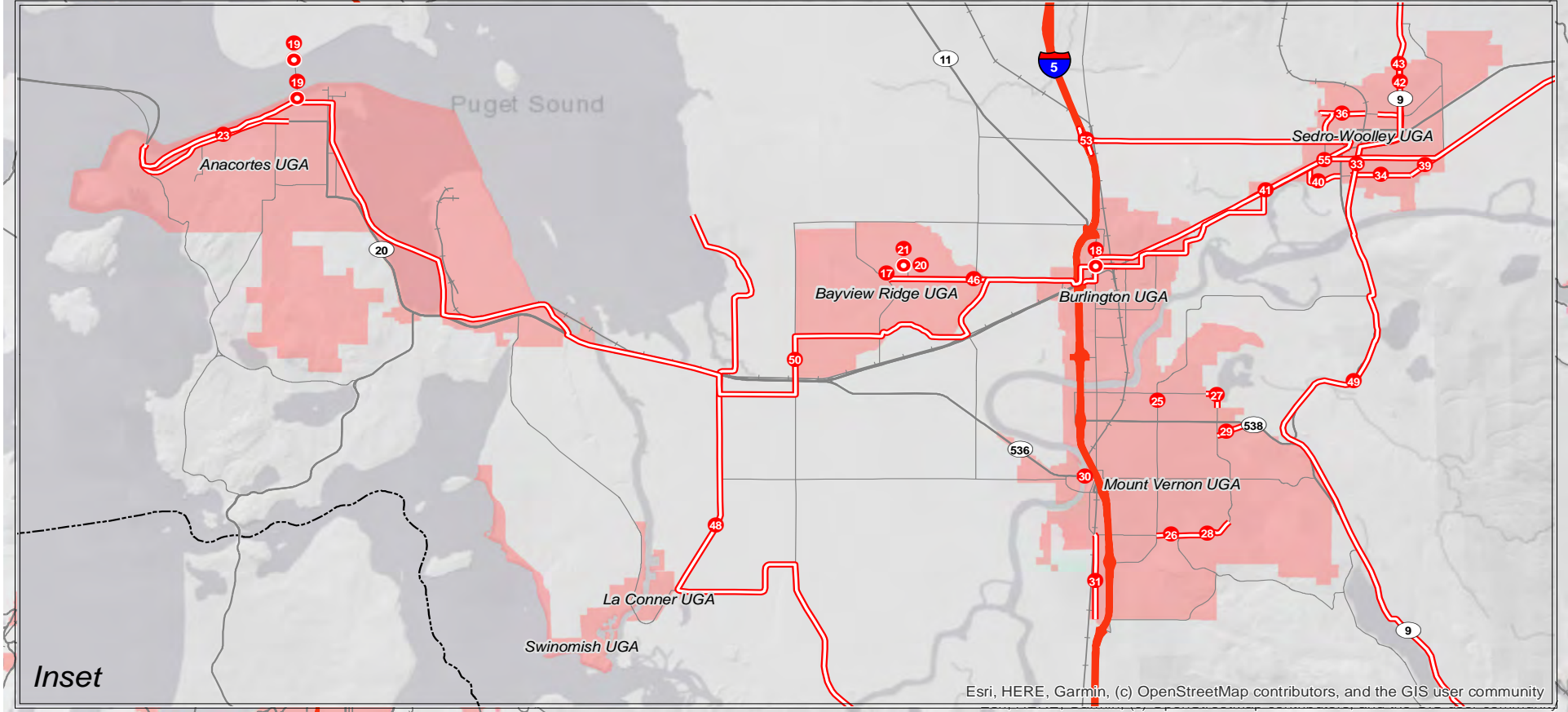
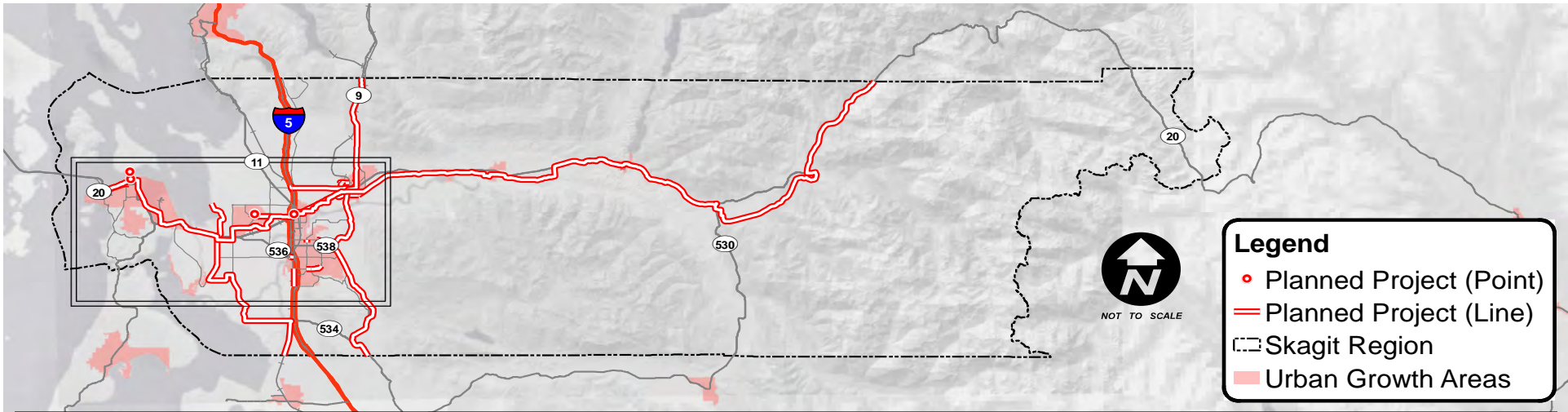


Exhibit 5-9 Planned Regionally Significant Transportation Projects (Fiscally Constrained)

Section 5: Transportation Improvements & Programs

Exhibit 5-10

Planned Projects #1 (Fiscally Constrained)

Addresses Priority

- = None
- ◐ = Partial
- = Full

Cost

- \$ = up to \$1 million
- \$\$ = \$1 - \$10 million
- \$\$\$ = \$10 - \$100 million
- \$\$\$\$ = over \$100 million

