

## **Chapter 3**

### **TRANSPORTATION ELEMENT**

- 3.04 Introduction**
- 3.08 Goals and Policies**
- 3.12 Transportation System Inventory**
- 3.16 Existing Traffic Conditions**
- 3.20 Travel Demand Forecasting**
- 3.24 Future System Needs**
- 3.28 Transportation Financing Plan**
- 3.32 Intergovernmental Coordination**

### 3.04

## INTRODUCTION

### Introduction

The City of Sedro-Woolley is a small urban area in Skagit County. It is located approximately twelve (12) miles northeast of Mount Vernon, the county seat and largest city in Skagit County. The city and its UGA had an estimated population of seventeen thousand sixty-nine (17,069) in 2015. This is an increase of five thousand two hundred eighty nine (5,289) people since 2005, or a forty-five (45) percent increase.

In 2003, the City completed an update to its Transportation Element. The City followed this with an update to its Transportation Plan in 2005. As part of the 2016 Comprehensive Plan Update, the City has again updated the Transportation Plan to ensure that it is consistent with the City's required update of its Land Use Element as required by the State Growth Management Act (GMA). In addition, the City wanted to review and update its transportation financing program and revisit its transportation impact fee program. The Transportation Plan update also was needed to reflect annexations and growth within the adjacent Urban Growth Area (UGA).

The update of the transportation plan included development of a new travel demand forecasting model to be consistent with the regional Skagit Council of Governments' (SCOG) model which is also being updated. This will provide the City with a model, travel forecasts, and transportation plan that is consistent with regional growth assumptions.

### Purpose

The transportation plan provides a link between the City's land use element and the transportation facilities and services needed to support the growth over the next twenty (20) years. The transportation

plan update focuses on safety, capacity, and operational improvements on state highways and arterials serving the city. The plan incorporates pedestrian, bicycle, transit, and transportation demand management programs to meet the overall transportation needs of the community.

The Transportation Element is a key component to the City's Comprehensive Plan. It provides the City with a guide for transportation system improvements to meet existing and future travel needs. It also integrates the City's transportation improvements with those of Skagit County and the Washington State Department of Transportation (WSDOT).

### Growth Management Act

The Transportation Element was prepared per the requirements of the state Growth Management Act (GMA). The GMA requires that the Transportation Element be consistent with other elements of its Comprehensive Plan, including the Land Use and Capital Facilities elements. If the capital facilities needed to support the forecasted land use at the adopted level of service standards cannot be financed with projected revenues, then the GMA requires a reassessment of one or more of these elements to bring them into balance.

The GMA requires the following topics be addressed in the transportation plan:

- Land use assumptions used in estimating travel demand
- An inventory of existing transportation facilities and services
- Level of service standards to gauge the performance of the system
- Identification of actions and requirements needed to bring existing facilities and services up to standard
- Forecasts of future traffic based on the land use plan
- Identification of improvements and programs needed to address current and future trans-

portation system deficiencies, including Transportation Demand Management strategies

- A realistic multi-year financing plan that is balanced with the adopted level of service standards and the land use element
- An explanation of intergovernmental coordination and regional consistency.

In 1998, the Washington State Legislature amended the GMA in House Bill (HB) 1487. This amendment focused on transportation and growth management planning, and revised several sections of the GMA (RCW 36.70A). In general, the amendments are related to the requirements for local comprehensive plan transportation plans, the countywide planning process for identification and siting of essential public facilities, plan consistency, and the adoption of deadlines established to meet the new requirements. With the revisions, local transportation plans must also now include the following:

- State-owned transportation facilities in the transportation inventory
- The level of service (LOS) for state-owned transportation facilities
- Identification and assessment of GMA concurrency and the applicability to highways of statewide significance
- An estimate of the impacts to state-owned transportation facilities resulting from local land use assumptions

(Ord. 1554-06 § 3 (Exh. A)(part))

The Sedro-Woolley transportation plan meets these GMA requirements for local comprehensive plans.

### **Plan Organization**

The transportation plan was developed in a series of tasks to meet the requirements of GMA. The plan is organized as follows:

- Goals and Policies
- Transportation System Inventory
- Existing Traffic Conditions
- Travel Forecasting
- Future System Needs
- Transportation Financing Plan
- Consistency with Other Agencies

### **Study Area**

The study area for the plan includes the city limits and adjacent unincorporated urban growth area (UGA). The UGA has been defined by the City in conjunction with Skagit County. Figure 1 shows the study area for the 2016 transportation plan.

As noted above, the transportation plan was developed based on a new travel demand model that is consistent with the regional Skagit Council of Governments' (SCOG) model. Since the citywide travel model is based on the SCOG regional model, the City's model also incorporates travel demands from throughout Skagit County.

Figure 1  
Study Area

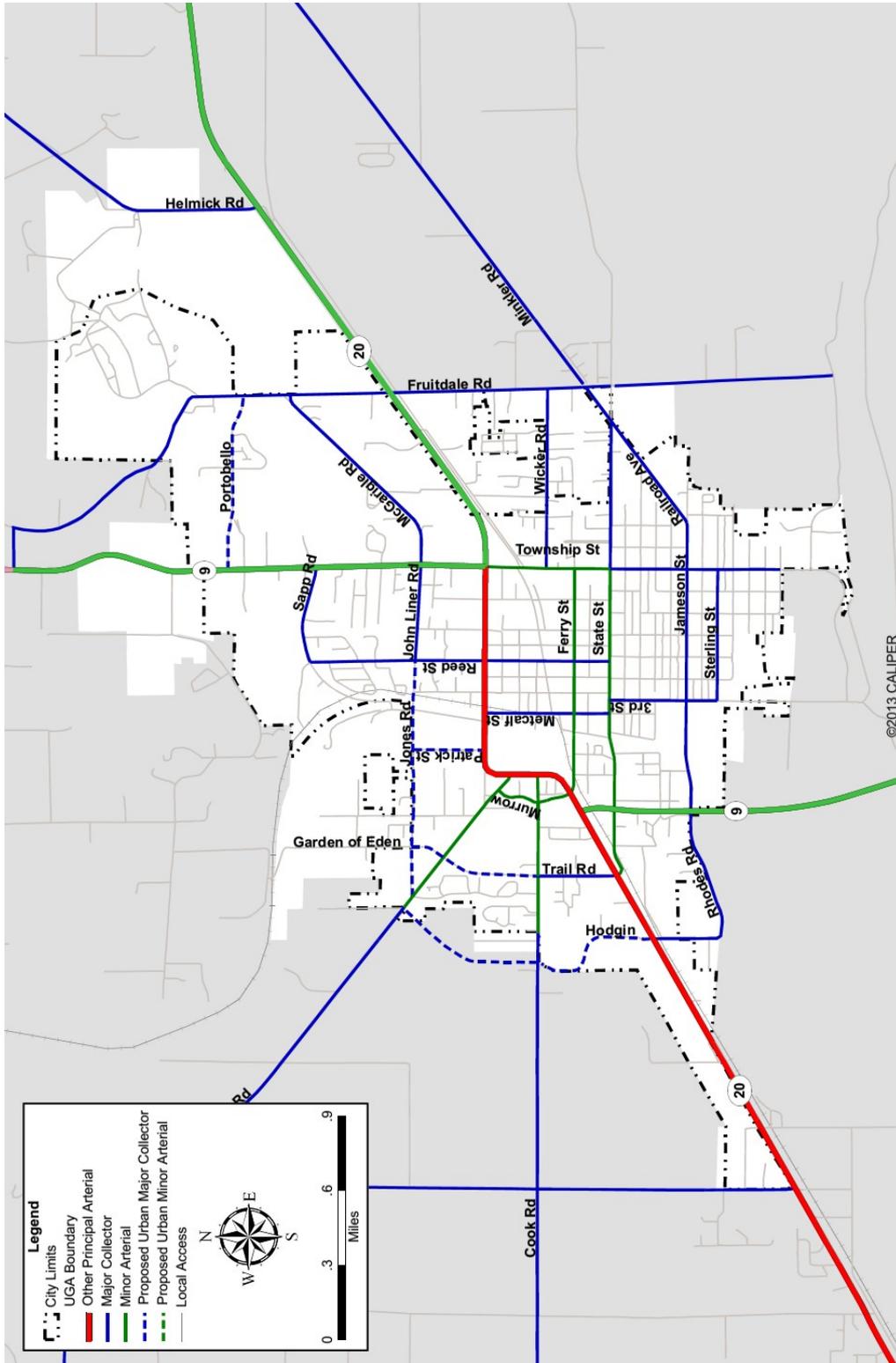


Figure 1  
Study Area  
City of Sedro-Woolley



### 3.08

## GOALS AND POLICIES

The following goals and policies are intended to guide implementation of the City of Sedro-Woolley's transportation system. These goals and policies provide a framework for decision making related to transportation improvements and projects. They also guide requirements related to transportation improvements needed to support development projects.

### **Goal T1: To provide safe, passable streets within the City of Sedro-Woolley.**

Policy T1.1: Identify and improve substandard roads based upon a priority system which accounts for both traffic demand and surrounding land uses.

Policy T1.2: Adopt design standards to which all new streets must be constructed. Adopt design standards for neighborhood streets that support pedestrian safety and reflect the volume of traffic at build-out.

Policy T1.3: Consider non-motorized and rail modes in the design of transportation projects.

Policy T1.4: Improve arterial and collector streets identified as deficient in level of service to the adopted design standard, consistent with the transportation element of the comprehensive plan.

Policy T1.5: Encourage and solicit public participation in transportation related decisions to help ensure that planning and implementation have public support.

### **Goal T2: To provide an efficient street network that emphasizes circulation and accident prevention.**

Policy T2.1: Establish a hierarchy of streets composed of other arterials, minor arterials, major collectors, and local access streets.

Policy T2.2: Improve arterials and collector streets identified as deficient to the design standard, consistent with the transportation element of the comprehensive plan.

Policy T2.3: Support access management strategies for other and minor arterials and major collectors to reduce congestion and increase safety.

Policy T2.4: Manage residential street connections, curb-cuts and on- and off-street parking areas for minor arterials and major collectors.

Policy T2.5: Develop and improve a system of arterials and collectors that support local travel patterns without relying on SR 20.

Policy T2.6: Work with Skagit County to preserve the right-of-way for a potential future arterial between Cook Road and F&S Grade Road serving the area west of the city's existing urban growth area.

### **Goal T3: To benefit social welfare and economic development through street design.**

Policy T3.1: Use clearly marked sidewalks in accordance with the Manual on Uniform Traffic Control Devices (MUTCD) to delineate pedestrian and auto traffic in areas where potential hazards exist, or can be expected from development consistent with proposed land use.

Policy T3.2: Ensure that street size is sufficient (and not excessive) to support proposed land use density.

Policy T3.3: Provide clearly marked bicycle travel corridors in accordance with an adopted non-motorized plan.

Policy T3.4: Provide street lights in areas of high evening-hour pedestrian use.

Policy T3.5: Provide crosswalks in accordance with the MUTCD and the Americans with Disabilities Act (ADA), which are clearly marked, to both driver and pedestrian. Additional measures, such as overhead signage, may be included, as appropriate.

Policy T3.6: Provide sufficient, accessible off-street parking for commercial and industrial developments and community facilities.

Policy T3.7: Provide accessible on-street parking for residential development. Provide off-street parking for multi-family residential development consistent with proposed density.

Policy T3.8: Consider the needs of future transit service when improving other arterials, minor arterials and major collectors.

Policy T3.9: Recognize the pedestrian as a principal user of the central business district (CBD). Continue to encourage retail development and redevelopment in the CBD that appeals primarily to the pedestrian.

Policy T3.10: Improve streets to provide safe and efficient travel of emergency vehicles to and from the fire department, police department and United General Hospital. Separate emergency vehicle loading areas from normal traffic routes to ensure emergency access and prevent congestion.

Policy T3.11: Improve streets that benefit travel of buses to and from schools. Separate bus loading areas from normal traffic routes to minimize the potential for auto-pedestrian hazards or conflicts.

**Goal T4: To encourage alternate modes of transportation.**

Policy T4.1: Establish a committee to review alternate transportation options and propose alternatives

appropriate to Sedro-Woolley's anticipated population growth and density. Options to evaluate include trails, rails, transit, walking, etc.

Policy T4.2: Develop a system of regional and local-oriented multi-purpose trails, which provide designated routes for bicyclists, walkers, joggers and tourists. Design the system for use as both a commuting and recreation option. Private property owners must be compensated as needed, unless arrangements are made for a dedication of right-of-way in lieu of a park fee.

Policy T4.3: Encourage the use of commuting alternatives to the single-occupancy automobile. Alternatives include, but are not limited to walking, carpooling, bicycling and mass transportation.

Policy T4.4: Coordinate with local community groups to provide alternative transportation education and programming to community residents.

Policy T4.5: Provide bicycle storage facilities at community facilities and in commercial retail areas.

Policy T4.6: Design street traffic systems to promote alternative transportation options.

Policy T4.7: Preserve the Burlington Northern and Santa Fe Railroad right-of-way as a multi-modal transportation corridor between Sedro-Woolley and upriver communities. Encourage uses that provide alternatives to the automobile including rail trolley and non-motorized uses. Private property owners must be compensated as needed, unless arrangements are made for a dedication of right-of-way in lieu of a park fee.

Policy T4.8: Continue existing program to construct missing sidewalk links, repair existing sidewalks, and other improvements to support pedestrian transportation.

Policy T4.9: Encourage pedestrian and bicycle connections between adjacent developments even if constraints prevent connections for motorized vehicles.

**Goal T5: To promote the community’s vision among regional transportation agencies.**

Policy T5.1: Coordinate with the Washington State Department of Transportation to provide public input on any current or future plans concerning State Route 20 or State Route 9. Provide public input to the development of these plans.

Policy T5.2: Coordinate with Skagit County to provide public input on any current or future plans concerning county roads within the urban growth area (UGA) and roads connecting Sedro-Woolley to Interstate 5.

Policy T5.3: Aggressively enforce RCW 36.70A.106, requiring the Department of Transportation, or any other state agency, to comply with this comprehensive plan.

