

# SKAGIT COUNTY

## TRANSPORTATION ELEMENT

### TECHNICAL APPENDIX

The review and proposed revisions to the Transportation Element for the 2016 Skagit County Comprehensive Plan Update are focused on complying with Growth Management Act (GMA) requirements, updating the plan data and policies, and streamlining documents that make up the element. Regarding that final point, the attached 2016 Transportation Element Technical Appendix is proposed to replace the existing Transportation Systems Plan (TSP) and consists of the following: transportation system inventory, land use assumptions, travel forecasts, Level of Service (LOS) Standards, current and future transportation needs, and a transportation financial plan. Many details not required by GMA and not being used by Skagit County are proposed for removal as the Transportation Systems Plan becomes the Transportation Technical Appendix.

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## 1.0 INTRODUCTION

Transportation is an important issue that affects people's daily life and influences the local, regional and state economy, the overall quality of life, and the environment. Other factors, such as land use and development patterns, influence the overall design, funding, and efficiency of the transportation system. A safe, efficient and cost effective transportation system is an important issue for Skagit County. The periodic Comprehensive Plan Update is an opportunity to analyze the existing system, identify needs, develop funding and strategies for implementation, and establish policies that meet the desires and needs of the County.

The Transportation Technical Appendix for Skagit County's 2016 Comprehensive Plan Update addresses several of the GMA requirements for transportation planning including:

- System Inventory
- Level of Service (LOS) Standards
- Travel Forecast
- State and Local System Needs
- Transportation Improvement Program and Financing Plan
- Non-motorized Transportation

## 2.0 TRANSPORTATION SYSTEM INVENTORY

The starting point for the development of a transportation systems plan is to inventory and summarize the usage of the transportation facilities, services, and programs. Some discussion is made below on all types of transportation in the County. Much more detail is presented for those facilities, services, and programs that are under the jurisdiction and responsibility of the County (i.e. County road system and Guemes Island Ferry).

### 2.1 STREETS, ROADS + HIGHWAYS

The most important component of the overall transportation system in Skagit County is the network of streets, roads and highways that traverse the County. This network, under the jurisdiction of various governmental entities, functions as one interconnecting transportation system. This network is used primarily to accommodate auto and truck traffic, as well as transit and non-motorized modes, in the movement of people and goods within and through Skagit County.

#### Jurisdictional Breakdown

The jurisdiction over the surface transportation system of Skagit County is divided among several different agencies. All state highways and Interstate 5 (I-5) are under the jurisdiction of Washington State Department of Transportation (WSDOT). City streets are under the jurisdiction of the eight different cities or towns in the County. There are also private roads, forest service roads, and roads under Indian tribal jurisdiction (Swinomish, Upper Skagit, and Sauk tribes). The largest amount of

surface mileage belongs to the County road system under the jurisdiction of Skagit County. Each of these various jurisdictions has the responsibility to maintain and improve their own streets, roads and highways, and each generally will have its own set of road standards or something similar.

Map A1 in Appendix A show the overall street, road, and highway inventory in Skagit County. The state and interstate highways (shown in shades of green) provide the backbone for the overall system. The County road network (shown in red) provides for both access and the movement of goods and services. The major city streets are shown in black.

I-5 is the central north/south link in Skagit County, with SR-9, SR-11 (Chuckanut Drive) and SR-530 (Rockport to Snohomish County) also providing north/south connections. In the east/west direction, SR-20 is the central link crossing through six of the eight cities and towns of Skagit County. Other east/west highways making shorter connections are SR-536 (Memorial Highway), SR-538 (College Way), and SR-534 connecting Conway and Lake McMurray. While the state and federal highway system provides a basic structure for the surface transportation system in Skagit County, it is the extensive nature of the county road system itself that truly fills out the overall interconnecting County-wide network.

The County maintains an inventory of mileage figures for streets, roads and highways in Skagit County were by federal functional classification (FFC). Approximately 800 miles of publicly owned and maintained County roads and 275 miles of private roads currently exist in the County. Of the 800 miles of public roads in the County approximately 108 miles are classified as urban. Exhibit 2 identifies the miles of road by functional class and the total number of county owned roads.

## Federal Functional Classifications

Travelers are not concerned with which jurisdiction owns and operates the transportation system when making travel choices. What is important from both a traveler's viewpoint and a systems planning viewpoint is how the various streets, roads and highways actually function in carrying traffic. Since 1976, the Federal Highway Administration has required local jurisdictions to functionally classify streets, roads, and highways to be eligible for funding programs. The State of Washington also has similar requirements. The federal functional classification of local streets and County roads has become a planning tool locally as well. Road standards and other local programs are structured around this functional classification.

The U.S. Department of Transportation updated the Federal Functional Class (FCC) system in 2013. However, Skagit County utilizes the system in place before 2013 based on WA State Law. Exhibit 1 identifies the current FFC system used by Skagit County.

**Exhibit 1. Federal Functional Classification**

FCC Description	FCC Code
<b>Rural</b>	
<b>Rural Interstate</b>	01
<b>Rural Other Principal Arterial</b>	02
<b>Rural Minor Arterial</b>	06
<b>Rural Major Collection</b>	07
<b>Rural Minor Collector</b>	08

<b>Rural Local Access</b>	09
<b>Urban</b>	
<b>Urban Interstate</b>	11
<b>Urban Other Freeways/Expressways</b>	12
<b>Urban Other Principal Arterial</b>	14
<b>Urban Minor Arterial</b>	16
<b>Urban Collector</b>	17
<b>Urban Minor Collector</b>	18
<b>Urban Local Access</b>	19

Source: WSDOT, 2015; BERK, 2015

The federal government's functional classification system divides each County into "urban" and "rural" designations, and has a classification scheme to categorize all the streets, roads, and highways within each. Cities within "urban areas" over 5,000 in population are required by the federal government to functionally classify their streets based on the urban classifications. Streets in the smaller cities and towns are included in the rural functional classification system that covers all areas outside of "urban areas". All but one of the rural classifications have an equivalent classification in the urban system.

In Skagit County there are four incorporated cities of greater than 5,000 in population which have designated "urban areas." These cities are Mount Vernon, Burlington, Sedro-Woolley and Anacortes. Because these "urban areas" sometimes extend beyond the city limit boundaries, a small portion of the County road system lies within the "urban areas" and the affected roads are given urban classifications. There are four other cities and towns that are less than 5,000 in population and not considered urban in the FCC system, but that are considered urban under the Skagit County Comprehensive Plan and State Growth Management Act: Concrete, La Conner, Lyman and Hamilton.

The FHWA and WSDOT review the Functional Classification System in conjunction with RTPO/MPO's who receive input from the County. This Map is updated and maintained by WSDOT on an ongoing basis throughout the year incorporating any changes as needed. This interactive map can be viewed online at: <http://www.wsdot.wa.gov/mapsdata/travel/hpms/functionalclass.htm>

Within the transportation system, the roads, highways, and, in some cases, city and town streets are categorized into a hierarchy of classifications for the purpose of channelizing traffic throughout the County. The classifications are further divided between urban and rural designations. Long trips would tend to be channelized onto the highest classified facilities, while short trips may simply take the most direct route to the destination. Looking at it in another way, the highest classifications focus on mobility (efficiently getting from one location to another) while the lowest focus on access to property. The middle classifications provide both mobility and access. Since the system works as an interconnecting network, it is probable that an individual trip could involve the use of several facilities with various classifications.

There are different factors that come into play in the designation of an appropriate classification for a specific road or highway. The most important is the nature of the traffic that is served. For instance, a sizable portion of the traffic on SR-20 west of I-5 has an origin or destination outside the County. Thus, it should receive a high classification. Some of the other factors that come into play are the physical qualities of the existing facility, traffic level, and spacing (distance between parallel roads of the same

classification). There are also parameters as to the percentage of the total county system that should fall under each classification. Based on the Federal Functional Classifications listed on page 5 above, each classification is described below:

The FCC system is divided into the following functional classifications including urban and rural designations for each classification:

**Interstates (01, 11).** Per FHWA guidance, “Interstates are the highest classification of Arterials and were designed and constructed with mobility and long-distance travel in mind.” Designated Interstate Highways. I-5 is the only designated Interstate in Skagit County. Within the Mount Vernon, Burlington, and Sedro-Woolley Urbanized Area it is considered an Urban Interstate and outside of this it is considered a Rural Interstate.

**Urban Other Freeways/Expressways (12).** Other Freeways/Expressways are described as follows by FHWA: “the roads in this classification have directional travel lanes are usually separated by some type of physical barrier, and their access and egress points are limited to on- and off-ramp locations or a very limited number of at-grade intersections.” Skagit County managed roads do not have any freeways or expressways. Based on State functional classification maps, portions of SR 20 are considered Other Freeways/Expressways, generally at Farm to Market Road and westward towards Anacortes, though some stretches are also considered Other Principal Arterial.

**Other Principal Arterial (02, 14).** Other Principal Arterials “serve major centers of metropolitan areas, provide a high degree of mobility and can also provide mobility through rural areas. Unlike their access-controlled counterparts, abutting land uses can be served directly.” From WSDOT’s Functional Classification Map it can be seen principal arterials in Skagit County include most portions of SR-20 west and east of I-5, Riverside Drive, S Burlington Boulevard, Anderson Road, and South La Venture Road. Within the area managed by Skagit County Public Works, 0.5 roads are considered Principal Arterials

**Minor Arterial (06, 16).** Based on Federal Functional Class descriptions: “Minor Arterials provide service for trips of moderate length, serve geographic areas that are smaller than their higher Arterial counterparts and offer connectivity to the higher Arterial system. In an urban context, they interconnect and augment the higher Arterial system, provide intra-community continuity and may carry local bus routes.” Spacing also comes into play in the designation of minor arterials. The main minor arterials in Skagit County are SR-20 east of SR 9 and roads in and around the Airport such as Peterson Road, Josh Wilson Road, Avon Allen Road and portions of Farm to Market Road, both of which provide inter-county connections. March's Point Road is classified as an urban minor arterial. (It is within the Anacortes "urban area.") The oil refineries and deep-water port activities there provide the traffic generation to justify this high classification.

**Major /Urban Collectors (07, 17).** The heart of the County road system is comprised of the two collector classifications, major and minor. The major collectors serve various traffic generators not served by arterials and link these generators to cities, towns and arterial routes. “Generally, Major Collector routes are longer in length; have lower connecting driveway densities; have higher speed limits; are spaced at greater intervals; have higher annual average traffic volumes; and may have more travel lanes than their Minor Collector counterparts.” Some of the important major collectors are SR 9, Cook Road, Fir Island Road, Best/Farm to Market Road, La Conner-Whitney Road, Rosario Road, McLean Road, Bow Hill Road, and Avon Allen/Ershig Road. Many of the Major Collectors are in the agricultural area of the county. It is interesting to note that two of the state routes, SR-534 and SR-9 are classified as major collectors rather than the higher classifications because of their traffic level and function.

**Minor Collectors (08, 18).** The minor collectors complete the interconnecting network in the County by linking local roads, other small communities, and the rural hinterland to the road and highway system of

the County. Examples of minor collectors are Beaver Marsh Road, Calhoun Road, Lake Cavanaugh Road, and Samish Island Road.

**Locals (09, 197).** All other county roads not classified at a higher level are called "local" roads, "local access" roads, or simply "locals". Their primary purpose is to provide access to adjacent land. Local Roads "are not intended for use in long distance travel, except at the origin or destination end of the trip, due to their provision of direct access to abutting land."

As you move up the list of classifications, the traffic volumes and speeds increase. Typically, a local access road has a low volume and a posted speed of 25 MPH to 35 MPH. On the other end, a major collector has a high number of vehicles traveling the road and is posted from 35 MPH to 50 MPH. The functional classification of a road is often used to determine eligibility for certain types of state and federal funding.

Within the County public road system, exclusive of private roads and those managed by WSDOT and the cities, out of about 800 total road miles there are about 157 miles of rural major collectors, about 153 miles of rural minor collectors, about 374 miles of rural local roads, and about 108 miles of several urban classifications. This information is depicted in Exhibit 2 and Exhibit 4.

**Exhibit 2. Miles of County Public Roads by Federal Functional Class**

<b>Miles by Federal Functional Class</b>	
Rural Minor Arterial	9.4
Rural Major Collector	156.6
Rural Minor Collector	153.1
Rural Local Access	373.6
Urban Other Principal Arterial	0.5
Urban Minor Arterial	17.6
Urban Collector	13.9
Urban Minor Collector	5.0
Urban Local Access	71.4
<b>*Total:</b>	<b>801.0</b>

Source: Skagit County, 2015

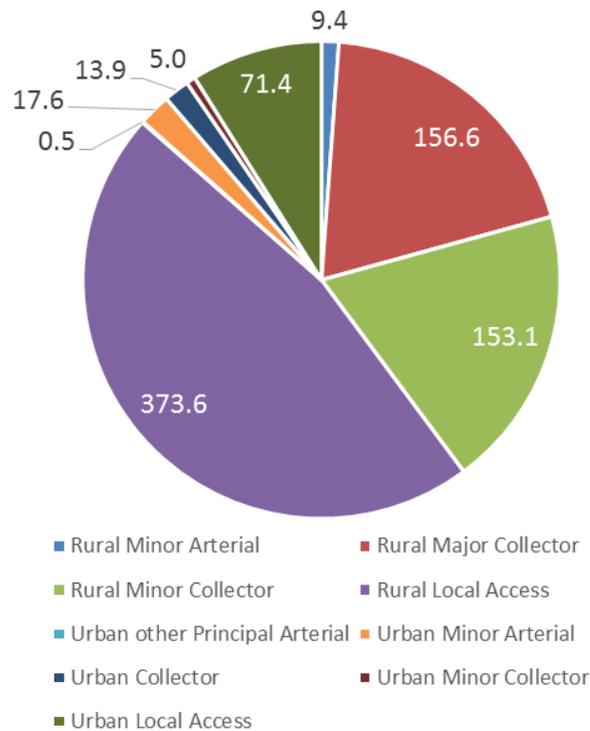
\*Note: difference due to rounding.

**Exhibit 3. Miles of State Highways by Federal Functional Class**

Hwy	Functional class	Miles
I-5	Interstate	24.97
SR 9	Minor arterial & Major collector	29.15
SR 11	Major collector	14.11
SR 20	Other Freeway & Other principal	74.59
SR 20	Minor arterial	11.94
SR 20	Other freeway & Other principal	7.78
Spur	arterial	
SR 530	Major collector	14.96
SR 534	Major collector	5.08
SR 536	Minor arterial	5.38
SR 538	Minor arterial	3.67
<b>Total</b>		<b>191.63</b>

Source: WSDOT, 2015

**Exhibit 4. County Road Miles by Functional Classification**



Source: Skagit County, 2015

## Trucking & Freight Routes

The Washington Department of Transportation (WSDOT), with the assistance of the Association of Washington Cities (AWC) and the County Road Administration Board (CRAB) classifies roadways, freight railroads and waterways within Washington as the State's Freight and Goods Transportation System (FGTS). The classifications are updated periodically and the most recent FGTS report was completed in early 2016. The CRAB is required to develop and maintain a County Freight and Goods System (CFGS) to provide consistent data for designation and classification of the FGTS. The FGTS system for Skagit County and its cities is shown on Map 2A in Appendix A.

The WSDOT FGTS designation has three major objectives:

- A. To identify critical roadway segments for freight and goods movement in the State of Washington.
- B. To identify which of these critical segments have not been constructed and maintained to standards which are compatible with this role (i.e. "all-weather road").
- C. To estimate the costs of bringing segments up to a reasonable standard for freight and goods movement, and maintain them at this standard over the next 20 years.

The FGTS designations are based on estimates of annual gross tonnage hauled.

- T-1 more than 10 million tons per year
- T-2 4 million to 10 million tons per year
- T-3 300,000 to 4 million tons per year
- T-4 100,000 to 300,000 tons per year
- T-5 at least 20,000 tons in 60 days and less than 100,000 tons per year

For rural Skagit County, the facilities with the highest FGTS designations include the entire length of I-5 (Tier 1), and SR-20 from I-5 to Anacortes (Tier 2 to Anacortes, Tier 3 for the SR20 Spur from Commercial Ave. to the Ferry Terminal). SR-20 from Burlington to Anacortes carries an estimated 10,000,000 annual tonnage and is considered Tier 2. Cook Road from I-5 to Sedro-Woolley is designated as Tier 2. The majority of Skagit County's FGTS designations are within the range of 3,000,000 to 34,000,000 tons per year. The remaining state highways in the County along with a number of County roads are included in the T-4 classification- in the FGTS system. In the cities, the streets receiving FGTS designation tend to be those with the highest functional classifications.

## Scenic Roads & Highways

There are a number of reasons why Skagit County is ripe for the development of a program to help preserve the County's scenic roads and highways. First, Skagit County is less developed than some other counties in Western Washington. Most of the County's natural scenic resources still remain intact. Second, with the mountains on the eastern side, the agricultural fields in the flats, and the islands and the Puget Sound to the western side, the County's road and highway system traverses some of the most scenic areas in the State. Third, there is a desire by local citizens to try to preserve the rural character of Skagit County. An important aspect of this is the preservation of scenic roads and highways.

There are several programs at the State and Federal level that are currently involved in the preservation of scenic roads and highways. Working in conjunction with these programs would give Skagit County a place to begin in the development of its own program to preserve scenic roads and highways. The current State and Federal programs are reviewed below.

## Washington Scenic and Recreational Highways Program

WSDOT has now combined the Scenic and Recreational Highways Program, the Highway Heritage Program, and local management of the federal Scenic Byways Program (discussed below) into a single Heritage Corridors Program for the State of Washington. One of the approaches of this program is to downplay jurisdictional divisions and focus on the scenic transportation corridors in a comprehensive or unified way. In some cases, the highway or road jurisdiction could change along the corridor, so the involvement of multiple jurisdictions is critical.

Scenic and Recreational Highways were originally designated in the State of Washington in 1967 in response to a desire for the removal of billboards along State highways. In 1991 new formal designation criteria were developed, and in 1993 the Scenic Highway designation list was updated.

There were two highway links in Skagit County on the original list. They are: 1) SR-20 in the eastern part of the County from about three miles east of Sedro- Woolley to the eastern County line, and 2) SR-20 on Fidalgo Island from Sharpe's Corner to Deception Pass. The 1993 additions to the list include: the remainder of SR-20 from Sharpe's Corner to east of Sedro-Woolley; the entire length of SR-9; and Chuckanut Dr/SR-11 from I-5 to the Whatcom County line.

SR20 is now part of the "Cascade Loop" Scenic and Recreational Highway that includes the Whidbey Island Scenic Byway, the North Cascades Scenic Highway, and the Stevens Pass Greenway National Scenic Byway.

I-5 in Skagit County was also recently designated the State's first and only Agricultural Scenic Corridor. Signage identifying the scenic corridor designation was installed in January of 2012. Agricultural Scenic Corridors are those that "showcase the state's historic agricultural areas and promote the maintenance and enhancement of agricultural areas" (RCW 47.39.010). The full description of the designation in the law is: "State route number 5, beginning at the junction with Starbird Road in Snohomish county, thence northerly to the junction with Bow Hill Road in Skagit county, to be designated as an agricultural scenic corridor with appropriate signage" (RCW 47.39.020(4)).

## County Road System

The Skagit County public road system is comprised of over 800 miles of paved and graveled roads that have been established by the Board of County Commissioners as County roads. These roads lie outside of incorporated city boundaries and are the responsibility of the County to build and maintain. In this section, various aspects of the County road system are presented. The tables, figures and appendices displayed here come from a combination of sources, primarily from the County's Roadway Inventory system, Mobility, which houses both the Pavement Management System and the County Roadlog, – this is the County's roadway inventory management system. Mobility is an online system provided to Skagit County by Washington State's County Road Administration Board (CRAB). As the information is entered on a continuing basis throughout the year(s), some minor discrepancies are found and corrected in the data, such as road mileage and pavement type. Since County road mileage changes over time, temporal differences often explain the discrepancies.

Detailed listings of all road segments from the Roadlog and from the Pavement Management System are available upon request from Skagit County Public Works.

## Road Information Systems

Skagit County has several programs that monitor and maintain road related information in support of its responsibilities for the County road system. These programs all incorporate computerized databases and some include additional analytical tools. Together, these can be referred to as road information systems.

In discussing the road related databases, the first one that needs mentioning is the Mobility. It not only includes the official Roadlog along with various other road inventories, but also includes the database component of broader information programs like the Pavement Management System which monitor and forecasts pavement conditions and the Maintenance Management System (MMS) that tracks road maintenance activities.

## Mobility

The most comprehensive County road database is called Mobility. This system was developed and is supported by the County Road Administration Board (CRAB). The System is divided into various inventories including a detailed Roadlog, reference points, traffic collisions, pavements, signs, guardrails, culverts, striping, signals, and street lighting. This system allows for very quick access to any information in Mobility for any specific road location. It also provides a relatively easy method for creating summary reports on the information contained therein.

The Roadlog is the most important of the inventories of Mobility. It divides every road in the County into individual segments, generally less than one mile in length. The database contains a detailed record for each road segment, including such items as street name, milepost, length, functional class, average daily traffic, and vehicle miles of travel or VMT. The Roadlog in Mobility is the official state road listing for Skagit County and is used to help determine the County's motor vehicle fuel tax allocation.

## Pavement Management System

Skagit County has established a program to continuously evaluate and rate the condition of the pavement on all paved roads in unincorporated Skagit County. The rating methodology, the sampling program, the database in which the rating results are kept, and the forecasting capabilities are referred to as the Pavement Management System. Skagit County's Pavement Management System is a component of Mobility.

Like the roadlog, the Pavement Management System is a road segment based system. The pavement condition of each segment is periodically field checked and rated on several qualities. Several ratings are merged into one "pavement condition rating." The pavement condition rating is an important factor in deciding which roads and road segments are to be scheduled for maintenance or improvement projects.

In addition to the pavement condition rating, there are several other useful data items contained in the PAVEMENT MANAGEMENT SYSTEM database. The data in this system includes road name, milepost, cross streets, segment length, functional class, pavement width, shoulder width, shoulder type, year, pavement type, and year rated.

## Traffic Count Program

The Transportation Programs section of the Public Works Department has developed a detailed traffic counts program that monitors the traffic levels on County roads. In this program counts are typically taken for three-day periods in order to establish both daily and hourly variations in traffic. Selected roads are counted monthly throughout the year using a seven-day count period in order for seasonal factors to be developed. Using these seasonal factors, counts can be taken in any week of the year and be converted into accurate estimates of yearly traffic for specific roads or areas, and is commonly known as Average Annual Daily Traffic (AADT).

The traffic count program has become an excellent tool for monitoring various aspects of traffic on the County road system. Skagit County is currently performing counts for the cities of Anacortes, Burlington, Mount Vernon, and Sedro-Woolley. Once the data is compiled it is sent to the RTPO/MPO to be entered into the regional traffic model, the model being housed and maintained at SCOG.

## Maintenance Management Program

A major responsibility of the Public Works Department is to maintain all the County roads. In support of this responsibility, the Department has the Maintenance Management System, a computerized database that monitors all maintenance activities. This system includes inventories of road features, pavement, ditches, and other road related items that impact maintenance activities. It keeps track of staff resources allocated, equipment usage, and material needs based on specific maintenance activities accomplished. The Maintenance Management Program is used as a tool for maintenance activity programming and for budgeting.

## Service Requests

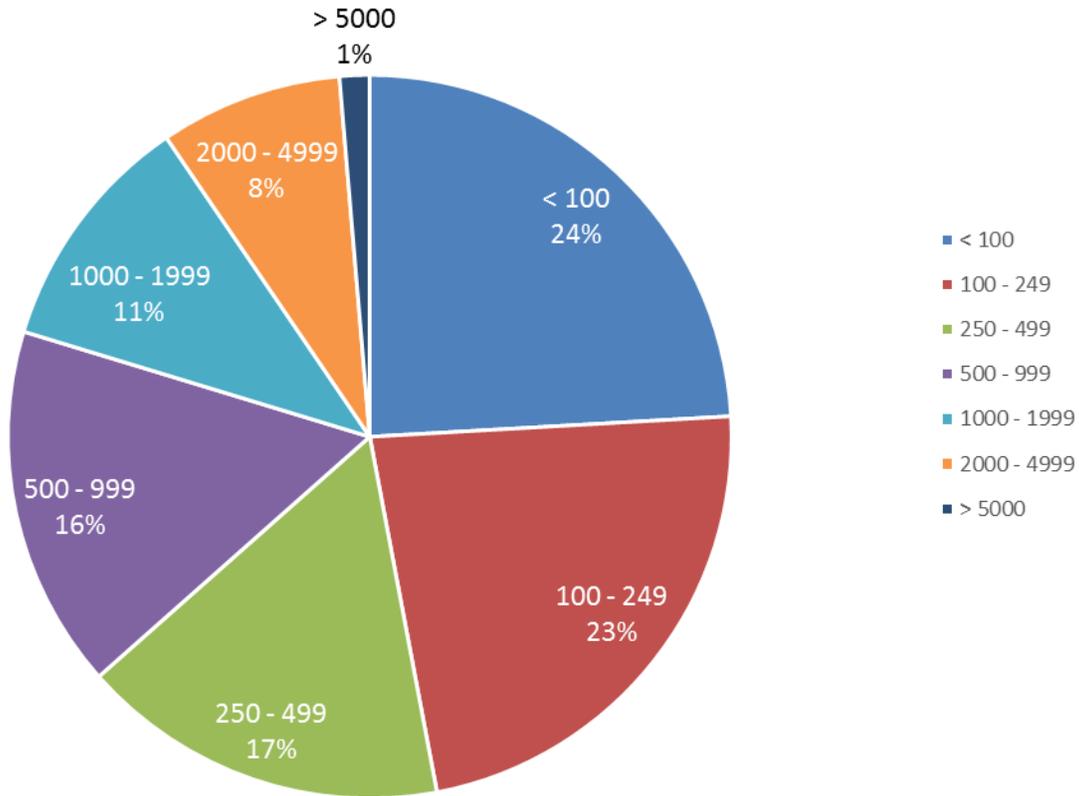
In conjunction with both the County's road maintenance program and the traffic safety program, the County has a formalized system to handle road related service requests from the public. Each time information is received from the public that there is a specific problem or need that requires attention, a service request initiated and is then processed in a systematic way. For minor requests that can be easily accommodated, the request is simply carried out right away. For more extensive requests, the requesting citizen is kept up on the request's status through the process. After staff has been assigned to handle the request, the citizen is contacted by staff to discuss the problem, its resolution, and scheduling. Once the request is carried out, the citizen is informed of the final disposition of the request. A customer service feedback form is then sent to the citizen for comments on the quality of the County's service in this matter.

## Traffic Level

The County road system is versatile in the types of traffic it accommodates as discussed in the functional classification section. Consequently, there are a great variety of traffic levels seen on the various roads in the system. A good measure for traffic level is the average daily traffic (ADT) on each road segment.

Out of the 800 miles of Skagit County roads, approximately 47% are roads with ADT of under 250 vehicles per day. On the upper end, only 72 miles or 9% of County roadways have ADT levels of 2,000 or higher, and only 8 miles or 1% of County roads have ADT levels of 5,000 plus. A breakdown of road mileage by traffic level is shown in Exhibit 5.

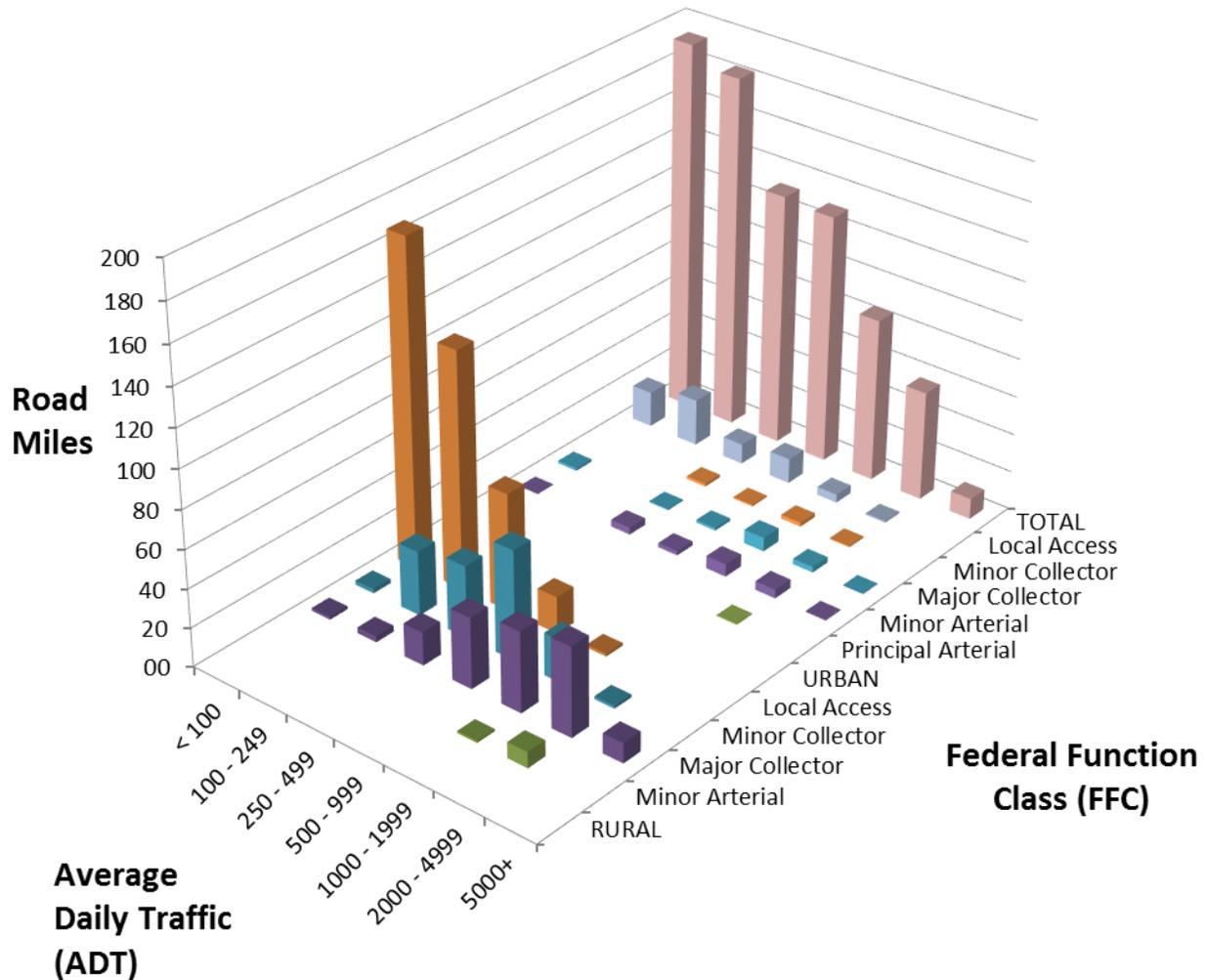
Exhibit 5. Road Miles by Average Daily Traffic (ADT)



Source: Skagit County, 2015

More interesting than a simple breakdown of the road system traffic level is an additional breakdown by functional classification. Exhibit 6 clearly shows how the functional classification system works with respect to traffic level. For local access roads, the greatest number of roadway miles fall into the under 100 and the 100-249 ADT groups, and most of the road miles are on roads with under 500 ADT. Moving up the classification scale, minor collectors have the most road mileage in the 500-999 ADT group, while major rural collectors have the most mileage in the 1,000-1,999. Virtually all of the roads with 2,000 or more ADT are major collectors. All of the information in Exhibit 6 is shown in tabular form in Exhibit 7.