Timeframe

- Short Range = 2021 - 2030
- Long Range = 2031 - 2045

ID	Agency	Project Name	Project Description	Mode Type	Cost	Time Frame	Relative Priority						
								Economic Vitality	Preservation	Safety	Mobility	Environment	Stewardship
23	Anacortes	SR 20 Spur (Ferry Terminal to G Ave) Sidewalk Improvements	Full widening, bike lanes and sidewalks. This project requires coordination with WSDOT.	Non-Motorized	\$\$	Long	High	◐	●	●	●	◐	●
18	Burlington	Fairhaven SR20 Entrance Roundabout	Construct a roundabout at the intersection of Burlington Boulevard (SR 20) and Fairhaven Avenue to create a well defined entry point to downtown Burlington and improve traffic flow on SR 20. This project requires coordination with WSDOT.	Roadway	\$\$	Short	Medium	●	○	●	◐	◐	●
24	Burlington	SR-20 Widening between Hagen Drive and Burlington Blvd	Provide additional westbound lane. This project requires the coordinated development of Practical Solutions with WSDOT.	Roadway	\$\$	Short	High	●	●	●	◐	◐	●
31	Mount Vernon	Bike Lane on Old Highway 99 South	New bike lane added/stripped.	Non-Motorized	\$	Long	Medium	●	○	●	●	◐	○
28	Mount Vernon	Blackburn Road Extension	Blackburn Road transitions to a 22-foot wide road with no striping east of Little Mountain Road. Part of the conditions of approval for the Eaglemont development is to improve and extend this road (new construction) to Eaglemont Drive and establish a southerly connection to the southerly street network.	Roadway	\$\$	Short	Low	○	○	○	●	◐	○
26	Mount Vernon	Blackburn Road Widening - 1	Improvements will upgrade this section of Blackburn Road to Complete Streets standard to include sidewalks and bike lanes. This segment will provide a connection to Little Mountain Park, a major non-motorized recreation area.	Non-Motorized	\$\$	Short	Medium	◐	○	●	●	●	○
30	Mount Vernon	Division Street Bridge Replacement Study	Study to evaluate the feasibility/cost of replacing the Division Street Bridge and mitigation required to the bridge approaches to improve the level of service. Projects on state highways require the coordinated development of Practical Solutions with WSDOT.	Planning & Corridor Studies	\$	Long	Medium	●	●	◐	○	○	●
29	Mount Vernon	Kulshan Trail Extension	Extend Kulshan Trail along abandoned railroad grade.	Non-Motorized	\$	Long	Medium	◐	○	●	●	●	◐
25	Mount Vernon	Laventure Road Widening	This section links Skagit College and student housing to Hoag Road (and YMCA). These improvements will establish a new sidewalk on the east side, upgrade ADA facilities to modern standards, improve stormwater facilities, add bike lanes, and rehabilitate the pavement to provide greater connectivity and safer pedestrian access.	Non-Motorized	\$\$	Short	High	●	◐	●	●	●	●
27	Mount Vernon	Martin Road Improvements	This section of Martin Road is a very narrow, 20 foot-wide, remnant of the original county road. Several years ago a 5 foot wide asphalt path was installed on the west side of the road for pedestrians. Improvements will include widening the road to include a 3 foot paved shoulder on the east side, 11 foot lanes, and converting the existing path to a 10 foot wide, paved, shared use path on the east side.	Non-Motorized	\$\$	Short	Medium	◐	◐	●	●	●	○
32	Sedro-Woolley	Cascade Trail East Extension	Shared use path.	Non-Motorized	\$	Long	High	●	○	●	●	●	●
33	Sedro-Woolley	Centennial Trail South	Improve and extend trail.	Non-Motorized	\$	Long	High	●	○	●	●	◐	●
34	Sedro-Woolley	Jameson Street Arterial Improvements	Widen and rebuild Jameson Street to secondary arterial standards including three lanes, curb and gutter, bike lanes, planter strip and sidewalks. Some right of way may be required.	Roadway	\$\$	Short	Medium	●	◐	●	◐	●	○
35	Sedro-Woolley	John Liner Road Arterial Improvements	Reconstruct John Liner Road to major collector section including drainage, curbs, sidewalk, shared use path, HMA, pavement markings and illumination. This project requires coordination with WSDOT.	Roadway	\$\$	Short	Low	●	○	○	○	◐	●
36	Sedro-Woolley	Jones Rd Arterial Improvements	Reconstruct to major collector section including drainage, curbs, sidewalk, shared use path, HMA, pavement markings and illumination.	Roadway	\$\$	Short	Low	◐	○	○	○	○	●
39	Sedro-Woolley	Railroad Street Arterial Improvements	Reconstruct to arterial standards, including three lanes, bike lanes and sidewalks.	Roadway	\$\$	Short	Medium	◐	◐	●	◐	●	○

Section 5: Transportation Improvements & Programs

Exhibit 5-11

Planned Projects #2 (Fiscally Constrained)

Addresses Priority

- = None
- ◐ = Partial
- = Full

Cost

- \$ = up to \$1 million
- \$\$ = \$1 - \$10 million
- \$\$\$ = \$10 - \$100 million
- \$\$\$\$ = over \$100 million

Timeframe

- Short Range = 2021 - 2030
- Long Range = 2031 - 2045

ID	Agency	Project Name	Project Description	Mode Type	Cost	Time Frame	Relative Priority	Economic Vitality	Preservation	Safety	Mobility	Environment	Stewardship
40	Sedro-Woolley	Rhodes Road Arterial Improvements	Reconstruct to arterial standards, including bike lanes and sidewalks. This project requires coordination with WSDOT and Skagit County.	Roadway	\$\$	Long	Medium	●	◐	●	◐	◐	○
41	Sedro-Woolley	SR 20/Cascade Trail West Extension, Phase 2B	Shared-use path. This project requires coordination with WSDOT.	Non-Motorized	\$	Long	High	●	○	●	●	◐	●
43	Sedro-Woolley	SR9 / Centennial Trail Ped/Bike Safety Improvements	Construct bike and pedestrian improvements from Summer Meadows Court on the east side of State Route 9. This project requires coordination with WSDOT.	Non-Motorized	\$\$	Long	Medium	◐	○	●	●	◐	●
42	Sedro-Woolley	SR9 / North Township Street Arterial Improvements	Planning phase – reconstruct to arterial standards including three lanes, bike lanes and sidewalk. This project requires coordination with WSDOT.	Planning & Corridor Studies	\$	Long	Medium	●	◐	●	○	◐	●
44	Sedro-Woolley	SR9N Ped/Bike Safety Improvements	Bike lane and sidewalk improvements. This project requires coordination with WSDOT.	Non-Motorized	\$	Short	High	●	○	●	●	●	●
37	Sedro-Woolley	Trail Road - Garden of Eden Road Extension	Construct new major collector.	Roadway	\$\$	Short	Low	○	○	○	○	○	●
38	Sedro-Woolley	Trail Road Arterial Extension	Construct new major collector.	Roadway	\$\$	Short	Low	◐	○	◐	○	○	●
49	Skagit County	Bicycle Route 13 (Centennial Trail) Corridor Study	This is an existing north/south multimodal transportation corridor from the southern Skagit County Line to the northern Skagit County Line, adjacent or parallel to State Route 9 and Skagit County roads. The proposed project envisions a 10-foot paved trail and a grass shoulder for equestrian use, consistent with the Snohomish County trail sections. The corridor study would consider issues including available right of way, property impacts, shoulder widths and alignment. Coordination with Snohomish and Whatcom counties would also be appropriate to link to their facilities. This study requires coordination with WSDOT and Sedro-Woolley.	Planning & Corridor Studies	\$	Short	High	●	○	●	●	◐	●
48	Skagit County	Bicycle Route 5 (Coast Millennium Trail) Safety/Mobility Improvement Study	This is an existing north / south multimodal transportation corridor from the Southern County Line north to Bay View State Park which passes through the Town of La Conner and Bay View, utilizing Skagit County roads and the existing Padilla Bay Trail. The projects would include paved shoulder widening, trail improvements and signing along the corridor. Connects or will ultimately connect to bicycle routes in Whatcom and Snohomish counties. This study requires coordination with WSDOT.	Planning & Corridor Studies	\$	Short	Medium	○	○	●	●	◐	●
45	Skagit County	Cook Road/I-5 Interchange Vicinity Improvements	Cook Road / Interchange / Old Highway 99 (Short Term Improvements) from Interstate 5 through Old Highway 99 North intersection to Green Road in partnership with WSDOT. This project may require the coordinated development of Practical Solutions with WSDOT.	Roadway	\$\$	Short	High	●	○	●	●	◐	●
19	Skagit County	Guemes Ferry Terminal Modifications (Electric Ferry)	Reconfigure/modify the Anacortes and Guemes Island terminals to allow for the new electric ferry. This includes, but is not limited to, apron modifications and dolphin upgrades.	Ferry	\$\$	Short	High	◐	●	○	●	●	●
47	Skagit County	Peterson Road (Shared Use Trail)	Construct a separated shared use path.	Non-Motorized	\$	Short	Medium	◐	○	●	●	◐	◐
46	Skagit County	Peterson Road (Urban)	Widen Peterson Road from the Bayview Housing Development to Higgins Airport Way (Port of Skagit) to meet urban standards.	Roadway	\$\$	Short	Medium	●	◐	●	◐	○	○
50	Skagit County	US Bicycle Route 10 (Coast to Cascades Trail) Corridor Study	This is an existing east-west multimodal transportation corridor from Fidalgo Island to the Town of Concrete, and east Skagit County line, utilizing State Route 20, city and Skagit County roads and trails. The study would consider shoulder widening where necessary and trail construction and/or existing trail improvements. This study requires coordination with WSDOT, Anacortes, Burlington, Sedro-Woolley, Lyman, Hamilton and Concrete.	Planning & Corridor Studies	\$	Short	High	●	○	●	●	◐	●