Policy T5.4: Coordinate with the Burlington Northern and Sante Fe Railroad to provide public input on future plans for the railroad right-of-way within the urban growth area. Private property owners must be compensated as needed, unless arrangements are made for a dedication of right-of-way in lieu of a park fee.

**Goal T6: To fund and implement transportation improvements that serve the City.**

Policy T6.1: Partner with WSDOT, Skagit County, and SCOG to fund regional improvement projects that serve the City.

Policy T6.2: Ensure that growth mitigates its impacts through transportation impact fees, SEPA mitigation, concurrency, and development regulations.

Policy T6.3: Continue to work with Skagit County to mitigate traffic impacts of developments within the urban growth area consistent with the City’s transportation element and mitigation requirements.

Policy T6.4: Develop the annual Six-Year Transportation Improvement Program (TIP) so it is financially feasible, leverages available city funding, and is consistent with the comprehensive plan.

Policy T6.5: Level of service and safety deficiencies in areas of high population density and traffic volume pose the most immediate needs, and should be improved first.

Policy T6.6: Support residential street improvements through use of local improvement districts or other similar mechanisms.

**Goal T7: To provide an adequate transportation system current with the traffic-related impacts of new development.**

Policy T7.1: Maintain the adopted Level of Service (LOS) standard for all roadways classified as arterials or state highways.

Policy T7.2: Maintain the level of service for SR 20, SR 9, and minor arterials within the City and UGA as LOS D.

Policy T7.3: Maintain the level of service for other and minor arterials within the City and UGA as LOS C.

Policy T7.4: Maintain the adopted Transportation Concurrency Management program to ensure adequate transportation facilities are available concurrent with development, as required by the Growth Management Act.

(Ord. 1554-06 § 3 (Exh. A)(part))

### 3.12

## EXISTING TRANSPORTATION SYSTEM INVENTORY

### Roadway Network

#### *State System*

**State Route 20** links the City to I-5 and Burlington to the west and the Cascade Mountains to the east. Within the City, it is a two- to three-lane principal arterial with a 35 mph posted speed limit. Outside the City, to the west and to the east, the posted speed limits are 50 mph and 55 mph, respectively. State maintained traffic signals control SR 20 intersections with Collins Road, Rhodes Road/Hodgin Street, State Street/Trail Road, SR 9, Ferry Street, and SR 9/Township Street. SR 20 is classified by WSDOT as a Highway of Statewide Significance (HSS). SR 20 is also classified by WSDOT as a Freight Route from the west city limits to SR 9 south.

**State Route 9** links Sedro-Woolley with Mount Vernon to the south and with Whatcom County to the north. Within the City, SR 9 is two- to three-lane secondary arterial with state maintained traffic signals controlling intersections with State Street, SR 20 (near Ferry Street intersection), and SR 20/Township Street. South of SR 20 the posted speed limit is 40 mph. The speed limit is posted at 35 mph north of the City. SR 9 is designated a non-HSS route. SR9 south of SR20 is a limited access – modified control route. SR 9 south of SR20 is classified by WSDOT as a Freight Route from the south city limits to its intersection with SR 20.

#### *Skagit County Roads*

County major and minor collector roads serve as key elements in the county transportation system. These roads link together state routes or connect the state route system to Sedro-Woolley, to other major centers, and to recreational destinations. For example, Cook Road is a two lane east-west road located in western Sedro-Woolley. It provides direct access to I-5 to the west and functions as a major freight route. Cook Road terminates in Sedro-

Woolley at State Route 20. Skagit County roads have been identified and analyzed in the Transportation Element of the 2016 Skagit County Comprehensive Plan Update, with which the City's Transportation Element update maintains consistency.

#### *City Street Network*

The City street network provides for the general movement of people and goods within Sedro-Woolley. It also serves other travel modes, including bicycles, pedestrians, and transit.

### Functional Classification

Roadway functional classification provides for a hierarchy of roadways. These classifications also act as a guide for future development of the overall street system. The purpose of the functional classification plan is to provide a hierarchy of arterial and local streets. Arterial streets serve higher traffic volumes and may have few access points. Local streets provide neighborhood circulation and access to individual parcels. Collector streets link arterials and local streets and may provide access to individual parcels. A well-connected system of streets enhances overall mobility and facilitates greater opportunities for pedestrian and bicycle travel.

According to Sedro-Woolley Municipal Code 15.40.040, all public streets are classified into four types: other principal arterials, minor arterials, major collectors, and local access streets. Table 1 includes a description of each functional classification. Each public street in the City is assigned one of the four classifications, as shown in Table 1, which are consistent with the Federal Highway Administration (FHWA) Federal Functional Classification system. Planned functional classifications are also identified in Table 1.

**Table 1. Street Functional Classification System**

| Functional Classification | Description  |
|---------------------------|--|
| Other Principal Arterial  | Provide connectivity between different areas of a region. High mobility w/ partial access control              |
| Minor Arterial            | Provide connectivity between different areas of a region. Moderate mobility w/partial access control.          |
| Major Collector           | Collect traffic from local streets and other collectors. Connect neighborhoods to each other and to arterials. |
| Local Access              | Provide direct access to properties in residential, commercial or industrial areas.                            |

*Principal Arterials*

**State Route 20** is part of the state highway system but is classified an Other Principal Arterial through the City of Sedro-Woolley. SR 20 links the City to I-5 and Burlington to the west and the Cascade Mountains to the east. Within the City, it is a two- to three-lane Other Principal Arterial with a 35 mph posted speed limit. Outside the City to the west the route is classified as Other Principal Arterial with a posted speed limit of fifty (50) mph and to the east the route is classified as a Minor Arterial with a posted speed limit of fifty-five (55) mph. State maintained traffic signals control SR 20 intersections with Collins Road, Rhodes Road, State Street/Trail Road, SR 9, Ferry Street, and SR 9/Township Street. SR 20 is classified as a Highway of Statewide Significance (HSS). SR20 is classified as a Freight Route from the west city limits to its intersection with SR 9 south.

*Minor Arterials*

**State Route 9** is part of the state highway system and is classified a Minor Arterial through the City. SR 9 links Sedro-Woolley with Mount Vernon to the south and with Whatcom County to the north. Within the City, SR 9 is two- to three-lane Minor Arterial with state maintained traffic signals controlling intersections with State Street, SR 20 (near Ferry Street intersection), and SR 20/Township

Street. South of SR 20 the posted speed limit is 40 mph. The route is classified as Major Collector north and south of the city limits with a posted speed limit of 50 mph. SR 9 is not classified as a Highway of Statewide Significance. SR9 south of SR20 is limited access, modified control. SR 9 south is classified as a Freight Route from the south city limits to its intersection with SR 20.

**Cook Road** is a Major Collector outside of the city limits and a Minor Arterial within the city providing a direct east-west connection to I-5. Within the City, it has three lanes and a speed limit of thirty-five (35) mph. Outside of the City it becomes a two-lane road with a fifty (50) mph speed limit.

**F&S Grade Road** is narrow two-lane Major Collector outside of the city limits and a Minor Arterial within the city providing access to rural areas northwest of the City. The speed limit is twenty-five (25) mph within the City and thirty-five (35) mph in the county.

The **State Street/Township Street** corridor loops from SR 20 and SR 9 on the west side of Sedro-Woolley back to SR 20 and SR 9 on the east side of the City. This arterial loop provides access and circulation within the City’s central business district as well as other central neighborhoods. The roads have two travel lanes with twenty-five (25) mph speed limits. All-way stop controlled intersections with flashing red signals are located at Metcalf Street, Puget Avenue, and the State Street/Township Street intersection. A flashing red-amber beacon is located at the Third Street intersection (a minor-approach stop-controlled T-intersection).

**Ferry Street** is an east-west two-lane Minor Arterial which begins at Cook Road and connects to Township Street. Ferry Street provides access to the central business district. The speed limit is twenty-five (25) mph with flashing all-way stop signals located at Metcalf Street and Puget Avenue.

**Edward R. Murrow Street** is a two-lane Minor Arterial with runs north-south from Cook Road to F&S Grade Road.

### *Major Collectors*

The **John Liner Road/McGarigle Road** corridor provides east-west access parallel to SR 20 in the north part of Sedro-Woolley. The roadways are narrow two-lane Major Collectors with twenty-five (25) mph speed limits. Jones Road and John Liner Road are currently separated by the existing railroad line. The City's Transportation Improvement Program (TIP) identifies a series of projects which include a railroad undercrossing and upgrade of Jones Road to F&S Grade Road to extend this major collector system across the City and tie to the proposed Trail Road collector system.

**North Fruitdale Road** north of SR20 is a narrow two-lane Major Collector with a thirty-five (35) mph speed limit. North Fruitdale provides access to the former Northern States campus, now being re-developed as the Center for Innovation and Technology in the Pacific Northwest. North Fruitdale continues as a major collector in Skagit County, and connects to SR 9 north of the city limits via Kalloch Road.

**Fruitdale Road** south of SR20 is a narrow two-lane major collector with a thirty-five (35) mph speed limit. This county road provides north-south access to the southeast part of the City and UGA parallel to the Township Street corridor.

**Rhodes Road, Jameson Street, and Railroad Avenue** form an east-west Major Collector corridor in the southern part of the City. The collectors include two travel lanes with a twenty-five (25) mph speed limit. They connect SR 20 on the west side of the City to SR 20 on the east side of the city via Fruitdale Road, and also connect to SR20 east of the city via Minkler Road in the county.

In the west part of the City, **Trail Road** provides access from SR 20 to Cook Road. The City's Transportation Improvement Program (TIP) identifies a project which will extend the corridor north to connect with F&S Grade Road and Jones Road as part of the major collector system.

The following collector arterials have two lanes and a twenty-five (25) mph speed limit: **Metcalf Street, Reed Street, Sapp Road, State Street**

(east of Township Street), **Sterling Street, Third Street, and Wicker Road.**

A new major collector route is planned extending **Hodgin Street** north to Cook Road that will support commercial development in the west part of the City.

### *Local Access Streets*

Roadways not mentioned above are considered local access streets. Within the City, the legal speed limit is twenty-five (25) mph unless otherwise posted. In the county, the legal speed limit is thirty-five (35) mph unless otherwise posted. Generally, local streets are two-lane roadways providing direct access to adjacent properties.

### **Public Transit Services**

Sedro-Woolley transit and public transportation facilities are operated by Skagit Transit and include bus transit, carpooling and vanpooling, dial-a-ride service, and park-and-ride lots. As of January 2016, two transit routes provide weekday service within the Sedro-Woolley area. Skagit Transit also offers limited weekday and weekend service in the City through its dial-a-ride program. Additionally, Skagit Transit offers services to encourage carpooling and vanpooling, including three park-and-ride lots within or near the City.

### *Fixed-Route Bus Service*

Skagit Transit operates four bus routes through Sedro-Woolley: Route 300, Route 305, Route 717, and Route 750. The Sedro-Woolley Park and Ride serves as the City's transit hub and is served by each of the four bus routes. Transit service characteristics are described below.

**Route 300** provides service along SR 20 between the Chuckanut Park & Ride in Burlington and the Cascades Job Corps Center in Sedro-Woolley. The route operates weekdays from 6:20 AM to 8:50 PM and weekends from 8:15 AM to 6:00 PM, with a 60-minute headway. Route 300 serves points of interest throughout the City with stops at United General Hospital, Sedro-Woolley Park & Ride, Sedro-Woolley High School, and Cascade Job Corps.

**Route 305** provides service along SR 9 from Skagit Valley College in Mount Vernon to Sedro-Woolley Park & Ride. Route 305 operates on a 60-minute headway weekdays from 7:40 AM to 6:00 PM and weekends from 8:10 AM to 5:40 PM. Exact departure times vary by direction of travel.

**Route 717** provides Skagit River communities (Sedro-Woolley, Lyman, Hamilton, Concrete, and Cape Horn) access to the transfer point at Sedro-Woolley Park & Ride and offers limited service to the Skagit Valley College area of Mount Vernon. Route 717 offers one westbound express trip between Cape Horn and Skagit Station on weekday mornings, and two eastbound express trips departing Sedro-Woolley Park & Ride for Cape Horn on weekday mornings at 5:00 AM and 6:25 AM. Thereafter, weekday service operates with 3-hour headways until 7:00 PM. The route also operates on Saturdays with trips departing Sedro-Woolley Park & Ride at 8:00 AM and 3:00 PM.

**Route 750** is a Friday-only route which offers one morning and one afternoon trip along SR 20 between Sedro-Woolley Park & Ride and Marblemount Caboose, with stops at Concrete City Hall and Rockport Store. Route 750 departs Sedro-Woolley Park & Ride at 8:10 AM and 2:00 PM on Fridays.

#### *Park and Ride Lots*

Three transit Park & Ride lots are located in and around Sedro-Woolley. The SR 9/State Street Park & Ride located on the southwest corner accommodates 20 vehicles. South of the City and the Skagit River, the SR 9 and South Skagit Highway Park & Ride accommodates 52 vehicles. Given the lot locations relative to bus routes, these park-and-ride lots provide services for vanpool and carpool patrons more than bus patrons. A third lot, the Sedro-Woolley Park & Ride is located at the southeast corner of the Cook Road / Ferry Street roundabout. The Sedro-Woolley Park & Ride accommodates 32 vehicles and also serves as a transfer point for the four bus routes (300, 305, 717, and 750) which serve the City.

#### *Vanpooling/Carpooling*

To reduce the traffic volumes on Skagit County roadways, Skagit Transit offers tools to encourage carpooling and vanpooling. Carpooling and vanpooling arrangements vary in cost and complexity depending on the number of persons involved. More information can be found on Skagit Transit's website (<http://www.skagittransit.org>).

#### *Paratransit*

Skagit Transit Paratransit serves persons throughout Skagit County, including the City of Sedro-Woolley, who have disabilities or conditions which prevent them from using normal fixed-route bus service. Paratransit operates from 6:00 AM to 9:00 PM on the weekdays and 8:00 AM to 6:00 PM on weekends. More information can be found on Skagit Transit's website (<http://www.skagittransit.org>).