Exhibit 6. County Public Road Miles by ADT Range by Functional Class



Source: Skagit County, 2015

Exhibit 7. County Public Road Miles by ADT Range by Functional Class

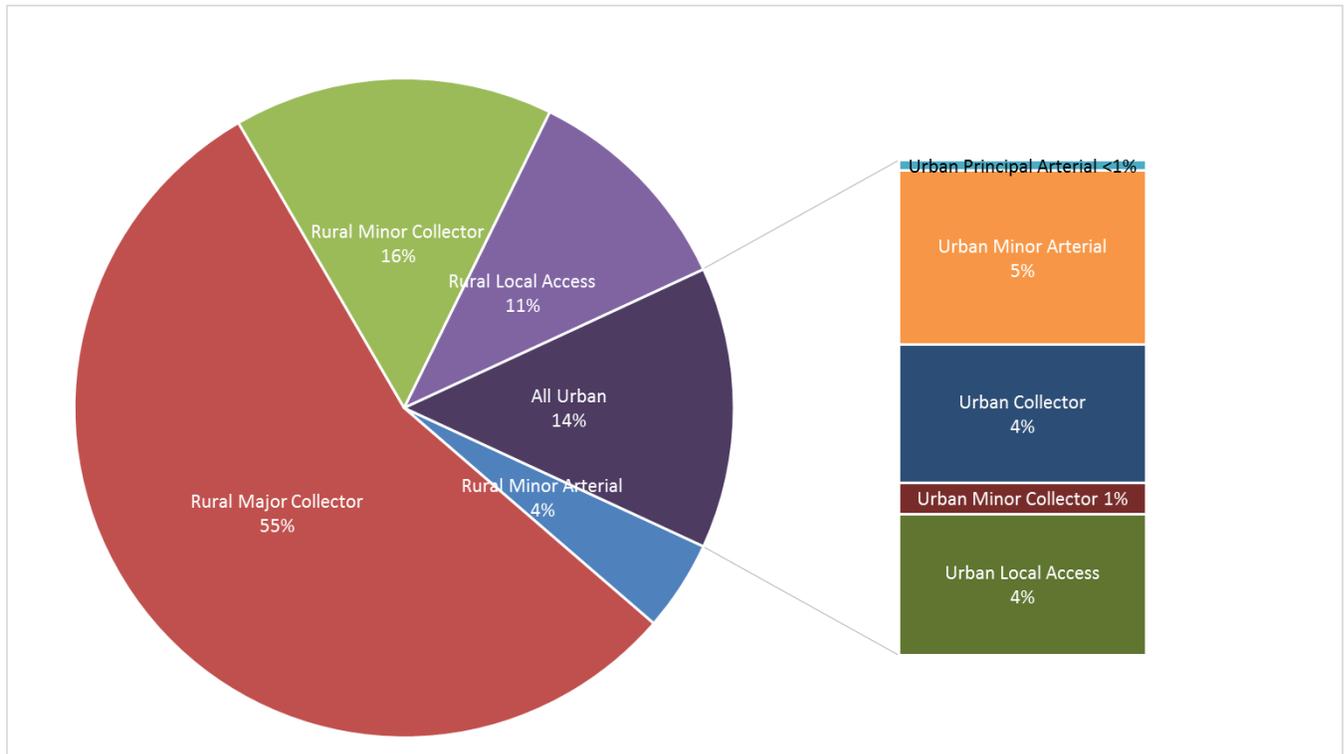
Function Class		< 100	100 - 249	250 - 499	500 - 999	1000 - 1999	2000 - 4999	5000+	TOTALS
<b>RURAL</b>									
Minor Rural Arterial	06					1.1	8.3		9.4
Major Rural Collector	07	1.5	3.1	17.2	36.6	41.7	46.2	10.3	156.6
Minor Rural Collector	08	2.2	33.3	37.3	56.9	22.0	1.5		153.1
Local Rural Access	09	169.1	122.9	61.0	19.1	1.5			373.6
									0.0
<b>URBAN</b>									
Principal Urban Arterial	14						0.5		0.5
Minor Urban Arterial	16	0.3		3.7	2.2	6.6	4.6	0.2	17.6
Major Urban Collector	17	1.4		0.7	1.4	7.2	2.9	0.2	13.9
Minor Urban Collector	18			1.5	0.8	2.1	0.6		5.0
Local Access Urban	19	18.5	24.3	10.4	13.0	4.3	0.8		71.4
<b>TOTAL</b>		<b>193.0</b>	<b>183.7</b>	<b>131.7</b>	<b>130.0</b>	<b>85.4</b>	<b>57.1</b>	<b>10.8</b>	<b>791.6</b>

Source: Skagit County, 2015

The breakdown of the County Road System by functional classification showed that local access roads account for over half of the road mileage. Looking at the road system from a traffic level perspective

tracking Vehicle Miles Traveled (VMT) on the system, the local access roads appear to take on much less importance while the major collectors take on increased importance. Local roads account for only about 15% of the daily VMT (ADT X road length) on the road system while the major collectors account for nearly 59% of total VMT. (See Exhibit 8.) Minor collectors account for 17%, and urban roads account for 14% of daily VMT.

**Exhibit 8. Percent VMT by Functional Class**



Source: Skagit County, 2015

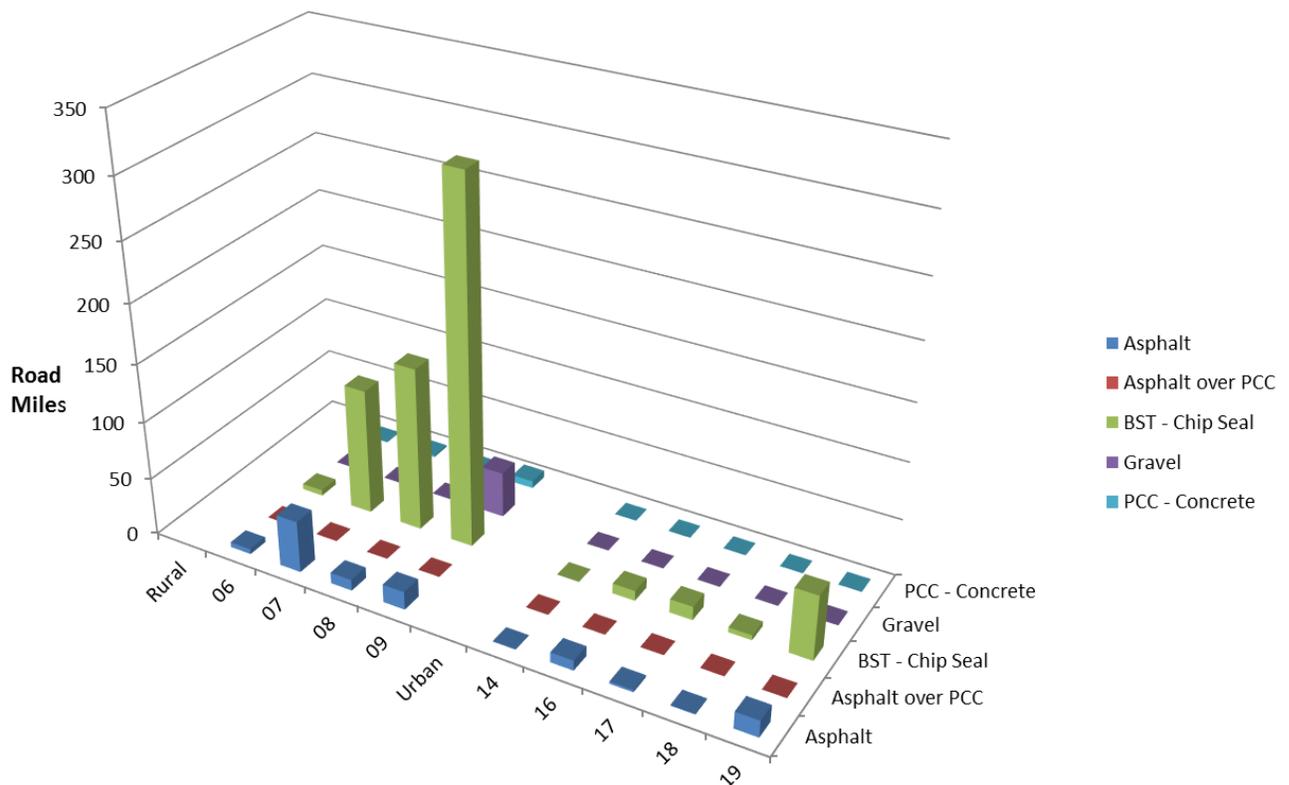
Neither average daily traffic nor daily VMT data shows the whole picture of traffic on the County Road System because there is a relatively strong seasonal component in many parts of the County. The seasonal trend in Skagit County is generally for the traffic to be the lowest in the winter months and the highest in the summer months.

The seasons of the year have a systematic effect on traffic flow in Skagit County. Traffic volumes are typically below average in January and above average in August each year. Due to the seasonal effect on traffic volumes, traffic engineers must apply a seasonal adjustment factor when summarizing annual traffic data. The seasonal factor adjusts the days of short-term traffic monitoring to the year as a whole.

### Pavement Characteristics

There are four road surface treatment types used on the County road system: bituminous surface treatment (BST), also known as chip seal; asphalt concrete pavement (ACP), or simply asphalt; Portland cement concrete (PCC), or simply concrete; and gravel, abbreviated in the database as GRV. The chip seal surface treatment is where the surface is oiled, chip rock is spread, and the combination is allowed to set and harden with the help of the normal traffic on the road. See Exhibit 9 and Exhibit 10.

**Exhibit 9. County Public Roads Pavement Type by Federal Functional Class**



Source: Skagit County, 2015

**Exhibit 10. Pavement Type (in Miles)**

Gravel	40.2
BST - Chip Seal	649.5
Asphalt	101.6
Concrete	9.7
<b>Totals:</b>	<b>801.0</b>

Source: Skagit County, 2015

Chip seal is by far the most common surface treatment for County roads. Of the 800 total County road miles, 650 or more than 81 percent are paved with chip seal. The next highest is asphalt with 101 miles of road surface. About 40 road miles have a gravel surface. Only about 9.7 County road miles have a concrete surface.

Exhibit 9 provides a summary of pavement type by functional class. While the major collectors are fairly evenly split between asphalt and chip seal surfaces (73 miles to 99 miles), the vast majority of minor collectors are chip seal (169 miles to 11 for asphalt). Concrete and gravel make up a very small portion of these classified roads. The pavement surface for local roads is similar to that of the minor collectors with chip seal being the dominant surface type. Virtually all gravel roads in the County are local roads. See Figure 2-5 for a graphic depiction of pavement type by functional class.

## County Bridges

In conjunction with its jurisdiction over the County road system, the County is also responsible for providing and maintaining the various bridges on County roads. Currently there are 110 highway bridges. Skagit County has 45 bridges that are at least 50 years old. Of those 45 bridges, 8 are 70 years or older and 2 are over 80 years old, built in 1930.

The largest bridge is the Rainbow Bridge with its 500-foot span across the Swinomish Channel. Some of the other large bridges include the Dalles Bridge and the Government Bridge along Concrete Sauk Valley Road, with spans of 300 and 225 feet respectively; the Skagit River Bridge on Cascade River Road at Marblemount, with a 280-foot span; and, the South Fork Bridge on Fir Island Road, with a 186 foot span. Fifty-four of the County's bridges have a span over 50 feet, thirteen of them over 100 feet. Six County bridges have a span under 20 feet. The greatest width of any County bridge is 37.2 feet.

Annually the County prepares a bridge report in compliance with WAC 136-20-060. This report summarizes Skagit County's bridge inspection program, focusing on the Engineer's recommendations as to replacement, rehabilitation, repair, and load restrictions on the County's deficient bridges and identifies possible projects that may be included on the County's six-year transportation improvement program. The County also inspects several City bridges upon request. As time allows the Parks Department pedestrian bridges are inspected. The most recent report prepared in 2014, shows:

- Construction of the Davis Slough Bridge on South Skagit Highway was completed.
- Federal funding was increased to replace the BNSF Railroad Overpass on Old Hwy 99; design is in progress.
- Currently, Skagit County has 6 structurally deficient bridges:
  - BNSF Railroad Overpass: Deck, Superstructure, Substructure – Rated Poor
  - Anacortes Ferry Dock: Superstructure – Rated Poor
  - Guemes Island Ferry Dock sufficiency rating: Superstructure – Rated Poor
  - Friday Creek Bridge: Deck – Rated Poor
  - Thomas Creek Bridge: Deck – Rated Poor
  - Samish River Bridge: Deck – Rated Serious

Three of the six structurally deficient bridges have funding allocated to have them repaired or replaced.

Currently, Skagit County has 15 functionally obsolete bridges. Functional obsolescence is assessed by comparing the existing design of each bridge to current standards. A bridge can be categorized functionally obsolete a number of different ways, including: substandard bridge widths, low vertical clearance that can lead to repeated damage from over height trucks, load-carrying capacity, or flood potential.

The other local agency bridges inspected are all in good condition. The Town of Concrete's bridge, Baker River Bridge, is listed as Functionally Obsolete and is load restricted at 10 to 28 Tons depending on axle layout.

## 2.2 NON-MOTORIZED TRANSPORTATION

The two modes of travel which have traditionally been considered as non-motorized transportation are bicycle and pedestrian travel. Sometimes equestrian travel is included as well. These modes represent important travel options, but the planning for and development of facilities to accommodate them has

generally not been a priority in the past. Future transportation decisions in Skagit County should include consideration for the accommodation of non-motorized travel needs.

## Non-motorized Transportation Use

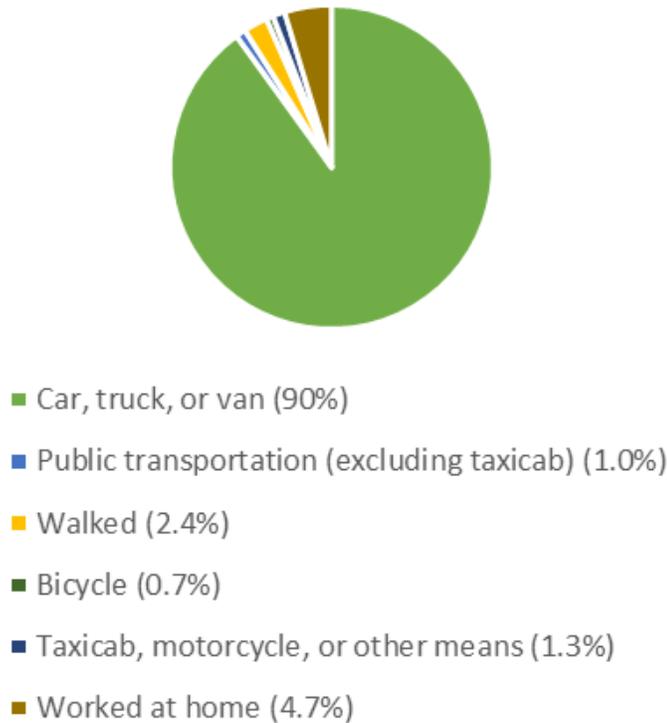
With respect to bicycling, national, university, and municipal studies show that there are essentially three or four types of bicyclists based on experience or frequency or types of facilities used:

- National Studies on Experience: 1) children and inexperienced riders; 2) casual adult riders; and, 3) experienced riders. While children and inexperienced riders tend to ride close to home and casual adult riders tend to do off-street travel and recreational riding, experienced adult-riders are comfortable riding in vehicular traffic and tend to gravitate to the quickest, most direct routes to their destination. While only about 20% of the riders fit into this experienced group, they account for close to 80% of the total miles traveled on bicycles.
- A McGill University Study of 2,000 cyclists identified: dedicated cyclists (motivated by speed, predictability and flexibility that bike trips offer), path-using cyclists (fitness and recreation using continuous path), fair-weather utilitarians (ride in good weather), and leisure cyclists (prefer bike paths and ride for pleasure and avoid traffic).
- Portland and Ashland Oregon studies found four categories: the strong and the fearless, the enthused and the confident, the interested but concerned (afraid of automobiles), and nonriders.

Detailed information on pedestrian activities in Skagit County does not currently exist. However, according to the 2008 North Sound Travel Survey, walking accounted for 5.8% of all trips within Skagit County. The Skagit Council of Governments (SCOG) also performed the first non-motorized transportation counts in the fall of 2014 at key locations. SCOG performed bicycle and pedestrian counts at key locations for three days from September 30th through October 2, 2014 from 7-9am and again from 4-6pm. The counts do not address overall mode share for pedestrians and bicyclists, but indicate pedestrian and bicycle activity at specific locations. In total 473 bicyclists and 1,657 pedestrians were observed. Additional pedestrian and bicycle counts are planned. While the counts do not provide data on County-wide non-motorized travel, they do provide a snapshot of non-motorized travel at the selected locations.

For travel to work, SCOG analysis found walking and bicycling constitute 3.1% of the total trips, while the vast majority of people commute by car, truck or van (90%).

### Exhibit 11. Means of Transportation to Work



Source: US Census Bureau, American Community Survey, 2009-13

## Current Facilities

Presently, the primary facilities that accommodate non-motorized uses in the unincorporated County are the County roads. Many roads lack adequate shoulder widths making them dangerous for pedestrian use. The same holds true for bicycle use on roads without adequate paved shoulders.

There are a few facilities in the County either built for or specifically designated for non-motorized transportation usage. One is the Padilla Bay Trail. Both bicyclists and walkers can use it, but it functions primarily as a recreational trail. The limited inventory of signed on-road bikeways in Skagit County includes portions of the following:

- Bayview-Edison Road
- La Conner- Whitney Road
- McLean Road
- West Big Lake Boulevard

The Skagit County Bike Map (Map A3 in Appendix A) is an informational map for the public that identifies existing on and off-street bike routes in the County including regional bike routes. The map classifies routes based on shoulder width and traffic volumes. Major bike routes include the Coast to Salish Route, the Coast to Cascades Route, the Coast Millennium Route, and the Cascade Trail. The existing system of bike routes provides major connections east to west and north to south with links to adjacent counties (Skagit County, 2015).

The Skagit County Walking Trails Map (Map A4 in Appendix A) is another informational map for the public that identifies existing walking and trail opportunities in Skagit County and provides basic

information for users to locate and use them. The map also highlights trail systems in Anacortes, Burlington, Mount Vernon and at the Port of Skagit (Skagit Council of Governments, 2008).

The County has invested in two unused railroad corridors that provide opportunities for the development of some major non-motorized facilities in the County. One includes parts of an abandoned Burlington Northern Railroad (BNRR) line running north-south along SR-9 between Snohomish County and Sedro-Woolley. It is to be called the Centennial Trail and when completed, will link up to the Centennial Trail in Snohomish County. Construction for the Centennial Trail between Big Rock and Clear Lake is scheduled in 2016-17. Currently a ½ mile section of the trail is open for public use in Skagit County. The other includes a 23-mile stretch of an unused BNRR line between Sedro-Woolley and Concrete which is under a rail banking agreement. (Through rail banking, the right of way is retained, intact, by one jurisdiction. The railroad then retains the right to reacquire the line for rail use in the future.) The Cascade Trail is located on this railroad corridor.

## Skagit County Non-motorized Transportation Plan

The Skagit County Non-Motorized Transportation Plan was adopted as Chapter X (10) of the County's Transportation Systems Plan by the Board of County Commissioners in 2004 (Ordinance O20040009), following several years of work. The non-motorized plan is a key component of the transportation element of the Skagit County Comprehensive Plan. Non-motorized plans are essential in the development of programs and funding for a variety of public facilities, including Federal funding support for sidewalks, access to transit activities, trails and road improvement projects. Facilities and issues that involve travel by bicycle, on foot, and to a lesser extent on horseback are addressed and a number of key recommendations are made. The overall long-term goal is to achieve a safe, convenient, cost-efficient and countywide non-motorized transportation system. The Non-motorized Transportation Plan meets policy and legislation direction from the Washington Growth Management Act and the Skagit County Comprehensive Plan, and is consistent with policies adopted by SCOG and the Washington State Department of Transportation.

### Relationship to Other Plans

#### **Skagit County Parks and Recreation Plan**

In 2013 Skagit County adopted an updated Parks and Recreation Plan. It was based on a public outreach program of surveys and meetings. In 2011, 353 online survey responses revealed a strong interest in trails:

*Nearly all (93%) of the respondents reported their household had used a park facility in the past 12 months. The most popular activities respondents reported household members spending time on were trails in natural areas, trails near where people lived, access to shorelines, and visiting wetlands / viewing wildlife. \*\*\**

*When asked what the top four priorities are, respondents reported that trails were the top priority in terms of the uses ... "wilderness trails-non motorized" (1st), followed by "trails near where I live" (2nd), Preservation of natural open space (3rd), and "Shoreline Access" (4th).*

*When respondents were asked to rank the most needed facilities, trails, open space and shoreline access were the top priorities.*

As a result of public input and an analysis of levels of service, the parks and recreation plan has identified trails among the highest priority projects:

Level 1:

- Northern State Recreation Area Trails Plan
- Centennial Trail
- Sares Bluff Trail Development
- Clear Lake Improvements
- Skagit Valley Playfields Improvements
- Similk Bay Shoreline Access
- Other Trail Development and/or acquisitions

Level 2:

- Howard Miller Steelhead Park Improvements
- Indoor Recreation Center (gym)
- Evergreen Trail
- Bayview Community Park Development
- Northern State Recreation Area Development
- Proposed Shooting/Training Range
- Big Rock Access and Parking
- Other Open Space Development and/or acquisitions
- Other Lake Park Development and/or acquisitions

Level 3:

- Lake Shannon Trail
- Lake Shannon Park Development
- Pressentin Park Improvements
- Northern State Recreation Area Ball Fields
- Grandy Lake Development
- Nichols Bar Development
- Sauk Park Development
- Conway Park Renovation
- Rexville Overlook Development
- Skagit River Interpretive Center at HMSP

**Skagit Regional Transportation Plan**

The existing Skagit and Island Metropolitan and Regional Transportation Plan (M/RTP) was completed in 2010 and is currently being updated. The updated plan is anticipated to be adopted in the spring of 2016 before the 2016 Skagit County Comprehensive Plan is adopted. However, with the dissolution of the Skagit-Island RTPO effective July 22, 2015, the updated plan will focus only on the Skagit County region.. The multi-modal transportation plan provides a strategic framework for the Skagit region’s existing and future transportation needs. A major purpose of the plan is to facilitate cooperation among jurisdictions to identify the highest priority transportation projects along with regional funding and implementation during the 25 year planning period (SCOG, 2010). Non-motorized travel will be a component of the transportation element, and will include a pedestrian and bicycle component that includes collaborative efforts to identify and designate planned improvements for pedestrians and bicycle facilities and corridors that address and encourage enhanced community access and promote healthy lifestyles (RCW 36.70A.070(6)(a)(vii)).

**2.3 TRANSIT**

There are several types of transit services currently available in Skagit County. On the public side, these can be classified as: 1) general public transit; and 2) Paratransit service for the elderly and handicapped. Both of these services are provided by Skagit Transit, Skagit County's only public transit system. There are also private transit companies providing bus service in Skagit County.

**General Public Transit**

Skagit Transit was established under RCW 36.57A. The authority was established in 1993 when voters approved a 0.2% local sales tax (\$0.002 per \$1) to support transit service in the Mount Vernon and Burlington areas. Since initial voter approval in 1993, the Public Transit Benefit Area (PTBA), or service area, has expanded to include Anacortes, La Conner, Sedro-Woolley, Lyman, Hamilton, and Concrete. Voters in unincorporated South Fidalgo Island, Shelter Bay, Burlington Country Club, North and Northwest Skagit County, and Big Lake have also been annexed into the PTBA after successful voter initiatives to expand Skagit Transit’s service area. In November 2008, voters approved an additional 0.2% sales tax to support transit service in the PTBA. Currently Skagit Transit is supported by a 0.4% sales tax. This equates to \$0.04 for every \$10 spent within the PTBA. Fares as well as capital and operating grants also support the expense of the transit system.

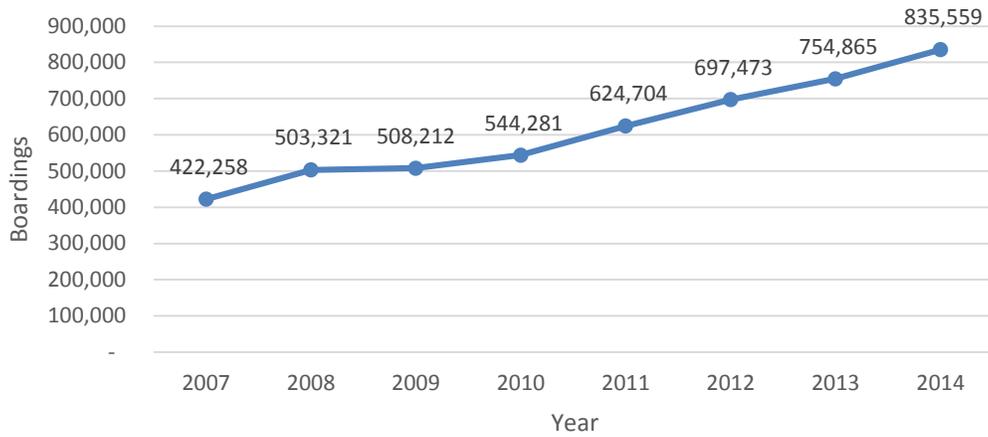
**SKAGIT COUNTY COMPREHENSIVE PLAN UPDATE 2016  
TRANSPORTATION TECHNICAL APPENDIX**

Skagit Transit's fixed route service includes local routes, commuter routes, and flex routes. In 2014, the number of all fixed route passenger boardings (local, commuter, and flex) increased by 10.7% from 2013. See Exhibit 12. Fixed route service is offered along a pattern of streets or routes, operating on a set schedule of pulses from Skagit Station, Chuckanut Park and Ride, March's Point Park and Ride, and other designated transfer locations including Skagit Valley College, 10th Street and Q Avenue in Anacortes, and the Food Pavilion in Sedro-Woolley.

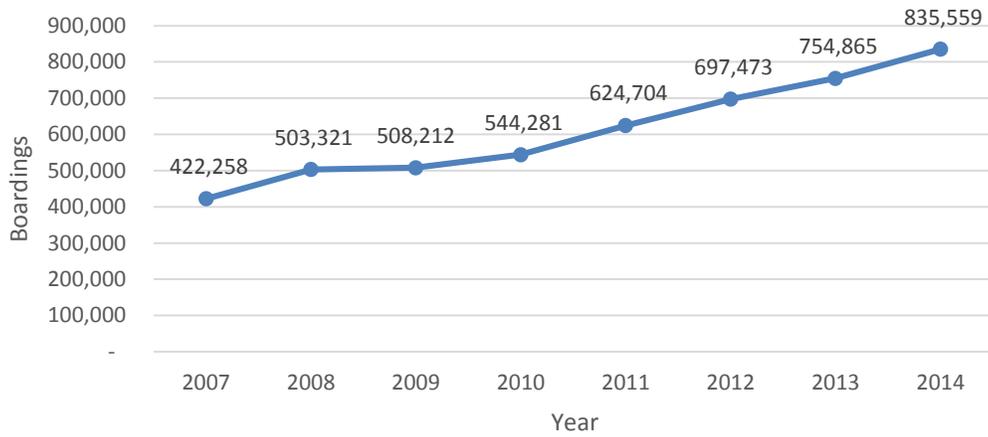
In 2014 there were 19 fixed routes, including 11 local routes, two commuter routes and six flex routes covering 322 miles of streets, roads, and highways. Local fixed routes operated between 5 and 7 days per week. Commuter routes operate between 5 and 6 days per week. Flex routes operate between 2 and 5 days per week (Skagit Transit, 2015).