Section 5: Transportation Improvements & Programs

Exhibit 5-12

Planned Projects #3 (Fiscally Constrained)

Addresses Priority

- = None
- ◐ = Partial
- = Full

Cost

- \$ = up to \$1 million
- \$\$ = \$1 - \$10 million
- \$\$\$ = \$10 - \$100 million
- \$\$\$\$ = over \$100 million

Timeframe

- Short Range = 2021 - 2030
- Long Range = 2031 - 2045

ID	Agency	Project Name	Project Description	Mode Type	Cost	Time Frame	Relative Priority	Economic Vitality	Preservation	Safety	Mobility	Environment	Stewardship
17	Skagit Transit	Alternative Fuel Infrastructure	Purchase and installation of alternative fueling infrastructure at M.O.A. for fleet use.	Transit	\$	Short	High	◐	●	●	●	●	●
51	Skagit Transit	Fleet Expansion 2021-2030	Expand fixed-route fleet by six buses for service expansions and enhancements. Expand paratransit fleet by three vehicles to address growing demand.	Transit	\$\$	Short	High	●	●	●	●	●	●
52	Skagit Transit	Fleet Expansion 2031-2045	Expand fixed route fleet by six buses for service expansions and enhancements. Expand paratransit fleet by six vehicles to address growing demand. Expand vanpool fleet by ten vehicles.	Transit	\$\$	Long	High	●	●	●	●	●	●
20	Skagit Transit	Skagit Transit's Maintenance Operations and Administration Facility: Phase 2	Construction of the south and east section of the facility.	Transit	\$\$\$	Short	High	◐	●	●	●	●	●
21	Skagit Transit	Skagit Transit's Maintenance Operations and Administration Facility: Phase 3	Complete construction of the facility.	Transit	\$\$\$	Short	High	◐	●	●	●	●	●
53	WSDOT	I-5 / Cook Road Interchange Improvements	This project will add intersection control to the ramps at the Interstate 5/Cook Road interchange and some limited road widening. A variety of Automated Traffic Management systems will be installed to prevent queuing traffic from spilling back onto the Interstate 5 mainline. This project will go through a Practical Solutions process with Skagit County.	Roadway	\$\$	Short	High	●	●	●	●	○	●

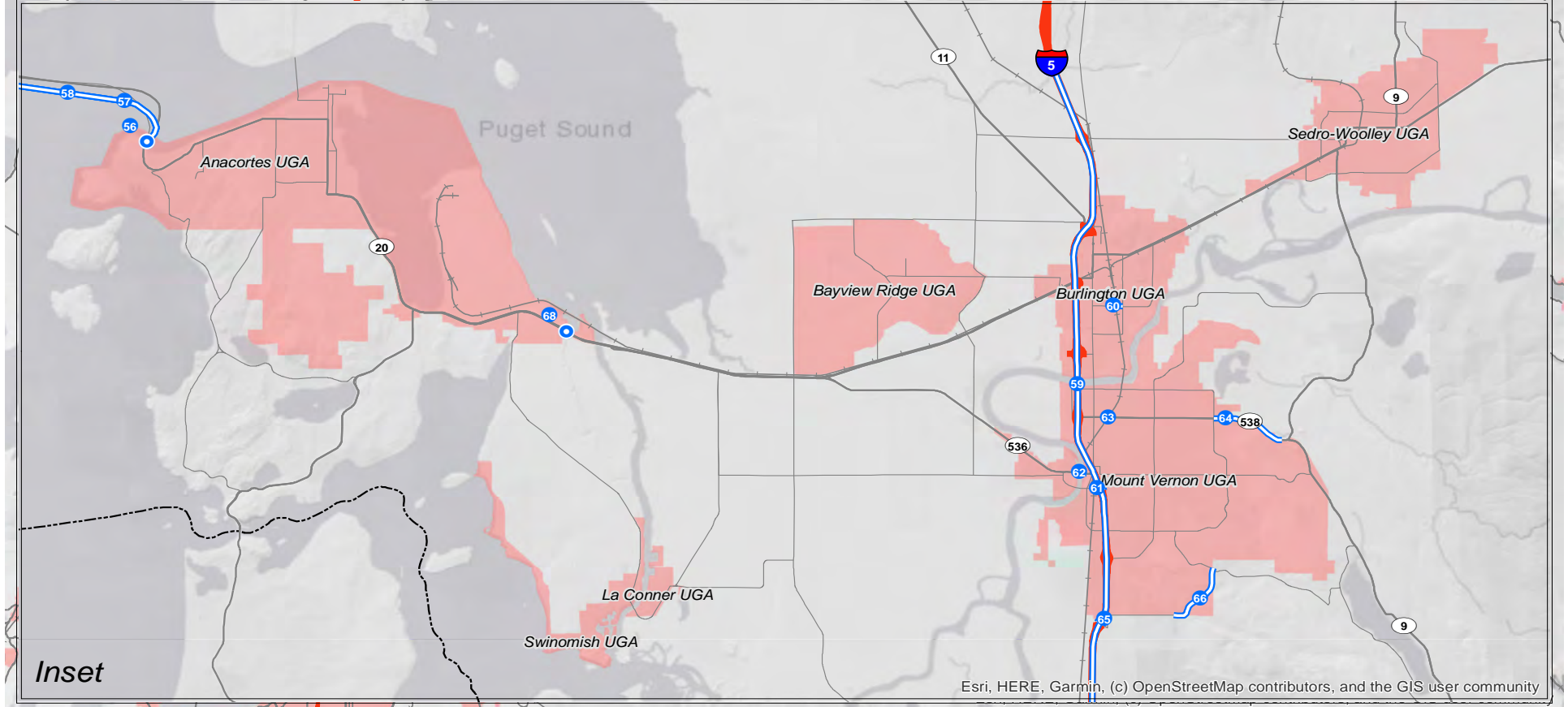
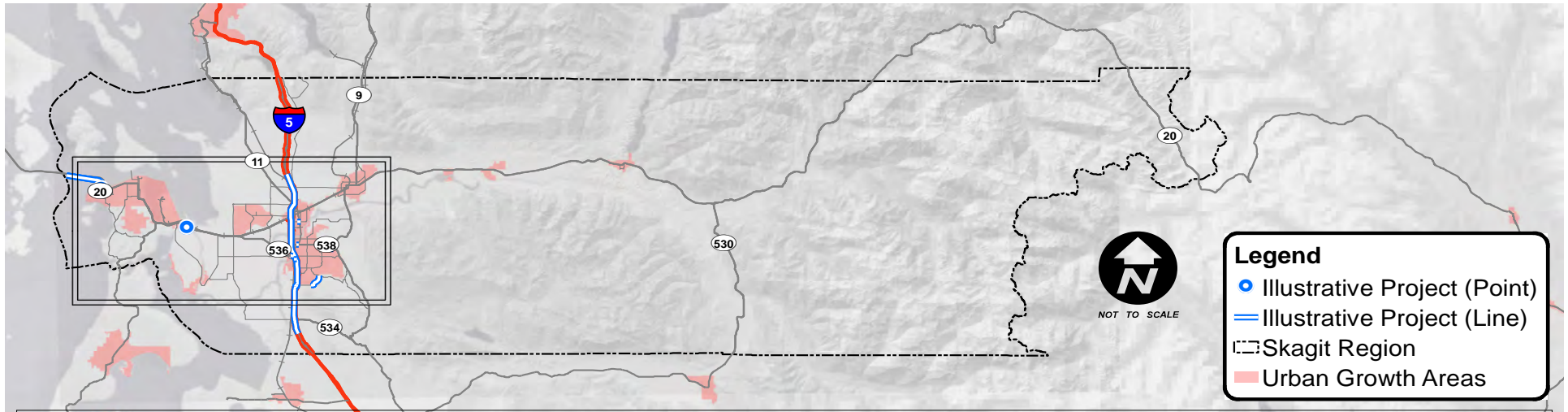