#### **Freight and Rail Services**

The arterial roadway system and the BNSF Railway (formerly Burlington Northern and Santa Fe Railway) provide for the movement of freight and goods through the City. Given its location along two state highways, Sedro-Woolley experiences a large amount of truck freight traffic. There are three regional freight corridors (SR 20, SR 9, and Cook Road) that lead into and out of the City. These roadway facilities, along with the BNSF branch line and other designated truck routes, serve both local and regional freight operations within the City.

#### *Truck Routes*

The City has adopted a formal truck route plan in an effort to manage truck traffic within its city limits. City Municipal Code 10.20.030 designates the following roadways as truck routes within the City.

- SR 20 and SR 9
- Edward R. Murrow Street
- West State Street and State Street
- Township Street, Third Street, and River Road
- West Jameson Street and Jameson Street (Batey Road to Third Street)
- West Ferry Street and Ferry Street

- East Jones Road and West Jones Road
- F&S Grade (West Jones Road to Borseth Road)
- Cook Road
- Sapp Road (south of East Jones Road)
- Metcalf Street (north of Ferry Street)
- Puget Avenue
- Garden of Eden Road (F & S Grade Road to East Jones Road)

- c. Jameson Street from SR 9 to Township Street
- d. Metcalf Street from SR 20 to W State Street
- e. Reed Avenue from State Street to SR 20
- f. State Street from SR 20 to east city limits
- g. Township Street from SR 20 to south city limits
- h. Edward R. Murrow Street from Cook Road to F&S Grade Road

- c. Third Street from State Street to Jameson Street is designated the T-5 route carrying approximately 53,000 tons annually.

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

Most of the designated freight routes through the City meet WSDOT T-4 designation. The major exception is Cook Road, with a T-2 classification. Most trucks heading to and from the west use Cook Road to bypass the congestion along SR 20 through the City of Burlington. In addition, the Cook Road corridor provides a direct link to I-5.

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

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

- a. Cook Road is designated a T-2 facility carrying 3,872,000 tons annually;
- b. Designated T-4 routes, carrying between 100,000 and 300,000 tons annually, include:
  - a. F & S Grade Road from city limits to SR 20
  - b. Ferry Street from SR 20 to Township Street

### *Rail System*

The railroad system within the City of Sedro-Woolley is operated by BNSF Railway. While the rail lines form a three-legged intersection within the City, only the west and north lines are typically used. The south spur is used primarily for storage purposes. These west and north lines are part of a BNSF branch line from Burlington to Sumas at the US-Canadian border. Rail traffic is typically three freight trains per day, seven days a week. The daily train schedule is not fixed, but trains typically operate within the City from 5:00 PM to 8:00 PM and 12:00 AM to 4:00 AM. A Rail Crossing Study completed by the Skagit Council of Governments in 2015 estimates that the rail crossings in the City will increase by 2040 to from 3 to 4 trains per day to 6 to 7 trains per day and gate down times will at SR 9 and at Ferry increase at crossings from 21 minutes to 64 minutes. BNSF and WSDOT are planning for crossing upgrades in 2017 at all the City crossings.

### **Nonmotorized Transportation Facilities**

The City's roadways act as the primary facilities to accommodate pedestrians and bicyclists. Many of these roadways have sidewalks to accommodate pedestrians and the City has designated some roadways as formal bicycle routes. Along with a system of regional trails, these facilities are used to promote non-motorized travel within the City.

### *Pedestrian Facilities*

At this time, Sedro-Woolley's pedestrian system consists of sidewalks adjacent to streets and shared use paths adjacent to certain arterials and collectors, including the north side of SR20 from Hodgkin Street to SR9 North, the north side of McGarigle from SR9 North to Fruitdale, and the west side of Fruitdale from SR20 to McGarigle. The highest concentration of available sidewalks is in the central business district and surrounding neighborhoods. These areas originally encompassed the urban area of the City when it was first incorporated. New developments in the northern part of the City also have sidewalks. Figure 2 shows locations along the arterial roadway system where sidewalks currently exist.

As development occurs within the City, property owners are required to dedicate right-of-way and construct sidewalks as part of frontage improvements or new roadways. Most of the roadways outside the central core of the City were built when the area was unincorporated Skagit County and were designed to rural arterial standards. No sidewalks exist on the rural roadways outside the City.

The City has an active ADA inventory and upgrade program to assess and repair portions of the sidewalk system that do not meet ADA accessibility standards.

### *Bicycle Facilities*

The City roadway design standards identify that new arterials will include separate bicycle facilities, as sidewalks are not a substitute for on-street bicycle facilities. For the most part, bicyclists currently share the road with motorized traffic or use paved roadway shoulders, where available. Formal bike lanes are present on both sides of Cook Road within the city limits, as shown in Figure 2. In addition, the City has included shared use paths adjacent to certain arterials, including the north side of SR20 from SR9 South to SR9 North, the north side of McGarigle from SR9 North to Fruitdale, and the west side of Fruitdale from SR20 to McGarigle. Additional shared use paths are planned on the north side of SR20 west of SR9 South and east of SR9 North, and on the north side of John Liner Road and the south side of Jones Road.

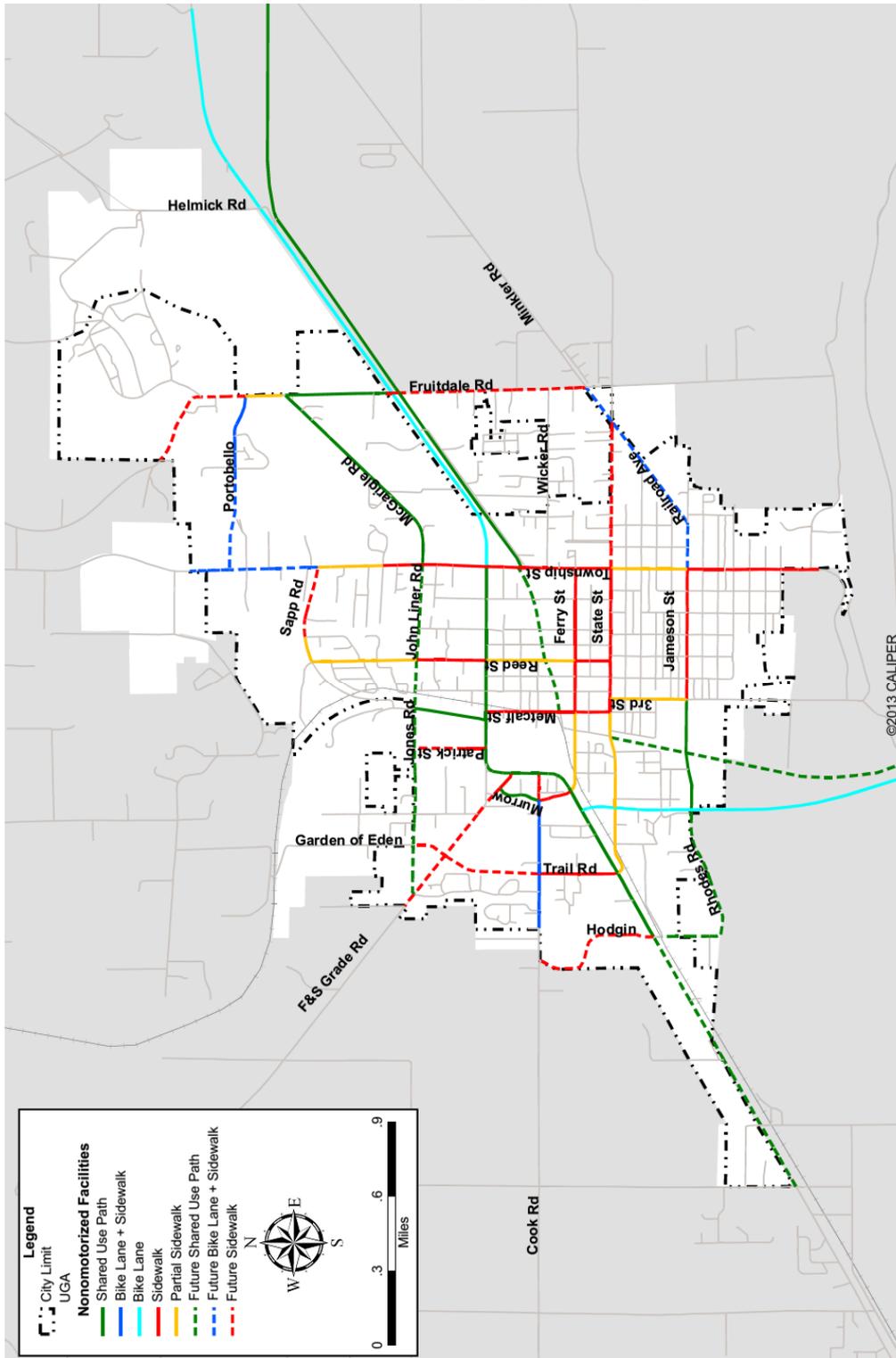
Two regional bicycle routes intersect within the City of Sedro-Woolley. These routes are identified in the Skagit County Parks and Recreation Plan and provide non-motorized connectivity to the west and south of the City. These regional bicycle routes are primarily recreational in nature but are identified here:

- **Cascade Trail** is a 23 mile long rails-to-trails conservancy project which follows the SR 20 corridor from Concrete through Sedro-Woolley. It is currently paved from its terminus east of Township Street to Fruitdale Road and unpaved east of Fruitdale Road. The shared use path on the north side of SR20 is considered a part of

the Cascade Trail system eventually planned to extend east to Burlington.

- **Centennial Trail** is a regional bike connection which runs north-south from Snohomish County through Skagit and Whatcom Counties. The route follows SR 9 but currently requires cyclists to operate on-street through Sedro-Woolley.

**Figure 2  
Nonmotorized Facilities**



**Figure 2  
Major Nonmotorized Facilities**  
City of Sedro-Woolley

©2013 CALIPER



## EXISTING TRAFFIC CONDITIONS

### Traffic Volumes

Daily and PM peak hour traffic volumes were obtained from Skagit County, WSDOT, and recent counts. Daily traffic counts were collected in January 2015 and PM peak hour intersection turning movement counts for most arterial intersections were collected in April 2015.

#### *Seasonal Traffic*

Traffic on state highways in Sedro-Woolley can vary significantly throughout the year because of the annual winter closure of SR 20. SR 20, or the North Cascades Highway, is closed every winter forcing SR 20 traffic to shift to the US 2 corridor to the south.

The traffic count data collected for this transportation element were collected or adjusted in such a way as to account for the SR 20 winter closure. Turning movement counts were collected after the April 3 opening of SR 20 while daily traffic counts were compared against seasonally-adjusted WSDOT counts collected in and near the Sedro-Woolley study area.

#### *Daily Traffic Volumes*

Figure 3 summarizes the daily traffic volumes on state highways and arterials in and around the city. West of the city, SR 20 carries 16,900 vehicles per day (vpd). This volume increases to 19,000 vpd north of its intersection with Cook Road. East of the city, traffic volumes on SR 20 decrease to less than 9,000 vpd. SR 9 south of the city serves approximately 11,000 vehicles daily. At the north city limits, volumes on SR 9 decrease to 5,400 vpd. Cook Road carries 12,900 vpd at the west edge of Sedro-Woolley.

Traffic volumes entering/exiting the city to/from the south or west (SR 9, SR 20, Cook Road and

F&S Grade Road) total an estimated 42,000 vpd. This compares to 16,100 vpd entering/exiting the city to/from the east and north.

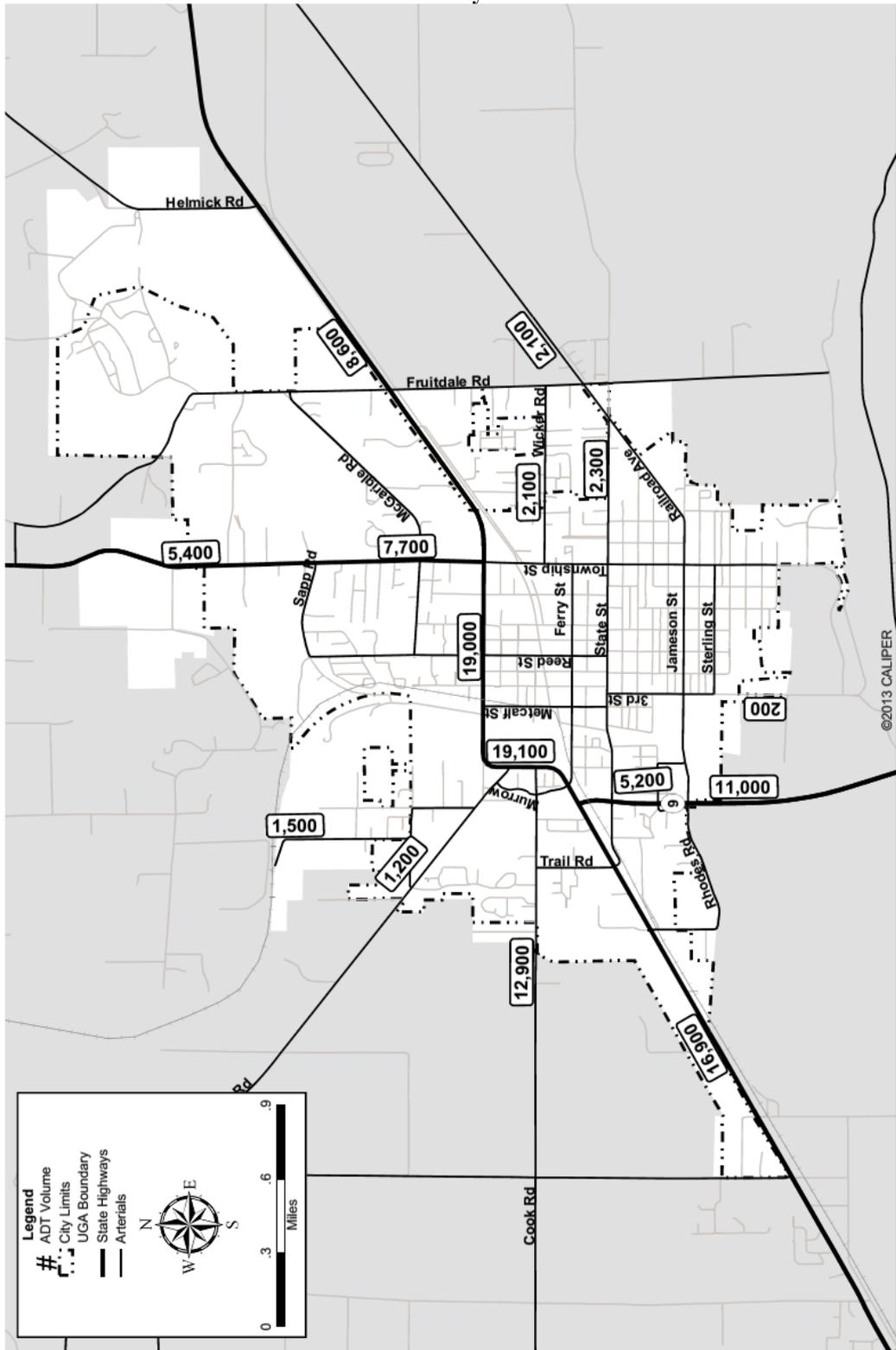
The volumes indicate several things important in developing the transportation plan. First, the major travel patterns are oriented to/from the west to access I-5, Mount Vernon, Burlington or other regional destinations. Second, the travel patterns show a significant proportion of through traffic on the state highways. The volume of traffic on SR 20, SR 9, and Cook Road in the west part of the city indicates that drivers are using several, limited routes to connect between Sedro-Woolley and areas to the west/southwest.