**Exhibit 12. Skagit Transit Fixed Route Passenger Boardings**

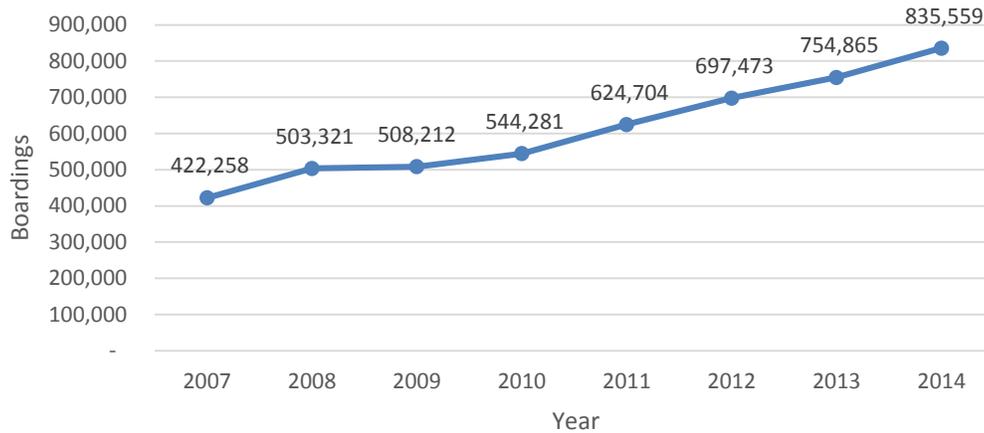
Fixed Route (Local, Flex & Commuter) Passenger Boardings (2007 to 2014)



Fixed Route (Local, Flex & Commuter) Passenger Boardings (2007 to 2014)



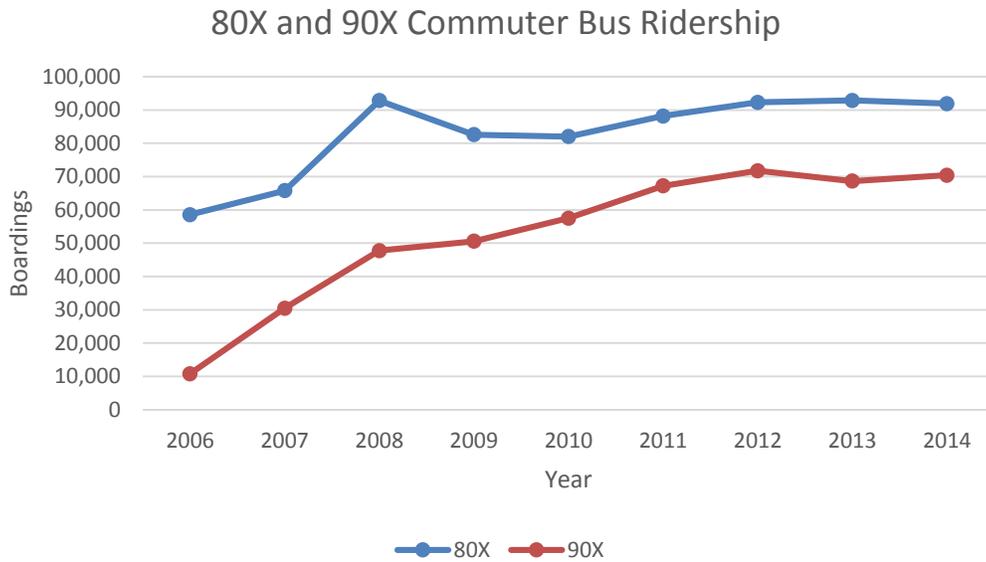
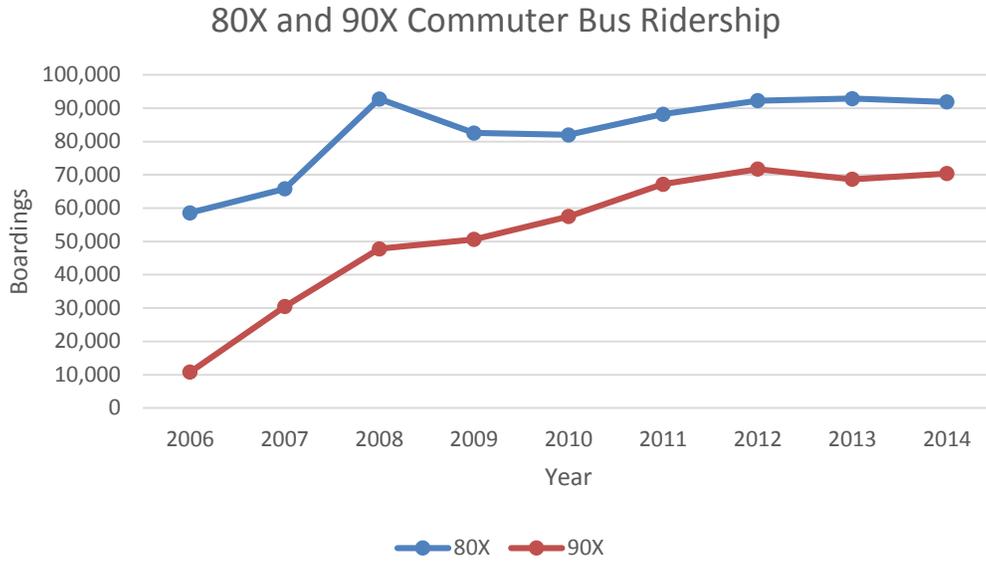
### Fixed Route (Local, Flex & Commuter) Passenger Boardings (2007 to 2014)

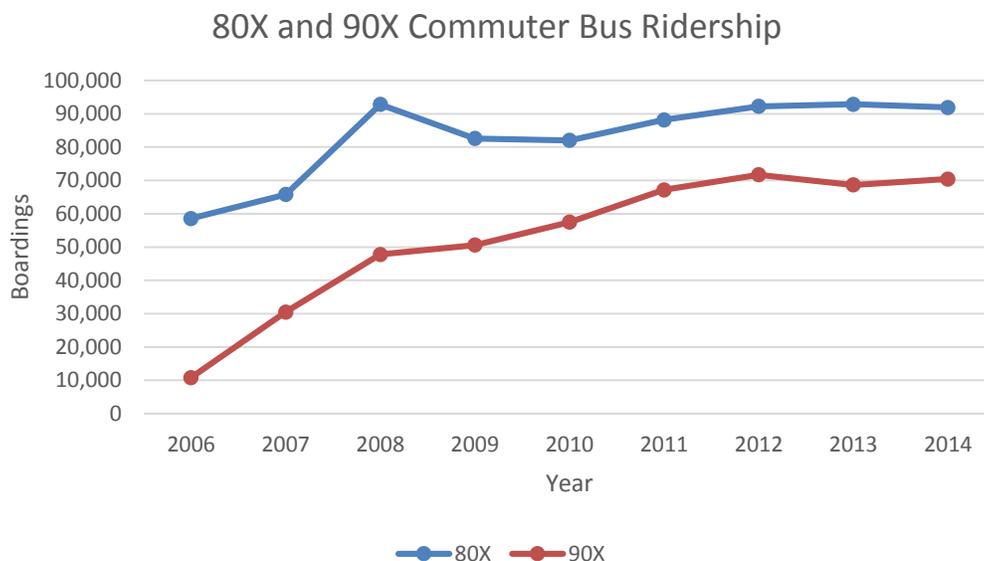


Source: Skagit Transit, Transit Development Plan, 2015

**Commuter Routes** - Commuter routes are a special category of fixed route service, and have increased over time flattening out in the last few years; see Exhibit 13. In 2014, Skagit Transit operated two commuter bus routes, the 80X making express trips between Mount Vernon and Bellingham and the 90X making express trips between Mount Vernon and Everett. Commuter bus schedules feature longer stretches of closed-door service and limited stops. Commuter routes also feature peak commute hour scheduling. Whatcom Transit Administration (WTA) and Skagit Transit jointly operate the 80X. In 2014, Island Transit operated commuter bus service from Whidbey and Camano Islands to Mount Vernon and Everett.

**Exhibit 13. Skagit Transit Commuter Routes Passenger Boarding's**





Source: Skagit Transit, Transit System Development Plan, 2015

**Flex Routes** - Flex routes are another special category of fixed route service. Flex routes operate on a scheduled route designed to travel up to ¾ mile off the main route to pick-up ADA transit clients. Skagit Transit currently has six flex routes. These routes provide transit service to areas of the PTBA not currently serviced by local fixed route buses. Non-ADA passengers are picked up and transported to urban centers and transit hubs. ADA clients are provided curb to curb service or transferred to another ADA transit vehicle. Four of Skagit Transit’s Flex Routes began service in September of 2013 (Skagit Transit, 2015)

**Paratransit** (previously referred to as Dial-A-Ride) - provides specialized transportation comparable with Skagit Transit's fixed-route bus service. In 2014, ADA transit boardings increased by 4% from 2013 following a decrease in ridership between 2012 and 2013. This is largely due to the work of Skagit Transit’s Travel Trainer who works with ADA clients so that they can begin using fixed route service.

ADA transit is a pre-scheduled service designed for people who are unable to get to the nearest bus stop or use a fixed-route bus. ADA transit is for individuals whose conditions and/or disabilities prevent them from using Skagit Transit's fixed-route buses. To become an ADA transit client, passengers go through an eligibility application and approval process. Curb-to-curb service is provided to most ADA clients within the PTBA service area. ADA transit service is a demand response, next-day service. Users are required to call a dispatcher in advance of the trip and inform Skagit Transit of the origin, destination, and time of the trip. It is a shared ride service and clients may be required to remain onboard while other passengers are picked up and dropped off on the way to the rider’s destination. ADA transit service operates during the same hours as the fixed routes line it compliments.

**Vanpool Program** - The Vanpool Program is a service that allows people with long commutes to share the drive to work with others making the same or similar trip. In 2013, vanpool passenger trips increased by 5.7% from 2012 and in 2014 ridership increased by 2% from 2013. Skagit Transit currently has 50 vanpool groups. A vanpool group consists of 5 to 15 individuals with a driver provided from within the vanpool group. Vanpool groups must either start or end their trip in Skagit County. Groups pay a monthly fee and a per mile charge. Skagit Transit maintains the van and provides fuel and insurance. In 2014, the cumulative sum of the distances ridden by each vanpool passenger totaled 5,770,073 miles.

**Major Transit Stations, Transfer Terminals, Park and Ride Lots, and Destinations** - Skagit Transit provides services to the following public transportation facilities:

- Skagit Station, Mount Vernon
- Washington State Ferry Terminal & Guemes Island Ferry Terminal, Anacortes
- Alger Park and Ride, Alger
- Chuckanut Park and Ride, Burlington
- March's Point Park and Ride, Anacortes
- South Mount Vernon Park and Ride, Mount Vernon
- Lincoln Creek Park and Ride, Bellingham
- Bellingham Station, Bellingham
- Everett Station, Everett

Skagit Transit provides connections to the following public transportation providers:

- AMTRAK trains – Skagit Station
- Greyhound Bus – Skagit Station
- Washington State Ferry, Anacortes
- Skagit County Guemes Ferry, Anacortes
- Island Transit – Skagit Station & March's Point Park & Ride, Anacortes
- Whatcom Transportation Authority – Skagit Station & Bellingham Station
- Everett Transit – Everett Station
- Community Transit – Everett Station
- Sound Transit – Sounder Train/Bus - Everett Station

Skagit Transit provides services convenient to most of the public schools within their service area including Skagit Valley College's Mount Vernon Campus. Service is also provided to the hospitals in Anacortes, Mount Vernon and Sedro-Woolley as well as to important government centers such as the Skagit County Courthouse and city and town halls.

Through their partnership and joint operating projects with Island Transit and Whatcom Transit Authority, Skagit Transit service connections are provided to Western Washington University in Bellingham and the University of Washington in Seattle.

Skagit Station is a multi-modal transportation facility owned and operated by Skagit Transit. Skagit Transit leases space to AMTRAK and Greyhound and has plans to lease a deli/concessions area.

## Private Transit

Greyhound provides intercity, interstate, and international bus service to Mount Vernon along the I-5 corridor. The Bellair Airporter Shuttle provides 11 round trips from Blaine to Sea-Tac /Seattle Convention Center, and Anacortes –San Juan Islands every day.

## Relationship to Other Plans

*Skagit Transit Development Plan 2015-2020*, [http://www.skagittransit.org/assets/1/7/2015-2019\\_TDP\\_Report.pdf](http://www.skagittransit.org/assets/1/7/2015-2019_TDP_Report.pdf)

The following overview is provided in the Transit Development Plan:

*Skagit Transit's Six-Year Transit Development Plan (TDP) identifies how the agency will meet state and local long-range priorities for public transportation through capital improvements, operating changes, and other programs. It also addresses how such programs will be funded. The Plan conforms to the State's transportation system policy goals (RCW 47.04.280) and supports local comprehensive planning and economic objectives within Skagit County. State transportation system policy goals are:*

*Economic vitality. To promote and develop transportation systems that stimulate, support, and enhance the movement of people and goods to ensure a prosperous economy;*

*Preservation. To maintain, preserve, and extend the life and utility of prior investments in transportation systems and services;*

*Safety. To provide for and improve the safety and security of transportation customers and the transportation system;*

*Mobility. To improve the predictable movement of goods and people throughout Washington state;*

*Environment. To enhance Washington's quality of life through transportation investments that promote energy conservation, enhance healthy communities, and protect the environment; and*

*Stewardship. To continuously improve the quality, effectiveness, and efficiency of the transportation system (Skagit Transit, 2015).*

*Island & Skagit counties coordinated Public Transit – Human Services Transportation Plan Update*  
<http://scoq.net/transportation/hstp/>

The following is an excerpt from the Human Services Transportation Plan:

*This plan, called the Skagit-Island Human Services Transportation Plan (HSTP), was developed by engaging special needs populations in conversations about their needs, documenting existing services, identifying needs and highlighting service gaps. Based on this information, this plan then defines regional priorities and recommends projects for state and federal grant funding.*

*Addressing both federal and state HSTP requirements, this plan was developed using best practices identified in the statewide HSTP. This includes “listening sessions” at events and other locations with concentrated special needs populations, identification of special needs populations through census data, and prioritization of projects using an objective and transparent methodology (SCOG, 2014).*

## 2.4 WATER + AIR

### County Ferry Service

In the State of Washington, there are four counties that own and operate their own ferry system. One of the four is the Skagit County Ferry System, which operates between Anacortes and Guemes Island. Additional details on the Skagit County Ferry can be found in the most current version of the *14-year Ferry Capital Improvement Plan*.

## Operation System Equipment and Facilities Inventory

The Skagit County Ferry operating system equipment and facilities are functionally categorized as: Ferry vessel, Structures, Parking and auto staging facilities, Ferry service, and Ferry operations. Most of the operating system facilities were built in the 1979-1980 time period to accommodate the M/V Guemes.

The 2014 value of the facilities, and vessel, (after depreciation) is estimated to be \$13,551,771. The total current replacement costs for these facilities, and the vessel, is estimated to be \$25,236,678 in 2015 dollars.

### Ferry Vessel

The current ferry, the M/V Guemes, was built in 1979 and has served Skagit County and the residents of Guemes Island for 36 years. The ferry operates seven days a week, 365 days a year between Anacortes and Guemes Island. Skagit County has operated the ferry since the early 1960's when it was purchased from a private operator. The vehicle and passenger ferry, M/V Guemes, is a U.S. Coast Guard inspected vessel and is rated for 3 crew, 99 passengers and 22 vehicles. Vessel characteristics are listed in Exhibit 14. The M/V Guemes requires three crew members to staff each regularly scheduled crossing of Guemes Channel; a Captain and two Deckhands. A round-trip crossing of the three-quarter-mile channel normally takes 20-25 minutes.

**Exhibit 14. M/V Guemes Physical Characteristics**

Length	124 feet
Beam	52 feet
Gross Tonnage	91 tons
Displacement	298 tons
Vehicle Capacity	22 cars
Passengers	99 persons
Crew	3 staff

Source: Skagit County, 2015

### Ferry System Structures and Parking

The ferry system structures include docks, transfer spans and machinery, dolphins, wingwalls, and terminal buildings on both sides of Guemes Channel. The County also owns and maintains three parking lots and loading approach facilities.

The current dock facilities were built in 1980 when the M/V Guemes was put into service. The bridge mechanical, electrical, and hydraulic systems have been well maintained over the years keeping the bridges operational. However, the mechanical and electrical systems were upgraded in 2014.

The dock structures had minimal maintenance until 2010; as a result, they were in need of major work. In 2010, the two remaining creosote dolphins at the Guemes Island landing were replaced with steel pilings. In the same year, the wing walls at the Anacortes and Guemes Island landings were replaced. A dock rehabilitation project took place in the spring of 2011. This project included the replacement of girders on the approach spans on both the Anacortes and Guemes Island ferry docks. The remaining five creosote dolphins at the Anacortes landing were replaced with steel pilings in 2014. Skagit County will also replace creosote sections of the Anacortes breakwater in 2016.

## Ferry Service

The ferry system operates seven days a week, 365 days a year. Resolution R20120140, signed by the Board of Skagit County Commissioners on April 30, 2012, establishes the hours of operation for the ferry and rescinds R20080556. Resolution R20120140 also establishes the effective non-peak and peak season dates.

The ferry operates Monday through Thursday, 6:30 a.m. to 8:30 p.m., Friday and Saturday, 6:30 a.m. to 11:00 p.m., and Sunday, 8:00 a.m. to 8:00 p.m. during the non-peak season (October 1 through May 19). During the peak season (May 20 through September 30), the hours of operation are the same except that, on Sundays, the ferry operates from 8:00 a.m. to 10:00 p.m.

During the non-peak season, the ferry makes 159 round-trip scheduled crossings per week; the scheduled crossings increase to 165 round-trip crossings per week during the peak season. The sailing schedule allows for extra runs to be made to accommodate heavy traffic volumes, but only during certain times. For example, the ferry may make one extra trip, when overloaded at 11:15 a.m. or when there is an hour or more between runs. However, there will be no extra trips at 6:45 p.m. The sailing schedule also allows for hazardous materials runs on Wednesdays at 9:15 a.m. to Guemes, and 2:00 p.m. from Guemes; during these no runs, no other vehicles may be onboard. The sailing schedule is subject to change with or without notice. Times when the sailing schedule may change with notice would be for a holiday sailing schedule to go into effect. Times when the sailing schedule may change without notice might be for an emergency, where fire or EMS vehicles need immediate priority crossings.

The most current ferry sailing schedule can be found at [www.skagitcounty.net/ferry](http://www.skagitcounty.net/ferry).

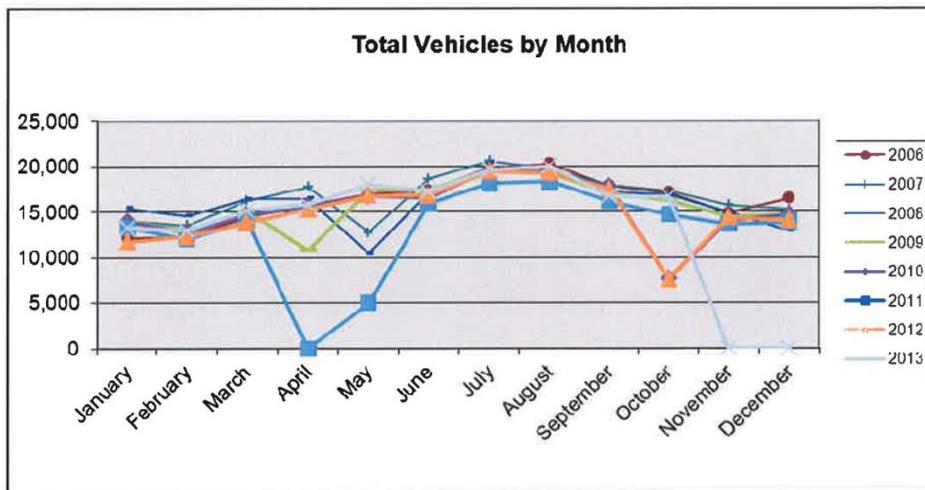
## Ferry Ridership Statistics

The Skagit County ferry system is relatively small considering it runs only one vessel with a 22-vehicle and 99-passenger capacity. 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 residential development and population on Guemes Island have both increased over the past 36 years and the ferry system has experienced growth as a direct result. However, total vehicle and passenger ridership between 2006 and 2012 shows decline in the fall, whereas, in winter, spring, and summer months vehicle ridership has stayed relatively flat. Based on the ferry replacement plan prepared in 2013, vehicle ridership showed relatively little growth since the mid-1990s. However, according to the ferry replacement plan prepared by the Elliot Bay Design Group, the population will increase approximately 24% by the end of 2033. Additionally, in 2013, 42 percent of ferry runs were at capacity. The Elliot Bay Design Group report recommends a four-car capacity increase, but the County has not yet determined if this capacity increase is practical.

**Exhibit 15. Total Vehicle Ridership by Month 2006-2013**

**TOTAL VEHICLE RIDERSHIP BY MONTH  
JANUARY, 2006 – OCTOBER, 2013**

	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>
January	12,177	14,074	15,450	14,022	13,971	13,241	11,746	13,260
February	12,289	13,511	14,609	12,968	12,802	12,037	12,307	12,925
March	14,458	16,245	16,422	15,034	14,699	14,048	13,857	15,176
April	15,725	17,734	16,464	10,794	15,639	0	15,255	15,796
May	17,021	12,738	10,421	17,381	16,763	5,010	16,796	18,015
June	17,354	18,625	17,118	17,372	16,529	15,885	16,830	17,256
July	19,853	20,579	19,507	19,630	19,569	18,092	19,419	19,649
August	20,292	19,714	19,768	19,142	19,349	18,346	19,350	20,035
September	17,867	17,949	17,221	17,128	17,720	16,171	17,475	16,674
October	17,126	17,293	16,823	16,260	7,636	14,710	7,600	16,703
November	14,870	15,760	14,956	14,413	14,020	13,617	14,347	
December	16,494	15,275	12,884	14,708	14,702	13,845	14,060	
<b>Total</b>	<b>195,526</b>	<b>199,497</b>	<b>191,643</b>	<b>188,852</b>	<b>183,399</b>	<b>155,002</b>	<b>179,042</b>	<b>165,489</b>



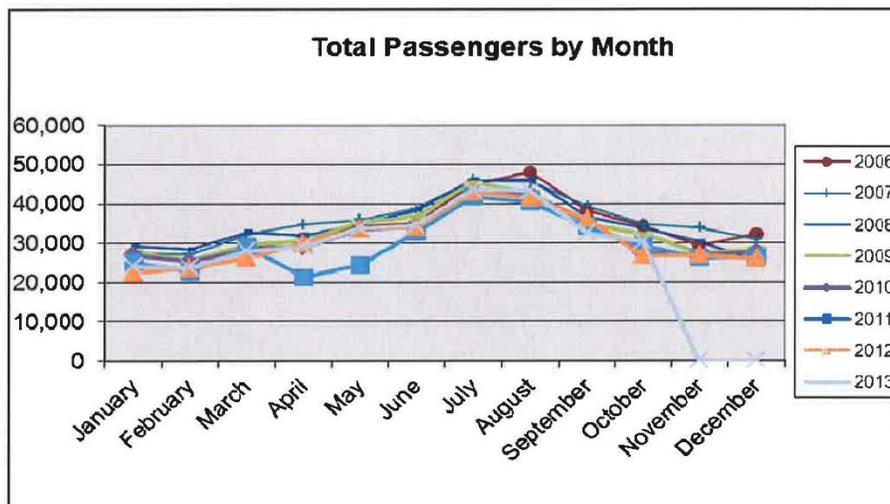
Notes: The vehicle ridership in April, 2011 shows at zero (0) due to the Ferry Dock Rehabilitation Project, during which time all vehicle traffic was eliminated until May 21, 2011.

Source: Ferry Division 2013 Draft Operations Status Report, November 2013, Skagit County Public Works

**Exhibit 16. Total Passenger Ridership by Month 2006-2013**

**TOTAL PASSENGER RIDERSHIP BY MONTH  
 JANUARY, 2006 – OCTOBER, 2013**

	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>
January	24,448	27,348	29,183	27,793	27,005	25,123	22,334	24,040
February	23,716	27,220	28,410	25,588	25,287	22,625	23,634	23,832
March	28,803	32,067	32,837	29,506	28,616	29,100	26,223	28,080
April	30,962	34,802	32,029	30,727	29,104	21,256	30,011	29,062
May	34,345	35,957	34,785	35,332	33,597	24,483	33,663	33,852
June	35,189	38,727	38,283	36,583	34,054	32,838	34,109	34,482
July	45,010	45,963	46,021	45,404	42,968	41,778	43,082	43,504
August	47,966	45,603	46,285	42,773	42,251	40,483	41,512	43,297
September	38,271	39,294	36,742	34,745	35,603	34,169	36,190	32,501
October	34,195	34,735	33,783	32,173	27,341	29,275	26,752	30,402
November	29,194	33,793	30,317	27,328	26,897	26,209	27,001	
December	32,094	30,917	25,404	28,239	27,694	26,363	25,954	
<b>Total</b>	<b>404,193</b>	<b>426,426</b>	<b>414,079</b>	<b>396,191</b>	<b>380,417</b>	<b>353,702</b>	<b>370,465</b>	<b>323,052</b>



Source: Ferry Division 2013 Draft Operations Status Report, November 2013, Skagit County Public Works

**Relationship to Other Plans**

Skagit County Public Works maintains several planning documents related to the ferry system. These plans are frequently updated, including some on an annual basis, and provide the most current and detailed information regarding the ferry facilities, operations and financing. These plans are available to the public on the County’s website, at [www.skagitcounty.net/ferry](http://www.skagitcounty.net/ferry), and are summarized below.

**Ferry Division Operations Status Report** This report is prepared annually, and is intended to be an operational summary for the Skagit County ferry system. The guidelines for the preparation and presentation of the report are established by Resolution R20100050, amended by R20110382. The Operations Status Report is prepared by the Public Works Department with collaboration from staff, the Ferry Committee and the public. The draft report is generally presented at the fall Ferry Operations Public Forum with a presentation to the Board of Skagit County Commissioners prior to the end of each calendar year.

**Fourteen-Year Ferry Capital Improvement Plan**

The following is an excerpt from the Fourteen-year Capital Improvement Plan:

*The fourteen-year program is a general guide for the effective, efficient and continuing operation of the Skagit County ferry system. This program will assist the County Engineer and Ferry Division management in planning for capital projects that pertain to replacement, maintenance and improvements for the Skagit County ferry system. This program serves as a guide for long range planning, thus does not require strict adherence. As events unfold, future plans will change as the needs of the ferry system and the available financing become clearer. The Board of Skagit County Commissioners, with advice from the County Engineer, will ultimately decide capital improvement based on priority and available funds. The capital projects listed here are the result of input from various county departments, governmental agencies, citizen groups, and approximately fifty years of operating and maintaining the ferry system, while complying with applicable state law. Enacted in 1975, Revised Code of Washington (RCW) 36.54.015 states: The legislative authority of every county operating ferries shall prepare, with the advice and assistance of the county engineer, a fourteen-year long range capital improvement plan embracing all major elements of the ferry system. Such plan shall include a listing of each major element of the system showing its estimated current value, its estimated replacement cost and its amortization period.*

### **Ferry Fare Revenue Target Report**

This financial report is prepared for submittal to the Skagit County Board of Commissioners pursuant to Skagit County Resolution R20100050, amended by Resolution R20110382, which establishes the Skagit County ferry fare revenue target methodology. This report is generally prepared by the Skagit County Public Works Department in the beginning of each year and presented at the spring Ferry Operations Public Forum. The revenue target report is then presented to the Board of Skagit County Commissioners prior to April 30.

## **State Ferry Service**

The Washington State Department of Transportation (WSDOT) Marine Division provides ferry service to the San Juan Islands and to Vancouver Island in British Columbia (Sidney, B.C.) through its terminal facility in Anacortes. In addition to this service being the transportation lifeline for the residents of the San Juan Islands, it also serves the needs of vacationers and recreational visitors to the area.

In 2014, Washington State ferry service from Anacortes accommodated 2,023,281 total riders, including 941,812 vehicle and drivers and 1,091,469 passengers (both vehicle passengers and foot passengers). Of the total riders, 1,911,264 were traveling to and from destinations in the San Juan Islands and the remaining 122,017 were traveling to and from Sidney, British Columbia. On an average about, 5,545 riders use the system daily, with about 2,500 being vehicle and drivers and about 3,000 passengers. Historic data shows that August is the month with the highest ridership while January is usually the month with the lowest. August ridership is generally about triple that in January.

## **Relationship to Other Plans**

### **WSDOT Ferries Division Final Long-Range Plan (2009)**

**The following is an excerpt from the plan describing the plan's purpose:**

*The goal of this Plan is to provide information about the needs of ferry customers, establish new operational and pricing strategies to meet those needs, and identify vessel and terminal operations and capital requirements. The Plan horizon covers 22 years, 2009-2030 (fiscal years 2010-2031), to meet federal planning requirements and to be*

*consistent with regional efforts. The first 16 years of this Plan correspond to the legislature's 16-year financial planning period. This Plan is based on: 2007 legislative direction; a draft plan developed and presented for public review and comment in December 2008; a revised plan in January 2009 that incorporated the public comments, and an extensive review by the Governor's Office and the Legislature leading up to and during the 2009 session (WSDOT, 2009).*

## Ports, Intermodal & Multimodal

Ports and other intermodal and multimodal facilities are a part of the overall transportation system that are often ignored in local transportation studies and plans because they are not generally under the jurisdiction of local government. Yet they represent transportation components that are integral to the functioning of the local and regional economy. In Skagit County, this importance has been recognized by all the jurisdictions and entities represented in the Skagit Sub-Regional Transportation Planning Organization.

### Marine Ports

The marine ports in Skagit County function as important intermodal transportation centers as well as important centers for economic and recreational activity. Fifteen commercial piers, wharfs, and docks are located in the Anacortes area along Guemes Channel, along Swinomish Channel, on the west shore of Fidalgo Bay, and at March's Point.

#### *Port of Anacortes Marine Terminal*

The Port of Anacortes marine terminal facilities and services include a natural deep-water port with two piers and a wharf. Currently a port tenant, Dakota Creek Industries, Inc. operates a major shipbuilding and repair facility and has the primary use of Pier 1. The Curtis Wharf is a working wharf for commercial boats and ships providing periodic moorage for a variety of vessel types including the US Navy, tenants staging project cargoes, and short term project assembly (Port of Skagit, 2015). Pier 2 is used primarily for exporting dry bulk cargoes along with some short term moorage for barges and other vessels.