Exhibit 5-13 Illustrative Regionally Significant Transportation Projects (Not Fiscally Constrained)

Section 5: Transportation Improvements & Programs

Exhibit 5-14
Illustrative Projects (Not Fiscally Constrained)

Addresses Priority
 ○ = None
 ◐ = Partial
 ● = Full

Cost
 \$ = up to \$1 million
 \$\$ = \$1 - \$10 million
 \$\$\$ = \$10 - \$100 million
 \$\$\$\$ = over \$100 million

Timeframe
 Short Range = 2021 - 2030
 Long Range = 2031 - 2045

ID	Agency	Project Name	Project Description	Mode Type	Cost	Time Frame	Relative Priority	Impact					
								Economic Vitality	Preservation	Safety	Mobility	Environment	Stewardship
60	Burlington	Railroad Overpass Project	Construct overcrossing over BNSF rail tracks to connect east and west sides of city. This project requires coordination with BNSF.	Roadway	\$\$\$	Short	Medium	●	○	●	●	○	●
63	Mount Vernon	College Way Railroad Grade Separation	Grade-separated crossing over/under BNSF railroad line. This project requires coordination with WSDOT.	Roadway	\$\$\$	Long	Medium	●	○	●	○	◐	●
64	Mount Vernon	East College Way Widening	Widen East College Way (SR 538) from two to four travel lanes. This project requires coordination with WSDOT.	Roadway	\$\$	Long	Medium	●	○	○	◐	◐	●
65	Mount Vernon	Hickox Rd/I-5 Interchange Completion	Completion of the north side of this interchange, providing full northbound and southbound access, is critical for any future development of south Mount Vernon. This project will first require an Access Revision Report approved by FHWA. An ARR is a multimodal traffic operations/safety analysis on the street network and Interstate 5 to identify strategies and alternatives that would best address the problem and identified need on the regional system.	Roadway	\$\$	Short	Medium	●	○	●	○	◐	●
66	Mount Vernon	Hickox Road	New road connection.	Roadway	\$\$\$	Long	Low	○	○	○	●	○	○
61	Mount Vernon	Kincaid Street Corridor Improvements	This arterial is the gateway to downtown Mount Vernon providing access to Interstate 5, regional transit and rail service, and the South Kincaid Subarea Plan. Current planned improvements include a multi-modal complete streets design and roundabouts at 3rd Street and both Interstate 5 ramp locations, as well as railroad crossing enhancements. This project requires coordination with WSDOT.	Roadway	\$\$\$	Short	Medium	●	●	●	○	○	●
67	Mount Vernon	Replacement of Division Street Bridge	Replacement of WSDOT's existing bridge. A Division Street (SR 536) bridge study is identified to help determine the feasibility of replacing the bridge structure and requires the coordinated development of Practical Solutions with WSDOT.	Roadway	\$\$\$	Long	Medium	●	●	○	●	○	●
62	Mount Vernon	Skagit River Pedestrian Bridge	The Skagit River Bridge has a minimal sidewalk on one side and no separated bike lanes; sharing 12-foot lanes with traffic. The concept is to develop a separate 10-foot structure across the Skagit River to accommodate both pedestrian and bicycle traffic across the river. A Division Street (SR 536) bridge study is identified to help determine the feasibility of constructing a separate structure or other feasible crossing alternatives. Projects on state highways require the coordinated development of Practical Solutions with WSDOT.	Non-Motorized	\$\$\$	Short	Medium	●	○	●	●	○	●
68	Swinomish	SR 20 Safe Access Improvements	Design and construct acceleration and deceleration lanes and associated intersection improvements at the SR 20 intersections of South March's Point Road and Padilla Heights Road. Design and construction intersection improvements and non-motorized pathway connections at the nearby intersections of Casino Drive with South March's Point Road and Long John Drive with Padilla Heights Road. Projects on state highways require the coordinated development of Practical Solutions with WSDOT.	Roadway	\$\$\$	Short	High	●	◐	●	●	◐	●
57	WSDOT	2021-2030 Vessel Replacements	Replace existing vessel with 144-car electric-hybrid Olympic class vessel.	Ferry	\$\$\$\$	Short	High	◐	●	●	●	●	●
58	WSDOT	2031-2045 Vessel Replacements	Replace four existing vessels with three 144-car electric-hybrid Olympic class vessels, and one 114-car electric-hybrid interisland vessel.	Ferry	\$\$\$\$	Long	High	◐	●	●	●	●	●
56	WSDOT	Anacortes Terminal Replacement	Construction of a new terminal building, including terminal electrification in coordination with electric-hybrid vessel deployment. This project requires coordination with Anacortes.	Ferry	\$\$\$\$	Short	High	◐	●	◐	●	●	●
59	WSDOT	I-5 Active Traffic Management	A wide range of technologies and strategies used to optimize traffic throughput and improve safety during periods of peak travel demand, or when incidents and events occur that affect traffic flow and safety. Active Traffic Management may include adaptive ramp metering, adaptive intersection signal systems, variable message signs, variable speed limits and lane use control signs. This project requires coordination with Skagit County, Mount Vernon and Burlington.	Intelligent Transportation Systems	\$\$\$\$	Long	High	●	●	●	●	○	●

Section 5: Transportation Improvements & Programs

Evaluating Projects

The least-cost planning methodology utilized in Skagit 2045 included the consideration of projects costs, timing, dedicated project funding, and a project-level evaluation using the six regional priorities from Section 4: Transportation Priorities & Policies. The results of project-level evaluation for each priority is displayed in the project tables. For each project, a full circle indicates fully addressing a priority, a partial circle indicates it partially addressing a priority and an empty circle indicates not addressing a priority. Criteria utilized to evaluate projects used data available to SCOG, from a range of sources. Together, the six priority results were combined to assign a relative priority for each Planned and Illustrative project: High, Medium or Low. Evaluation criteria addressing performance-based planning were included for performance measures included in **Appendix H**.

Travel Demand Modeling Scenarios

A regional travel demand model was used to determine the impacts of the proposed projects on the regional transportation system. The evaluation of future roadway improvements was based on 2045 land-use forecasts, the anticipated 2045 street network and resulting demand to travel across the Skagit region.

The regional travel demand model is a p.m. peak hour model, and is automobile based, not accounting for non-motorized or transit modes. The lane miles of highway and arterial links were evaluated as either approaching or exceeding their planning-level capacity using the link's volume-to-capacity ratio. **Exhibit 5-15** illustrates how the volume-to-capacity ratio correlates to modeled level of service.

Travel demand models are limited in how they represent human travel tendencies and choices. Models such as these provide a tool for estimating and comparing likely outcomes, not a prediction

of future traffic conditions. For this reason, some areas in the 2045 scenarios may have higher congestion problems than will actually be experienced. Likewise, congestion in other areas may be underrepresented.

While travel demand models are not crystal balls telling the future of the Skagit region, they are effective for assessing the relative impacts of growth. Further analysis and professional judgment should be used when estimating future travel behaviors in specific locations, to ensure traffic volumes predicted by the model are reasonable.