#### *PM Peak Hour Volumes*

Figure 4 shows the existing two-way traffic volumes during the PM peak hour. The PM peak hour is defined as the highest four consecutive fifteen-minute volume intervals during the PM peak period of travel (typically between 4:00 PM and 6:00 PM). This represents the one-hour period when traffic volumes on local roadways are typically at their peak, and generally corresponds to the period of rush hour traffic with commuters returning home from work.

The PM peak hour volumes have consistent patterns with the daily volumes described above. The state highways have the highest traffic volumes with two-way volumes during the PM peak hour ranging from 690 vehicles per hour (vph) on SR 9 north of John Liner Road to approximately 1,700 vph on SR 20 north of Cook Road. City arterials in the central business district generally serve between 200 and 400 vehicles during the PM peak hour, with the exception of State Street which serves just under 1,000 vph in the downtown area.

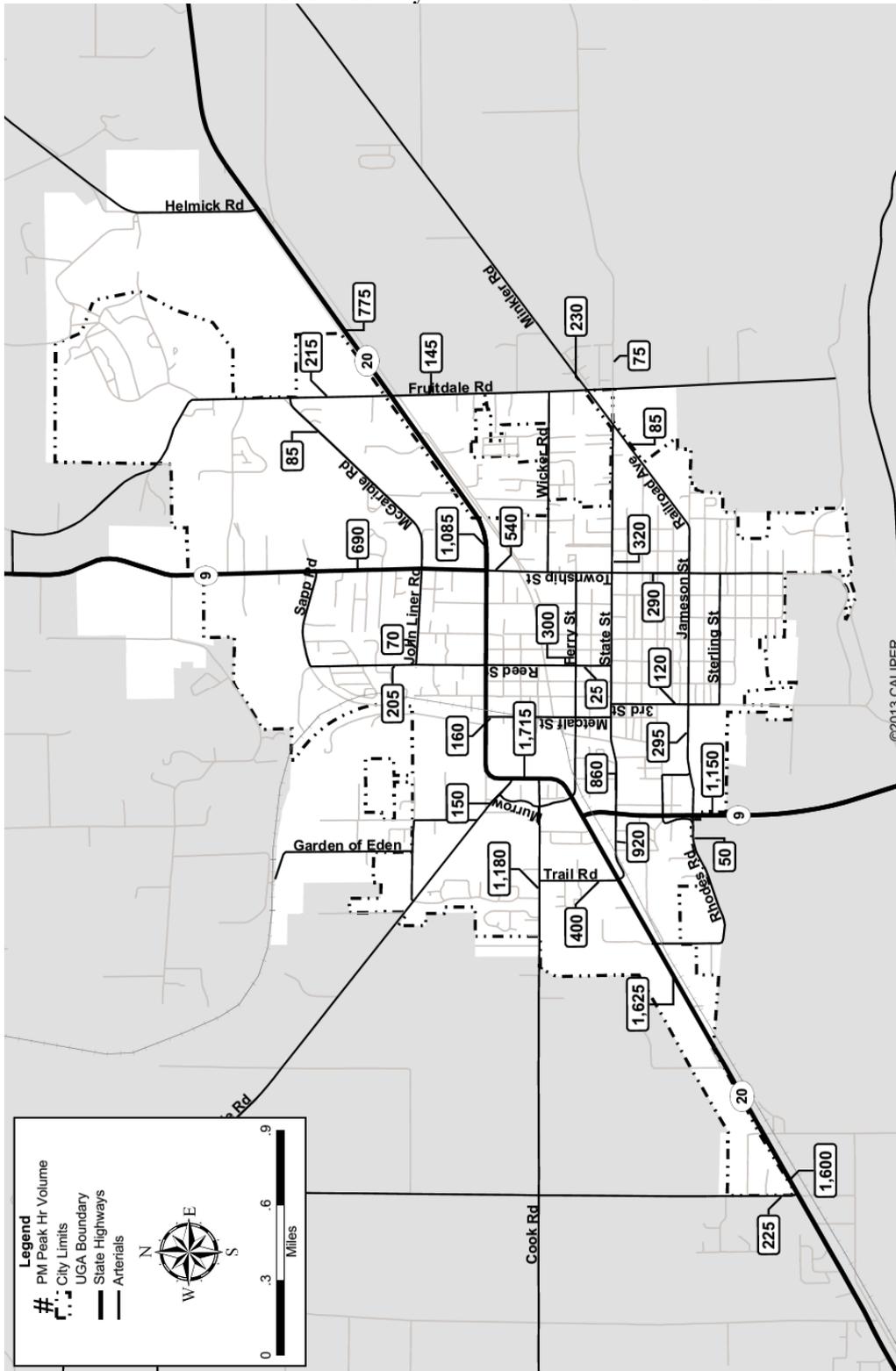
**Figure 3**  
**2015 Daily Traffic Volumes**



**Figure 3**  
**2015 Average Daily Traffic Volumes**  
 City of Sedro-Woolley



**Figure 4**  
**2015 Weekday PM Peak Hour Traffic Volumes**



**Figure 4**  
**2015 PM Peak Hour Volume**  
 City of Sedro-Woolley



### Vehicle Classification Counts

Daily vehicle classification counts were collected in early 2015 along arterial streets that provide regional access to Sedro-Woolley. Vehicles are generally classified into two groups; passenger cars/SUVs and heavy vehicles. Heavy vehicles represent vehicles with more than four tires and include RVs, delivery trucks, and semi-trucks. On a daily basis, the percentage of heavy vehicles range between 2 and 14 percent on arterials such as SR 20, SR 9, and Cook Road.

Classification counts along Cook Road west of the city limits indicate 10 percent of the traffic is heavy vehicles. This is slightly greater than the 7 percent heavy vehicle share on SR 20 at the west city limits. East of the city limits along SR 20, 9 percent of daily traffic consists of heavy vehicles. Heavy vehicles on SR 9 north and south of the city limits represent 13 and 7 percent of daily traffic, respectively.

### Level of Service Definition

Level of service (LOS) is a qualitative description of the operating performance of an element of transportation infrastructure such as a roadway or an intersection. LOS is typically expressed as a letter score from LOS A, representing free flow conditions with minimal delays, to LOS F, representing breakdown flow with high delays. The street and intersection LOS methodologies used in this Transportation Element are described below.

### Segment Level of Service

Table 2 describes a system of street capacity standards which incorporate planning-level vehicle capacity estimates with consideration for the impact of non-motorized facilities on vehicle capacity. These standards can be applied to calculate capacity for every arterial street in Sedro-Woolley.

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

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

**Table 2.** Sedro-Woolley Street Capacity Standards

| Functional Classification | Base Peak Hour Capacity (veh/hr/lane) | Capacity Adjustment  |                                 |              |                   |                   |
|---------------------------|---------------------------------------|----------------------|---------------------------------|--------------|-------------------|-------------------|
|                           |                                       | Left-Turn Lane (vph) | Access-Restricted Segment (vph) | No Bike Lane | No Side-Side-walk | On-Street Parking |
| Other Principal Arterial  | 900                                   | 450                  | 540                             | -90          | -180              | -45               |
| Minor Arterial            | 800                                   | 400                  | 480                             | -40          | -80               | -40               |
| Major Collector           | 600                                   | 300                  | 360                             | -30          | -60               | -30               |

Street segment LOS is based on the ratio of traffic volume to roadway capacity and can be described as a roadway’s ability to serve all users. Sedro-Woolley Municipal Code (SWMC) 15.56.020 defines LOS thresholds which are consistent with the planning-level LOS thresholds defined in Highway Capacity Manual 1994 (HCM1994). These thresholds and definitions, shown in Table 3, have been modified to fit the multimodal capacity approach described above.

*Intersection Level of Service*

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

For the purposes of this analysis and to maintain consistency with WSDOT policy, roundabouts were analyzed using HCM2000 gap acceptance parameters and HCM2000 signalized LOS thresholds.

Delay is defined differently for signalized and all-way stop controlled intersections than for two-way stop controlled (i.e. stop control on minor approach) intersections. For signalized and all-way stop controlled intersections, level of service thresholds are based upon average control delay for all vehicles using the intersection. For two-way stop controlled intersections, delay is reported for the movement with the worst (highest) delay. Table 4 identifies LOS delay thresholds for signalized and unsignalized intersections.

**Table 3.** Street Segment LOS Characteristics

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

**Table 4. Intersection Level of Service Thresholds**

| LOS | Signalized Delay (sec/veh) | Unsignalized Delay (sec/veh) |
|-----|----------------------------|------------------------------|
| A   | ≤10                        | ≤10                          |
| B   | >10 – 20                   | >10 – 15                     |
| C   | >20 – 35                   | >15 – 25                     |
| D   | >35 – 55                   | >25 – 35                     |
| E   | >55 – 80                   | >35 – 50                     |
| F   | >80                        | >50                          |

**Level of Service Standards**

As required under GMA, the City has adopted level of service (LOS) standards for its street system. The City’s adopted LOS standards are set based on roadway functional classification. The LOS standards are:

- Other Principal Arterials                      LOS D
- Minor Arterials                                    LOS C
- Major Collectors                                 LOS C

Minimum LOS for State facilities are set by the Washington State Department of Transportation (WSDOT). SR 20 is designated by WSDOT as a Highway of Statewide Significance (HSS) and is assigned minimum intersection LOS D. This is consistent with the City’s LOS D standard for Other Principal Arterial. Since SR 20 is an HSS, the City cannot apply concurrency to developments impacting the route. The City may, however, require developments to mitigate their traffic impacts on the highway through SEPA or transportation impact fees.

SR 9 is classified by the City as a minor arterial both north and south of SR 20. This results in a LOS C standard, which is more stringent than the state and SCOG standard of LOS D for SR 9 in Skagit County. The City’s LOS C standard will

result in a lower level of allowable congestion, consistent with city goals.

The City’s LOS C standard for other secondary and major collectors reflect the City’s desire to minimize peak hour congestion and reduce the potential for cut-through traffic on neighborhood and local access streets.

**Analysis Methodology**

Traffic operations were evaluated based on the LOS methodologies of the Highway Capacity Manual (HCM) (Transportation Research Board, 2010). The HCM is a nationally recognized, locally accepted method of measuring traffic flow and congestion.

Traffic volumes used for the operations analysis reflect spring 2015 conditions during the PM peak hour of travel.

**Level of Service Results**

Intersection levels of service (LOS) analyses were conducted for arterial intersections within the study area. Table 5 summarizes the LOS results and intersection or worst movement delay at the study intersections for 2015.

Based on HCM methodology, the PM peak hour traffic operations for all signalized intersections are within the City’s standard at LOS D or better.

Two two-way stop controlled intersections, both along SR 9, currently operate below the City’s minimum LOS standards. The intersection of SR 9 and John Liner/McGarigle Road meets the WSDOT LOS standard for non-HSS routes but fails the more stringent City LOS C standard. No street segments currently fail the recommended minimum segment LOS standards.

**Table 5. Existing Intersection Level of Service Deficiencies**

| Intersection                        | Control Type <sup>1</sup> | Delay <sup>2</sup> (s/veh) | LOS |
|-------------------------------------|---------------------------|----------------------------|-----|
| SR 9 / John Liner Rd / McGarigle Rd | TWSC                      | 26.4                       | D   |
| SR 9 / Nelson St                    | TWSC                      | 52.9                       | F   |

<sup>1</sup>TWSC = Two-Way Stop Control; AWSC = All-Way Stop Control; RAB = Roundabout; Signal = Signalized

<sup>2</sup>Average control delay for all movements. For TWSC, delay is reported for the movement with the worst (highest) delay.

**Necessary Improvements**

The City’s 2016-2036 project list includes two improvement projects, identified in Table 6, which will mitigate the existing LOS deficiencies.

The Jameson Street extension project includes a new intersection at SR 9 and Jameson Street with roundabout control, which will relieve minor street delay at the Nelson Street intersection. The project also includes reclassification of Nelson Street and Batey Road from minor arterials to local access roads.

Intersection capacity improvements, which could include a signal or roundabout, will also be necessary to maintain minimum LOS standards at the intersection of SR 9 and John Liner/McGarigle Road.

Total estimated cost of improvements necessary to bring failing intersections up to current LOS standards is \$4,020,000.