#### *March's Point*

The two petroleum refineries at March's Point, Shell Puget Sound Refinery and Tesoro, both have deep water terminals which can accommodate ocean going oil tankers. At this location, crude oil, refined petroleum products, and byproducts from the refinery process are transported in and out by ship, rail, and truck. Pipelines to the refinery facilities provide for the transport of oil products as well. The Tesoro refinery employs 360 full time employees and has a crude oil capacity of 120,000 barrels per day (bpd) (Tesoro, 2015). The Shell Refinery processes as much as 145,000 bpd. The shell refinery is the area's largest employer and taxpayer in Skagit County (Shell, 2015).

#### *Other Marine Terminal Facilities*

Other marine terminal facilities in Skagit County include the Dakota Creek Shipyard; the City of Anacortes's barge dock, boat launch, and boat ramp on Fidalgo Bay; Dunlop Towing's log-rafting facility in Swinomish Village; and the Swinomish Tribe's Industrial District pier at the north end of Swinomish Channel. The Swinomish channel generated \$86.2 million in business revenue during 2013 according to a 2014 Economic Study by the Port of Skagit. The channel also directly supports 499 jobs with an income of \$21 million while the combined activity on the channel generates 1,048 jobs with a total income of \$49.4 million (Port of Skagit, 2014).

## Marinas & Boat Harbors

There are 14 marinas and boat harbors in Skagit County. The City of Anacortes is the location for three of the five largest. The La Conner area is the location of the other two.

The Cap Sante Boat Haven, owned and operated by the Port of Anacortes, is located on the east side of Anacortes on Fidalgo Bay. With 950 boat slips, it accommodates a large group of commercial fishing vessels as well as recreational boating and is one of the largest marinas in the state. The marina has space for 150-200 boats for guests (Port of Anacortes, 2015).

Anacortes Marina, also on the west side of Fidalgo Bay is privately owned as are the marina facilities at Flounder Bay on the western side of Anacortes with 466 rental slips. The Flounder Bay facilities include the Skyline Marina, the Flounder Bay Yacht Club, Condominium # 18, and individual residential moorages.

Another large marina in Skagit County is the La Conner Marina. Owned and operated by the Port of Skagit County, it accommodates recreational boating on both sides of Fidalgo Island through the Swinomish Channel. It also accommodates large tourist vessels, especially during the Tulip Festival. Also in the immediate area is the privately owned marina at Shelter Bay. The marina has 366 covered moorage slips, 131 open slips, and 2,400 lineal feet of dock space for overnight moorage (Port of Skagit, 2015).

## Airports

There are three municipal airports in Skagit County, the Anacortes Airport, the Skagit Regional Airport, and the Concrete Airport.

### A. Skagit Municipal Airport

The Skagit Regional Airport is operated by the Port of Skagit County and is adjacent to the Bayview Business & Industrial Park west of Burlington. The airport is used for general aviation and has runways of 5,475 feet and 3,000 feet in length which can accommodate all aircraft with 30 passenger capacity or less. It also provides a charter service, primarily for passengers in route to the San Juan Islands. In 2012, there were approximately 60,000 take-offs and landings, with approximately 1,400 being air cargo operations. The vast majority of activity at the airport is general aviation. In 2012 there were 150 aircraft based at Skagit Regional Airport (Port of Skagit, 2015). The County's 2014 Bayview Subarea Plan addresses land use compatibility with the Skagit Municipal Airport.

### B. Anacortes Airport

The Anacortes Airport is a general aviation airport operated by the Port of Anacortes with a 3,018-foot runway serving Bellingham and the San Juan Islands. Numerous charter flights originate from the airport serving SeaTac Airport and Boeing Field (business travelers), and the San Juan Islands (tourist travelers). The airport has 39 covered hangars and 62 open tie-downs for private and recreational craft

### C. Concrete Airport

The Concrete Airport, known as "Mears Field," operates a charter service for business and tourist travel, and provides a general aviation facility for the eastern part of Skagit County. The runway is 2,600 feet long. The only heavy usage period for the airport is in mid-May when the annual fly-in takes place. Up to 300 airplanes participate each year.

## Other Intermodal/Multimodal Facilities

### A. Multi-modal Center

The City of Mount Vernon built the Skagit Transportation Center in 2004, a multi-modal center in the heart of downtown Mount Vernon to accommodate the needs of rail and bus passengers as well as pedestrians and bicyclists in Skagit County. Amtrak Cascades passenger rail service is accommodated as well as Skagit Transit public transportation and Greyhound bus service to local and regional airports and ferry terminals. The location in downtown Mount Vernon will allow pedestrians and bicyclists easy access to local sidewalks and trails in central Skagit County.

#### B. Washington State Ferry Terminal

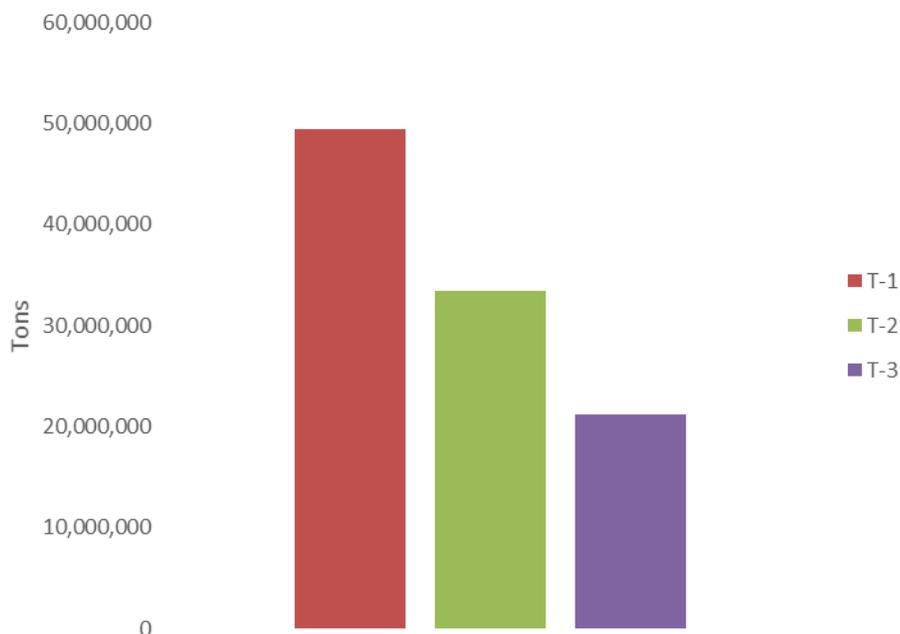
The Washington State Ferry Terminal in Anacortes functions as a significant regional intermodal passenger transportation facility. The available parking at the terminal allows travelers to leave their car in Anacortes and walk on or take a bicycle on the ferry. Some San Juan Island residents and property owners keep one vehicle on the island and one on the mainland, thus allowing them to travel on the ferry as walk on passengers. Since the ferry capacity constraint is related to vehicles not passengers, this increases the efficiency of the ferry system. In 2015 the Ferry between Anacortes and the San Juan Islands began accepting reservations.

## 2.5 FREIGHT

### Trucks

Skagit County has three classes of designated freight corridors within the Freight and Goods Transportation System (FGTS) including T-1, T-2 and T-3. The T-1 corridors carry the highest volumes of freight at 49,430,000 tons followed by T-2 with 33,403,000 and T-3 with 21,138,000. Exhibit 16 identifies the freight volumes by FGTS class.

Exhibit 17. Freight Volumes by FGTS Class



Source: WDOT, 2015

## Relationship to Other Plans

*WSDOT Freight Mobility Plan*

WSDOT recently completed a statewide freight mobility plan in October of 2014. The plan addresses freight mobility in Skagit County and across the state involving a variety of transportation modes including road and highway, water, rail and air. The importance of agricultural products transport is noted in the plan. A number of unfunded freight investments are identified as well on state and interstate highways and on waterways (Swinomish channel maintenance dredging). Additional information on freight corridors is available on WDOT’s website at <http://www.wsdot.wa.gov/Freight/EconCorridors.htm>.

## 2.6 RAIL

### Freight Rail

The Burlington Northern Santa Fe (BNSF) Railroad is the one major railroad that serves Skagit County. It is an international company with a vast network of tracks in the Midwest and Western United States. It also owns a huge fleet of rolling stock to serve its customers. In Skagit County, it has one mainline, two branch lines, and numerous active spurs in the western part of the County that provides a freight rail service with connectivity regionally, nationally, and internationally. The main switching yards for the BNSF Railroad in Skagit County are located in Burlington.

The north/south BNSF mainline generally runs along the I-5 corridor connecting the urban centers of Seattle and Vancouver, British Columbia. The segment from Burlington to Everett is designated as an R1 freight railway, which carry the highest volumes of freight. From the Snohomish County line, it runs north along Pioneer Highway to Conway. From there it runs more or less parallel to I-5 all the way to Cook Road then veers northwest to eventually parallel SR -11 (Chuckanut Drive) all the way to the Whatcom County line. An east/west branch follows along SR-20 connecting the March's Point refineries to the mainline in Burlington. A second branch line runs along SR-20 from Burlington to Sedro-Woolley, then turns north and eventually parallels SR-9 to the Whatcom County line. That branch line eventually crosses the Canadian border at Sumas. The location of the Burlington Northern Santa Fe Railroad tracks are shown Exhibit 18.

**Exhibit 18. Northern Santa Fe Railroad Tracks in Skagit County**



Source: WSDOT, 2013

The Everett/Burlington portion of the BNSF mainline is expected to be at 100% of capacity by 2035. However, additional capacity improvements will provide adequate capacity increases to accommodate

demand. Crossings on the North-South Mainline along which the Amtrak Cascades route currently operates also experience four daily passenger rail trips (two northbound and two southbound), for a total of between 21 and 50 total daily train crossings.

## Passenger Rail

In 1993 the rail corridor from Eugene Oregon to Vancouver, British Columbia was selected by the federal government as one of several high priority passenger rail corridors eligible for funding for upgrades. In response to this designation, the State of Washington (in conjunction with the then Burlington Northern Railroad) committed substantial funding to make track improvements in order to accommodate the reestablishment of Amtrak passenger rail service between Seattle and Vancouver. The Burlington/Mount Vernon area was selected for the future location of a new passenger terminal. The new multimodal transportation center opened in 2004.

In the spring of 1995, this new Amtrak service called the Amtrak Cascades, began with one round trip daily. There are currently two round trips daily, with stops in Everett, Mount Vernon and Bellingham. One-way travel time between Seattle and Vancouver is three hours and 55 minutes. The travel time from Mount Vernon to both Seattle and Vancouver is just under two hours. In 2013, Amtrak reported that 16,719 boardings and alightings at the Mount Vernon Station. In 2014, this number increased by to 18,255, an increase of 9.2% (Amtrak, 2015).

## Relationship to Other Plans

**WSDOT Freight Mobility Plan, <http://www.wsdot.wa.gov/Freight/freightmobilityplan>**

The following is an excerpt from the Freight Mobility Plan:

*This Plan was created to meet state and federal legal requirements; to align with the Legislature's six transportation policy goals: economic vitality, preservation, safety, mobility, environment, and stewardship outlined in RCW 47.04.280, with a significant focus on the newest goal, economic vitality; and to support freight-related strategies and recommended actions in the statewide Washington Transportation Plan 2030. This Plan also incorporates key points and findings from WSDOT's statewide Rail Plan, Highway System Plan, and statewide Aviation System Plan by highlighting the essential role that these modes play in freight mobility (WSDOT, 2014)*

**State Rail Plan <http://www.wsdot.wa.gov/Freight/Rail/default.htm>**

The following excerpt summarizes the purpose and content in the Washington State Rail Plan:

*The [Washington State Rail Plan](#) serves as a strategic blueprint for future public investment in the state's rail transportation system. It provides an integrated plan for freight and passenger rail, including 5- and 20-year funding strategies, that meets federal and state requirements. The plan informs the state Freight Mobility Plan; guides WSDOT as it develops strategic freight rail partnerships to support essential rail service; and establishes priorities for determining which freight rail investments should receive public support. It also guides Washington as it works with Oregon and British Columbia to implement intercity passenger rail service. The Federal Railroad Administration approved the plan on February 25, 2014. The plan was signed by WSDOT Secretary of Transportation Lynn Peterson on March 18, 2014 (WSDOT, 2014).*

## 3.0 ADOPTED LEVEL OF SERVICE STANDARDS (LOS)

### 3.1 ARTERIALS

The National Transportation Research Board’s Highway Capacity Manual (HCM) contains specific methodologies to measure level of service for various transportation facilities. Most counties and cities in Washington employ LOS methodologies from this manual. Skagit County and most of the incorporated jurisdictions within the County employ HCM-based LOS methodology.

Once a level of service methodology is in place, a level of service standard can be set. A level of service standard is usually a congestion level measured by the LOS methodology, above which a road is considered to no longer function adequately in the manner to which it was designed. Once the LOS standard is exceeded on a road, the road is considered to be “in need” and improvements should be made.

### Legal Requirement for LOS

#### LOS for County Facilities

Under RCW 36.70A070, the GMA requires that the Transportation Element of the Comprehensive Plan contain *“Level of service standards for all arterials and transit routes to serve as a gauge to judge performance of the system. These standards should be regionally coordinated.”* The GMA goes on to state that *“local jurisdictions must adopt and enforce ordinances which prohibit development approval if the development causes the level of service on a transportation facility to decline below the standard adopted in the transportation element of the comprehensive plan, unless transportation improvements or strategies to accommodate the impacts of development are made concurrent with the development.”* This is the much discussed “concurrency” requirement of the GMA.

The County conducts an annual concurrency assessment to determine compliance. The concurrency assessment requires that *“the Skagit County Public Works Department, under the direction of the County Engineer, shall evaluate the High Traffic County Road Segments and High Traffic County Road Intersections using a Highway Capacity Manual type method (as selected by the County Engineer) to determine whether these road segments and intersections comply with the level of service standards adopted in the Comprehensive Plan.”*

The Level of Service (LOS) standard for County roads is C. LOS D is acceptable for all road segments that:

- A. Have Annualized Average Daily Traffic (AADT) greater than 7,000 vehicles; and
- B. Are NOT federally functionally classified as an Local Access Road; and
- C. Are designated as a County Freight and Goods Transportation Systems Route (FGTS).

The LOS standard for County road intersections is LOS D.

The Skagit County Public Works Traffic Engineering Unit has selected an LOS study volume unit threshold of 7,000 AADT. This threshold is an indicator that a road segment may be approaching the LOS C/D threshold and should be studied in depth.

Skagit Transit has not adopted specific level of service standards for their urban or rural routes. Therefore, the focus of the level of service standards and analysis here is on the County road system. Some additional discussion of service levels will be made with respect to the Guemes Island Ferry. However, formal level of service standards have never been considered for the County ferry system.

## LOS for State Facilities

State transportation facilities, particularly the state highways and the state ferries are, in many respects, the most important transportation facilities in Skagit County. They carry all the through county traffic as well as a substantial amount of traffic between major urban centers in the County. Because of this, the level of service that is provided on these state facilities has important implications for the successful functioning of the overall transportation system in the region.

The Skagit Council of Governments (SCOG), as the Regional Transportation Planning Organization (RTPO) for Skagit County, is responsible for jointly developing level of service (LOS) standards for state highways and state ferry routes with the Washington State Department of Transportation (WSDOT), with the exception of highways of state-wide significance. Setting these regional LOS standards is accomplished through the Regional Transportation Plan.

Regional LOS standards were first set through the former Skagit-Island Regional Transportation Planning Organization (SIRTPO) through the 1996 Regional Transportation Plan. Through regional policy, LOS standards were established for rural and urban areas in Skagit County and Island County. For Skagit County, standards were set at LOS C for all rural regional facilities and LOS D for all urban regional facilities, with the exception of Anacortes urban regional facilities which were set at LOS C. At the regional level, these LOS standards have not changed since 1996 when they were first established.

The SIRTPO was dissolved in July 2015 when the organization no longer met all the membership requirements for an RTPO. Subsequent to its dissolution, SCOG became the RTPO for Skagit County.

Changes to state law, in 1998, affected how RTPOs established LOS standards on state facilities. The changes directed the state transportation commission to submit a list of state highways of state-wide significance for adoption by the 1999 legislature and exempted these adopted facilities from the regional LOS standards. For Skagit County, adopted state highways of state-wide significance are State Route 20 including the SR 20 Spur through Anacortes and Interstate 5.

State highways in Skagit County not designated as having state-wide significance are State Routes: 9; 11; 530; 534; 536; and 538. It is these state highways, along with state ferry routes, that the RTPO is responsible for developing LOS standards for. These LOS standards are to be developed jointly with WSDOT to ensure consistency across jurisdictions.

The LOS for state ferries is a daily percent of sailings at vehicle capacity during May, August, and January. The actual LOS is established for each route. Exhibit 19 shows the LOS standards for each route including those to and from Anacortes.

**Exhibit 19. State Ferry LOS Standards**

Route	Level 1 Standards (Consider Targeted Strategies to Spread Demand and Improve Customer Experience)			Level 2 Standards (Assets are Being Used Efficiently, Consider Additional Investment)		
	January	May	August	January	May	August
	Pt. Defiance - Tahlequah	25%	25%	30%	50%	50%
Pt. Townsend - Keystone	25%	30%	35%	75%	75%	85%
Mukilteo - Clinton	25%	25%	30%	65%	65%	75%
Fauntleroy - Vashon	25%	25%	30%	50%	50%	60%
Fauntleroy - Southworth	25%	25%	30%	50%	50%	60%
Seattle - Bremerton	25%	25%	30%	50%	50%	60%
Edmonds - Kingston	25%	25%	30%	65%	65%	75%
Seattle - Bainbridge	25%	25%	30%	65%	65%	75%
Anacortes - San Juan Islands	25%	30%	35%	65%	75%	85%
Anacortes - Sidney	N/A	50%	50%	N/A	100%	100%

Source: WSDOT, 2010

**Priority Programming for Roads**

The primary analytical method for evaluating and prioritizing transportation improvement projects in Skagit County prior to the implementation of GMA requirements has been the use of the Priority Array. WAC 136-14-020 states *"Priority programming techniques shall be applied in the ranking of all potential projects on the arterial (functionally classified) road system of each county. Priority programming will not be required, but is recommended, for the local access road system."* WAC 136-14-030 goes on to state *"Items to be included in the (priority programming) technique for roads shall include, but not be limited to the following:*

- (1) Traffic Volume;
- (2) Roadway condition;
- (3) Geometrics;
- (4) Matters of significant local importance."

Finally, WAC 136-14-040 states

*"The resulting priority array shall be consulted together with the bridge priorities by the legislative authority and county engineer during the preparation of the proposed six year program."*

The Skagit County Priority Array, developed in the Engineering Division of the Public Works Department, is a computerized spreadsheet which contains information on all the road segments in the County road system. This information includes pavement condition, road geometrics, traffic level, and accident rates. The priority calculation combines and weights these various factors to come to a project priority numeric rating.

Under GMA, Skagit County is required to use level of service standards in the prioritization of transportation projects. The general focus of LOS project programming is on traffic problems and the alleviation of congestion. This is different from the traditional focus of the County's Priority Array which is on safety and the physical characteristics of the roadway. Because of the two legal requirements, Skagit County now uses both an LOS methodology and a Priority Array methodology for road project programming. Beyond the legal requirements, the use of these two types of methodologies provides a more balanced approach and will hopefully result in the most beneficial projects rising to the top of the funding lists.

## Transportation Improvement Programs

The major impact of level of service standards produced through the GMA planning efforts should be on the transportation improvement programs developed in Skagit County. Three such programs are discussed below.

### *GMA Transportation Financial Plan*

The passage of the Growth Management Act has added a long-range transportation project planning requirement for Skagit and other counties throughout the State of Washington. Specifically, the GMA (RCW 36.70A.070) requires that the Transportation Element of the Comprehensive Plan show transportation facility and service needs, and include a *"multi-year financing plan based on the needs which shall serve as the basis for the six- year street, road, or transit program."* These needs are based on level of service considerations and are presented later in Chapter VI. The Financial Plan is based on a 20-year horizon and is presented in Chapters IX. The Financial Plan and other aspects of the Transportation Element now directly impact the content of the County's Six Year Transportation Improvement Program and the Annual Transportation Program as discussed below.

### *Six Year Transportation Improvement Program*

Each year Skagit County is required to produce a Six Year Transportation Improvement Program (Six Year TIP) which identifies those road, bridge, ferry, and new or significant improvements to non-motorized projects the County plans to work on over the next six years. The current TIP was adopted in 2016 and addresses transportation projects through the year 2021.

Three aspects of the Transportation Element have a direct bearing on transportation project programming and funding through the Six Year Transportation Improvement Program. These are: 1) transportation policies; 2) existing and future transportation needs (based on LOS); and, 3) the transportation financial plan. The transportation policies are used to give general direction for transportation improvement investments. Along with the County's Priority Array which prioritizes road projects primarily on physical deficiencies, the transportation needs (or LOS deficiencies) are used to select potential projects. The transportation financial plan is used to produce a financially feasible six-year plan. Thus, the Transportation Element is a major tool for use in transportation investment decisions by Skagit County officials.

### *Annual Construction Program*

During the County's budget process, the Annual Construction Program for the next year's transportation engineering and construction is compiled and adopted by the Board of County Commissioners. This is the County's short-range transportation improvement program. The projects included are a combination of the first year of the Six Year TIP, projects that were not completed in the previous year, and projects on the Six Year TIP that may have changed priority. Typically, the Engineering Division of the Public Works Department will begin work on a project in the year it is first included on the Annual Construction Program and complete the work the following year.

It is in the project design phase of the Annual Construction Program that various site specific issues and potential environmental impacts are considered. Often these issues relate to the project's impact on right of way, surface water drainage, on wetlands, and on adjacent property owners.

## Defining Level of Service Standards

### *Highway Capacity Manual*

The most widely used method to determine LOS for the GMA is the Highway Capacity Manual (HCM). This provides a good basis for coordinating among adjacent jurisdictions as required in the GMA. All

agencies adjacent to Skagit County use the HCM to determine Level of Service (LOS) in their respective jurisdictions. It provides a consistent system of techniques for the evaluation of the quality of service on highway and street facilities. While different service measures are used for different types of facilities, The LOS rating categories are always A through F. In general, LOS A indicates free flow with no delays or mobility restrictions, while LOS F signifies severe congestion caused by more traffic than the facility has the capacity to serve ( $V/C > 1$ ).

The Transportation Research Board's (TRB's) HCM provides a collection of state-of-the-art techniques for estimating the capacity and determining the level of service for transportation facilities, including intersections and roadways, as well as facilities for transit, bicycles and pedestrians. For more than 60 years, the HCM has fulfilled this goal, earning a unique place in the esteem of the transportation community. Developed and revised under the direction of the TRB Committee on Highway Capacity and Quality of Service, the HCM, presents the best available techniques for determining capacity and level of service for transportation facilities.

The purpose of the HCM is to provide a set of methodologies, and associated application procedures, for evaluating the multimodal performance of highway and street facilities in terms of operational measures and one or more quality-of-service indicators. The objectives of the HCM are to:

1. Define performance measures and describe survey methods for key traffic characteristics,
  2. Provide methodologies for estimating and predicting performance measures, and
  3. Explain methodologies at a level of detail that allows readers to understand the factors affecting multimodal operations.
- The HCM presents the best available techniques at the time of publishing for determining capacity and LOS.

The HCM provides methods for computational analysis that can be long and drawn out with a series of complex formulas. It does not provide or endorse software to perform the calculations. Several private companies have developed software to streamline the process. Users can just input variables to these programs and get reports summarizing the results. Users of the software should have training in the methodology of the HCM before using software to assure variables are in the correct format.

The Transportation Research Board adopted an updated HCM in 2010. The updated HCM included many refinements including changes to the Two-Lane Highways section that applies to most roads in unincorporated Skagit County. Although formulas calculating LOS are based on the ratio of traffic volumes to facility capacity, the HCM converts the output to terms better understood by laymen. For example, the LOS of Two-Lane Highways is output in *percent time spent following* and is calibrated on a scale from A to F. LOS A may mean free flowing traffic with less than 40% time spent following. LOS C is also free flowing traffic with less than 70% time spent following. LOS E is traffic volumes nearing capacity and is approaching 100% time spent following. LOS F is traffic volumes exceeding capacity that is also 100% time spent following but also signifies traffic congestion including stopped vehicles waiting their turn to pass through the facility.

As mentioned above, different service measures are often used for different types of facilities. Volume over capacity ( $v/c$ ) is a standard measure that is used for many different facilities. Examples of measures often used for different facility types are the following:

- Freeway Segment: cars per mile per lane (or  $v/c$ )
- Multilane Highways: cars per mile per lane (or  $v/c$ )
- Two-Lane Highways: average travel speed, percent time following, and percent of free flow speed

- Signalized Intersections: average control delay
- Unsignalized Intersections: control delay and/or v/c
- Roundabouts: control delay and/or v/c
- Urban Streets Automobiles: free flow speed
- Urban Streets Non-automobiles: score and average pedestrian space

For rural county roads, the measures used for two-lane roads are percent time spent following or average travel speed. (A methodology for evaluating the LOS at specific intersections can be used as well.) The focus of the percent time spent following method is on restrictions in free flow travel caused by traffic level and restrictions in passing.

Saturation of traffic from low levels of service often impacts side street traffic and turning traffic requiring traffic signals to provide orders. Traffic signals in turn have a direct impact on road capacity in proportion to the percentage of time red indications are displayed on a facility. Typically signalized intersections will have lower levels of service than a free flow roadway with the same traffic volumes. Monitoring potential signalized intersections is also necessary to determine the functionality of a facility.

### *Categories of Traffic Flow*

Facilities are classified in two categories of flow: uninterrupted and interrupted. Uninterrupted-flow facilities have no fixed elements such as traffic signals that are external to the traffic stream and might interrupt the traffic flow. Traffic flow conditions result from the interaction among vehicles in the traffic stream and between vehicles and the geometric and environmental characteristics of the roadway.

Interrupted-flow facilities have controlled and uncontrolled access points that can interrupt the traffic flow. These access points include traffic signals, stop signs, yield signs and other types of control that stop traffic periodically (or slow it significantly) irrespective of the amount of traffic.

Uninterrupted and interrupted flows describe the type of facility, not the quality of the traffic flow at any given time. A freeway experiencing extreme congestion, for example, is still an uninterrupted-flow facility because the causes of congestion are internal. Highways can operate under uninterrupted flow in long segments between points of fixed interruption. On two lane highways it is often necessary to examine points of fixed interruption as well as uninterrupted-flow segments. Skagit County will monitor road segments as uninterrupted flow and intersections as interrupted flow.

### *Road Segments*

Skagit County will perform an annual analysis on all applicable road segments as identified in the County Road Log. The first step will be screening by inputting updated traffic volumes and screening out all road segments with traffic volumes too low to register a level of service equal to the level established by the Board of Commissioners as acceptable. The process will also be applied after applying growth rates to the traffic volumes to also analyze the LOS in 2015.

## **3.2 INTERSECTIONS**

Intersection LOS will be calculated using Traffic Signal Warrants in conjunction with LOS methods. The analysis will use real time data which focuses on turn movements and volumes of the entire intersection. This type of analysis can be made on any intersection in the County Road System.

### 3.3 SKAGIT COUNTY FERRY

The level of service (LOS) for the County ferry system is closely tied to its vehicle carrying capacity because vehicle traffic has a greater impact on the ferry system than walk-on passenger traffic. Simply put, the M/V Guemes can carry far more walk-on passengers than vehicles. In transportation planning, LOS is often measured by volume divided by capacity, the V/C ratio, and by the level of congestion. Measuring the V/C ratio is valuable in examining the overall carrying capacity of the system. As the V/C ratio approaches 100%, the overall system level of service is reduced. Examining the level of congestion on the Guemes Island Ferry system is more complex, but gives a better indication of LOS during peak demand for ferry service. The V/C ratio calculations and examination of system congestion will focus on the vehicle carrying capacity of the M/V Guemes. The County has plans to increase capacity based on growth in ridership.

The vehicle carrying capacity of the M/V Guemes in 2013 was 368,808. The total number of vehicles in 2013 (194,786) was divided by the number of scheduled ferry crossings (16,764) in 2013, which resulted in an average of 11.6 vehicles per scheduled ferry crossing. The 11.6 average vehicles per scheduled ferry crossing was divided by the 22 vehicle capacity of the M/V Guemes, which resulted in an average volume-to-capacity (V/C) of 53%.

### 3.4 TRANSIT

Transit service, in contrast to level of service standards for streets and roads, is often measured in terms of the quality of service (QOS), which takes into account additional factors beyond delay to assess the quality of transit service in an area. Skagit Transit in association with Island County and WSDOT has an established policy to “develop coordinated transportation quality of service standards.” Additional QOS metrics may include service coverage, scheduling, capacity, information dissemination, passenger loads, reliability, travel time, cost, safety, and security and passenger comfort (Skagit/Island, 2010). Skagit Transit aims to maintain existing levels of service. Skagit Transit has established the following goals for service delivery:

1. **Preservation.** Preserve and extend prior investments in existing transportation facilities and the services they provide to people and commerce.
2. **Safety.** Education, training and enforcement to save lives, reduce injuries and protect property.
3. **Stewardship.** To continuously improve the quality, effectiveness, and efficiency of the transportation system.
4. **Mobility.** To facilitate movement of local and commuting citizens to contribute to a strong economy and a better quality of life for Skagit County residents.
5. **Environmental Quality and Health.** To enhance regional quality of life through transportation investments that promote energy conservation, enhance healthy communities and protect the environment.

### 3.5 ACTIONS TO MEET LOS STANDARDS

Based on the regional travel demand model, land use growth assumptions, and the County’s TIP the County will meet its LOS standards on all County transportation facilities through the year 2036.