For Skagit 2045, four scenarios were modeled to help evaluate the impacts of the Skagit region's regionally significant projects:

1. **2018 Existing Scenario;**
2. **2045 Baseline Scenario;**
3. **2045 Planned Scenario;** and
4. **2045 Illustrative Scenario.**

Exhibit 5-16 through **Exhibit 5-19** display map plots from the four scenarios developed during the planning process. The map plots are exported from PTV VISUM software which SCOG uses to model traffic in the Skagit region. On the plots, Heavy Congestion equates to a volume to capacity of greater than one, with roadways exceeding capacity. While not possible for any roadway to exceed capacity in practice, for the model scenarios, these areas of Heavy Congestion do indicate where the street network begins to breakdown under the strain of increased demand for travel. This modeled breakdown of the street network is equivalent to LOS F in **Exhibit 5-15**.

2018 Existing Scenario

The 2018 Existing Scenario, displayed in **Exhibit 5-16**, models the

Section 5: Transportation Improvements & Programs

existing conditions of the regional transportation network. When the travel demand model was being developed, 2018 land-use and street-network data was the most recent available, and was used as inputs to the model. Inputs include employment and population information from 2018. This scenario was validated using traffic counts taken from around the Skagit region during the same year along with location-based services data, which includes smart phone location information.

Heaviest areas of traffic congestion occur on Interstate 5 between Mount Vernon and Burlington in the 2018 Existing Scenario. The Cook Road/Interstate 5 interchange and Division Street Bridge over the Skagit River also appear as congested areas in the scenario. Cook Road in Sedro-Woolley and State Route 20 in Burlington and Sedro-Woolley are other areas with higher levels of congestion.

2045 Baseline Scenario

The 2045 Baseline Scenario, displayed in **Exhibit 5-17**, uses the 2018 Existing Scenario as a starting point, and then includes employment and population forecasts out to 2045. Any projects on the regional transportation system that are already funded, either partially or fully, are included in this scenario. This scenario forecasts the impacts to the regional transportation system if no additional capacity expansions are made by 2045.

Traffic congestion is forecast to continue to worsen along I-5 in the 2045 Baseline Scenario, experiencing level of service F through parts of Mount Vernon and Burlington. Northbound traffic is modeled to be the most congested on this facility.

Roadways in the vicinity of the Cook Road/I-5 interchange also experience level-of-service F, as do all bridges over the Skagit River in Burlington and Mount Vernon.

2045 Planned Scenario

The 2045 Planned Scenario, displayed in **Exhibit 5-18**, is a “partial build” that utilizes the 2045 Baseline Scenario and adds all capacity

expansion projects that can be modeled and the Skagit region expects to occur by the end of the Plan’s timeframe.

This scenario notably reduces forecast traffic congestion at the Cook Road/I-5 interchange. However, most traffic congestion forecast for the Skagit region changes little with these planned improvements.

2045 Illustrative Scenario

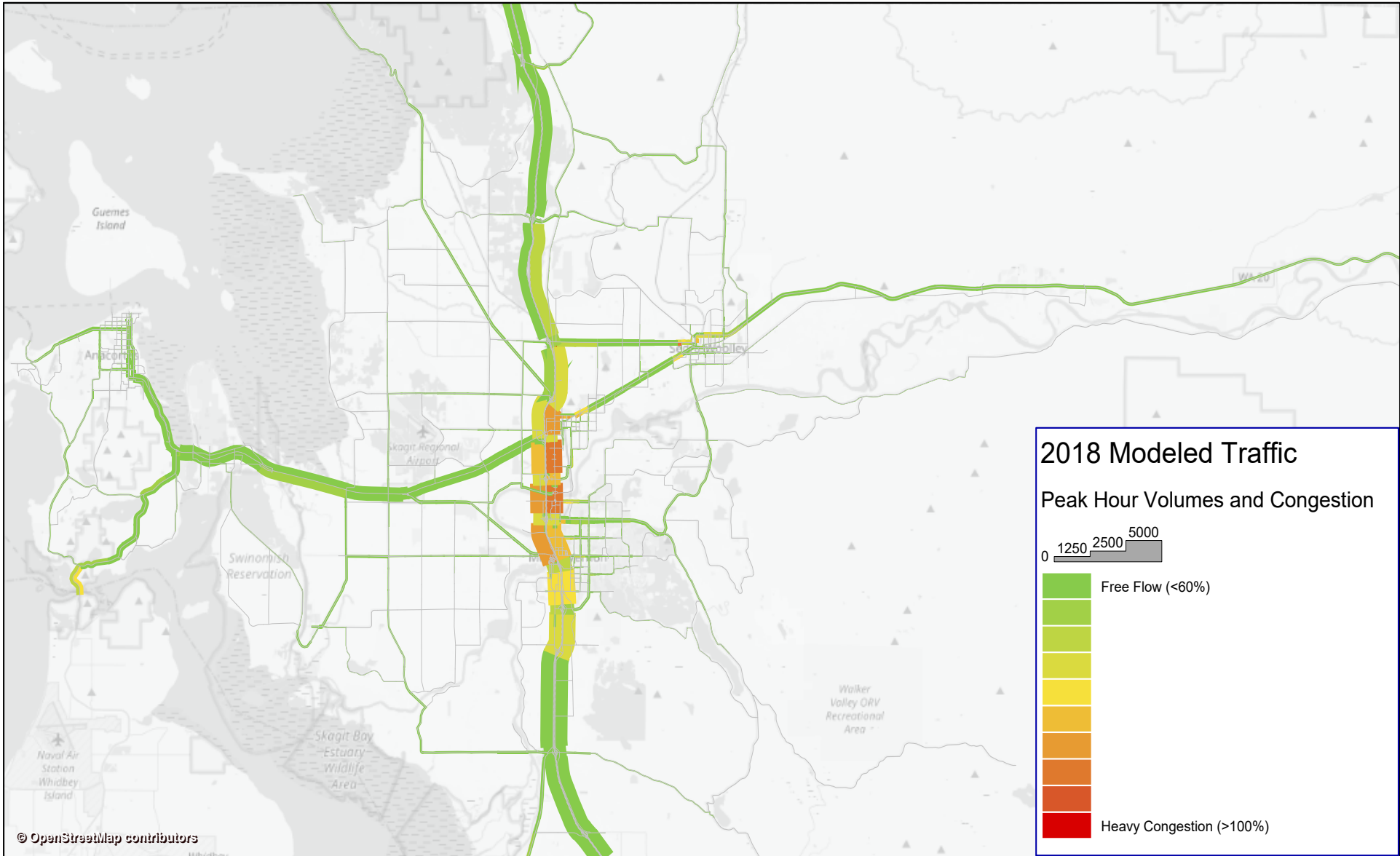
The 2045 Illustrative Scenario, displayed in **Exhibit 5-19** is a “full build”, includes all Planned capacity expansion projects and adds all Illustrative projects that can be modeled. This scenario forecasts what traffic would occur in 2045 if all the capacity expansion projects in Skagit 2045 were constructed during the Plan timeframe.

The 2045 Illustrative Scenario provides a new four-lane bridge over the Skagit River in downtown Mount Vernon, thus reducing traffic congestion on State Route 536 in Mount Vernon. However, capacity restrictions occur west of the proposed bridge, worsening traffic congestion nearby. Notably, WSDOT proposes active traffic management for Interstate 5 in the Skagit region that would improve traffic congestion, but operational and management strategies cannot be modeled in the regional travel demand model used for Skagit 2045.