**Traffic Safety**

Within Sedro-Woolley, traffic safety analysis was generally limited to state highways where traffic volumes are the highest and records are the most accessible. One local collector, West State Street, which acts as a connector between SR20 and SR9, was also analyzed. Conversations with police department and school district personnel confirm that safety issues are primarily limited to these state routes. Historical accident data along both SR 20 and SR 9 were provided by WSDOT for the three-year period from 2012 to 2014 (the most recent data available as of April 2016). Analysis and statistics were summarized by accidents related to fatalities, intersections, roadway segments, and pedestrians or bicycles.

*Fatalities*

During the three year study period, no fatal accident occurred in the study area. This is an improvement from 2005.

**Table 6. Projects Necessary to Bring Existing Facilities up to LOS Standards**

| Project ID | Location                            | From / To       | Description                         | Estimated Cost (\$\$\$) |
|------------|-------------------------------------|-----------------|-------------------------------------|-------------------------|
| C14        | Jameson St                          | SR 9 / Batey Rd | Arterial extension w/new roundabout | 3,020                   |
| S17        | SR 9 / John Liner Rd / McGarigle Rd |                 | Capacity improvements               | 1,000                   |
|            |                                     |                 | <b>Total Estimated Cost</b>         | <b>4,020</b>            |

*Intersection Safety Analysis*

Typically, any intersection with an accident rate greater than one accident per million entering vehi-

cles (acc/MEV) should be monitored to determine if improvements could be made to increase safety.

WSDOT has identified an Intersection Analysis Location (IAL) at SR9/State Street (0.50 acc/MEV) with the IAL based on 2010 data. WSDOT has not identified any IALs on SR 20 based on 2010 data. There are however several SR 20 intersections with intersection accident rates approaching or exceeding the 1.0 acc/MEV recommended action level. These include SR20/W State Street at 1.61 accidents per MEV, with 48% of the collisions rear-end; SR20/SR9 North/Township Street at 1.11 accidents per MEV, with seventy (70%) of the accidents rear-end; SR20/SR9 South at 0.91 acc/MEV with ninety (90) percent rear-end; and SR20/Rhodes Road at 0.65 ac/MEV with 83% rear-end. The SR20/Township intersection is included in the Collision Analysis Location/Collision Analysis Corridor (CAL/CAC) discussed below.

The main cause for a rear-end collision is traffic congestion (vehicles following too closely), and in the case of the Rhodes and W State intersections, related to speed due to the transition from 50 mph to 35 mph at MP 64.39. The SR20/SR9/Township signalized intersection experiences long queues on both routes due to congestion. One improvement from 2005 is the Metcalf intersection, formerly a

high accident) location (HAL under the old methodology, which had no accidents in the 2013-2015 period. The improvement is likely due to the recent projects completed in this vicinity that improve sight distance and added center turn lanes.

#### *Roadway Safety Analysis*

The average accident rates were analyzed for both the SR 20 and SR 9 corridors to identify highway segments with potential safety problems. The results of the highway segment analysis are summarized in Table 7. The highway segments listed in Table 7 vary in length and traffic volume. To provide meaningful comparison, accidents along highway segments are typically analyzed in terms of accidents per million vehicle miles (acc/mvm) traveled. No universally accepted guidelines exist for identifying hazards based on accident rates for highway segments alone; however, WSDOT publishes average accident rates by roadway classification. Table 8 lists the average accident rates for highway segments based on functional classification.

**Table 7. 2013 – 2015 Accident History for State Highway Segments**

| Segment  | Average Accidents per Year | Average Daily Vehicles <sup>1</sup> | Accidents per MVM <sup>2</sup> | State Average Rate <sup>3</sup> | Accident Type (Majority) |
|--|----------------------------|-------------------------------------|--------------------------------|---------------------------------|--------------------------|
| SR 20 West<br>(MP 63.06 Collins Road to MP 65.06 Cook Road Roundabout)                     | 46.0                       | 16,400                              | 5.78                           | 2.08 R<br>2.54 U                | Rear-End                 |
| SR 20 Central<br>(East of MP 65.05 Cook Road Roundabout to MP 66.08 SR9 North/Township St) | 23.7                       | 20,100                              | 3.16                           | 2.54                            | Rear-End                 |
| SR 20 East<br>(East of MP 66.08 SR9/Township Street to MP 66.89 Fruitdale Road)            | 2.7                        | 11,700                              | 0.77                           | 2.13 R<br>3.38 U                | Rear-End                 |
| SR 9 South<br>(MP 55.45 City limits to MP 55.89 south of SR 20)                            | 5.7                        | 8,100                               | 4.36                           | 3.38                            | Rear-End                 |
| SR 9 North<br>(North of SR 20 to City Limits)  | 5.0                        | 8,100                               | 1.41                           | 3.38                            | Rear-End                 |
| West State Street, SR 20 to SR 9   | 3.3                        | 9,600                               | 3.28                           | NA                              | Rear-End                 |

Source: WSDOT Crash Data (2013-2015), summarized by City. <sup>1</sup>Based on 2015 WSDOT TRIPS System Annual Traffic Report

<sup>2</sup>Accidents per million vehicle miles based on WSDOT Crash Data 2013-2015, calculated by City using the FHWA “Roadway Departure Safety: A Manual for Local Rural Road Owners” Crash Rate Calculations.

<sup>3</sup>Washington state average accidents per MVM based on roadway classifications (R for Rural, U for Urban) based on the 2006 Washington State Collision Data Summary Highways only, pg. 16.

**Table 8. Average Accident Rates by Roadway Functional Classification**

| Functional Classification | WSDOT Rural Arterial (Accidents/MVM) <sup>1</sup> | WSDOT Urban Arterial (Accidents/MVM) <sup>1</sup> |
|---------------------------|---|---|
| Principal Arterial        | 1.13  | 2.54  |
| Minor Arterial            | 1.47  | 3.38  |
| Major Collector           | 1.55  | 1.01  |

Source: 2006 Washington State Collision Data Summary Highways Only (latest available)

<sup>1</sup>Annual accidents per million vehicle miles

The WSDOT Functional Classification Map classifies SR 20 as an urban other principal arterial from the west city limits to Township Street/SR 9, and as urban minor arterial to the east city limits. West of the city limits, SR 20 is classified as urban other principal arterial, and east of the city limits as rural minor arterial. SR 9 is classified as an urban minor arterial within the City of Sedro Woolley. SR 9 south and north of the city limits is classified as rural minor arterial. The historical accident data and existing highway classifications obtained from the WSDOT indicate that the accident rates for two SR 20 segments and the SR 9 segment south of SR 20 are above the average accident rate for a similar

state facility. The accident rate for SR 20 segment west of Cook Road has increased 74% since 2005 and remains well above the state average. The SR 20 Central segment accident rate has decreased 28% since 2005, although it remains above the statewide average. The accident rate for the SR 9 segment south of SR20 has increased 18% from 2005 and remains above the state average. The accident rate for the SR9 segment north of SR20 has decreased 3% since 2005, and remains below the state average.

Within Sedro-Woolley, WSDOT has identified two Collision Analysis Corridors/Collision Analysis

Locations (2015 CACs/CACs) along SR 20. SR 9 is not currently listed as a CAC, but has one Intersection Analysis Location. WSDOT identifies state highway CALs/CACs that meet certain criteria to identify potentially unsafe accident locations. The first CAL/CAC is along SR 20 from milepost 61.16 to milepost 63.62, generally from the east city limits of Burlington to Holtcamp Road, and actually west of the city limits but partially in the Urban Growth Area. The second CAL/CAC is along SR 20 from milepost 65.39 to 65.63, generally between Patrick Street and Puget Street intersections. These SR20 corridors correspond to the accident rates noted in Table 7.

In addition to the state routes, local collectors with significant volumes of traffic were analyzed. West State Street from SR20 to SR9 is a local collector connecting the two state routes and the Downtown commercial core. This route was found to have a 3.28 acc/MVM rate with 70% rear-end crashes on the segment from SR20 to SR9, and 2.45 acc/MVM on the segment between SR9 and Eastern. While standards given in Table 8 are limited to highways, these results indicate that attention is warranted on this route. West State Street has the highest accident rate in the city. Other routes slightly lower rates are Ferry from Eastern to Township, and Metcalf from State to SR 20. All other city collectors have moderate to low accident rates.

### **Pedestrian/Bicycle Safety**

No section of the SR 20 or SR 9 corridor is currently listed as a High Pedestrian Accident Location (PAL) by WSDOT. Between 2013 and 2015, there were no accidents along the SR 9 corridor involving bicyclists or pedestrians.

Four accidents along SR 20 involved pedestrians or bicycles between 2013-2015. Three of the four involved a pedestrian, and the remaining one involved a pedicyclist. The pedestrian accidents oc-

curred at the Murdock, Reed and Township intersections, only one of which (Township) includes an actual pedestrian crossing. The pedicyclist accident occurred at Ferry Street. Pedestrian and bicycle related accidents on the state routes have decreased by 50% since 2005, attributable to the addition of south side sidewalks and north side shared use path improvements on SR20 from SR 9 South to SR 9 North/Township completed in 2012, and sidewalks and bicycle lane additions on SR 9/Township from SR 20 to Lucas Drive also completed in 2013.

(Ord. 1554-06 § 3 (Exh. A)(part))

### 3.20

#### TRAVEL DEMAND FORECASTING

To provide a framework for future transportation system needs, this Transportation Element must consider the transportation needs of future growth. The GMA requires that the transportation planning horizon be at least ten years in the future. The City of Sedro-Woolley selected a 2036 horizon year. Year 2036 is consistent with the forecast year used in the Skagit Council of Governments (SCOG) residential and commercial/industrial land use allocations. It also provides a longer range look at the transportation system than City’s annual six-year Transportation Improvement Program (TIP).

This section will describe the inputs, assumptions, and methodologies used to develop the Sedro-Woolley citywide transportation planning model, which was used to generate a long-range (2036) citywide travel demand forecast. This demand (i.e. traffic volume) forecast provided the technical basis for the LOS forecast and the state, county, and local transportation system improvement needs identified later in this Transportation Element.

#### Land Use

The existing and forecasted locations, quantities, and types of land use throughout the City and UGA form the backbone of the citywide planning model. In order to satisfy the GMA requirement for the Transportation Element to maintain internal consistency with the assumptions used throughout the Comprehensive Plan, the land use data described below is based on the population and growth tar-

gets described in the Land Use Element. These targets are themselves consistent with land use forecasts developed by Skagit Council of Governments (SCOG), BERK Consulting, E.D. Hovee & Company, and the City.

#### Existing Land Use

For the purposes of transportation planning, land use can be stratified into two categories: households and employment. Residential land use forecasts are often expressed in terms of population, however for travel demand modeling it is helpful to convert population into trip-generating households.

Existing citywide population and household estimates are summarized in Table 9 and are consistent with the Land Use Element in this Comprehensive Plan.

#### Forecasted Land Use Growth

The modeled land use forecasts include total population growth of 4,555 and employment growth of 1,572, as summarized in Table 9.

SCOG has allocated total employment growth of 1,572 to the City by 2036. These growth allocations are classified by five employment sectors:

- Retail
- Services
- Government/Education
- Industrial
- Resources

To maintain consistency with the SCOG regional planning model and allow greater modeling flexibility, growth allocations were further divided into the 8 employment sectors identified in Table 10.

**Table 9.** Existing Citywide Land Use Totals

| Planning Year           | Population | Households <sup>1</sup> | Employment |
|-------------------------|------------|-------------------------|------------|
| Existing (2015)         | 12,514     | 4,832                   | 4,752      |
| Planning Horizon (2036) | 17,069     | 6,590                   | 6,324      |
| 2015-2036 Growth        | 4,555      | 1,758                   | 1,572      |

**Table 10. Sedro-Woolley 2036 Employment Growth Forecast**

| NAICS Code                         | Employment Sector                              | Code   | Employees | Percent |
|------------------------------------|--|--------|-----------|---------|
| 44, 45                             | Retail   | RETAIL | 46        | 2.9%    |
| 51-56, 61, 71, 72, 81              | Finance, Insurance, Real Estate, and Services  | FIRES  | 296       | 18.8%   |
| Public sector, excluding education | Government                                     | GOV    | 283       | 18.0%   |
| 61                                 | Education                                      | EDU    | 283       | 18.0%   |
| 22, 42, 48, 49                     | Wholesale Trade, Transportation, and Utilities | WTU    | 184       | 11.7%   |
| 31-33                              | Manufacturing                                  | MANU   | 184       | 11.7%   |
| 11, 21, 23                         | Construction and Resources                     | CONRES | 0         | 0.0%    |
| 62                                 | Health   | HEALTH | 296       | 18.8%   |
| Total                              |  |        | 1,572     | 100.0%  |

Source: SCOG 2014, TSI 2015

Note: Employment growth shares by sector may vary without significantly impacting PM peak hour trip generation. The shares identified above create trip generation totals which may be representative of multiple job growth scenarios.

#### *Land Use Growth Location*

The geographic units or Transportation Analysis Zones (TAZs) used to geographically represent land use in and around Sedro-Woolley were consistent with the SCOG regional planning model TAZ structure. A total of 60 internal TAZs were used to represent the City and UGA, as shown in Figure 5. Refinements were made to TAZ loading points in order to improve model accuracy at the local level.

Residential land use was represented in the traffic model in terms of occupied households while employment was modeled using the categories defined in Table 10. The existing household and employment totals described above were verified using GIS land use data provided by SCOG.

Citywide household and employment growth forecasts were initially distributed to the modeled TAZs by aggregating the parcel-level results of the Sedro-Woolley Buildable Land & Land Capacity Analysis Report and subsequently updated with UGA and zoning changes as of January 2016.