## 4.0 TRAVEL FORECAST

GMA specifically requires cities and counties to forecast travel growth for at least ten years based on adopted land use plans. The standard process for forecasting travel on the roadway system is to develop a travel demand model. This model relies on forecasts of land uses (employment and housing) to estimate future trips on the county system. For the 2016 update, the County is using the 2036 horizon year to estimate transportation needs while the Skagit Council of Governments (SCOG) is using the horizon year of 2040 for the Regional Plan.

### 4.1 TRAVEL DEMAND MODEL

Travel demand models are tools that provide valuable information to help transportation professionals study possible scenarios for the future. These scenarios could reflect land use alternatives, street network alternatives, or both. The County must develop a transportation system to accommodate anticipated long-term growth.

Under the direction of SCOG, the regional travel demand model was updated in 2015 to address updates to land use forecasts, transportation network improvements, and modeling best practices.

The travel demand model was also developed to assist Skagit County and local cities in long-term transportation planning. The 2036 Baseline model was built based on input from SCOG and its member agencies. This includes input on land use growth allocations and transportation improvements. The model was developed using Visum modeling software.

### 4.2 LAND USE FORECASTS

GMA requires that counties consult cities and allocate population growth within a range of projections provided by the Washington State Office of Financial Management (OFM). GMA also requires that counties consult with cities and size their Urban Growth Areas (UGAs) based on growth over a 20-year period. Last, GMA requires that comprehensive plans and development regulations provide sufficient land capacity for development to accommodate allocated housing and employment growth. (RCW 36.70A.110 and 115)

The update of the SCOG regional transportation model, and the pending Skagit County and cities comprehensive plan updates due June 30, 2016, present an opportunity to update the countywide population and job targets and allocations. The targets and allocations will inform UGA sizing as well as transportation modeling.

Skagit County and its cities will plan for a 20-year period that for GMA planning purposes will be the growth from a base year of 2015 to a horizon year of 2036.

#### Land Use and Transportation Analysis Zones

The growth allocations were distributed to transportation analysis zones. Transportation analysis zones (TAZs) divide the model study area into geographic areas based on a number of factors including land use, roadways and natural landscape boundaries. The distributions considered:

**Employment:**

- Employment projection by UGA and sector
- Zoning

- Industrial Buildable Lands Analysis from ECONorthwest (2014)
- Calculated trips in 2012
- Taxable Retail Sales (TRS) from the Department of Revenue
- Current trips

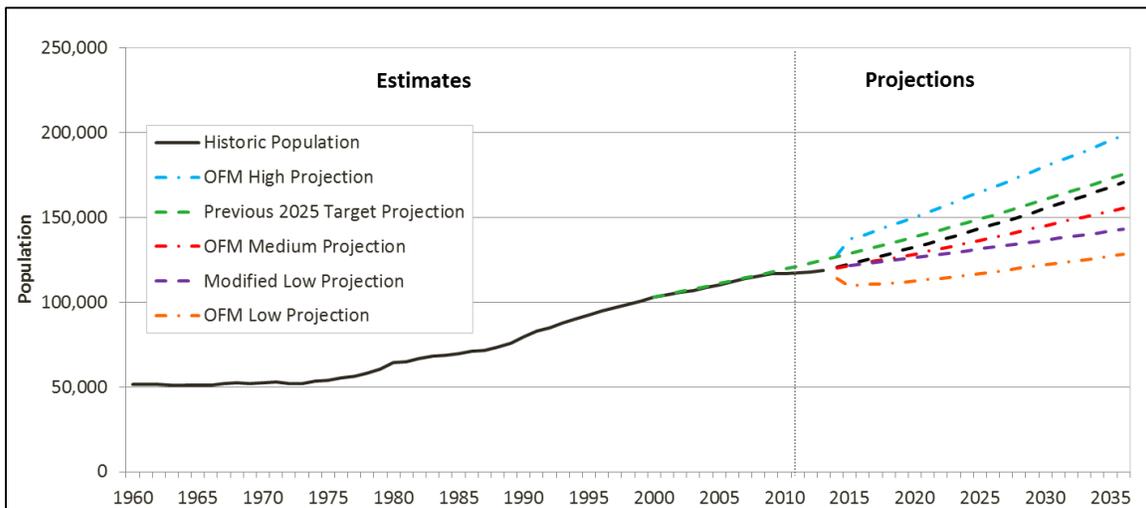
**Population:**

- 2010 US Census and 2012 American Communities Survey (ACS)
- Population projections by UGA
- Skagit County Zoning (combined zoning layer that included the county and cities/UGAs)
- Skagit County Assessor parcel layer
- Envision 2060 Plan Trend 20-year plan model snapshot
- Skagit Instream Rule Area (water restricted rural areas)
- Ferry ridership projections

## Population Projections and Allocations

Starting with the OFM 2012 projections of population, county and city planners assessed factors that might affect which countywide projections to accept for the planning process. Factors they considered included: components of population change – natural and migration; historical growth rates; adjustments in previous OFM projections; and other unique factors and trends potentially affecting population growth. Historic growth and the 2012-2040 OFM growth projections are shown in Exhibit 2.

**Exhibit 20. 1960-2040 Population Growth**



Source: Office of Financial Management, historical data and May 2012 projections

After review of a range of scenarios and factors, county and city planners developed population growth and allocation recommendations based on OFM Medium projections allocated to urban and rural areas by an 80/20 split reflecting trends and policy. UGAs would receive a share of population based on their current shares. Bayview Ridge population would be reduced to 0.2 percent to recognize the small number of existing buildable lots, and reallocated based on the current shares to remaining UGAs. The initial population allocations were approved by the Skagit County Growth Management Act Steering Committee on July 31, 2014 for preliminary planning purposes. See Exhibit 3.

**Exhibit 21. Initial Population Growth and Distribution Allocation**

UGA	2012 Population	2012-2015 Population Growth Forecast	2015-2036 Population Growth Forecast	2015-2036 Population Growth Forecast Allocation Percent	2036 Population Growth Forecast Allocation
Anacortes	16,090	308	5,895	16.5%	22,293
Burlington	10,393	71	3,808	10.7%	14,272
Mount Vernon	33,935	1,034	12,434	34.8%	47,403
Sedro-Woolley	12,431	83	4,555	12.7%	17,069
Concrete	873	0	320	0.9%	1,193
Hamilton	310	3	114	0.3%	427
La Conner	898	-1	329	0.9%	1,226
Lyman	441	2	162	0.5%	605
Bayview Ridge	1,812	-1	72	0.2%	1,883
Swinomish	2,489	15	912	2.6%	3,416
Rural (outside UGAs)	38,277	238	7,150	20.0%	45,665
<b>Total</b>	<b>117,949</b>	<b>1,752</b>	<b>35,751</b>	<b>100.0%</b>	<b>155,452</b>

Notes: The figures apply to cities/towns including their associated UGAs.

Source: BERK Consulting 2014

## Employment Projections and Allocations

For employment, the historical relationship between population and employment was considered to calibrate the countywide employment projection. The industry split also considered the following factors: Current industry distributions; recent trends and industry shifts; Washington State Employment Security Department (ESD) mid-term industry projections; and other unique factors and trends identified by the County and cities including an industrial lands analysis.

The planners considered different allocation scenarios that varied in how employment is allocated to specific geographic areas. Based on a review of all scenarios, the Planners developed recommended initial allocations that reflect trends in the Rural area at 9 percent, a share of jobs in Anacortes at 13 percent reflecting that local jurisdiction’s review of employment data and discussions with local businesses, the I-5 Corridor share predominating at 73 percent, and a Towns & Tribal Land share of 5 percent.

The initial employment allocations were approved by the Skagit County Growth Management Act Steering Committee on July 31, 2014 for preliminary planning purposes and amended in 2015 to address additional consideration of the Northern State site through a multi-agency planning process. See Exhibit 22.

**Exhibit 22. Initial Employment Growth and Distribution Allocation**

UGA	2012	Net Growth						Additional Allocation: Northern State	Net Growth 2015-2036	Total 2036	Percent: 2015- 2036
		2012-2015	Resource	Retail	Industrial	Services	GovEdu				
Anacortes	8,166	238	0	92	702	806	476		2,076	10,480	11.0%
Burlington	9,467	429	0	305	1,141	1,360	710		3,516	13,412	18.6%
Mount Vernon	16,024	479	0	201	874	1,936	1,774		4,785	21,288	25.4%
Sedro-Woolley	4,594	158	0	46	368	592	566	2,746	4,427	9,179	23.5%
Concrete	347	11	0	9	7	8	85		109	467	0.6%
Hamilton	214	8	0	1	47	11	7		66	288	0.4%
La Conner	1,053	38	0	26	63	115	125		329	1,420	1.7%
Lyman	28	1	0	0	4	3	2		9	38	0.0%
Bayview Ridge	1,434	222	0	1	1,436	305	57		1,799	3,455	9.5%
Swinomish	925	32	0	9	22	150	109		290	1,247	1.5%
Rural	7,749	147	0	47	558	379	463		1,447	9,343	7.7%
<b>Total 2015-2036</b>	<b>50,001</b>	<b>1,763</b>	<b>0</b>	<b>737</b>	<b>5,222</b>	<b>5,665</b>	<b>4,374</b>	<b>2,746</b>	<b>18,853</b>	<b>70,617</b>	
Percent			0.0%	3.9%	27.7%	30.0%	23.2%	14.6%	100.0%		

Notes: The figures for cities/towns include their associated UGAs. Sector splits are based on ESD projections. ESD mid-term growth rates were applied to 2012 base employment. ESD Projections are for non-farm jobs and exclude proprietors, self-employed, unpaid family or volunteer workers, farm workers, and domestic workers.

Source: Skagit Council of Governments 2014; BERK Consulting 2014

### 4.3 TRAVEL FORECASTS

The land use forecasts for Skagit County and local cities were used in the SCOG travel demand model to develop travel forecasts for vehicle trips. As would be expected based on the land use allocations, the greatest growth in vehicle trips was in the urban centers and along Interstate 5 and other state highways that connect these urban centers to other urban centers in the region. Most county roadways did not see the same amount of growth as exhibited in urban centers. Looking at the higher volume county roadways, the annual growth rate of vehicle trips ranged from 0.3 to 1.2 percent per year. The estimate of future daily trips on county roadways is shown in the next section, in Exhibit 23.

### 4.4 FORECASTS FOR OTHER MODES

The SCOG travel demand model is primarily used for forecasting vehicle transportation modes, which is the dominant mode in Skagit County. Forecasts and long-range planning for other transportation modes has been developed in separate planning processes and documents, and those findings are summarized below.

#### Transit

While Skagit Transit has not done any long term forecasts of ridership, it does have a Six Year Transit Development Plan for 2014-2019 that established the six transportation goals discussed in Section 3.4. Additional information on revenue forecasts and improvements in services, facilities and equipment over the next six years are available in Skagit Transit’s Six Year Transit Development Plan.

#### Non-motorized Transportation

Some bicycle and equestrian use statistics are available from a 1995 survey that was taken as a part of the development of the Parks and Recreation Plan and the Non-motorized Transportation Plan. However, no use forecasts have been made.

## Skagit County Ferry

The County's Ferry Replacement Plan (2013) indicates that vehicle ridership peaked in 2003 with 208,723 vehicles served and that passenger ridership continued to grow until it peaked in 2007 at 422,257. Passenger ferry ridership is expected to increase by 10 percent from 2007 to 2033.

## Freight Transport

The 2014 WSDOT *Freight Mobility Plan* forecasts a substantial increase in freight traffic for some modes while others are anticipated to remain relatively flat during the period from 2011 to 2030. The increase in freight tonnage moved by trucks is anticipated to increase by 80 percent while rail demand is expected to double during the planning period. Freight traffic on the state's waterways is also forecast to increase. Multimodal freight demand is also expected to increase as a result of population increases and growth in domestic manufacturing. Freight transported by pipeline is anticipated to remain flat due to capacity limitations through 2030.

# 5.0 STATE AND LOCAL SYSTEM NEEDS

At the heart of GMA Transportation Planning requirements is the determination by the planning jurisdiction of its transportation needs. There are several types of transportation modes that can be evaluated for improvement needs. In this section, the evaluation focuses primarily on needs in the road system along road segments.

## 5.1 BASELINE ASSUMPTIONS

The 2036 Baseline model was developed based on capacity improvement projects identified in prior plans and project lists prepared by WSDOT, Skagit Council of Governments, Washington State Ferries, and the other adjacent cities. Some of these improvements are funded or are expected to be funded in the next few years. These projects were generally limited in scope, within urban areas, and did not dramatically change County traffic patterns from existing conditions.

## 5.2 BASELINE CAPACITY NEEDS

A major focus of the GMA transportation planning requirements is on the determination of level of service deficiencies and on funding transportation projects to address them. In essence, the GMA places congestion reduction as the primary goal for the long-range road improvement plan.

In Skagit County, traffic volumes on County roads are low and maintenance of the existing County road system takes precedence over road construction. Because of this, road improvements rely more on the priority array than on level of service deficiencies. Projects on the 2016 TIP list reflect this priority array.

In addition, the travel demand model was reviewed to understand if any roadway segments have volumes that are near the roadway capacities coded in the as well as estimate growth in traffic at "High Traffic County Road Segments" as identified by the County. The 2036 Baseline model confirmed that only the currently identified High Traffic County Road Segments had volumes approaching capacity.

Exhibit 23 below shows the estimated AADT at High Traffic County Road Segments (as defined in the *Skagit County Road Segment and Intersection Concurrency*, Skagit County, 2014). As shown in Exhibit 23, the County segments along Cook Road and Pioneer Highway are anticipated to remain at volumes levels consistent with LOS D.

However, this LOS does not take into account intersection operations or railroad crossing impacts. It is anticipated that existing traffic congestion along Cook Road between I-5 and Green Road will worsen with additional intersection volumes and with increased railroad crossing delays (See *SCOG Rail Crossing Study*, 2016). Exhibit 26 shows that the County has already identified a planned capacity improvement project for this roadway segment that includes possible grade-separation from the railroad or other mitigation measures.

**Exhibit 23. 2014 and 2036 Forecasted Traffic Volumes**

Roadway Segments <sup>1</sup>	Extents	2014 ADT <sup>2</sup>	2014 LOS <sup>3</sup>	2036 ADT <sup>4</sup>	2036 LOS
Cook Rd	I-5 SB Ramps to NB Ramps	12,000	WSDOT <sup>5</sup>	14,300	WSDOT
Cook Rd	I-5 NB Ramps to Old Hwy 99	15,600	WSDOT <sup>5</sup>	16,800	WSDOT
Cook Rd	Old Hwy 99 to Green Road	12,300	D	13,200	D
Cook Rd	Green Road to Collins Rd	11,100	D	12,000	D
Cook Rd	Collins Rd to Klinger St	10,900	D	11,600	D
Pioneer Highway	County Line to Milltown Rd	8,000	C	10,500	D
Pioneer Highway	Milltown Rd to Fir Island Rd	7,600	C	10,000	D

1. Segments as identified in *Skagit County Road Segment and Intersection Concurrency*, Skagit County, 2014
2. Average Daily Traffic volumes as reported in the *Concurrency* report.
3. Level of Services as reported in the *Concurrency* report, based on the *Highway Capacity Manual* (TRB, 2010).
4. Average Daily Traffic volumes forecasts based on model growth rates from the SCOG Travel Demand Models for 2013 and 2036.
5. These Cook Road segments are within WSDOT right-of-way.

Source: Transpo, 2015

### 5.3 BRIDGES

Skagit County’s 110 bridges are in reasonably good condition. There are some structural deficiencies on a few bridges in the County in handling heavy loads. While a number of the bridges are considered functionally obsolete by state and federal standards for bridge reconstruction, none meet Level of service problems, based on vehicle traffic congestion measures.

A detailed analysis of each bridge in the County has not been made for this plan. However, the Engineering Division estimates that 4 or 5 bridge structures will need to be replaced over the next 20 years due to structural deficiencies and future growth. The Annual Bridge Report is available in the Engineering Department of Public Works for review upon request. See project list in Exhibit 26 for current projects.

### 5.4 NON-MOTORIZED TRANSPORTATION NEEDS

The Skagit Regional Transportation Plan will identify regional needs for bicyclists and pedestrians in several contexts and based on needs and projects identified by local agencies. The plan will identify regional deficiencies in conditions for bicycling based on access, safety, mobility and connectivity.

## 5.5 FERRY NEEDS

A *Guemes Island Ferry Fourteen-Year Capital Improvement Plan 2015-2028* was approved in December of 2014 to meet the ongoing RCW requirement to produce a 14-year long-range capital improvement plan. The 2016 TIP includes \$12,500,000 in federal and state funds to replace or modify the current Guemes Island ferry to meet current and future needs, in addition to repaving the ferry parking facility. The project is scheduled to begin in 2020. See project list in Exhibit 26.

## 5.6 TRANSIT NEEDS

As mentioned in a previous chapter, Skagit Transit has done a six-year Transit Development Plan for 2014-2019. This plan lays out various equipment purchases and other planned expenditures over the six-year period. In addition, there are some service improvement goals, which are listed in the Plan. As mentioned previously, substantial increases in ridership are expected over the next six years.

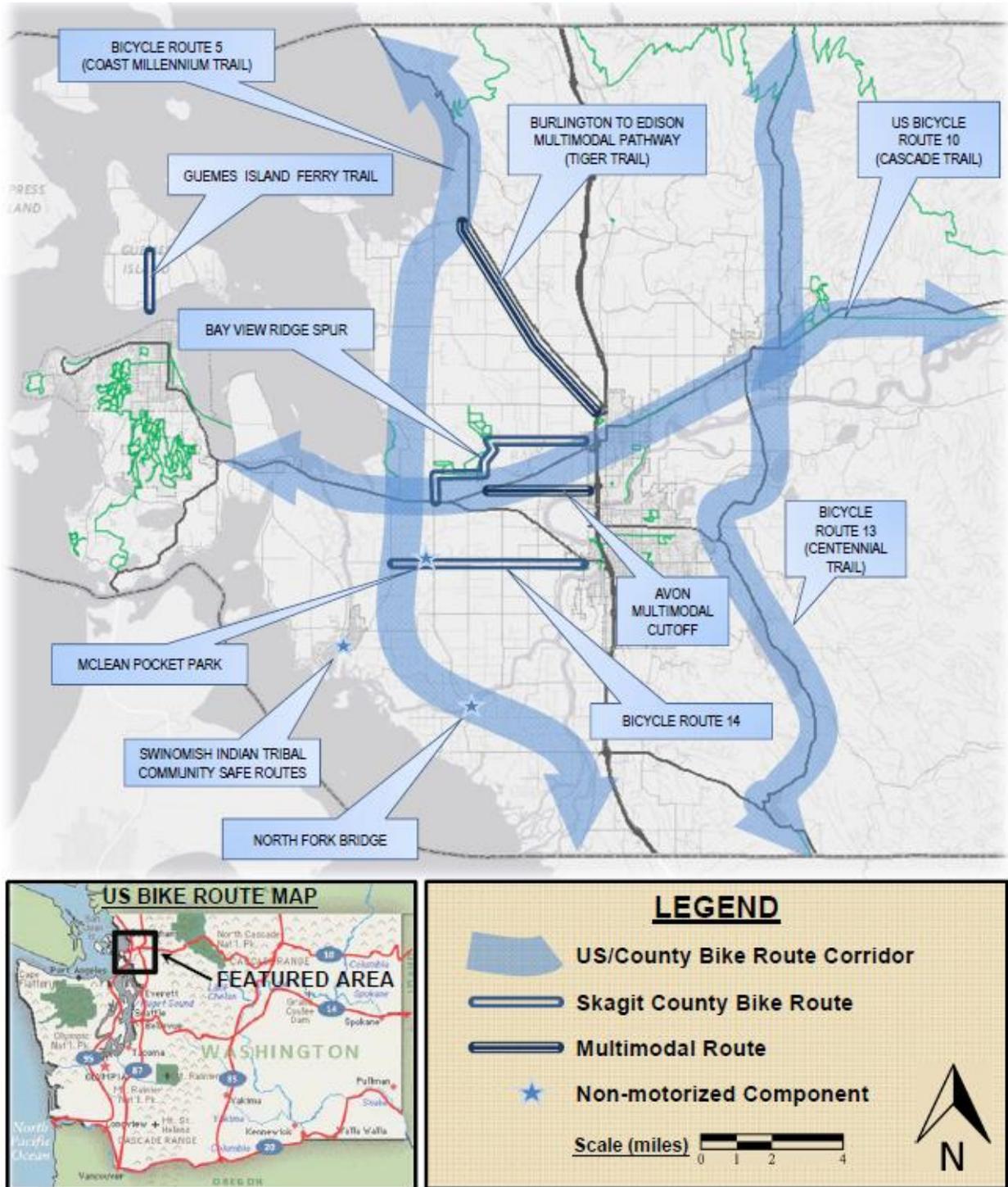
## 5.7 TRANSPORTATION IMPROVEMENT PROGRAM (TIP) PROJECT LIST

Exhibit 26 below shows the projects anticipated for the transportation system in Skagit County over the next 20 years. This list includes projects from the County's 2016-2021 Six-Year TIP as well as projects anticipated beyond the six-year timeframe. For more detail on project funding see the County's 2016-2021 TIP, hereby incorporated by reference as updated, and available at <http://www.skagitcounty.net/PublicWorksEngineering/Documents/TIP%202016-2021.pdf>. The project list includes the following types of projects:

- **Capacity/Operations:** Projects that are needed to improve the roadway capacity or traffic operations
- **Reconstruct/Repair:** Projects that bring the project back up to county design standards, in addition to improving the safety of the roadway.
- **Safety:** Project related to safety that do not change the structure of the roadway
- **Non-Motorized:** Projects related to non-motorized travel modes
- **Studies:** Projects related to studies
- **Bridge:** Projects that involve repairing or replacing existing bridges. These do not include any capacity improvement bridge projects
- **Ferry/Dock:** Projects related to water transport
- **Programs:** Annual programs administered by the County to improve transportation facilities



Exhibit 25. Non-Motorized Project Locations



Source: Skagit County, 2016

**Exhibit 26. Transportation Improvement Program Project List**

*[Note: This table will be updated with cost figures where they are missing and also with some more detailed project descriptions]*

ID	Project	Location	Description	Project Cost	Year
	Capacity/Operations				
7	Cook Road Reconstruction	I-5 to Green Rd	Capacity improvements at Cook Road/Old Hwy 99; Potential I-5 ramp improvements; Potential railroad crossing improvements.	\$15,483,040	2018-20
8	Cook Road Signal Advance Warning	East leg of Cook Rd/Old Hwy 99 Intersection	Install signal warning flashers when westbound signal is changing. Will also upgrade intersection signal hardware.	\$54,400	2016
	Reconstruct/Repair				
1	Bow Hill Road Reconstruction	Old Hwy 99 to Darrk Ln	Reconstruct roadway	\$3,199,171	2016
2	Bradshaw Road Rehabilitation	Summers Dr to McLean Rd	Rehab and resurface concrete roadway	\$1,650,000	2019-20
4	Cascade River Road Stabilization	East county	Stabilize roadway	\$85,000	2016
6	Concrete Sauk Valley Road Stabilization	MP 13.0	Bank stabilization along Sauk River	\$1,000,000	2016-17
12	Francis Road Section 1	MP 5.05 to 5.66 (near SR 9)	Reconstruct roadway, SR 9 intersection improvements	\$1,425,000	2017-19
13	Francis Road Section 3	MP 2.75 to 3.75	Reconstruct roadway and bridges	\$3,644,143	2019-21
14	Francis Road Section 4	MP 1.48 to 2.75	Reconstruct roadway and bridges	\$4,422,000	2020-21
16	Fruitdale/Kalloch Road Arterial Improvements	Vicinity of Fruitdale Rd and Kalloch Rd Intersection	Repair and widen to arterial standards	\$2,270,000	2017-19
17	Green Road Rehabilitation	Cook Rd to Kelleher Rd	Repair surface	\$500,000	2018-19
21	Josh Wilson Road Phase 1	Jensen Ln to Avon Allen Rd	Reconstruct to improve roadway to standards	\$1,870,520	2017,2019
22	Josh Wilson Road Phase 2	SR 11 to Avon Allen Rd	Reconstruct to improve roadway to standards	\$4,166,670	2019-20
23	Josh Wilson Road Phase 3	Jenson Ln to Emily Ln	Reconstruct to improve roadway to standards	\$1,684,730	2020-21
24	Josh Wilson Road Phase 4	Higgins Airport Way to Farm to Market Rd	Reconstruct to improve roadway to standards	\$1,910,350	2021
29	Peterson Road	Bayview Ridge neighborhood to Higgins Airport Way	Improve to urban standards	\$3,359,543	2019-20
30	River Bend Road Improvements	West of Burlington	Repair and raise roadway	\$850,000	2017-18
37	South Shore Road	Guemes Island	Stabilize roadway	\$75,000	2017
39	South Skagit Highway Milepost	MP 4.0	Stabilize roadway	\$18,500,000	2017-18

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ID	Project	Location	Description	Project Cost	Year
	4.0				
	Safety				
9	Dodge Valley Road Barrier Protection	Chilberg Rd to Best Rd	Install new guardrail at various locations to improve safety	\$400,000	2016
28	Old Highway 99 North Illumination	Morton Rd Vicinity	Install lighting to improve safety along approximately half-mile of Old Hwy 99	\$166,000	2016
	Non-Motorized				
5	Centennial Trail	Big Rock to Clear Lake	Construct pedestrian/bicycle trail	\$2,030,000	2016-17
	Bicycle Route 5 (Coast Millennium Trail)	Southern County line to Bayview State Park	A 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 County roads and trails.		2022-2036
	North Fork Bridge	North Fork Bridge	Improvements to the bridge to increase driver awareness and bicyclist safety; located on Bicycle Route 5 (Coast Millennium Trail)		2022-2036
	Bicycle Route 14	Mount Vernon to Mclean Pock Park	A east / west multimodal transportation corridor from Mount Vernon to the McLean Pocket Park and Bicycle Route 5 (Coast Millennium Trail) utilizing McLean Road.		2022-2036
	McLean Pocket Park	Best Road and McLean Road	A rest stop with amenities for the bicycle/pedestrian community positioned at the intersection of Best Road and McLean Road and centrally located between Skagit County's major destinations.		2022-2036
	Bayview Ridge Spur	City of Burlington to Bay View Ridge	A alternative parallel multimodal transportation corridor to USBR 10 that connects the City of Burlington to Bay View Ridge and Bicycle Route 5 (Coast Millennium Trail)		2022-2036
	Swinomish Indian Tribal Community Safe Routes	Swinomish Indian Tribal Community to La Conner and La Conner Schools	Improvements to Tribal, Town, and County roads and sidewalks from the Swinomish Indian Tribal Community to La Conner and La Conner Schools to increase bicyclist and pedestrian		2022-2036

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<b>ID</b>	<b>Project</b>	<b>Location</b>	<b>Description</b>	<b>Project Cost</b>	<b>Year</b>
			safety for residents and students.		
	Burlington to Edison Multi Modal Pathway (Tiger Trail)	City of Burlington to the Town of Edison	A separated non-motorized trail adjacent to State Route 11 connecting the City of Burlington to the Town of Edison and Bicycle Route 5 (Coast Millennium Trail)		2022-2036
	Avon Cutoff	SR 20 east of Burlington	Construct multi-use trail in WSDOT right-of-way		2022-2036
	Guemes Ferry Trail	Ferry terminal to Edens Rd	Construct trail on east side of road		2022-2036
	Fidalgo Island Trail	Marine Dr to D Ave	Pave separated trail		2022-2036
	US Bicycle Route 10 (Cascade Trail)	State Route 20	An east / west multimodal transportation corridor from Fidalgo Island to the Town of Concrete utilizing State Route 20, City and County roads and trails.		2022-2036
	<b>Studies</b>				
35	Skagit River Bridge Modification and I-5 Protection Project	Transportation facilities near Skagit River	Study potential modifications of transportation facilities to improve flood control along Skagit River	\$1,199,700	2016
38	South Skagit Highway Realignment	S Skagit Hwy at Mill Creek	Study to identify ways to improve fish habitat and bridge maintenance at Mill Creek, including possible realignment	\$18,500,000	2017-18
	<b>Bridge</b>				
3	Burlington Northern Overpass (Old Highway 99)	Cook Rd to Dahlstedt Rd	Replace timber trestle bridge over railroad	\$17,104,317	2016
15	Friday Creek Bridge (Old Highway 99)	North of Bow Hill Rd	Repair bridge deck	\$320,000	2017
18	Hard Creek Bridge Replacement	East county	Replace damaged bridge	\$1,098,000	2016
20	Illabot Creek Alluvial Fan Restoration	Rockport Cascade Rd	Construct 2 bridges to restore original channels	\$3,621,806	2016-17
25	Lower Finney Creek Bridge Repairs	S Skagit Hwy west of Concrete	Replace bridge deck	\$304,000	2017
27	North Fork Skagit Bridge Replacement (#40037)	Best Rd	Replace Bridge	\$25,000,000	2020-21
32	Samish River Bridge Repair (Old Hwy 99 N)	Old Hwy 99	Replace/repair bridge	\$732,500	2018
40	Thomas Creek Bridge (Old Hwy 99 N)	Old Hwy 99, south of Kelleher Rd	Replace Bridge	\$2,000,000	2019-20
41	Upper Finney Creek	East County	Strengthen bridge for truck use	\$1,136,200	2018-19

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ID	Project	Location	Description	Project Cost	Year
	Bridge (Strengthening)				
	Ferry/Dock				
43	Guemes Ferry Boat Replacement or Overhaul		Replace/overhaul ferry	\$12,000,000	2017-18
42	Guemes Ferry Parking Lot Improvements	Guemes Island	Improve parking area	\$250,000	2017
34	Sinclair Island Marine Access (#40160)	Sinclair Island	Repair/replace dock facility	\$2,210,000	2017-18
	Programs				
10	Emergent Projects at Various Locations		Address emergency repairs, minor construction, and safety improvement projects	\$60,000	2016
11	Fish Passage Emergent Projects		Address projects that improve fish passage	\$30,000	2016
19	Hot Mix Asphalt Overlay Project		Address various roadway locations that have poor pavement ratings	\$604,660	2016
26	Non-Motorized Emergent Projects		Address various non-motorized type projects	\$30,000	2016
31	Safety Improvement Emergent Projects		Address safety improvement projects	\$120,000	2016
33	School Safety Emergent Projects		Address safety projects related to schools	\$6,000	2016
36	Slope Stabilization Emergent Projects		Address slope stabilization projects	\$90,000	2016

Source: Skagit County, 2015

## 6.0 NON-MOTORIZED TRANSPORTATION

This section of the Transportation Element Technical Appendix focuses on non-motorized travel alternatives for Skagit County and constitutes the County’s Non-Motorized Transportation Plan. It is a key component of the transportation element of the Skagit County Comprehensive Plan. Non-motorized plan are essential in the development of programs and funding for a variety of public facilities, including Federal funding support for sidewalks, access to transit activities, trails and road improvement projects. Facilities and issues that involve travel by bicycle, on foot, and to a lesser extent on horseback are addressed and a number of key recommendations are made. The overall long-term goal is to achieve a safe, convenient, cost-efficient and countywide non-motorized transportation system. Specifically, development and adoption of the Non-motorized Transportation Plan meets policy and legislation direction from the Washington Growth Management Act and the Skagit County Comprehensive Plan, and is consistent with policies adopted by SCOG and the Washington State Department of Transportation.