Exhibit 5-15 Level of Service and Volume-to-Capacity Ratio

Level of Service (LOS)	Volume-to-Capacity Ratio
LOS A	<.60
LOS B	.60-.69
LOS C	.70-.79
LOS D	.80-.89
LOS E	.90-.99
LOS F	>.99

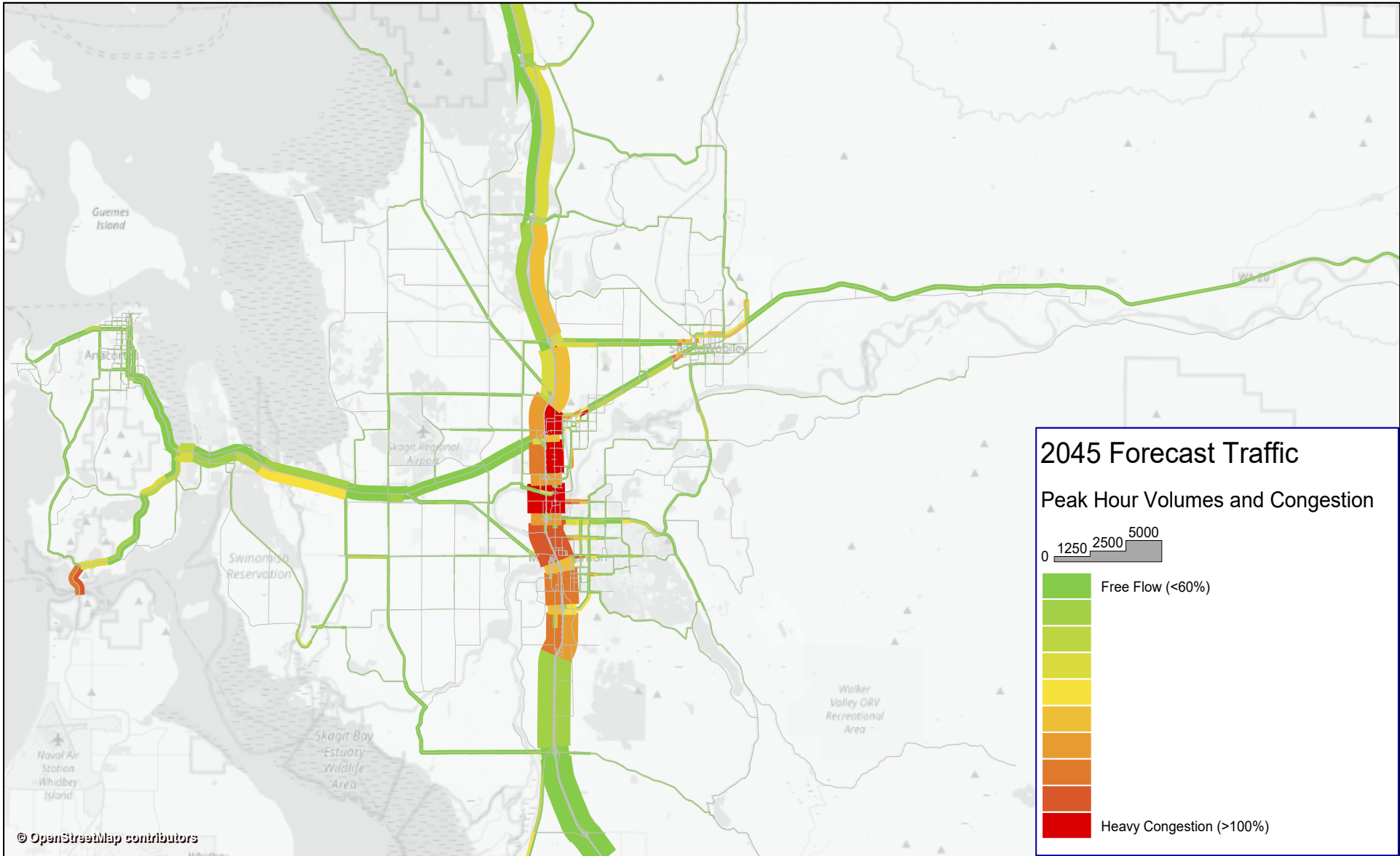
Note: Volume-to-capacity ratio is used as the level-of-service measure in SCOG’s regional travel demand model. Other service measures, such as delay at signalized intersections, speeds on urban street segments, and percent time-spent-following on two-lane highways may be appropriate for specific elements of the regional transportation system and local transportation systems. The latest edition of the Highway Capacity Manual should be referenced for determining which service measure is the most appropriate for the transportation system element being measured. Model results presented in Skagit 2045 provide a broad, regional perspective of the regional transportation system. Other LOS analyses are likely to yield results more appropriate to individual transportation facilities being reviewed.