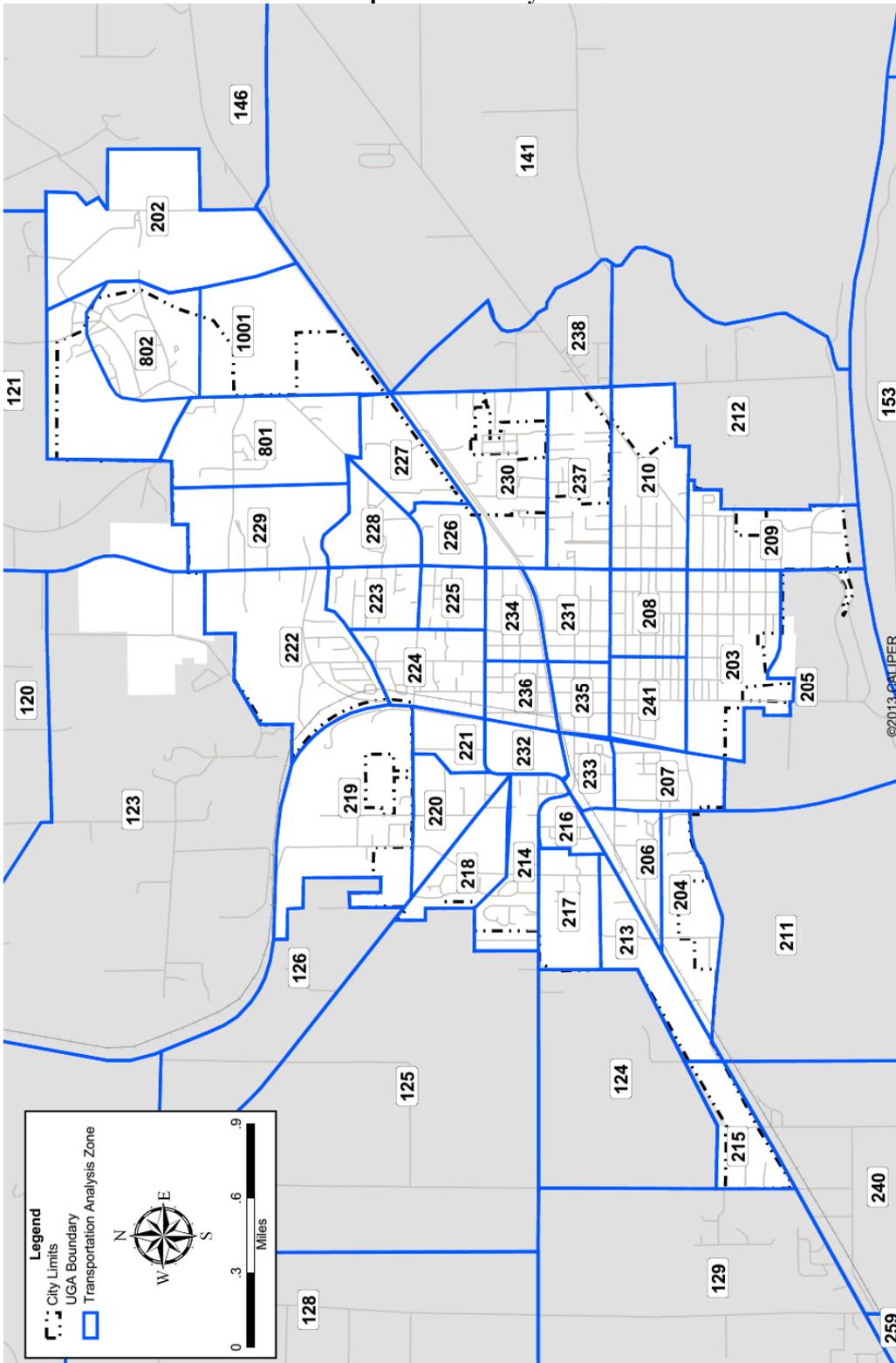
The transportation model used a household cross-classification scheme which represents households

by number of occupants and number of vehicles, based on SCOG’s analysis of 2010 census household data. To prepare the total household growth forecast for input to the model, TAZ-based total household growth was distributed proportionately to the existing (SCOG) cross-classification shares.

In order to maintain consistency with the Sedro-Woolley Buildable Land & Land Capacity Analysis Report, employment growth associated with the development of the Center for Innovation and Technology at the former Northern State Hospital campus was considered separately from the SCOG allocation.

The citywide planning model assumed that the development of the former Northern State Hospital campus would follow the “Moderate Intensity Site Development” scenario described in the *Northern State Planned Action Environmental Impact Statement (EIS)* (July 2015).

**Figure 5  
Transportation Analysis Zone Structure**



**Figure 5  
Transportation Analysis Zones  
City of Sedro-Woolley**



### **Travel Forecasting Model**

The Sedro-Woolley planning model was developed in PTV Visum 14 software and was based on the SCOG regional travel demand model with local refinements in the Sedro-Woolley study area. Travel demand was modeled in terms of weekday PM peak hour vehicle trips.

The base year model was calibrated to fit turning movement counts collected at 45 arterial intersections throughout the City in April 2015.

#### *Street Network*

The roadway network contained in the SCOG model included most arterial streets within the City and UGA as well as most arterial roadways within Skagit County. This network was expanded to complete the arterial street network and also include all local streets within the City and UGA.

Link and node capacity standards and volume-delay functions were held consistent with the SCOG regional model.

#### *Transportation Analysis Zones*

The function of a Transportation Analysis Zone (TAZ) in a travel demand model is to generate vehicle trips to and from the roadway network. In general, internal TAZs are specific geographic areas that are associated with specific land use data. The land use data associated with a TAZ determines the number of trips that the TAZ produces to or attracts from the other TAZs in the model. The citywide model included 67 zones, of which 60 were internal to the Sedro-Woolley area. Figure 5 displays TAZ structure in the study area.

The model included 7 external zones surrounding the City and UGA. External zones are designed to incorporate trips that are generated to and/or from points outside the network. Although these are labeled zones, they actually represent links to regions outside the model and do not represent a defined area. These zones do not reflect any land

use assumptions; only vehicle trips. Trips to and from each external zone are determined from actual traffic counts and future trips are based on historical growth records. These external zones play a two-part role in a model: (1) only a certain portion of the trips in an external zone interact with TAZ's within the model, and (2) the remainder of the trips in any external zone interact with other external zones outlying the study area. These trips are called through trips since they have neither an origin nor destination within the study area yet they pass through the study area, impacting the network.

#### *Trip Generation*

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

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

Trip generation rates used in the citywide model were based on SCOG and Institute of Transportation Engineers (ITE) trip generation rates and represent PM peak hour vehicle trips. Table 11 summarizes the modeled trip generation rates.

Residential land use was modeled in household units and cross-classified for trip generation purposes. The household cross-classification scheme followed the format HH(a)\_(b), where (a) represents the number of people in the household and (b) represents the number of workers in the household. Employment categories are described in Table 10.

Trip generation for external TAZs was based on current and historical traffic volumes which were provided by SCOG and WSDOT.

**Table 11. Trip Generation Rates**

| Land Use Code <sup>1</sup> | Units      | Total | Origins |        |        | Destinations |        |        |
|----------------------------|------------|-------|---------|--------|--------|--------------|--------|--------|
|                            |            |       | HBW     | HBO    | NHB    | HBW          | HBO    | NHB    |
| HH1_0                      | Households | 0.24  | 0.0000  | 0.0870 | 0.0242 | 0.0000       | 0.1063 | 0.0242 |
| HH1_1                      | Households | 0.32  | 0.0268  | 0.0502 | 0.0367 | 0.1072       | 0.0614 | 0.0367 |
| HH2_0                      | Households | 0.37  | 0.0000  | 0.1340 | 0.0372 | 0.0000       | 0.1637 | 0.0372 |
| HH2_1                      | Households | 0.49  | 0.0248  | 0.1271 | 0.0528 | 0.0990       | 0.1554 | 0.0528 |
| HH2_2                      | Households | 0.75  | 0.0632  | 0.1184 | 0.0865 | 0.2526       | 0.1447 | 0.0865 |
| HH3_0                      | Households | 0.51  | 0.0000  | 0.1826 | 0.0507 | 0.0000       | 0.2231 | 0.0507 |
| HH3_1                      | Households | 0.67  | 0.0225  | 0.1868 | 0.0710 | 0.0900       | 0.2283 | 0.0710 |
| HH3_2                      | Households | 1.02  | 0.0668  | 0.2028 | 0.1147 | 0.2754       | 0.2479 | 0.1147 |
| HH3_3                      | Households | 1.44  | 0.1210  | 0.2268 | 0.1656 | 0.4838       | 0.2772 | 0.1656 |
| HH4_0                      | Households | 0.78  | 0.0000  | 0.2805 | 0.0779 | 0.0000       | 0.3428 | 0.0779 |
| HH4_1                      | Households | 1.03  | 0.0259  | 0.3078 | 0.1075 | 0.1037       | 0.3761 | 0.1075 |
| HH4_2                      | Households | 1.57  | 0.0793  | 0.3753 | 0.1716 | 0.3173       | 0.4588 | 0.1716 |
| HH4_3                      | Households | 2.21  | 0.1673  | 0.3933 | 0.2511 | 0.6690       | 0.4807 | 0.2511 |
| RETAIL                     | Employees  | 1.80  | 0.2304  | 0.4158 | 0.3780 | 0.0576       | 0.3402 | 0.3780 |
| FIRES                      | Employees  | 0.70  | 0.1680  | 0.1579 | 0.1015 | 0.0420       | 0.1292 | 0.1015 |
| GOV                        | Employees  | 0.70  | 0.2352  | 0.1386 | 0.0770 | 0.0588       | 0.1134 | 0.0770 |
| EDU                        | Employees  | 1.56  | 0.6240  | 0.4118 | 0.0156 | 0.1560       | 0.3370 | 0.0156 |
| WTCU                       | Employees  | 0.59  | 0.3634  | 0.0097 | 0.0590 | 0.0909       | 0.0080 | 0.0590 |
| MANU                       | Employees  | 0.37  | 0.1243  | 0.0122 | 0.0962 | 0.0311       | 0.0100 | 0.0962 |
| RESOURCE                   | Employees  | 0.35  | 0.2240  | 0.0000 | 0.0350 | 0.0560       | 0.0000 | 0.0350 |
| HEALTH                     | Employees  | 1.06  | 0.2544  | 0.2390 | 0.1537 | 0.0636       | 0.1956 | 0.1537 |

<sup>1</sup>Household cross-classification scheme follows the format HH(a)\_(b), where (a) represents the number of people in the household and (b) represents the number of workers in the household. Employment land uses are described in Table 10

*Trip Distribution*

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

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

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

In the utility function, U is defined as travel time between two zones. The parameters a, b, and c are calibration factors which influence the weight of travel time in the gravity model. The gravity parameters used in the Sedro-Woolley model are shown in Table 12 and are based on the values used in the SCOG regional model as well as guidance from *NCHRP Report 716* (TRB 2012).

**Table 12.** Trip Distribution Model Parameters

| Trip Purpose           | Model Parameter |       |        |
|------------------------|-----------------|-------|--------|
|                        | a               | b     | c      |
| Home-Based Work (HBW)  | 100             | -0.02 | -0.125 |
| Home-Based Other (HBO) | 100             | -0.90 | -0.10  |
| Non-Home Based (NHB)   | 100             | -0.30 | -0.10  |

*Traffic Assignment*

Trips were assigned from origin to destination via the street network using an equilibrium assignment process which calculates the shortest travel time route, iteratively updating travel time to reflect demand-induced congestion. The equilibrium assignment process updated and re-assigned trips until the model reached an equilibrium condition.

*Model Calibration*

The base year model was calibrated using guidance from FHWA’s *Travel Model Validation and Reasonableness Checking Manual Second Edition* (FHWA 2010). Modeled link volumes were measured against observed link volumes based on 2015 PM peak hour intersection counts. Once the model had been calibrated to an acceptable level through network and demand refinements, Visum’s origin-destination correction procedure (TFlowFuzzy) was applied to finalize the calibration result.

*Forecasting Future Travel Demand*

An initial traffic forecast scenario assumed that the existing street network will be maintained as-is with no capacity improvements in the next 20 years. This “do nothing” scenario was used to identify intersections and segments which are forecasted to operate below minimum LOS standards by 2036. After identifying forecasted deficiencies, a list of necessary growth-related improvements was developed and applied incrementally to a “growth-related improvement” model scenario. In this way improvements were evaluat-

ed not only for their direct effect on the improved segment or intersection but also for any indirect impacts on the surrounding street network, including any potential redistribution of demand as drivers utilize new shortest path options.

### 3.24

#### FUTURE TRAFFIC CONDITIONS

The Transportation Element provides a long-range strategy for the City of Sedro-Woolley to address current and forecast transportation issues and identified needs, implement transportation goals and policies, and realize the intent of the community’s vision. The plan is based upon an analysis of the existing transportation system, forecasts of future travel demands, the anticipated availability of resources, and the desire of the City of Sedro-Woolley to create an efficient transportation system that puts a priority on community livability. The plan builds upon the City’s policies and standards and seeks to give specific shape to the City’s transportation goals and vision.

#### Roadway Standards

The Sedro-Woolley Public Works Construction Standards, with which all new development must comply, are defined in SWMC 15.40. The standards include items such as right-of-way needs, pavement width, and type and width of pedestrian

and bicycle facilities. The standards are intended to support the City’s goals in providing adequate facilities to meet the mobility and safety needs of the community. The standards are intended to assist design professionals and developers for all new and reconstructed roadways and right-of-way facilities, both public and private, within the city.

These standards have been used as one criteria for evaluation of roadway system needs. Many existing roadways are not constructed to these standards. Roadways in the UGA are typically rural in nature with few urban features.

#### Forecasted Level of Service Deficiencies

An initial 20-year forecast was performed assuming no network improvements citywide. Forecasted volumes are shown in Figure 6. The travel forecast identified segment LOS deficiencies on SR 20 from Collins Road to State Street. See Table 13.