### Non-motorized Transportation Planning Objectives and General Policies

The purpose of the NMTP is to provide a framework for the development of non-motorized transportation facilities and strategies that can satisfy current and future needs of the people of Skagit

County and to meet the expectations and requirements of both the Skagit County Comprehensive Plan and state statutes. To accomplish this, general goals, several long-term objectives and a number of specific policies have been developed which address the needs of bicycle, pedestrian and equestrian modes of travel, as well as intermodal opportunities within the larger transportation system.

Non-motorized Transportation goals focus on three major themes: 1) the overall non-motorized transportation system, 2) specific facilities and design standards that comprise the system, and 3) related issues involving public safety, education and law enforcement.

### **Objective #1 The Non-motorized Transportation System**

To provide a safe, efficient and interconnected system of on- and off-street facilities, including trails and bikeways that link populated areas of the county with important travel destinations, including activity centers, educational centers (high schools and colleges) and residential areas.

#### **Policies:**

- The Skagit County non-motorized transportation system is comprised of all streets and highways to which access by bicyclists and pedestrians is permitted, separated trails and pathways which have a transportation function as defined in this plan, and any system or design accommodations meant to serve non-motorized users.
- In addition to the system described above, Skagit County will identify and map a countywide system of key streets and separated shared use facilities which are high priority facilities for specific non-motorized improvements and/or development and consistent with the regional non-motorized system. However, most non-motorized improvements on this network will be made when general reconstruction, major maintenance or new construction allows application of new design standards to be applied as a cost-effective element of the overall project.
- New and reconstructed roads across Skagit County should be designed and constructed to a standard which accommodates the safety, mobility and access needs of pedestrians, bicyclists and (where appropriate) equestrians. It is understood that on certain rural road facilities standards of accommodation may be met without specific facility upgrades.
- Provide for the diverse needs of bicycle, pedestrian and equestrian modes through appropriate routing and the utilization of single-use and shared-use facilities.
- Connect all significant traffic generators (such as neighborhoods and communities) with each other as well as with a wide variety of destinations including schools, employment and commercial centers, medical and social service centers, shopping areas, recreation sites and facilities (public and private), scenic areas, transit stops, ferry terminals, rail and other transportation stations, touring destinations, and the non-motorized facilities and systems of adjoining counties.
- Provide convenient access to and from abutting sites and facilities.
- Promote the development of a cost-effective non-motorized transportation system in terms of right-of-way acquisition, design, development, maintenance and the incorporation of non-motorized facilities into multi-modal facilities.
- Utilize existing public and quasi-public lands in the development of the non-motorized transportation system.
- Accommodate, where appropriate, recreational use of the non-motorized transportation system.
- Coordinate system planning, funding, design and development with other local, regional, state, federal and tribal jurisdictions.

## **Objective #2 Facilities & Standards**

To achieve a high standard in meeting the needs of bicyclists, pedestrians and equestrians through appropriate planning, design, construction and maintenance of user-friendly facilities, including single-user and multi-user trails, roads and road shoulders, bikeways, bike lanes and related improvements.

### **Policies:**

- Skagit County should strive to provide safety for bicyclists of all abilities through enhanced transportation system design. Current AASHTO and WSDOT standards should be (and are) used as a minimum standard to be applied on local and regional facilities to be considered for funding through state and regional programs.
- Encourage land and transportation system development that accommodates the needs of bicyclists, pedestrians and (where appropriate) equestrians.
- Remove or minimize hazards, barriers and impediments to non-motorized transportation.
- Preserve or acquire land, easements or other access to railroad grades (including rail-banking), utility corridors, unique open space areas, or other potential corridors that may be valuable for future trail development. Such preservation and acquisition shall include due consideration of needs of adjacent residents and property owners, and should primarily serve transportation purposes if transportation funds are used in the development of such facilities.
- Establish minimum bicycle parking standards for subdivision and development activities including acceptable rack design.
- Skagit County shall make every effort as defined by the implementation of the Americans with Disabilities Act to accommodate the needs of the disabled in the design and operation of transportation facilities.
- Promote the development of facilities which are aesthetically pleasing and complementary to the natural surroundings and that also respect the County's unique character.

## **Objective #3 Safety, Education & Enforcement**

The County should increase education, information and traffic enforcement efforts associated with non-motorized transportation as a means of lowering collision and injury rates associated with these modes. Such efforts should extend to all highway users, including motorists. New programs and initiatives that further these aims should be integrated into existing safety, education and enforcement efforts within the County. Programs which specifically address non-motorized travel should be developed in conjunction with user groups, school districts and law enforcement agencies as demand for these programs grows.

### **Policies:**

- Promote the safe use of facilities and conformance with rules of the road by all road users.
- Promote community and school-based educational programs that teach and encourage safe bicycling including traffic safety and the use of bicycle helmets.
- Encourage reasonable and balanced enforcement of regulations for motorized and non-motorized travel.
- Help build awareness among motorists of the rights and responsibilities of both motorists and cyclists and the importance of sharing the road.
- Encourage planning, design and educational programs that help minimize conflicts among users.

## Skagit County Non-Motorized Transportation Plan Specific Policies

### General Facility Recommendations:

- Maintenance of existing facilities, especially regular sweeping of paved road shoulders, is a high priority. Shoulder sweeping of primary on-street routes can potentially bring the greatest benefit to non-motorized travel at the lowest cost. Regular maintenance should also be provided for as new facilities are developed.
- Priority routes are also identified for improvement within incorporated areas of the county. Although the cities have discretion over these improvements, the routes listed in the Non-motorized Plan represent priorities in linking urban areas to the regional non-motorized transportation system. As the cities plan for non-motorized transportation in the urban areas, Skagit County may need to review and/or revise portions of the system described in this plan.

### Design Standards & Guidelines

All non-motorized transportation facilities should be designed, developed and maintained in accordance with recognized federal, state and local standards and guidelines, specifically the edition of the AASHTO Guideline to the Development of Bicycle Facilities, the Manual of Uniform Traffic Control Devices, and the Washington State Design Manual.

Skagit County should formally adopt these guidelines for development of transportation-funding eligible components of the County trail system, and should make every effort to develop the non-motorized transportation system to a standard that meets or exceeds the current AASHTO Guidelines.

#### A. Bicycles on County Roads.

The design, construction and maintenance of all County roads should provide for the needs of bicyclists, with specific added attention given to those roads established and defined on a network of designated key bicycling streets and corridors. See the policies regarding Rural Facilities Standards for Bikes, later in this section, for more specific discussion of bicycle facilities on rural roads.

#### B. Design Flexibility

The County should provide for flexibility in the design and construction of pedestrian facilities to make them safer, more attractive and enjoyable for users, allowing for the use of different material construction techniques to reflect local taste and diversity on non-arterial roads.

It is understood that on many rural roads with low traffic volumes and speeds, the preferred facility may be a shared facility without specific shoulder or walkway improvements.

### Regulatory Recommendations

Reasonable zoning, shoreline and subdivision requirements, development standards, impact fees, and incentives should be adopted by Skagit County and other jurisdictions to help ensure that facilities for non-motorized transportation are included in all developments except where they are clearly inappropriate.

#### A. Project Review

New residential and employment area development should incorporate designated pedestrian design elements, both on and off of the road system where appropriate. Incentives should be provided to the private sector to encourage development of facilities beyond those required as dedicated improvements.

#### B. Public Projects

All County, federally-supported and WSDOT projects proposed in Skagit County should be reviewed for the inclusion of appropriate bicycle and pedestrian facilities and mitigation, per the adopted policies and procedures of the lead jurisdiction.

#### C. Subdivisions and Master Planned Communities

The review of large subdivisions and master planned communities should address the following issues:

- Internal pedestrian circulation in commercial and high-density residential areas;
- Access to transit, including continuous walkways to transit stops, ADA-accessible routes, and shelters;
- "Pass-through" walkways that minimize pedestrian and bicycle trip distance to the perimeter of the development;
- Relationship to and preservation of existing local or regional trail systems and other park facilities;
- Linkage to open space, especially dedicated OS-RA areas;
- Inclusion of grade separation facilities at points of contact with major and/or principal arterials; and
- Design compatibility with anticipated equestrian and bicycle traffic.

#### D. Sidewalk & Facility Maintenance

The County should continue and if possible increase efforts to repair and maintain pedestrian facilities through a cooperative effort of the County, homeowners, developers and businesses.

### Safety, Education & Enforcement

Safety, education and law enforcement are key to the success of non-motorized transportation plans and programs and should be encouraged and supported at all levels of County government.

A non-motorized transportation facilities user map and information brochure, periodically updated, should be made available to the public.

### Access and Mobility

Skagit County should emphasize non-motorized safety, mobility and access as an integral element of transportation planning and facility development. This effort should focus on the needs of students, the elderly and the developmentally and physically disabled.

### Accessible and Intermodal Transportation

Non-motorized travel modes should be accommodated to the greatest extent practical in the design and operation of all multimodal facilities (such as transit stops, ferry terminals, Skagit Regional Airport, and motor vehicle park and ride lots), except where clearly inappropriate.

Skagit County should work with local and regional transit providers (including Skagit Transit, AMTRAK and the Washington State Ferries) to provide a transit system that is fully accessible for pedestrians and the disabled, and which integrates as thoroughly as possible the access, safety and parking needs of bicyclists.

### Funding & Implementation

This plan includes implementing strategies, including specific recommendations for funding, administration, right-of-way acquisition and related needs. Projects that potentially qualify for both transportation and recreation funding sources should be prioritized for transportation funding purposes

based upon the degree to which the project addresses safety, access and mobility for non-motorized users.

#### A. Funding Priorities

Appropriately funded non-motorized transportation projects are they key to meeting the goals of this plan. This can be accomplished through the expansion of funding for existing programs, effective utilization of available targeted grant programs, and institutionalization of non-motorized transportation facility design in County and local design standards.

#### B. Bicycle Facilities

The County should make a strong funding commitment to building bicycle facilities and to incorporating them in all new road construction and reconstruction of roads on the bicycle network. This commitment includes the programming of funds set aside for the use of Skagit County under RCW 47.30.

#### C. Pedestrian Facilities

Whenever practical and appropriate, the County should identify and commit both targeted and general roadway funds to build needed pedestrian facilities such as sidewalks (in urban or town areas), paths, separated grade crossings, signalized crossings and other devices to improve the environment for the pedestrian. In addition, consideration of pedestrian safety programs aimed at youth, the disabled and seniors should be a priority of the County in the planning and review of roads and land development.

### Neighborhoods and Activity Areas

Design and locate transportation systems in such a manner as to contribute to the safety, efficiency and convenience of residential neighborhoods and activity centers. Bicycle, pedestrian, and (where appropriate) equestrian needs should be incorporated as a central component of this effort, through land uses and practices conducive to non-motorized transportation.

Non-motorized projects should also be planned and designed to serve areas near schools, recreation facilities, commercial/industrial areas, activity centers, tourist areas and established or planned multi-use trails.

### Area Plans

As local and community plans are developed, attention should be paid to the identification of specific pedestrian projects and needs, including:

- Design and implementation of pedestrian facilities in designated activity centers;
- Potential transit development, and assessment of pedestrian facilities within 1/4 mile of any proposed or existing transit facility, including rail, ferry, park & rides, and along existing transit routes; and
- Facilities linking neighborhoods to existing or proposed parks, schools, major recreation facilities, or commercial and employment centers.

### Energy

Comprehensive Plan policies calling for the development of an energy-efficient transportation system should be implemented in part through the promotion of bicycle and pedestrian-compatible transportation system design and land use practices.

## Facility Standards and Seniors

Facility and signal standards should be reviewed to accommodate the needs of an aging public, particularly in regard to signal phase length, sign size, reflectivity of signs, street lighting and the crossing distance required of these at-risk pedestrians.

## Rural Facility Standards for Bikes

The preferred facility for roads on the bicycle network in rural areas is a paved shoulder with edge stripe. While such facilities are desirable whenever they are developed, priority should be given first to projects that address existing safety deficiencies. Signing of paved shoulders as Class II (bike lane) facilities should only be done if the shoulder meets the minimum standard for width and pavement quality over a substantial portion of its length. It is understood that on many rural roads with low traffic volumes and speeds, the preferred facility may be a shared facility without specific shoulder or bike lane improvements

### A. Project Types

Projects on the designated network should be designed with one of the following:

- Travel lane of fourteen feet;
- Striped bike lanes;
- Paved and edge-stripped shoulders; or
- Access to a separated trail facility.

It is understood that on many rural roads with low traffic volumes and speeds, the preferred facility may be a shared facility without specific shoulder or bike lane improvements

### B. Special Facility Consideration

Additional consideration shall be given to proposed bicycle system projects that can:

- Address topographic constraints to bicycle access;
- Develop new through access across man-made or geographic barriers; or
- Provide a usable and direct alternative to highways with high volumes and/or vehicle speeds

### C. Limited Access Highways

The County shall actively seek the provision of separate non-motorized facilities in any and all cases where existing access is removed via construction or re-designation as a limited-access highway.

### D. Shoulder Development

The County should develop the transportation system to a standard which incorporates the needs of bicyclists, and which integrates public involvement into the planning for shoulder development through existing maintenance programs.

### E. Maintenance

The County should continue to emphasize maintenance in the accommodation of bicyclists on the County road system, with an emphasis on road sweeping and the ongoing development of smooth and continuous road shoulders.

### F. Railroad Grade Crossings

Skagit County and railroads owning right of way in Skagit County should actively seek to identify all at-grade crossings that do not cross roadways at 90 degree angles. While all crossings should be developed to minimize hazards to bicyclists, projects which eliminate the hazard of bicyclists being forced to turn into adjacent traffic lanes should be emphasized. The use of rubber matting and approach ramps and aprons should be encouraged at these locations. The cooperation and understanding of railroads is vital to the successful implementation of this policy, and the County and railroads must continue to work proactively to protect the safety of the non-motorized public.

### Relationship to Skagit County Comprehensive Parks and Recreation Plan

The County has an adopted Comprehensive Parks and Recreation Plan which identified a number of potential trail projects for development county-wide. The inclusion of projects from the Parks Plan in this document is recommended only if the identified project would be considered eligible for state and federal transportation funding.

While all but circuit paths are technically eligible for this funding, priority should be given to projects which:

- Serve destinations, areas and land uses cited in the Skagit County Comprehensive Plan for development,
- Serve as diversified a user population as possible,
- Provide usable access for local pedestrians,
- Provide an alternative to routes which are inaccessible or potentially hazardous to bicyclists,
- Provide relatively direct access to identified destinations, and
- Provide a specific contribution to the development of the county bicycle network.

### Special Events

Skagit County should establish clear and consistent policies and procedures for the review and approval of special events (competitive, recreational or mass participation) which incorporate non-motorized modes, and encourage their promotion when conducted in accordance with these adopted policies and procedures. Competitive events should be consistent with the adopted State of Washington Bicycle Racing Guidelines.

### Road Vacation Policies

Road vacation applications should be reviewed for their compatibility and potential impact on non-motorized facility development.

### Equestrian Policies

The County should incorporate the needs of local equestrian travel in the design of facilities located in areas populated or frequently traveled by equestrians, identify barriers to safe equestrian access and circulation in these areas, and strive to integrate these facilities with the other non-motorized needs of these areas whenever practical and appropriate.

Equestrian communities can be loosely defined as areas containing one or more of the following elements:

- Proximity to a regional trail which is accessible to horses;
- Significant tracts of land in which horseback riding is publicly sanctioned;

- Private land upon which equestrian recreational access has traditionally been granted, or with access to dedicated public open space;
- Commercial stabling operations;
- Commercial riding schools and arenas;
- Presence of supporting businesses such as tack shops and feed stores; and
- Concentrations of private parcels upon which horses are kept.

## Implementation Policies

### A. Direction

Unless specifically prohibited, the design and construction/reconstruction of roads and highways should assume the presence of pedestrians and bicyclists, and shall be designed to accommodate their presence and needs.

### B. Citizen Participation & Advisory Committees

Program initiatives should be incorporated within existing County programs. Efforts should be made by transportation agencies to incorporate the input and concerns of private individuals affected by non-motorized facility development with the goal of identifying issues in advance of project development, and to facilitate effective mitigation of project impacts such that the public good and private rights can be reconciled to the greatest extent possible.

### C. Public Process & Right-of-Way Acquisition

The County shall provide a public review process equal in scope and outreach to that used for general transportation facilities (such as roads) when development of such facilities might require acquisition of right of way from private interests, whether the acquisition is through eminent domain, negotiated sale, or the assemblage of easements.

### D. Trails on Dikes

A significant element of the research supporting this plan is represented by the Skagit County Dike Trail Feasibility Study. The study was requested by the County to investigate issues raised by Dike Districts, parks agencies and the public during the development of the Draft Skagit County Non-motorized Transportation Plan in 1996. The development of the study incorporated significant input from the Dike Districts, local and state agencies as well as the general public.

At the time the Study and revised plan were being finalized, a concern was expressed on the part of several Dike Districts that the Feasibility Study not be incorporated into the Proposed Final Non-motorized Transportation Plan. Accordingly, a summary of the points presented was included but the Study was not formally included in the Plan.

In addition, the following two policies should govern the development of future trail projects proposed for locations on dikes:

- Any future trail projects proposed on dikes shall require the Planning and Development Services Department to meet, consult, and obtain the approval of any involved dike district and affected property owner.
- The County will complete necessary and adequate environmental review prior to issuing a Mitigated Determination of Non-Significance for each specific project proposal on dikes or levees.

### E. Regional Consistency

The County shall coordinate closely with other jurisdictions within and adjacent to the counties to ensure consistency in planning and developing non-motorized transportation projects and programs.

#### F. WSDOT Network

Skagit County should work closely with the district office of the Washington State Department of Transportation (WSDOT) to ensure that the projects and initiatives presented in this plan (especially those located on the state transportation network) are as comprehensively implemented as possible. For purposes of this plan, all WSDOT highways where bicyclists and pedestrians may operate are to be considered part of the Skagit County network of key streets.

#### G. Shared Use Trails and Pathways Developed with Transportation Funds

Non-motorized transportation facilities separated from road rights of way should be considered for development with transportation resources if they:

- Provide needed access and increased safety across gaps in the non-motorized transportation system;
- Provide linkages to the Regional Trails System;
- Eliminate barriers to non-motorized transportation access;
- Are associated with projects in which access will be removed from a portion of the transportation system previously open to pedestrians and bicyclists; or
- Provide access to new transit or transportation facilities.

Reasonable zoning, shoreline and subdivision requirements, development standards, impact fees, and incentives help ensure that facilities for non-motorized transportation are included in all developments except where they are clearly inappropriate.

## 7.0 TRANSPORTATION DEMAND MANAGEMENT (TDM) STRATEGIES

Many of the traditional funding programs for transportation facilities have focused on capital intensive street, road and highway, or other improvements. More and more it is becoming clear that we need to accomplish more with fewer resources. We need to find ways to make our transportation systems more efficient at moving people and goods in a time of limited funding resources. Two approaches to help do this are transportation system management (TSM) strategies and transportation demand management (TDM) programs.

The Washington State Department of Community, Trade, and Economic Development (CTED) states *"Transportation system management (TSM) strategies include an array of actions to: a) increase the motor vehicle capacity of existing streets and roads; b) facilitate the use of high occupancy vehicles, thus increasing the people carrying capacity of the street and highway system."*

TSM involves the use of low capital expenditures to increase the capacity of the transportation system. Some of the various TSM alternatives include signalization channelization, signal timing, turn restrictions, bus turn outs, and one way streets. Often the development of park-and-ride lots are considered TSM measures as well.

Transportation demand management (TDM) is similar to TSM in that such strategies increase the efficiency of transportation facility use. The difference is that the focus of TDM is on reducing the demand for transportation facilities rather than increasing the capacity. The CTED states *"Travel demand is 'reduced by measures which either eliminate trip making (all day or during the peak) or accommodate person trips in fewer vehicles. Common TDM measures include ridesharing, parking management, flextime, road pricing, HOV facilities, and special events measures."* Since several of the potential measures in Skagit County could be considered either TSM or TDM, they are discussed together below. It should be noted that Skagit County is not currently a "non-attainment area" for air quality. Thus, compliance with 1990 Clean Air Amendments is not required.

## 7.1 SKAGIT COUNTY FERRY

There are several TSM strategies that could be used to increase the vehicle carrying capacity of the Guemes Island Ferry system, including, but not limited to:

- Providing additional parking facilities near ferry terminals,
- Increasing the number of scheduled ferry crossings, and
- Replacing the vessel with a larger vessel.larger ferry.

### Providing Adequate Parking Facilities

As noted above, the Skagit County Comprehensive Plan clearly states that it is desirable to reduce vehicle demand on the M/V Guemes. There is no guaranteed method of getting people out of their cars, however. One method of effectively reducing the demand for vehicle capacity is to encourage ferry users to ride as walk-on passengers rather than vehicle drivers. In order to accomplish this, there must be convenient and adequate parking facilities in place near the ferry terminals in Anacortes and on Guemes Island. Skagit County Comprehensive Plan Transportation Element Policy 8A-5.1 states the County should *"work with the city of Anacortes, property owners, and residents on Guemes Island to develop adequate parking areas."*

On Guemes Island, a lot adjacent to the terminal can accommodate approximately 100 vehicles. In Anacortes, there is parking capacity to accommodate 148 vehicles. However, Lot 3, which is farthest from the Anacortes terminal, is typically underutilized. Ferry passengers typically park in the neighborhood surrounding the terminal in order to park closer. This is a source of tension with Anacortes residents. A committee was formed to find solutions to this problem. A volunteer driven community shuttle bus, provided by the County, was the primary solution, along with increased education and signage. If ferry capacity is to be increased, parking may need to be increased. Additionally, further solutions may be required to ensure neighborhood parking is not impacted.

**Increasing Scheduled Ferry Crossings**The number of scheduled ferry round-trip crossings has increased from 125 per week in 2000 to 159 per week during the non-peak season, and 165 per week during the peak season. The current ferry schedule translates to an annual vehicle carrying capacity of roughly 368,808 standard-sized vehicles for the M/V Guemes. If all of the unscheduled ferry crossings were calculated, the existing vehicle carrying capacity of the M/V Guemes would be slightly greater.

Increasing the number of scheduled ferry round-trip runs can increase the total vehicle carrying capacity of the M/V Guemes. In fact, if the M/V Guemes consistently made two scheduled round-trip runs per hour during the existing hours of operation, 54 additional round-trip scheduled runs could be made per week. This equates to 2,808 additional round-trip runs per year. This would add approximately 2,376 vehicles spaces per week, or 123,552 vehicles spaces annually. Thus, the total annual carrying capacity for the M/V Guemes would be 492,360 vehicles, meaning a 25% increase in overall capacity. Doing so,

however, would significantly increase operating costs for staff, fuel, etc. The increase in operating costs would require a fare increase in order to cover the cost of the additional runs.

An additional option is to extend the weekday operating hours, however, this does not help to serve the ridership that currently travel during the existing operating hours. Any expansion in ferry capacity must coincide with significant improvements to shoreside ferry traffic management. (Elliott Bay, 2013)

## Replacing the Vessel with a Larger Ferry

In 2013, Skagit County adopted a Ferry Replacement Plan. According to the plan, while the overall condition of the vessel is fair, it is recommended that the M/V GUEMES not be operated for more than another ten years without a major overhaul. Immediate vessel replacement was recommended; if selected as an option, it is estimated that a new vessel would enter service in approximately three years, due to the time required initially for vessel planning, including design development, and acquisition, including construction and commissioning. The report notes that immediate or near term replacement of the M/V GUEMES with a new vessel “will minimize the overall cost of ownership and provide environmental improvements in vessel operation.” (Elliot Bay Design Group 2013)

## Transportation Demand Management (TDM)

There are several TDM strategies that could be used to decrease the vehicle demand on the Guemes Island Ferry system, including, but not limited to:

- Encouraging car-pooling and walk-on passengers;
- Encouraging increased public transit service and bus shelters at the Anacortes terminal;
- Pricing policy (ticket price incentives and disincentives); and
- Exploring the potential for a Guemes Island public transit service.
- These TDM strategies should be used in combination with one another to be most effective.

## Encouraging Car-Pooling and Walk-On Passengers

The Skagit County Comprehensive Plan Transportation Element Policy 9A-8.2 states “*To meet future increases in demand, the County shall increase service capacity of the Guemes Island Ferry by: (a) encouraging car-pooling and walk-on passengers; (b) increasing the frequency of ferry runs based on demand; and (c) considering additional ferry capacity if the aforementioned procedures fail to accommodate demand.*” The intent of this policy gives clear priority to TDM strategies for transforming vehicle trips into passenger trips. Car-pooling reduces the number of single-occupant vehicles demanding ferry service. Due to the relatively small size of Guemes Island, this strategy is very well-suited to reducing vehicle trips on the ferry.

## Increased Public Transit Service and Bus Shelters at the Anacortes Ferry Terminal

Skagit Transit currently provides “on request” public transportation service to the Anacortes ferry terminal at the corner of 6<sup>th</sup> Street and “I” Avenue. A green Skagit Transit bus stop sign is posted; however, there is no bench or shelter for waiting passengers. In addition, the schedule may not correlate exactly to the arrival/departure times of the Skagit County ferry.

As of 2011, passengers can take advantage of Skagit Transit Route 49 plus service via a bus stop located within the ferry terminal area. The service operates on a dial-a-ride basis Monday through Saturday and people are asked to call 24 hours in advance to schedule a pick-up. Unfortunately, this service is grossly underutilized.

It has been suggested that the construction of covered bus shelter facilities may make public transit a more attractive alternative to passengers. Skagit County may be able to work in partnership with Skagit Transit to secure these improvements.

## Pricing Policy

Pricing policy is a TDM strategy that Skagit County can and has used to provide an incentive for ferry users to ride the ferry as walk-on passengers rather than vehicle drivers. The Skagit County Comprehensive Plan Transportation Element Policy 9A-8.3 states *“In making all decisions related to the Guemes Island Ferry, the County shall balance the needs of the Island residents, the non-resident property owners, and the County citizenry as a whole.”* In addition, policy 9A-8.5 specifically states *“The County shall continue to provide safe and adequate ferry service between Anacortes and Guemes Island, and a fare structure designed to recover as much operating cost as practical from the users.”* The intent of these policies is to provide adequate ferry service to Guemes Island in a financially sustainable manner, if possible.

In order to effectively reduce vehicle congestion on the M/V Guemes, it may be necessary to incorporate pricing strategies to be used during peak traffic hours. Pricing incentives can be used to encourage a more balanced ferry demand throughout the day, especially on weekends. (Elliott Bay, 2013)

## Potential Guemes Island Public Transit Service

If a public transit service could be established on Guemes Island and synchronized with the ferry schedule, it would provide a viable alternative to the private automobile on Guemes Island, reduce vehicle demand on the M/V Guemes, and reduce vehicle traffic on Guemes Island roads. Ferry users could park their vehicles at the Anacortes lot, ride the ferry as walk-on passengers, and travel via public transit on Guemes Island. This would benefit Guemes Island residents and non-residents alike. Initial funding for this type of public transit may be available through a state rural mobility grant and could be sought in partnership with Skagit Transit.

## 7.2 RIDESHARING PROGRAMS

There are three types of existing programs in Skagit County that promote ridesharing. One is vanpooling, another is express busses, and the third is the creation of park and ride lots.

### Vanpooling

A significant number of Skagit County residents work outside of the County at major employers like Boeing, which is located in Everett and Snohomish County. Many of these Boeing workers live in the Mount Vernon/ Burlington/Sedro-Woolley area. With the concentration of workers both living in one area and working another area a significant distance away, a demand existed for sharing rides to and from work. To help fill this need, Community Transit of Snohomish County has established a program where it leases vans for the purpose of vanpooling. Since Community Transit serves vanpools that have either a home or a work location in Snohomish County, employees of major employers like Boeing living in Skagit County qualify for the program.

As of 2015 there were 31 vanpools using Community Transit lease vans traveling between Skagit County (home location) and Snohomish County (work location). Additional vanpools travel to other major employment centers located mostly in Snohomish and King Counties. The total number of vanpools in 2015 is 43

## Park and Ride Lots

The Washington State Department of Transportation has, for a number of years, been involved in the development of park and ride lots up and down the 1-5 corridor. The purpose of these lots is for members of both vanpools and carpools to congregate leave their cars, and share rides primarily for work trips. See Exhibit 27 for a list of park and ride lots in the County.