VISUM 20.01 PTV AG

2018 Modeled Traffic
 Existing Scenario

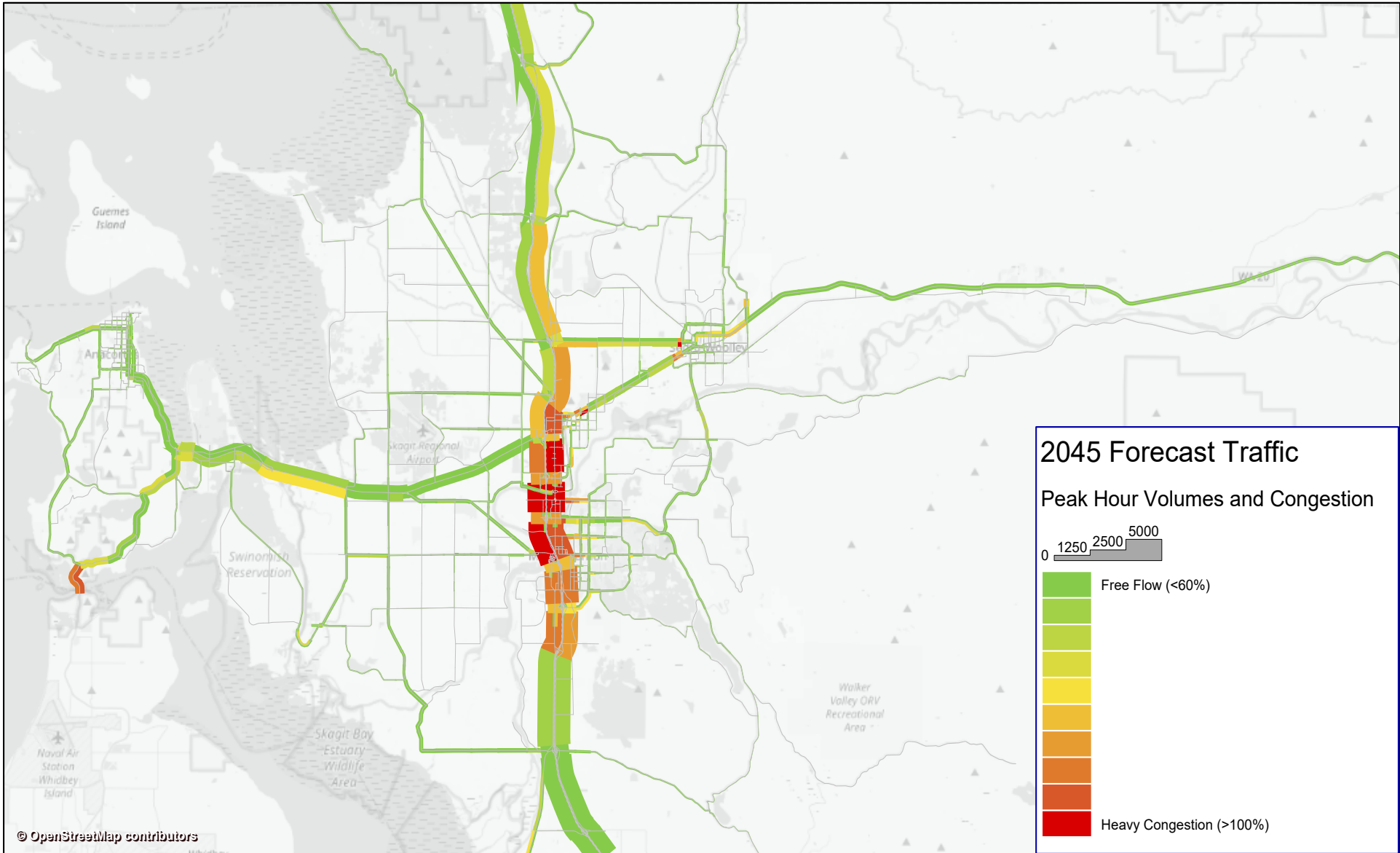
Exhibit 5-16 2018 Existing Scenario



VISUM 20.01 PTV AG

2045 Forecast Traffic
 Baseline Scenario

Exhibit 5-17 2045 Baseline Scenario

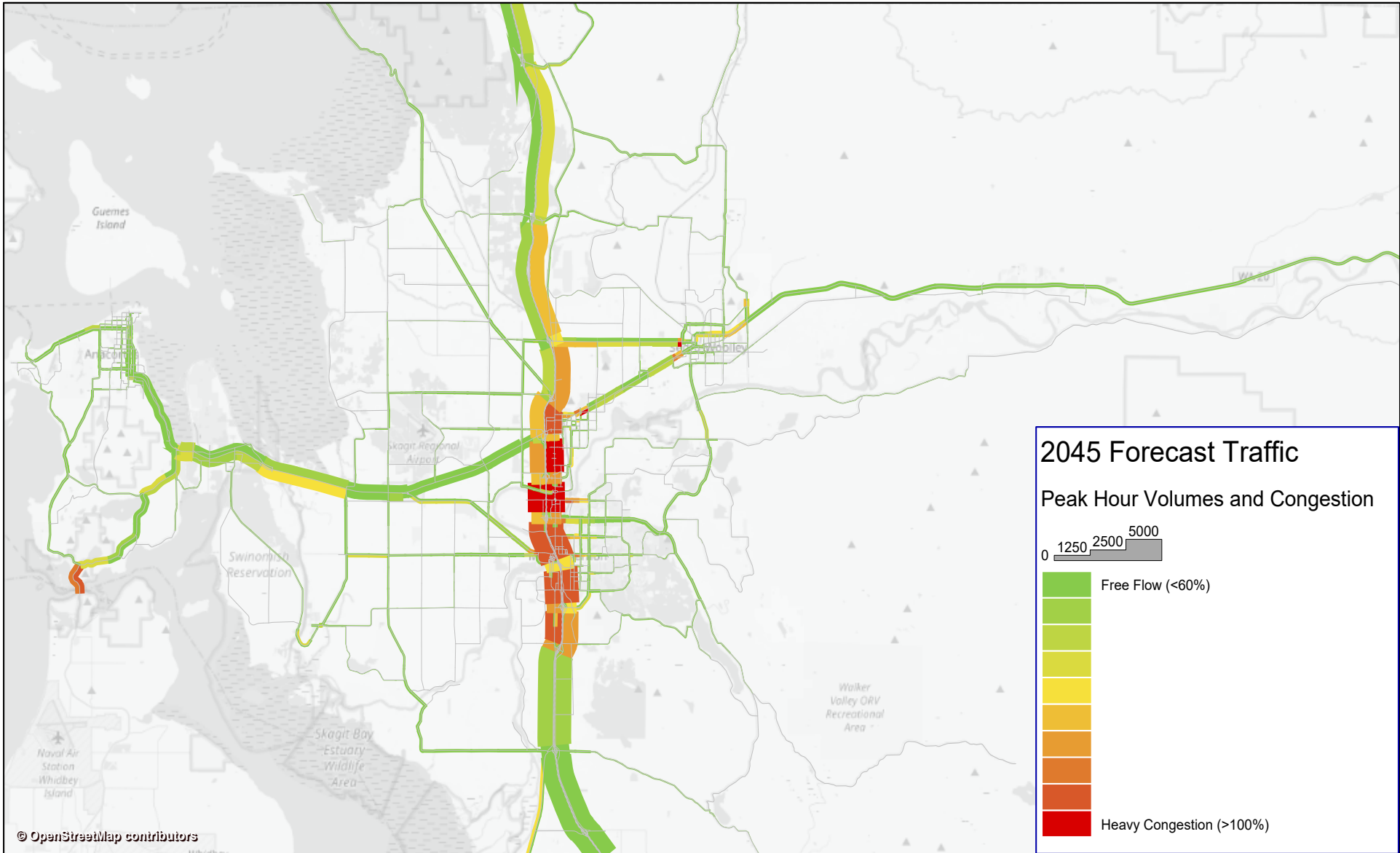


VISUM 20.01 PTV AG

2045 Forecast Traffic

Planned Scenario

Exhibit 5-18 2045 Planned Scenario



VISUM 20.01 PTV AG

2045 Forecast Traffic

Illustrative Scenario

Exhibit 5-19 2045 Illustrative Scenario

Section 5: Transportation Improvements & Programs

Evaluation of Scenarios

Performance measures provide policy makers and the public a framework for evaluating progress towards implementing regional transportation policies. The following performance measures were identified to assess the relative impacts of forecasted land-use growth and the benefits of Skagit 2045 system improvements. It is recommended that performance measures be monitored over time to assess the regional investment strategy incorporated into the Plan. The following charts show the relative change in some key transportation performance measures for the region. The charts show results for the four different model scenarios.

Lane Miles and Congestion

Lane miles are calculated by multiplying roadway segment length in

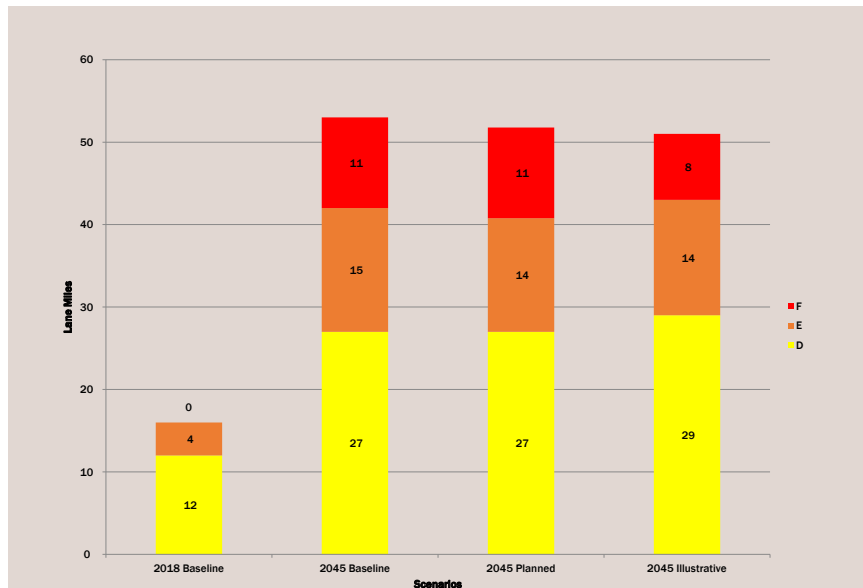


Exhibit 5-20 Comparison of 2018 and 2045 Lanes Miles and Level of Service

miles by the number of travel lanes, and summing for all segments included in the model. This measure helps identify how the capacity of the model network changes across the different scenarios. It also can be broken down by level-of-service threshold (see **Exhibit 5-15**) to illustrate how much of the modeled network operates at differing levels of service. **Exhibit 5-20** illustrates the levels of congestion for LOS D, E and F by lane miles for all four of the model scenarios. The 2018 Existing Scenario includes over 1,341 lane miles. Most of the network (1,323 miles) is modeled to operate at LOS C or higher. Less than half a mile is modeled at over capacity. Around 16 lane miles of congestion (model segments operating at LOS D, E or F) are modeled in the 2018 Existing Scenario.