Arterial intersection LOS deficiencies were identified at four locations throughout the City. Three of these locations are along state highways SR 9 and SR 20. See Table 14

**Table 13.** 2036 Segment Level of Service Deficiencies - Without Improvement

| Segment ID | Name  | Cross Street A | Cross Street B | Functional Classification | V/C  | LOS |
|------------|-------|----------------|----------------|---------------------------|------|-----|
| 2001       | SR 20 | Collins Rd     | Rhodes Rd      | Other Principal Arterial  | 0.95 | E   |
| 2002       | SR 20 | Rhodes Rd      | W State St     | Other Principal Arterial  | 0.92 | E   |

**Table 14.** 2036 Intersection Level of Service Deficiencies - Without Improvement

| Intersection                                 | Control Type <sup>1</sup> | 2036 Delay <sup>2</sup> (s/veh) | 2036 LOS |
|--|---------------------------|---------------------------------|----------|
| Township St (SR 9) / McGarigle/John Liner Rd | TWSC                      | 46.2                            | E        |
| SR 20 / Reed Street                          | TWSC                      | 94.6                            | F        |
| Cook Rd / Trail Rd                           | TWSC                      | 29.8                            | D        |
| SR 9 / Nelson Street                         | TWSC                      | >180                            | F        |

<sup>1</sup>TWSC = Two-Way Stop Control; AWSC = All-Way Stop Control; RAB = Roundabout; Signal = Signalized

<sup>2</sup>Average control delay for all movements. For TWSC, delay is reported for the movement with the worst (highest) delay.

Figure 6  
2036 Weekday PM Peak Hour Volumes

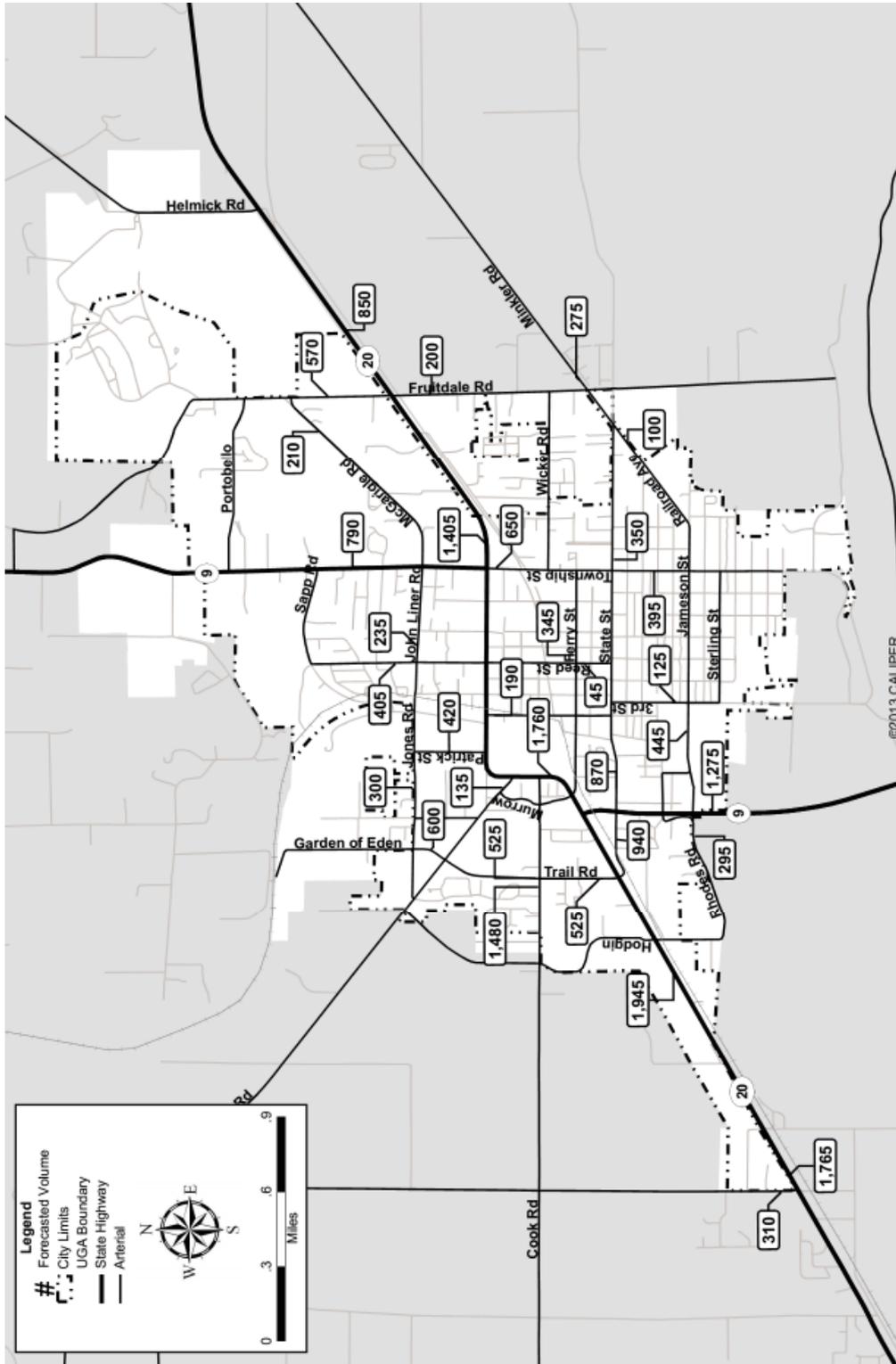


Figure 6  
2036 Weekday PM Peak Hour Volumes  
City of Sedro-Woolley



### Transportation Improvement Projects

Based on the evaluation of existing and forecasted traffic volumes, traffic operations, safety, and connectivity, a recommended list of transportation improvement projects and programs was defined as shown in Table 15. The recommended improvement projects were organized into two categories:

- State Highway Improvements (S)
- Arterial Improvements (C)

Table 15 provides a brief description of each project including the roadway or intersection project limits, and a planning level description of the scope of work that is needed. A map identification number is also provided for referencing between Table 15 and Figures 7 and 8, which show the locations of state highway improvements and arterial improvements, respectively. Projects which are necessary to maintain City and state concurrency standards are identified as eligible for transportation impact fee (TIF) calculation.

The project list identifies several arterial extension and reclassification projects (including Jameson Street, Fruitdale Road, Patrick Street, Jones Road, and Portobello Avenue) which will improve network connectivity and support economic future growth in underdeveloped areas.

These projects effectively provide roadway capacity where little or none currently exists. They may also have the secondary benefit of relieving congestion on other elements of the transportation network. The Jones Road extension, for example, will provide an alternate east-west route through the City and relieve congestion on SR 20. Similarly, the Jameson Street arterial extension project is forecasted to mitigate the intersection LOS deficiency at SR 9 and Nelson Street immediately to the north.

The citywide LOS forecast identifies a number of LOS failures which are mitigated by projects beyond the 6-year TIP horizon. These include intersection LOS failures at Township Street (SR 9) & McGarigle/John Liner Road and Cook Road & Trail Road and segment LOS deficiencies on SR 20 at the western city limits. Cost estimates for these projects have been developed based on unit costs for similar projects in the TIP and throughout the region.

The street extension and intersection improvement projects identified in the project list will result in some redistribution of travel demand. These changes are forecasted to cause the intersection of SR 20 and Central Avenue to fall below minimum concurrency LOS standard by 2036 without mitigation, e.g. right-in-right-out access during PM peak hour.

**Table 15.** Sedro-Woolley Transportation Improvement Projects and Programs

| ID                                    | Project Name                            | From/To               | Est.Cost (\$\$\$) | Description          | TIF Eligible |
|---------------------------------------|---|-----------------------|-------------------|----------------------|--------------|
| <b>2016-2021 Improvement Projects</b> |   |                       |                   |                      |              |
| C14                                   | Jameson Arterial Extension              | SR 9 / Batey Rd       | 3,020             | New arterial segment | Y            |
| C27                                   | Jameson Sidewalks                       | Tennis Crt / 3rd Ave  | 130               | Shared use path      | N            |
| S14A                                  | SR20/Cascade Trail West Extension Ph.1A | Trail Rd / SR 9 South | 575               | Shared use path      | Y            |
| S14B                                  | SR20/Cascade Trail West Extension Ph.1B | Hodgin Rd / Trail Rd  | 288               | Shared use path      | Y            |

| ID                                    | Project Name   | From/To                       | Est.Cost (\$\$\$) | Description  | TIF Eligible |
|---------------------------------------|--|-------------------------------|-------------------|--|--------------|
| C25                                   | Ferry Street Overlay   | SR 20 / Metcalf               | 330               | Grind & overlay  | N            |
| C6C                                   | S Township St Overlay  | Waldron / SR 20               | 60                | Grind & overlay  | N            |
| C22                                   | Fruitdale Rd Arterial Improvements                                     | Portobello / North City Limit | 2,320             | Reconstruct to arterial standards incl. roundabout at Northern State Rd  | Y            |
| C23                                   | Fruitdale Rd Sidewalks   | McGarigle / Portobello        | 216               | Construct sidewalks on east side of street                               | N            |
| C26                                   | Trail Rd Overlay   | SR 20 / Cook Rd               | 225               | Grind & overlay  | N            |
| C24                                   | Cook Rd Overlay  | West City Limit / Crossroads  | 300               | Grind & overlay  | N            |
| C1B                                   | Jones/John Liner RR Undercrossing                                      | Sapp Rd / Reed St             | 7,700             | New BNSF undercrossing and new arterial from E Jones Rd to John Liner Rd | Y            |
| C28                                   | Reed St Overlay  | SR 20/ John Liner Rd          | 130               | Grind & overlay  | N            |
| C1C                                   | John Liner Bike/Ped Impr.  | Reed St / SR 9                | 555               | Shared use path  | N            |
| C19                                   | Patrick St Extension   | Michael St/E Jones St         | 2,100             | New major collector w/sidewalks  | Y            |
| S8F                                   | SR 20 Stormwater System Upgrade  | Holtcamp Rd / Hodgkin Rd      | 300               | Stormwater conveyance system upgrade                                     | N            |
| C1A                                   | Jones Rd Improvements  | F&S Grade Rd / Sapp Rd        | 3,200             | Reconstruct to arterial section including sidewalk & shared use path     | Y            |
| S16                                   | SR20 & SR9 (Township) Intersection Impr.                               |                               | 1,000             | Channelization and signal improvements                                   | Y            |
| C18                                   | Portobello Arterial Extension  | Township / Cascadia           | 1,700             | New major collector connecting Fruitdale w/ SR 9                         | Y            |
| S2                                    | SR20 & Reed St Intersection Improvements                               |                               | 50                | RIRO access restriction  | Y            |
| S18                                   | SR 9 / W State Street Intersection Improvements                        |                               | 250               | Add a dedicated right turn lane to the west leg.                         | Y            |
| Subtotal 2016-2021                    |  |                               | 24,449            |  |              |
| <b>2022-2036 Improvement Projects</b> |  |                               |                   |  |              |
| C3                                    | Cook Rd / Trail Rd Intersection Improvements                           |                               | 1,000             | Intersection improvements  | Y            |
| C9A                                   | Trail Rd Arterial Extension  | Cook Rd / F&S Grade           | 4,000             | Construct new minor arterial   | Y            |
| C9B                                   | Trail Rd – Garden of Eden Rd Extension                                 | F&S Grade / Jones Rd          | 850               | Construct new minor arterial   | Y            |
| S13C                                  | SR9N Ped/Bike Safety Improvements                                      | Park Cottage / N City Limits  | 434               | Bike lane & sidewalk improvements  | Y            |
| S17                                   | Township St (SR 9) & John Liner/McGarigle Rd Intersection Improvements |                               | 1,000             | Intersection improvements  | Y            |

| <b>ID</b> | <b>Project Name</b>                                     | <b>From/To</b>                        | <b>Est.Cost (\$\$\$)</b> | <b>Description</b>   | <b>TIF Eligible</b> |
|-----------|---|---------------------------------------|--------------------------|--|---------------------|
| C1D       | John Liner Rd Arterial Improvements                     | Reed St / Township St                 | 1,600                    | Reconstruct to arterial section  | Y                   |
| S6 A-B    | SR 20 East Lane Widening & Safety Improvements          | SR 9 / Fruitdale Rd                   | 960                      | Improve and widen to 3 lanes   | Y                   |
| C7A       | Jameson St Arterial Improvements                        | 600' e/o Batey to Railroad St         | 3,600                    | Widen to arterial standards w/3 lanes, bike lane, sidewalk   | Y                   |
| C7B       | Jameson / 11 <sup>th</sup> St Intersection Improvements |                                       | 70                       | Change access to RIRO  | Y                   |
| C7C       | Railroad St / Jameson Intersection Improvements         |                                       | 750                      | Intersection improvements to include new roundabout  | Y                   |
| C7D       | Railroad St Arterial Improvements                       | Jameson St / Fruitdale                | 2,880                    | Reconstruct to arterial standards incl. 3 lanes, bike lanes, sidewalks                                   | Y                   |
| C4        | Reed St Arterial Improvements                           | Ferry St / SR20                       | 1,440                    | Reconstruct to arterial standards  | N                   |
| C2        | F&S Grade Rd Arterial Improvements                      | SR20 MP 65.16 / Jones Rd              | 2,960                    | Reconstruct to arterial standards  | Y                   |
| S14C      | SR20/Cascade Trail West Extension Ph.2A                 | Holtcamp Rd/Hodgin Rd                 | 600                      | Shared use path  | Y                   |
| S20       | SR 20 / Central Ave Intersection Improvements           |                                       | 150                      | Intersection improvements or RIRO  | Y                   |
| S14D      | SR20/Cascade Trail West Extension Ph.2B                 | Collins Rd/Holtcamp Rd                | 620                      | Shared use path  | Y                   |
| C8        | State St Sidewalks                                      | Haines / E City Limits                | 540                      | Pedestrian improvements  | N                   |
| C10       | Township / Ferry St Intersection Improvements           |                                       | 50                       | All-way stop control   | N                   |
| C13       | Rhodes Rd Arterial Improvements                         | SR 9 / SR 20                          | 3,200                    | Reconstruct to arterial standards incl. bike lanes, sidewalks  | Y                   |
| C15       | Hodgin Rd Arterial Ext.                                 | SR 20 / Cook                          | 2,225                    | New collector arterial   | Y                   |
| C20       | 4 <sup>th</sup> St Arterial Improvements                | Alexander / State                     | 1,300                    | Reconstruct to arterial standards to replace 3 <sup>rd</sup> St as N-S arterial                          | N                   |
| S9        | SR9/N Township St Arterial Improvements                 | SR 20 / City limits                   | 100                      | Planning phase – reconstruct to arterial standards incl. 3 lanes, bike lanes, sidewalk                   | Y                   |
| C6B       | S Township St Arterial Improvements                     | Dunlop / Sterling St                  | 1,040                    | Reconstruct to arterial standards  | N                   |
| S13D      | SR9 / Centennial Trail Ped/Bike Safety Improvements     | Summer Meadows Pl / North City Limits | 1,700                    | Construct bicycle lane and sidewalk improvements including pedestrian crossing bridge at Brickyard Creek | Y                   |

| ID                            | Project Name                            | From/To                        | Est.Cost (\$\$\$) | Description                       | TIF Eligible |
|-------------------------------|---|--------------------------------|-------------------|-----------------------------------|--------------|
| C29                           | Centennial Trail South                  |                                | 500               | Improve and extend trail          | N            |
| C30                           | Cascade Trail East Extension            | Metcalf / 400' e/o Township St | 100               | Shared use path                   | N            |
| C21                           | Garden of Eden Rd Arterial Improvements | F&S Grade / Jones              | 1,040             | Reconstruct to arterial standards | N            |
| <i>Subtotal 2022-2036</i>     |   |                                | <i>34,709</i>     |                                   |              |
| <b>Total Improvement Cost</b> |   |                                | <b>59,158</b>     |                                   |              |

Mitigated segment and intersection levels of service for otherwise-deficient network elements are shown in Tables 16 and 17.