**Exhibit 27. Skagit County Park and Ride Lots**

<b>Skagit County Park and Ride Lots</b>			
<b>Description</b>	<b>Jurisdiction</b>	<b>Capacity</b>	<b>Amenities</b>
March Point Park and Ride 8147 S. March Point Rd.	Anacortes	133	Lighted
George Hopper Park and Ride 1787 S. Burlington Blvd.	Burlington	77	Lighted
Chuckanut Drive Park and Ride 999 N. Burlington Blvd.	Burlington	369	Lighted, Security Cameras
Mount Vernon Park and Ride Across Kincaid from Skagit Station	Mount Vernon	44	
South Mount Vernon Park and Ride Old Highway 99 South and Hickox Road	Mount Vernon	382	Lighted, Security Cameras
SR 9 and State ST Park and Ride	Sedro Wolley	20	Lighted
SR 9 and South Skagit Highway Park and Ride	Sedro Wolley	52	Lighted

Source: Skagit Transit, 2015

## Tulip Festival Programs

The Skagit Valley Tulip Festival has grown in popularity over the years to where it is now one of the major festivals in the year in Western Washington. With this growth has been a growth in traffic congestion in the Skagit Flats during the festival and the tulip bloom. The worst traffic congestion experienced in Skagit County each year takes place during this time period.

For the past several years, Skagit County Public Works Department, in conjunction with the Tulip Festival Board, Sheriff's Department, Cities, the Emergency Management Department, growers, and others has developed a traffic control plan for the Tulip Festival. This plan has contained several TSM provisions including the establishment of field parking lots by the growers, parking restrictions on selected roads, turning restrictions, and off-duty sheriff personnel to direct traffic at key intersections. These efforts have been very effective in managing the enormous amount of traffic generated by the festival.

Related to the County's efforts at managing the Tulip Festival traffic has been other efforts to manage and encourage the use of bus transit. Tulip Festival staff coordinates with the tour companies who bring busloads of tourists in order to ensure that the busses stop and park at appropriate locations.

## 7.3 OTHER PROGRAMS

The County is involved in two other programs that could be considered TSM or TDM. The County employees working at the Courthouse complex in downtown Mount Vernon have always had to pay to have a parking space. With the advent of Skagit Transit bus service to the Mount Vernon, the County increased its parking fees for its employees, creating an additional incentive to use the bus.

## 8.0 FINANCING PLAN

### 8.1 REGIONAL TRANSPORTATION FUNDING

Transportation funding in the Skagit County region draws mainly from a few primary tax bases. These include motor fuels sales, retail sales, assessed property valuation, and vehicle registrations and licenses. In addition to taxes on these tax bases, transportation revenues are drawn from a combination of other sources, such as operating income and sources comprising city and county general funds.

Cities and counties support transportation investments from a wide variety of funding sources. The state Legislature has authorized a number of local option taxes that have, in many instances, proved difficult to implement. At the same time a number of tax-limiting initiatives and growing demands for general fund dollars have made local commitments to transportation a challenge to sustain.

Local transit authorities' primary source of funding is the sales tax. Local transit operators have been increasingly dependent upon the sales tax, which is a less stable source of revenue; rising and falling with other economic factors. The negative effects of relying on this volatile source of funding for transit operations have been clearly demonstrated during the depths of, and recovery from, the economic downturn experienced in 2008.

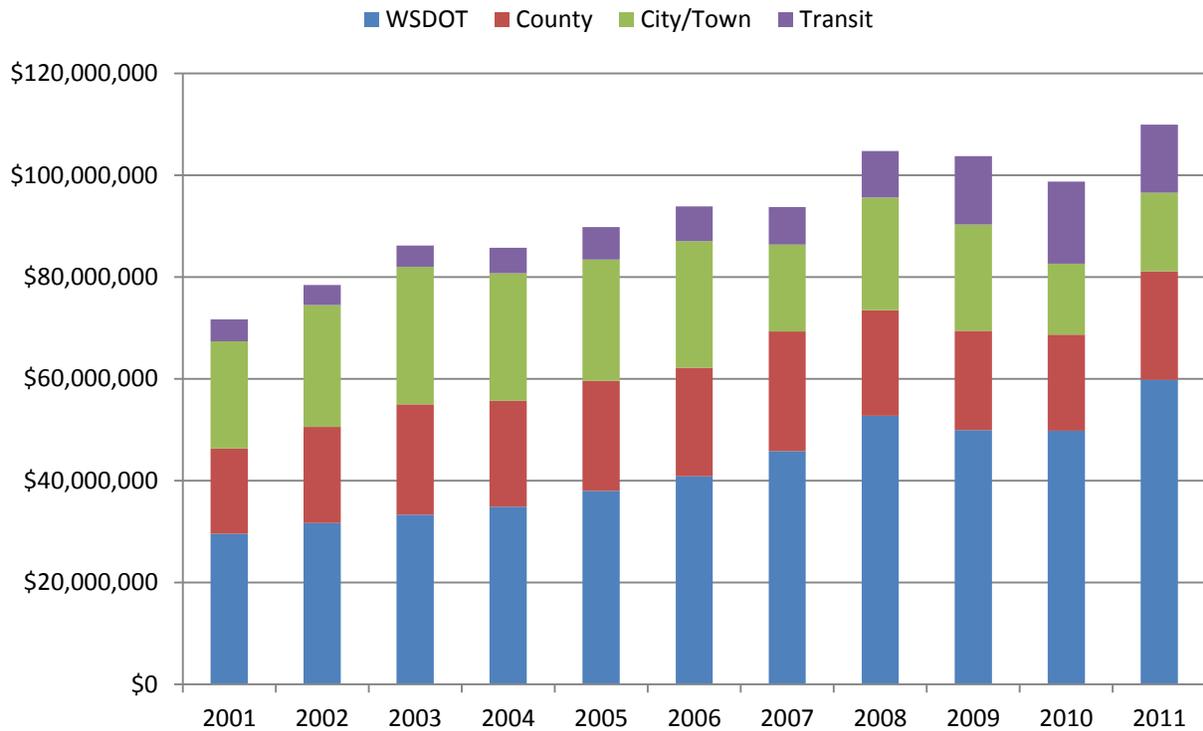
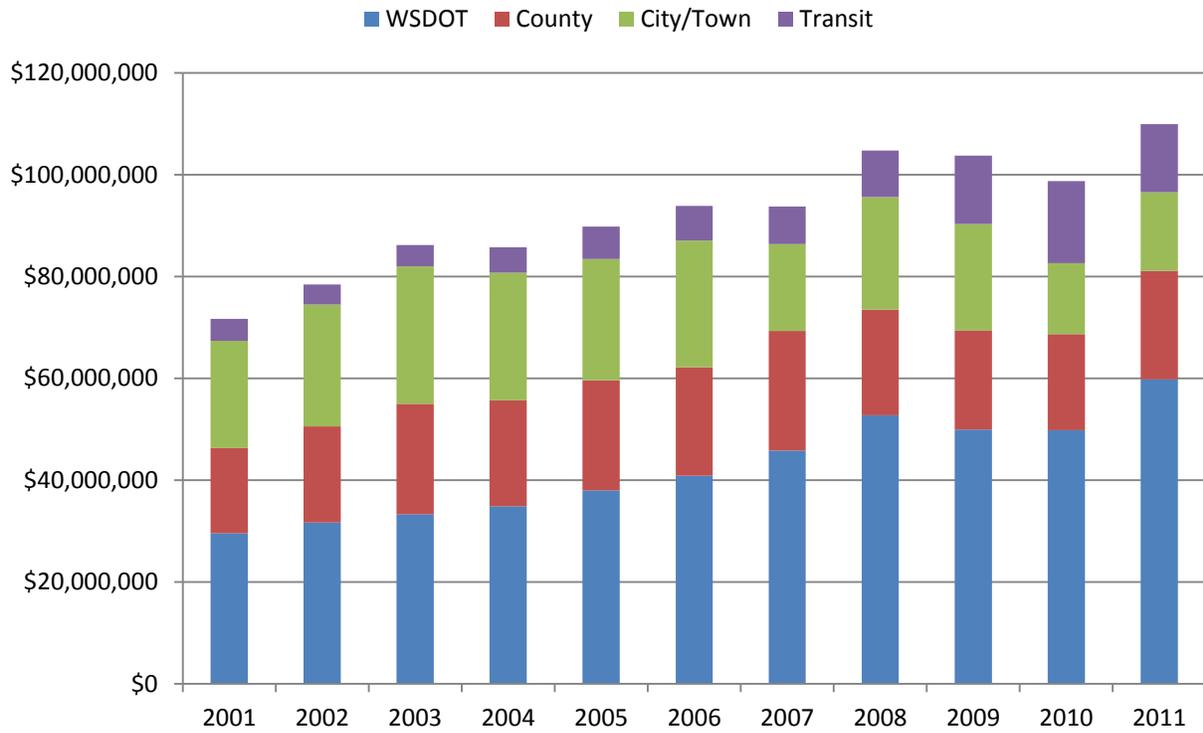
The Washington State Ferries has also been affected by the loss of Motor Vehicle Excise Tax as well as the declining purchasing power of the fuel taxes. The result is an increasing reliance upon tariffs for operations and state budget allocation for capital investments. The state highway program is heavily dependent upon fuel tax revenues, from both state and federal taxes.

Skagit Council of Governments (SCOG) has compiled a history of sources and uses of funds for city streets, county roads, public transit, state ferries, and state highways through 2011, from reports prepared by the state. Streets and roads data derive from the budget accounting and reporting system (BARS) account structure, which cities and counties follow in submitting reports to the state for all financial activities. The SCOG database for streets and roads dates from 2001. The public transit data are drawn from the annual public transit report prepared by WSDOT, based on input from each transit operator in the state.

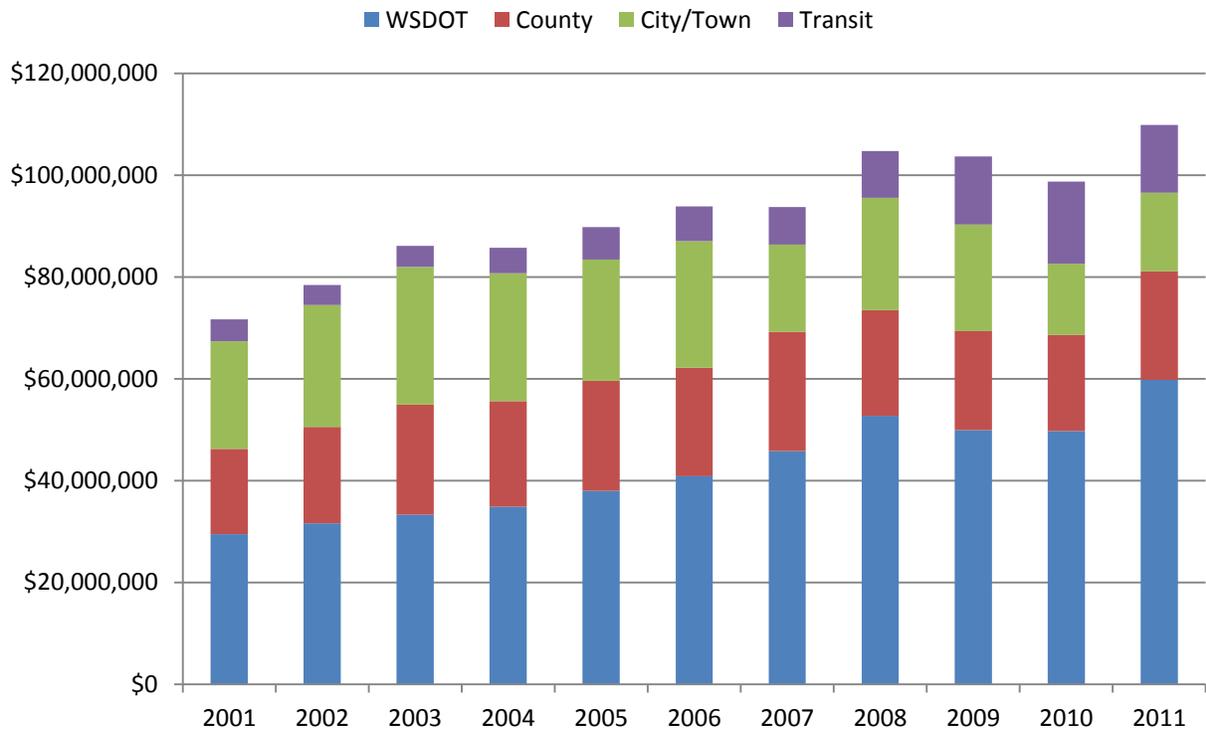
State ferry and state highway data are drawn from county-level allocations for revenues and expenditures that are developed by WSDOT. WSDOT maintains a rolling ten-year history of these data.

Historical revenue information for major transportation programs is displayed in Figure 1 below and expenditures are shown in Figure 2.

Exhibit 28. Transportation Revenues in Skagit County

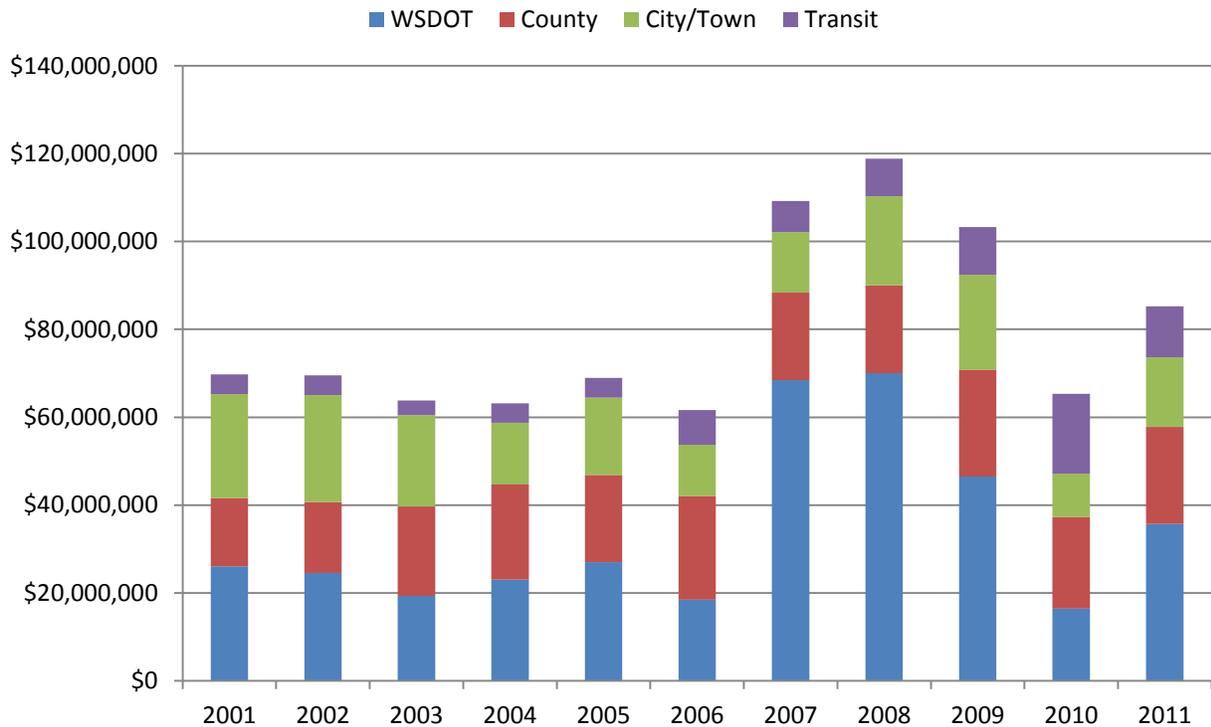
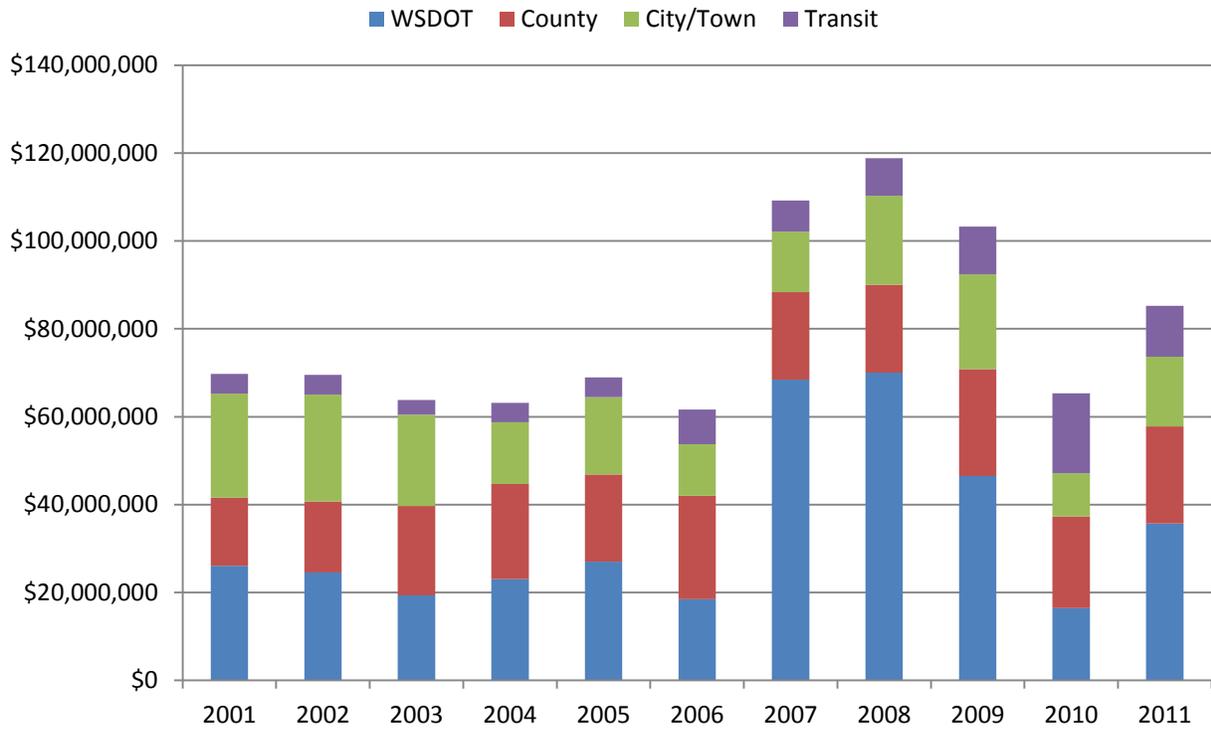


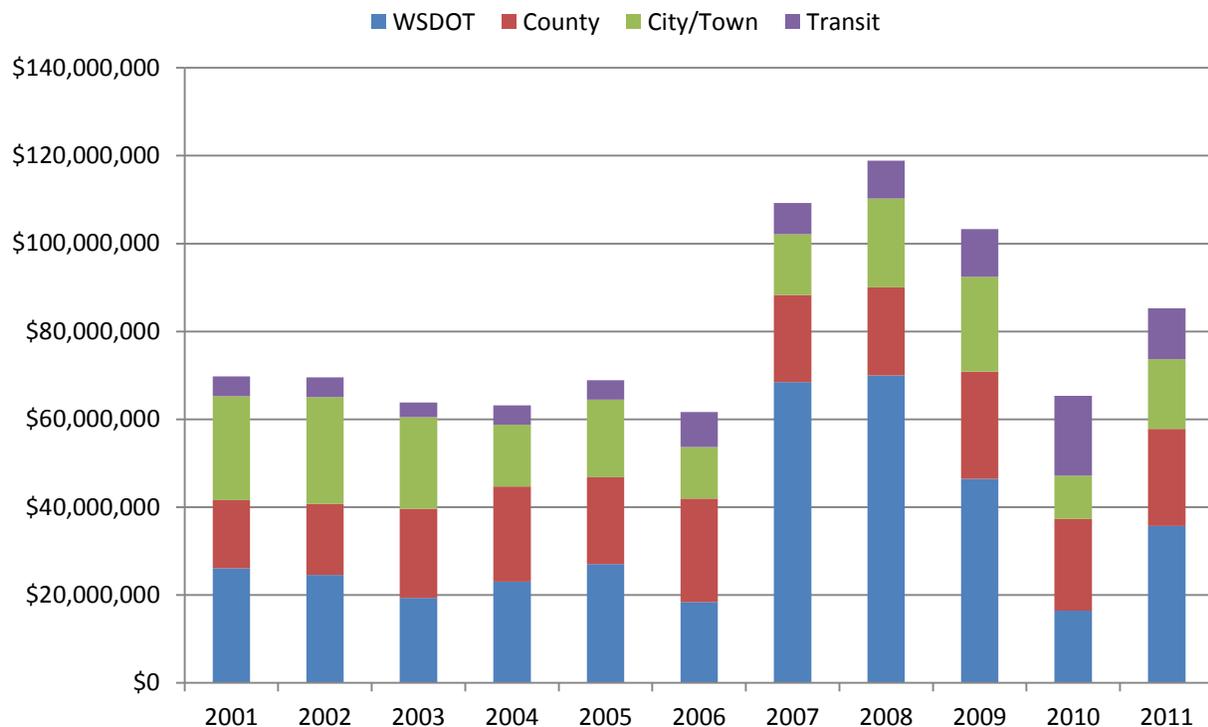
SKAGIT COUNTY COMPREHENSIVE PLAN UPDATE 2016  
 TRANSPORTATION TECHNICAL APPENDIX



Source: SCOG, 2015

Exhibit 29. Transportation Expenditures in Skagit County





Source: SCOG, 2015

Exhibit 28 and Exhibit 29 show the historical revenue and expenditure information, from 2001-2011, for the primary elements of the transportation system. These data are reported by program area, or implementing authority. It is important to remember that program areas do not represent strict modal equivalents. For example, cities make investments in their street systems that accommodate transit requirements. A review of the data trends offers an understanding of current financial capacity and constraints relating to ongoing investments in transportation. On average, total transportation-related revenues grew by approximately 5% and expenditures grew by approximately 2% annually between 2001 and 2011. Both revenues and expenditures have tended to decline over time for cities and towns. Conversely, Skagit Transit revenues and expenditures have increased with expansions to the Public Benefit District Boundary and increases in retail sales tax authority and state grants. County revenues and expenditures increased slightly over the time period as well.

The State program shows higher variability in expenditures which is due to the priorities set at the state level with Skagit County's portion varying based on needs and priorities in other areas. Some of the revenues attributed to the State program through the motor vehicle fuel tax are received by cities and counties as grants and thus some double counting is included.

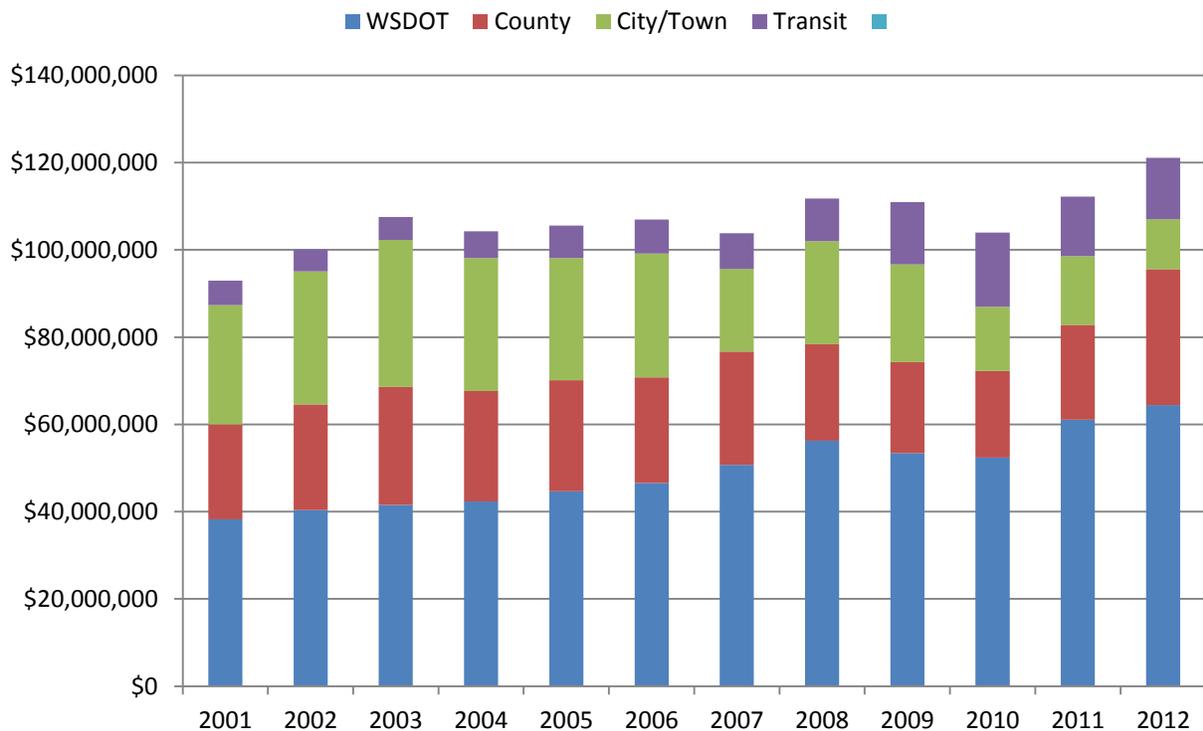
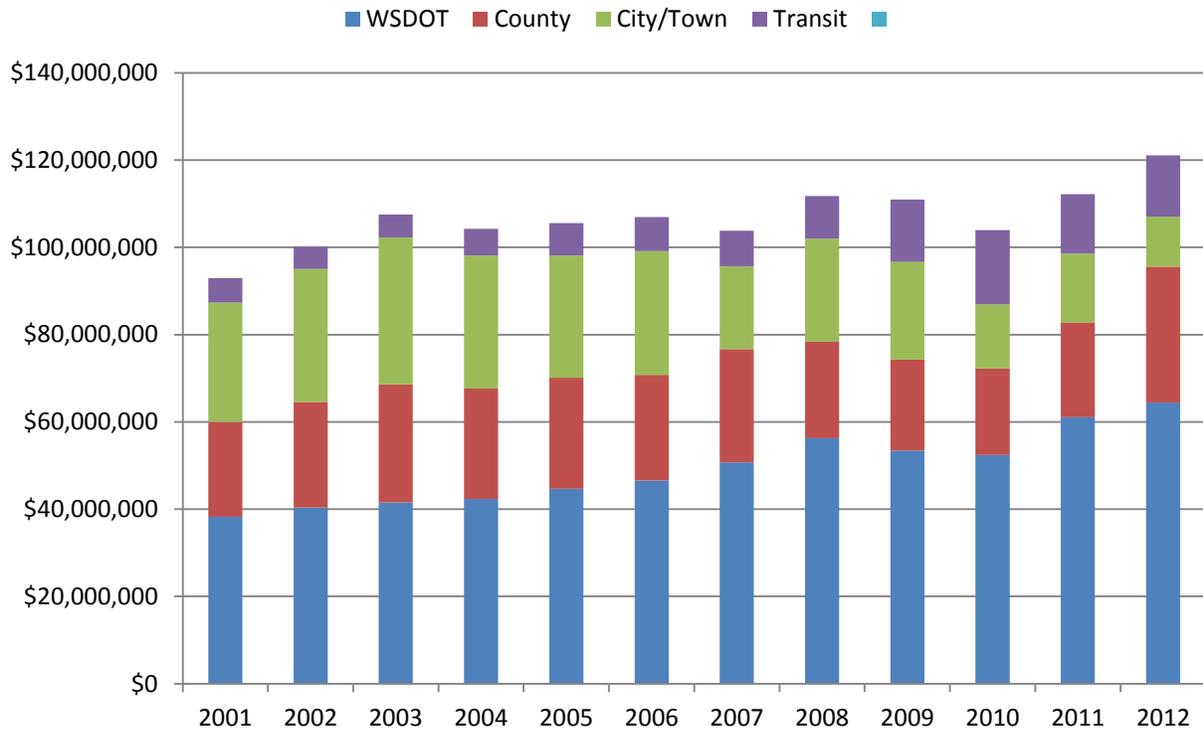
A separate more comprehensive analysis conducted by WSDOT shows that for each dollar contributed by citizens in Skagit County received \$1.75 back for each state federal and local transportation dollar they contributed between state fiscal years 2004 and 2012.