The number of lane miles in the 2045 Baseline Scenario increases by six miles due to multiple local projects which are funded but not yet constructed. All other Funded projects that are not yet constructed do not add lane miles to the model network. Projects included in the 2045 Planned Scenario, such as the Trail Road extension and Blackburn Road extension, add an additional three lane miles to the 2045 Baseline Scenario network. Finally, large and/or long-term projects included in the 2045 Illustrative Scenario, such as the Division Street Bridge, add another eight lane miles to the 2045 Planned Scenario. Across all four scenarios, the total lane miles increase by 17 miles. The vast majority of roadway segments in each scenario are modeled to operate at LOS C or better. Lane miles of congestion operating at LOS D or worse are only a small portion of the total lane mileage in each scenario, ranging from 51 to 53 miles in 2045 forecast scenarios. This suggests that most Skagit County roadways have adequate capacity and that future capacity issues are primary limited to the I-5 corridor, bridges over the Skagit River, and other isolated locations.

Section 5: Transportation Improvements & Programs

Vehicle Miles Traveled

Vehicle miles traveled (VMT) is calculated by multiplying the segment length in miles by the volume modeled on that segment, and then summing for all of the segments in the model. Future land use growth in the region will add approximately 28% more vehicle miles traveled compared to 2018 Existing conditions, or an annual growth rate of about 1.4%. There is a slight decrease in VMT between 2045 Baseline and Planned scenarios, which reflects an increased ability to travel more directly between destinations due to planned roadway improvements. VMT increases again under the 2045 Illustrative Scenario. This increase is likely due to changes in route assignment of vehicle trips as new facilities, such as an additional bridge across the Skagit River in Mount Vernon, allow for vehicles to take longer detours around congested areas saving time yet increasing vehicle miles traveled. **Exhibit 5-21** shows VMT for each of the four scenarios.

Vehicle Hours of Delay

Vehicle hours of delay (VHD) is a measure of the increase in travel time for all travelers as a result of traffic congestion. Under 2045 Baseline conditions in the Skagit region, there would be approximately 1,771 hours of vehicle delay. The projects included in the 2045 Planned and Illustrative scenarios would reduce total VHD in Skagit County by 1.8% and 8.2%, respectively. **Exhibit 5-22** shows VHD for each of the four scenarios.

Programmatic Transportation Improvements

Regionally significant projects are not the only transportation improvements considered in Skagit 2045. Though not uniquely identified in the Plan, programmatic projects are integral to continued function of the regional transportation system. These programmatic projects address safety, traffic operations, maintenance and preservation, and environmental protection/restoration. Unlike regionally significant projects, programmatic projects are

Exhibit 5-21 Comparison of 2018 and 2045 Vehicle Miles Traveled

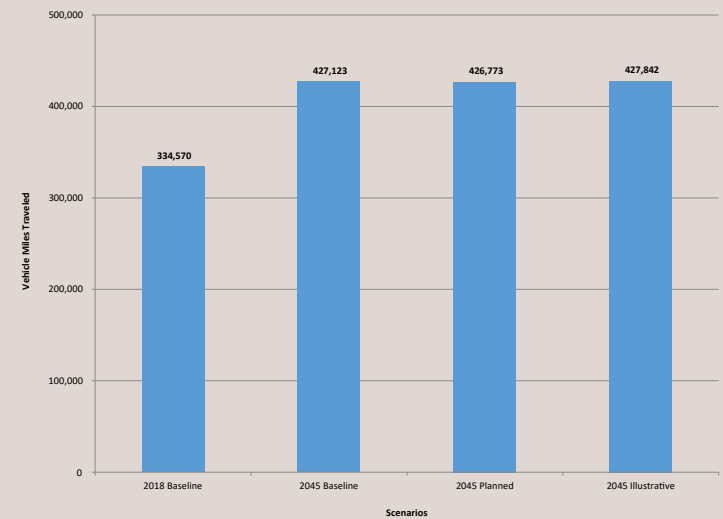
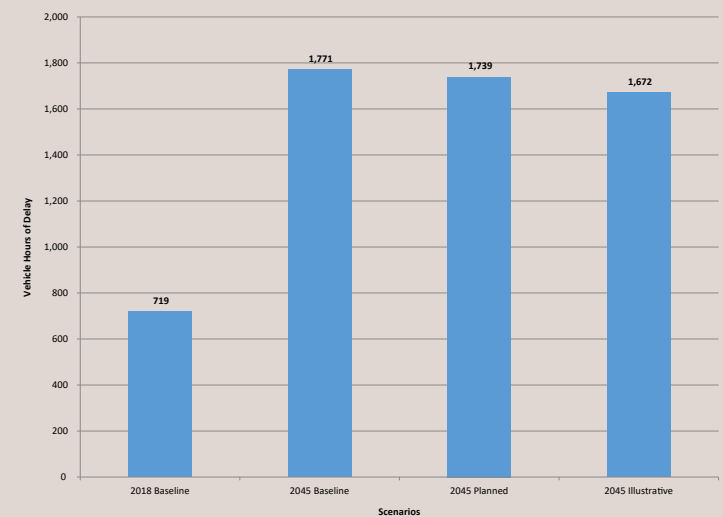


Exhibit 5-22 Comparison of 2018 and 2045 Vehicle Hours of Delay



Section 5: Transportation Improvements & Programs

not individually listed in Skagit 2045 because they are automatically considered to be consistent with the priorities of the Skagit region.

Efficiency Strategies

Improvements to corridors that address existing and forecast safety and operational issues are high priorities in the Plan. Also included are projects that reconstruct existing arterials to current standards to better handle forecast traffic volumes and improve non-motorized facilities. These improvements focus on effectively reducing safety and operational issues along existing arterials, but do not necessarily add additional capacity. They also support a range of travel modes, as automobiles, trucks, transit, pedestrians, and bicyclists use these key regional intersections and roadway links. Transportation system management including signal timing upgrades, Intelligent Transportation Systems, and access management strategies, will also be incorporated in the existing corridors. While not listed individually in Skagit 2045 project lists, these programmatic improvements are accounted for in the Plan's financial assumptions.

Maintenance and Preservation

A major priority of Skagit 2045 is to encourage effective maintenance and preservation of prior transportation investments. Any needed maintenance activities, particularly those on the regional transportation system, are consistent with Plan priorities.

The cost of maintaining and preserving the regional transportation system is directly related to its size and the level of service expectations established for each community. Due to the high cost of maintaining and preserving the regional transportation system, difficult decisions may have to be made regarding the tradeoffs of investing in maintenance and preservation, or expanding capacity. Choosing to fund a capacity expansion project that will reduce congestion could mean deferring maintenance on other transportation facilities, potentially lowering the level of service of the

regional transportation system as a whole. Funding eligibility requirements add further complications to the decision. A dialogue with the public should help inform the proper balance of transportation funding allocations for each jurisdiction.

Transit and Transportation Demand Management

The Skagit 2045 framework includes strategies for increasing transit mode share and capacity to meet the future travel demands throughout the Skagit region. Strategies to reduce peak period travel demands also are included. The transit and transportation demand management strategies include:

- Improving transportation services for people with special needs, including those dependent on transit;
- Attracting riders to transit services that may otherwise choose an automobile for travel;
- Expand park-and-ride facilities to connect transit services to drivers and passengers of automobiles, and provide connections to different transit routes and services offered by various transit agencies;
- Expanding fixed-route service coverage in the public transportation benefit area, and express services connecting to neighboring regions;
- Extending service hours;
- Targeting transit service to larger employers; and
- Enhancing transit service to regional destinations.

Other Projects

Skagit 2045 is a fiscally constrained plan which must set priorities since available funding is not expected to meet all identified needs during the Plan's 25-year timeframe. The Plan acknowledges that there are a range of needed improvements, both regional and local, that are desirable to meet the overall transportation needs of the region.