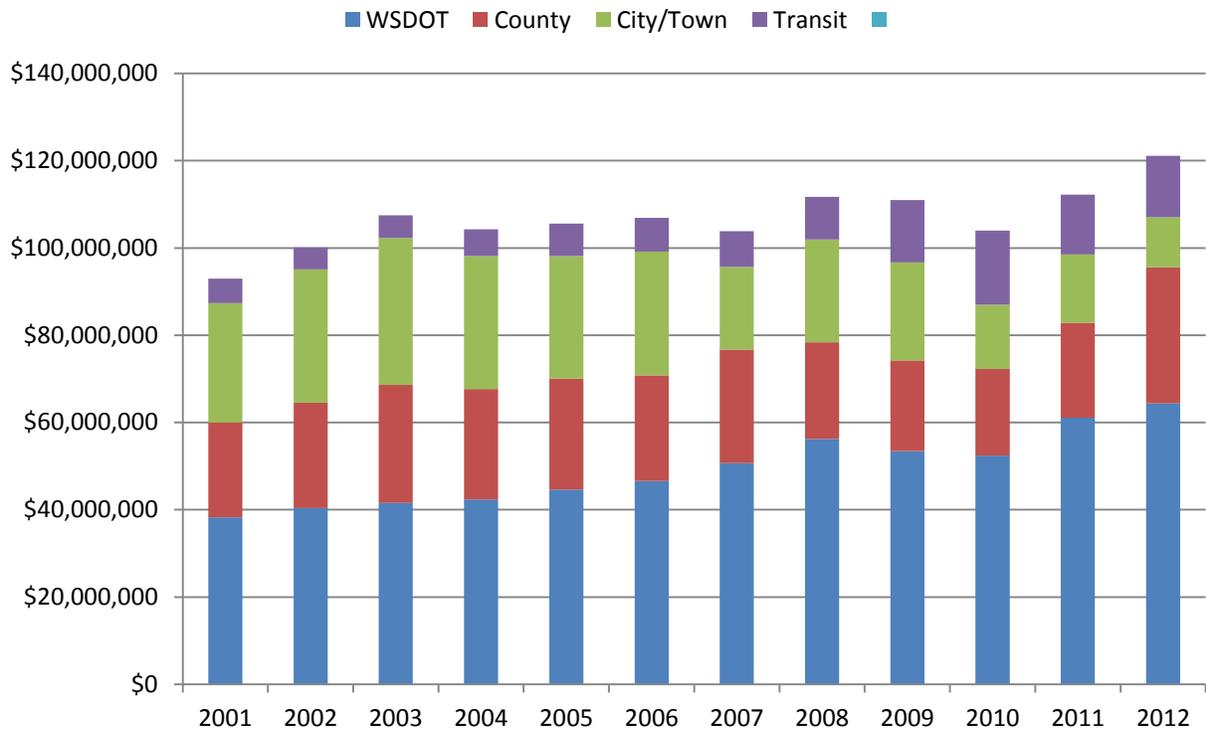
Exhibit 30 and Exhibit 31 show the transportation revenues and expenditures in constant 2012 dollars, taking into account inflation and buying power of the funds. From 2001 to 2011, the region's transportation revenues increased by approximately 2% annually in constant dollars. County revenues did not increase over that time period and city/town revenues experienced an overall decline of 4%. Skagit Transit increased 13% and WSDOT by 5%. Transportation expenditures show a similar pattern with Skagit Transit showing an increase, while WSDOT and City/Towns remained flat, and Skagit County

increasing by 1%. Population growth during this period grew by an estimated 14,421 between 2000 and 2011, or approximately a 14% increase. In terms of per investment per person, the region is investing less in transportation now than in 2001.

The data presented here can have significant variability, in particular in the transportation expenditures. This is in part due to the relatively small number of jurisdictions and population in Skagit County, but can also occur when one large transportation project spikes a given year of data, or when jurisdictions are banking funds while seeking additional funds to complete a project. This will likely be shown when the expenditures for the emergency replacement of the I-5 bridge over the Skagit River shows up in the data in 2013. It is best to look at the data over multiple years to see what trends are occurring.

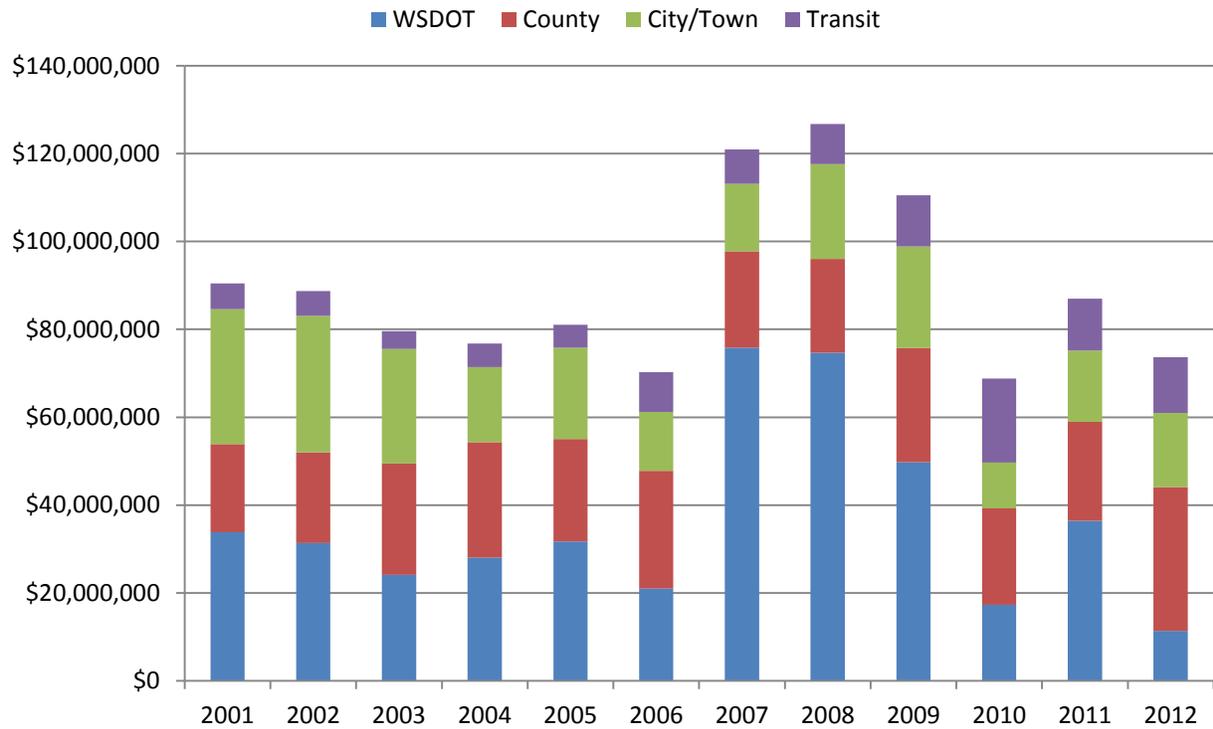
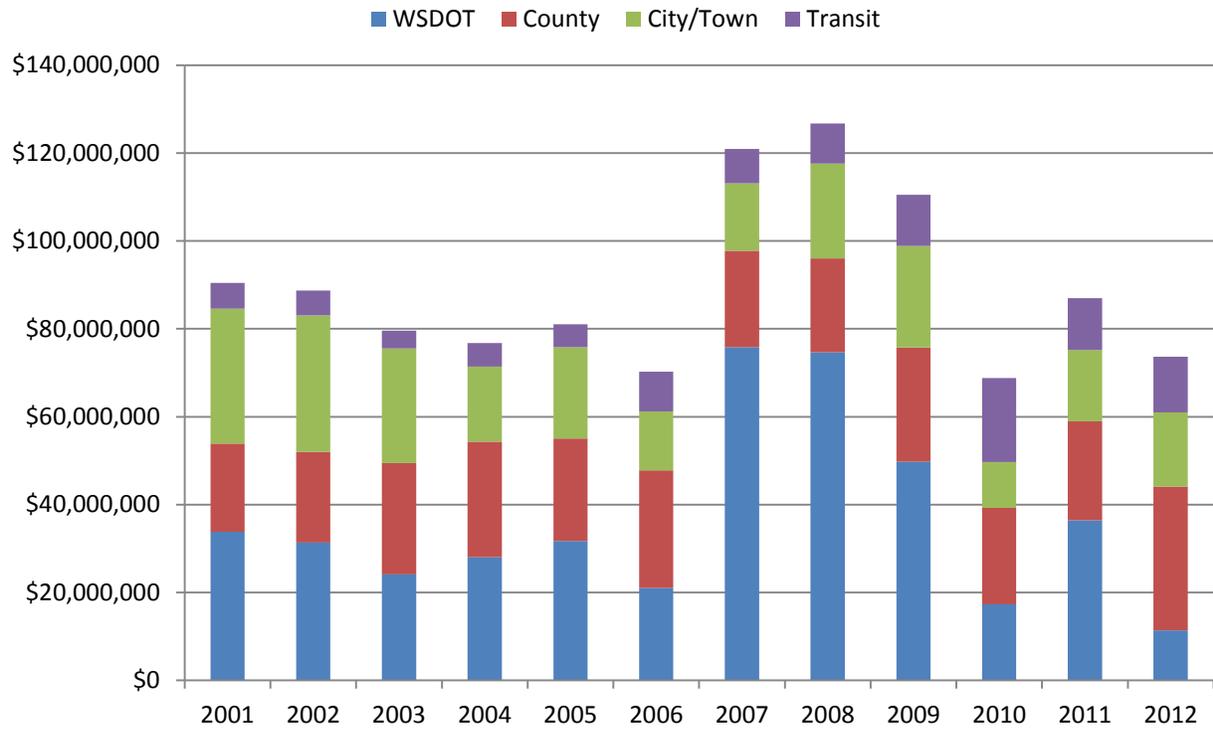
Exhibit 30. Transportation Revenues in Skagit County in Constant 2012 dollars

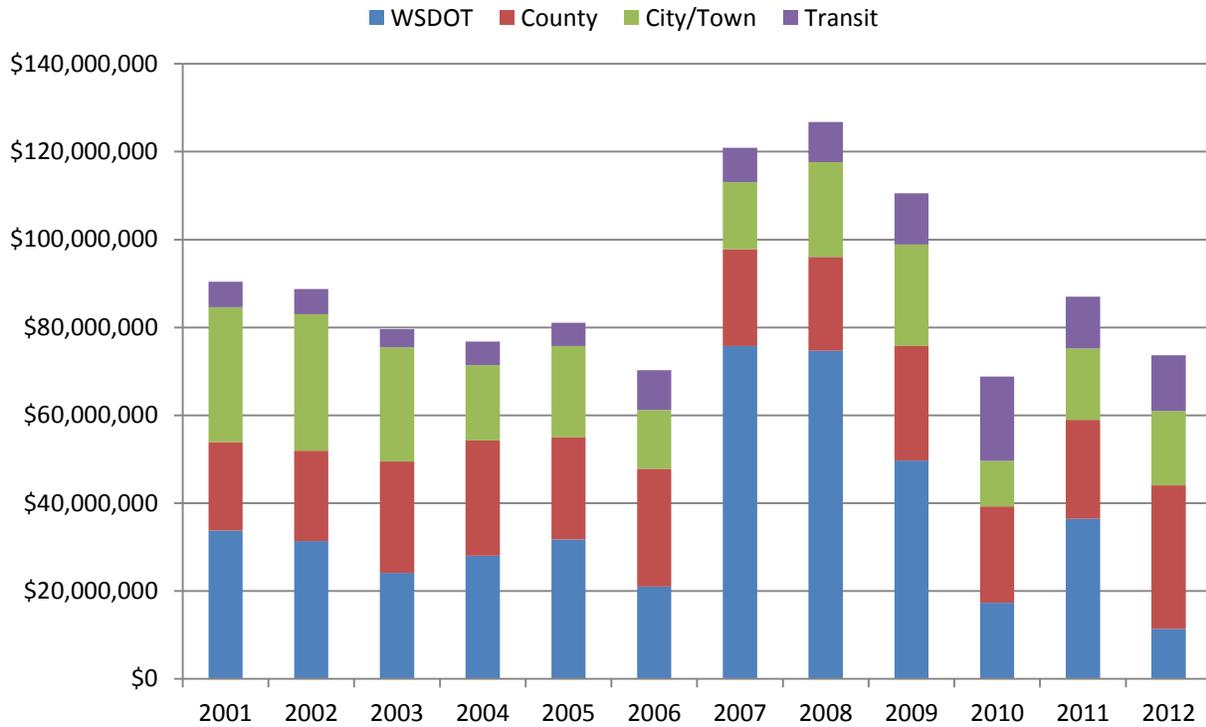




Source: SCOG, 2015

Exhibit 31. Transportation Expenditures in Skagit County in Constant 2012 dollars



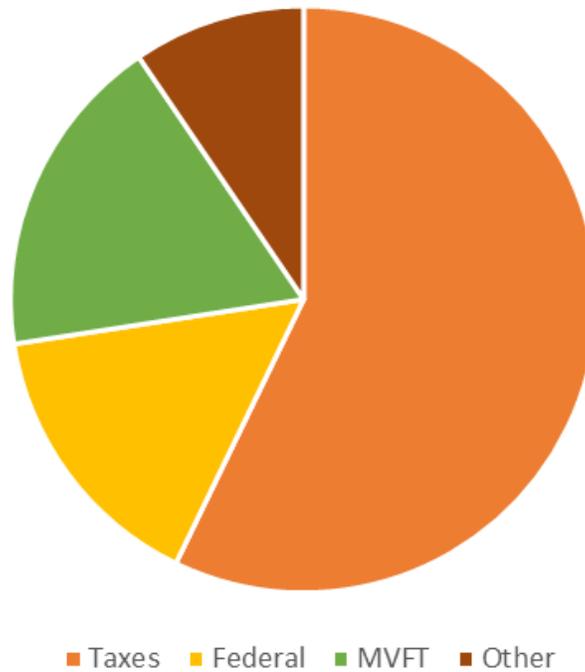


Source: SCOG, 2015

## 8.2 LOCAL TRANSPORTATION FUNDING

The County funds transportation operations, maintenance, and the local portion of capital project funding through the County Road Fund. County Road Fund revenues come from a variety of sources including property taxes, the motor vehicle fuel tax (MVFT), federal funds, ferry tolls, and other revenue sources. The largest revenue source is local taxes. One-time revenue sources, such as grants, provide additional revenues during certain years and are not reflected in the revenue summary below. See Exhibit 32 for a summary of County Road Fund revenues for 2016.

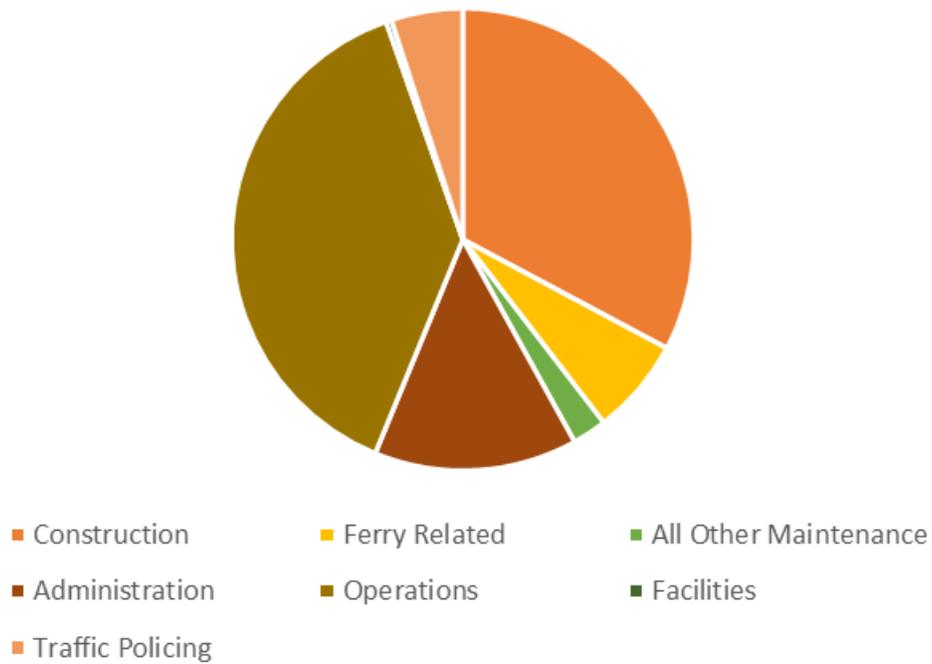
**Exhibit 32. County Road Fund Planned Revenue Sources - 2016**



Source: Skagit County, 2016; BERK, 2016

County Road Fund expenditures include administration, construction (including capital projects), operations, facilities, other maintenance, ferry related expenditures, and traffic policing. Operations and construction are the two largest expenditure categories planned for 2016. Exhibit 33 shows the planned expenditures by category for 2016.

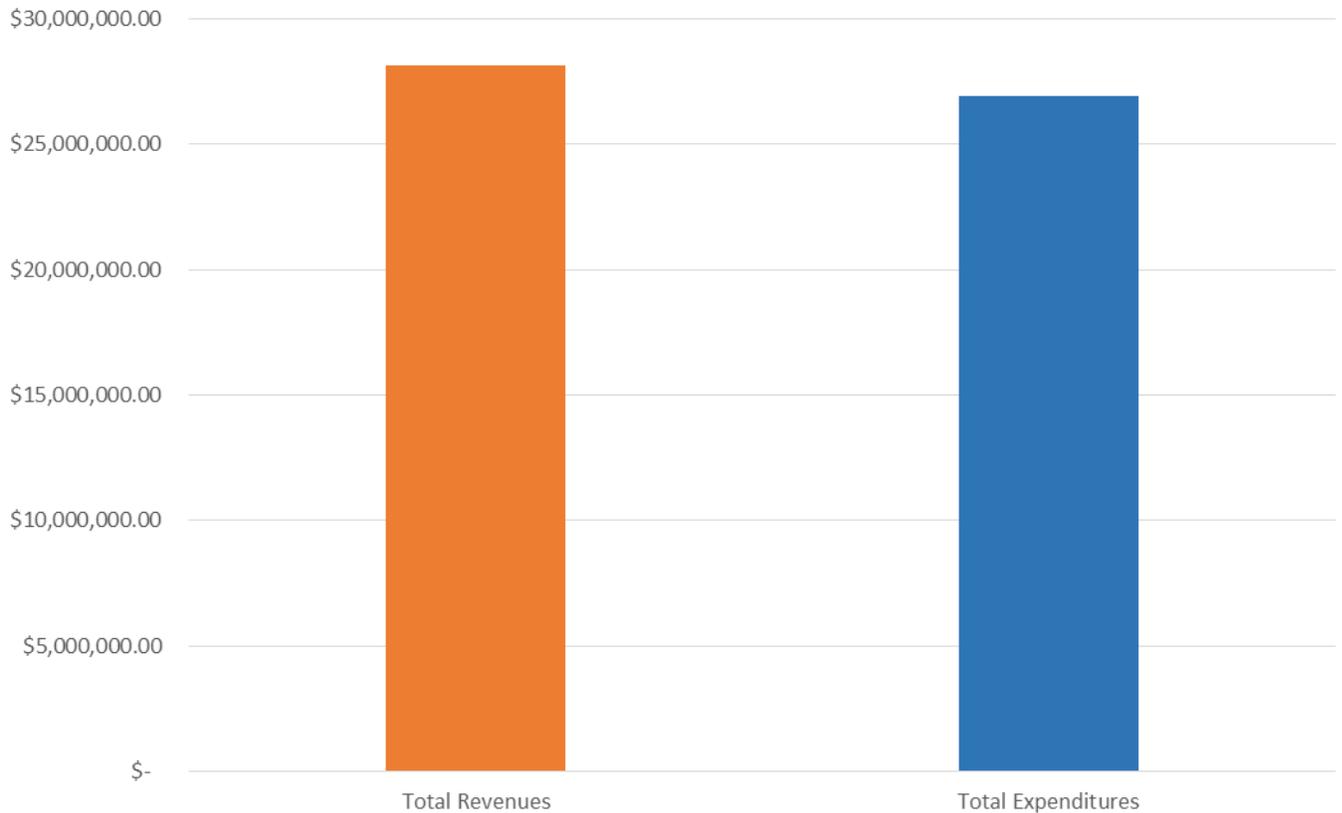
**Exhibit 33. County Road Fund Planned Expenditures – 2016**



Source: Skagit County, 2016; BERK, 2016

The County Road Fund planned revenues exceed expenditures by approximately \$1.2 million for 2016 as shown in Exhibit 34.

**Exhibit 34. County Road Fund Expenditures vs. Revenues – 2016**



Source: Skagit County, 2016; BERK, 2016

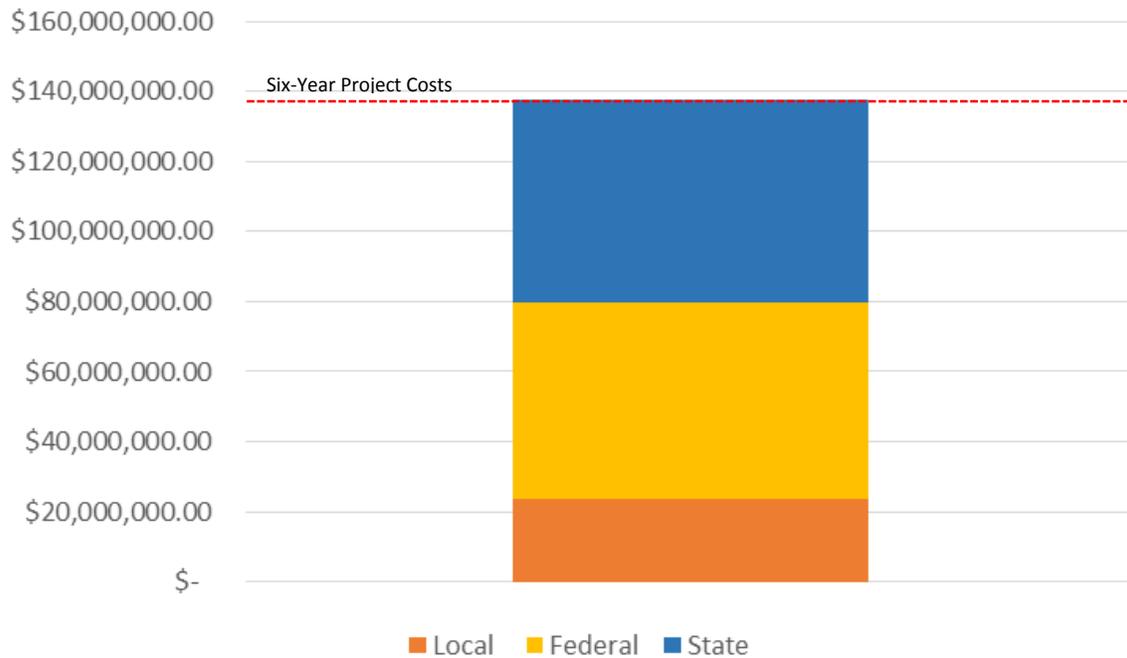
### 8.3 TRANSPORTATION IMPROVEMENT PROGRAM (TIP) FUNDING

Cities and Counties planning under GMA are required to develop a financing plan to demonstrate the ability to fund the six-year capital plan including transportation projects. The financing plan must demonstrate an ability to fund the six-year project list in support of anticipated future growth as outlined in the Land Use Element. General funding sources for the 20-year long-range projects should also be identified.

The County's six-year TIP is fully funded through a combination of local, state, and federal funds. The County maintains a detailed funding plan for the six-year TIP including project costs, funding sources, and the year(s) of planned project expenses. The total cost for funding the six-year TIP is approximately \$137.5 million and planned revenue sources are shown in Exhibit 35 by funding source. The total amount of local funds for the six-year TIP is approximately \$23.8 million or approximately \$4 million per year. Local funding for TIP projects in 2016 is approximately \$3 million.

The County's six-year TIP identifies only two capacity projects that are necessary to support new growth. Both projects are along Cook Road and are scheduled to be completed in 2016 and between 2018 and 2020.

**Exhibit 35. Six-Year TIP Revenues**



Source: Skagit County, 2016; BERK, 2016

Detailed funding for 20-year long-range projects will be identified when projects are shifted to the six-year TIP. Funding for the 20-year projects is anticipated to be consistent with current funding for the six-year TIP including local, state, and federal funds.

## 9.0 INTERGOVERNMENTAL COORDINATION

Intergovernmental coordination was formalized in 1967 through establishment of the Skagit Regional Planning Council (SRPC), the precursor to the Skagit Council of Governments (SCOG). SRPC was formed through an agreement between Anacortes and Skagit County with the founding agreement noting the need for regional communication, cooperation and coordination. Later in the 1960s and 1970s, all the other cities and towns of Skagit County joined the organization. Special purpose districts and the Swinomish Indian Tribal Community also joined SRPC and participated in regional planning.

In 1978, SRPC developed the first regional transportation plan for Skagit County. Many other plans and studies were developed by SRPC throughout the 1970s and 1980s for subjects ranging from economic development, housing, solid waste, transit and social services.

In 1980, SRPC’s name was changed to the Skagit Council of Governments, the organizational name that continues to this day. The current focus of SCOG has narrowed from its broader roots, to transportation and economic development.

### 9.1 LEGISLATION

Regional transportation planning was significantly impacted by the adoption of GMA in 1990. One of GMA’s many requirements was the establishment of Regional Transportation Planning Organizations (RTPOs). In 1991, Skagit County jurisdictions joined with Island County jurisdictions to form the Skagit-

Island Regional Transportation Planning Organization (SIRTPO). The SIRTPO existed from 1991 – 2015, until it was dissolved because it no longer met the member requirements for an RTPO. Upon its dissolution, SCOG became the RTPO for Skagit County and Island County is not currently part of an RTPO.

Another force impacting regional transportation planning in Skagit County was the designation of an Urbanized Area for areas surrounding Mount Vernon, Burlington and Sedro-Woolley following the 2000 decennial Census. This designation was the first time an area in Skagit County surpassed the 50,000 population necessary to qualify as an Urbanized Area and led to the creation of a Metropolitan Planning Organization (MPO) in Skagit County. The original boundaries for the MPO closely followed the city limits and urban growth areas for Mount Vernon, Burlington, and Sedro-Woolley. These boundaries were expanded in 2013 to encompass all of Skagit County to provide greater consistency in transportation planning and decision-making structures.

## 9.2 RTPO STRUCTURE AND PROCESS

The structure of the RTPO is integrated with the structure of the MPO, under SCOG as the umbrella organization. These structures were simplified in 2014 and 2015 to ensure the dual organizations function consistently, without overlapping decision-making authority.

SCOG has two governing bodies: the Transportation Policy Board (TPB) and the Board of Directors (BOD). The TPB guides the transportation function of SCOG, including all RTPO and MPO functions. The BOD directs many of the administrative functions of SCOG and economic development activities.

The TPB is advised by a Technical Advisory Committee (TAC) that is made of staffs of member jurisdictions, primarily public works and planning staffs. The TAC is an advisory committee to the TPB and does not have decision-making authority at SCOG. The TAC utilizes a subcommittee for bicycle-pedestrian issues called the Active Community Taskforce (ACT). Both the TAC and ACT are assisted by SCOG staff in their regular activities.

There are three distinct transportation-related activities of SCOG. These are regional transportation planning, regional transportation project selection processes and the regional transportation improvement program. These three activities are described in the following three sections.

## 9.3 REGIONAL TRANSPORTATION PLANNING

SCOG maintains two regional transportation plans: the regional transportation plan (RTP); and the coordinated public transit-human services transportation plan (HSTP). Both of these plans address a mixture of state and federal transportation planning requirements.

The 2011 RTP established the strategic framework for meeting the present and future transportation needs in Skagit and Island counties. The MRTP is usually updated every five years, but may be updated more often if necessary. The last update to the MRTP was in 2011 and the next update is anticipated in 2016. The 2016 MRTP update will be reduced in scope to Skagit County only, reflecting the boundaries of the MPO and the new boundaries of the RTPO established in 2015. As part of the 2016 MTRP update the SCOG updated the regional travel demand model that also be used by the County for the 2016 Comprehensive Plan update.

The 2014 HSTP was developed to address the transportation challenges experienced by special needs populations: the elderly, persons with disabilities and low-income persons. The HSTP is usually updated every four years, but may be updated more often if necessary. The last update to the HSTP was in 2014 and the next update is anticipated in 2018.

Skagit County worked collaboratively with the SCOG, WSDOT, and local jurisdictions, and other agencies in the development of the 2016 Transportation Element for the Comprehensive Plan Update.

## Transportation Element Consistency Review Process

RCW 47.80.023 requires all transportation elements of local comprehensive plans to undergo a consistency review to ensure that they conform to the requirements of the GMA. The GMA states that this process is to be developed and administered by Regional Transportation Planning Organizations (RTPOs). SCOG serves as the Skagit Regional Transportation Planning Organization (SRTPO) and is charged with performing the consistency review.

The WAC's procedural criteria for adopting comprehensive plans (Chapter 365-195 WAC) reiterates sections of the RCWs and recommends further steps to meet the requirements.

The GMA requires SCOG to review the transportation elements in local comprehensive plans for conformity with the GMA.

## Other City/County/WSDOT Coordination

There are a variety of other transportation coordination activities that have taken place in Skagit County over the past several years. These relate primarily to WSDOT and Federal Highway Administration projects and programs, and in most cases, the County has taken a lead role in this coordination.

## Coordination of Level of Service (LOS) Standards

An important issue to all jurisdictions doing GMA planning is the coordination of LOS standards with other jurisdictions in the area. The specific requirement from the GMA is that level of service standards for transportation facilities "*should be regionally coordinated*". One of the purposes for this coordination is to help ensure that the region maintains an interconnected transportation system which does not have severe changes in quality of facility at jurisdictional lines. Another is to help ensure that each jurisdiction is doing its appropriate share in the maintenance and improvement of the overall system. In Skagit County, like in most other counties, the issue is most important in the Urban Growth Areas.

The individual road LOS standard used for concurrency, LOS C based on the HCM, is similar to the standards used by the State and cities in the Skagit County. For instance, the LOS standard for rural state highways is HCM LOS C, exactly the same as the County's. For specific intersection projects, the County uses standard HCM LOS methodology and standard warrants analysis as do the cities and the State. All the cities use HCM methodology, but with differing standards. In general, there is consistency between the County's individual road LOS standard and the LOS standards of the other local agencies. Also, the County uses the same construction standards as other agencies in the area for major reconstruction projects.

## 10.0 PLANS TO REFERENCE / INCORPORATE BY REFERENCE:

1. Skagit 2040 (SCOG Regional Transportation Plan)
2. WSDOT Freight Mobility Plan
3. WSDOT Rail Plan
4. Skagit County Comprehensive Parks and Recreation Plan
5. 2014 Guemes Island Ferry 14-year Capital Plan
6. 2013 or 2014 Guemes Island Operations Plan
7. 2013 Concurrency Report
8. 2016-2021 6-year TIP
9. 2014 County Road Inventory
10. 2014 Private Road Inventory
11. WSDOT Long-range Ferry Plan
12. WSDOT Long-Range Statewide Transportation Plan
13. WSDOT Bicycle Transportation and Pedestrian Walkways Plan
14. WSDOT Statewide Public Transportation Plan (under development)
15. Island & Skagit Counties Coordinated Public Transit – Human Services Transportation Plan Update
16. Skagit Transit Development Plan 2014-2019
17. WSDOT Ferries Division Final Long Range Plan 2009

### APPENDIX A

- A1. Existing Transportation Network
- A2. FGTS Network
- A3. Existing Bicycle Network
- A4. Existing Walking Trail Network