Segment LOS deficiencies along SR 20 on the west side of the City are mitigated by the extension of the Cascade Trail which will remove

nonmotorized users from the street, effectively increasing capacity.

LOS failures at unsignalized intersections along SR 9, SR 20, and Cook Road are mitigated through intersection capacity improvements including roundabouts or peak hour turn restrictions.

**Table 16.** 2036 Segment Level of Service Deficiencies - With Improvement

| Segment ID | Name  | Cross Street A | Cross Street B | 2036 No Improvement |     | 2036 With Improvement |     |
|------------|-------|----------------|----------------|---------------------|-----|-----------------------|-----|
|            |       |                |                | V/C                 | LOS | V/C                   | LOS |
| 2001       | SR 20 | Collins Rd     | Rhodes Rd      | 0.95                | E   | 0.89                  | D   |
| 2002       | SR 20 | Rhodes Rd      | W State St     | 0.92                | E   | 0.83                  | D   |

**Table 17.** 2036 Intersection Level of Service Deficiencies - With Improvement

| Intersection                                 | 2036 No Improvement       |                            |     | 2036 With Improvement |               |     |
|--|---------------------------|----------------------------|-----|-----------------------|---------------|-----|
|  | Control Type <sup>1</sup> | Delay <sup>2</sup> (s/veh) | LOS | Control Type          | Delay (s/veh) | LOS |
| Township St (SR 9) / McGarigle/John Liner Rd | TWSC                      | 46.2                       | E   | RAB                   | 8.1           | A   |
| SR 20 / Central Ave                          | TWSC                      | 27.4                       | D   | TWSC w/RIRO           | 19.1          | C   |
| SR 20 / Reed Street                          | TWSC                      | 94.6                       | F   | TWSC w/ RIRO          | 19.7          | C   |
| Cook Rd / Trail Rd                           | TWSC                      | 36.9                       | E   | RAB                   | 9.4           | A   |
| SR 9 / Nelson Street                         | TWSC                      | >180                       | F   | TWSC                  | 18.1          | C   |

<sup>1</sup>TWSC = Two-Way Stop Control; AWSC = All-Way Stop Control; RAB = Roundabout; Signal = Signalized; RIRO = Right-in right-out

<sup>2</sup>Average control delay for all movements. For TWSC, delay is reported for the movement with the worst (highest) delay.

Figure 7  
State Highway Improvement Projects

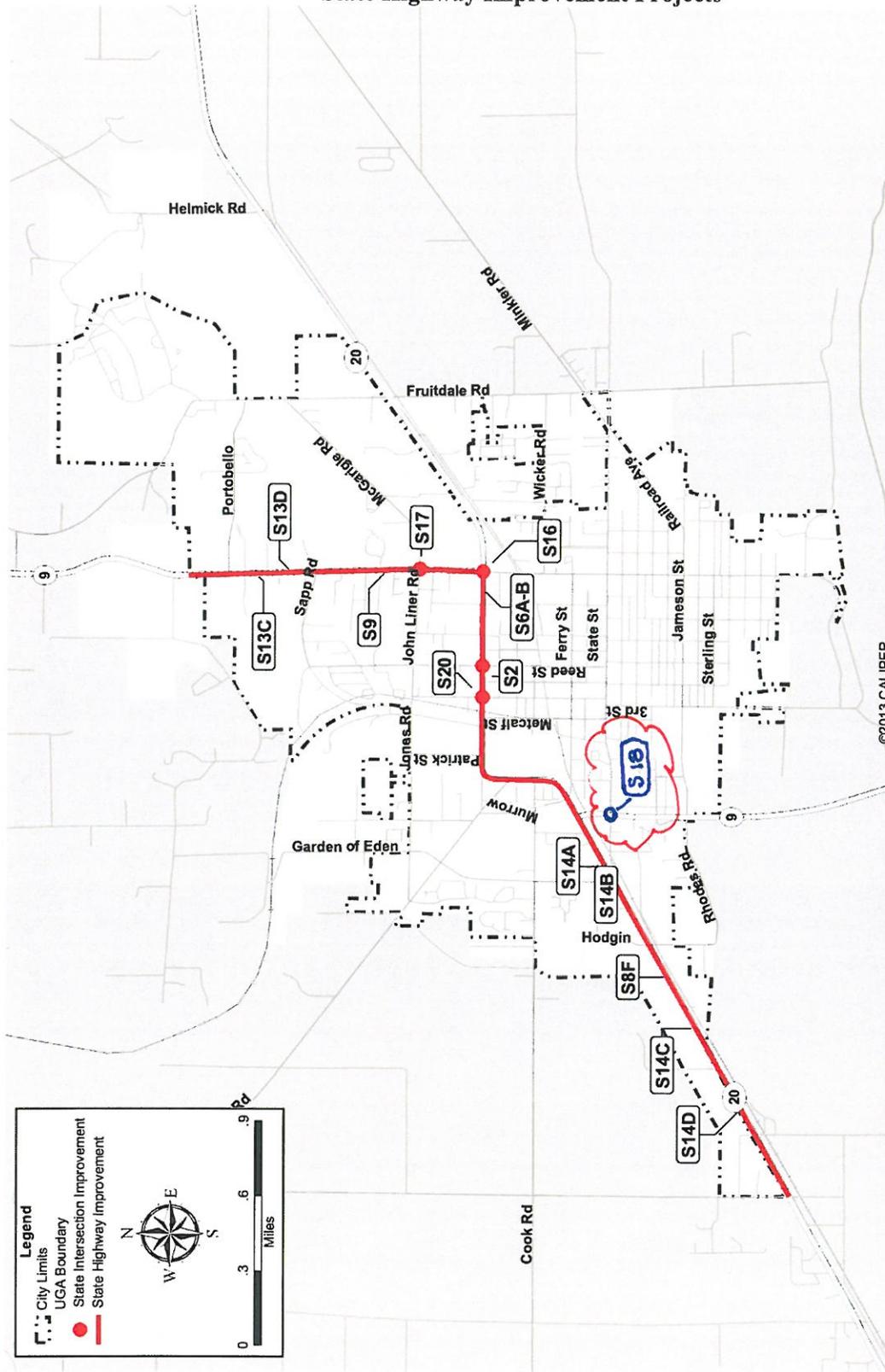
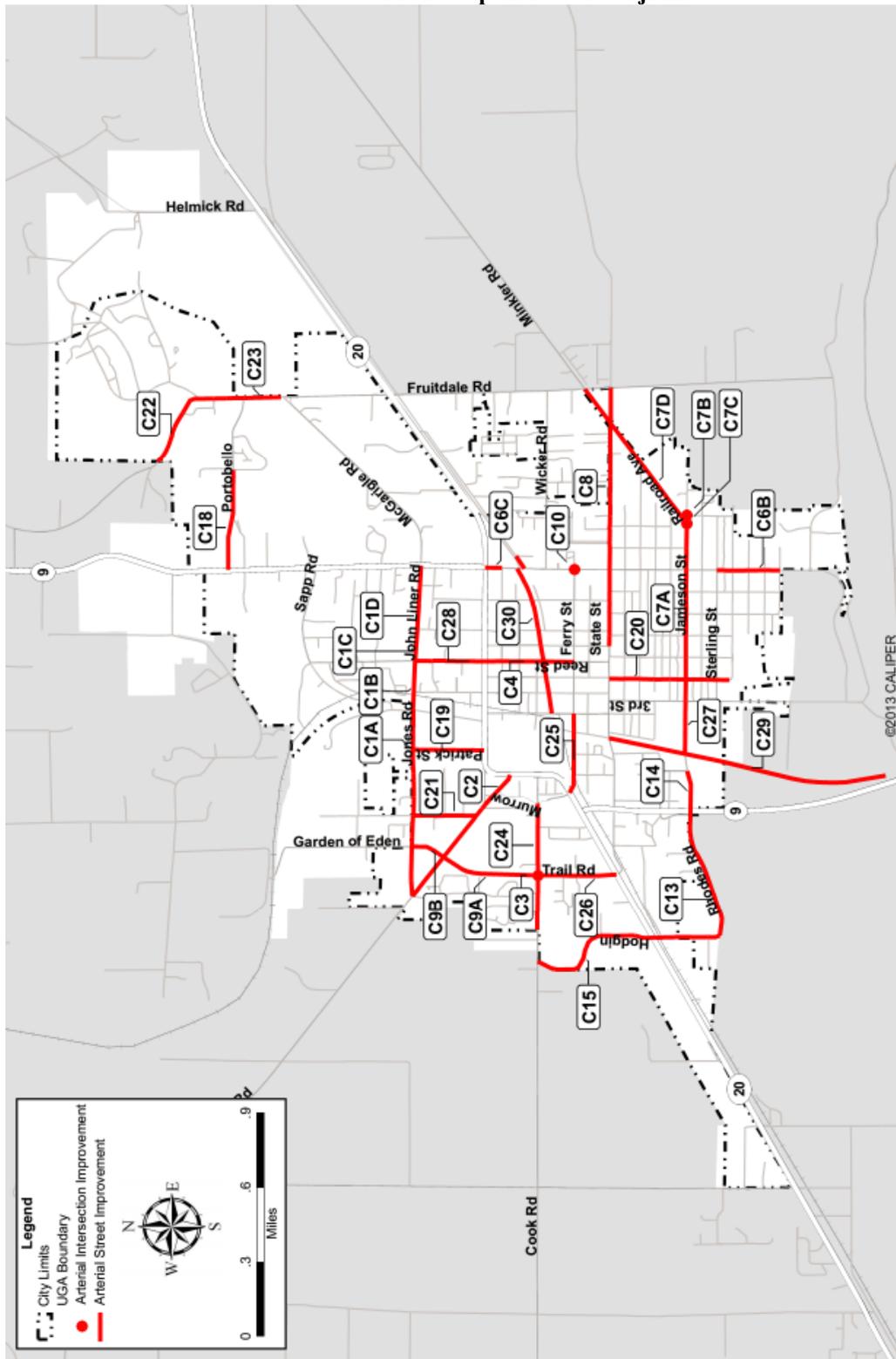


Figure 7  
State Highway Improvement Projects  
City of Sedro-Woolley



**Figure 8**  
**Arterial Improvement Projects**



**Figure 8**  
**Arterial Improvement Projects**  
 City of Sedro-Woolley



**Table 18.** Citywide Transportation Programs

| ID  | Program   | Est. Cost,<br>2016-2036<br>(\$\$\$) | Description  |
|---|---|-------------------------------------|--|
| CW1   | Sidewalk Improvement Program & ADA Transition Program | 607                                 | Includes ADA upgrades.   |
| CW2   | Street Overlay & Chip Seal Program                    | 1,701                               | Arterial street projects included on project list. Arterials eligible for TIB funding. |
| CW3   | Maintenance & Operations                              | 17,713                              | O&M costs including Labor and Administration, less Sidewalk and Overlay costs above.   |
| <b>Total Estimated Citywide Program Costs</b> |   | <b>20,021</b>                       |  |

**Citywide Transportation Programs**

In addition to specific capital improvement projects shown on Table 15 and discussed above, the plan includes Citywide Transportation Programs to address maintenance and operations, and miscellaneous improvement needs. To maximize the use and efficiency of the existing and future transportation infrastructure, the City will continue to apply a systematic maintenance and overlay program. The program will be used to address pavement condition, street signing and markings, illumination, and traffic controls.

The plan also includes programs to address spot safety and operations issues on the state highways and other city arterials. These are needed to address issues that may arise prior to implementation of specific capital projects identified in the plan. This allows the City Engineer to better address specific needs over the life of the plan.

**Public Transit Plan and Transportation Demand Management Program**

In order to provide a comprehensive transportation system, the City of Sedro-Woolley recognizes the importance of other modes of travel, such as public transit and transportation demand management (TDM) programs. In general, these programs build on regional programs with some refinements to reflect the specific needs of the City.

*Transit Plan*

Transit service in the Sedro-Woolley area is provided by Skagit Transit. The Sedro-Woolley transportation plan has been coordinated with Skagit Transit’s 2015-2020 Transit Development Plan (TDP), which provides a framework to guide Skagit Transit’s service delivery through 2020. Transit service in Sedro-Woolley is focused on the SR 20 corridor which connects Sedro-Woolley and communities to the east and west. SR 20 also connects Sedro-Woolley to the rest of the region via I-5. As the population increases in and around Sedro-Woolley, increasing commuter traffic will increase the need for alternatives to the single occupancy vehicle. Transit service to Sedro-Woolley’s three park & ride lots will become increasingly important in providing commuters convenient access to transit and ridesharing alternatives.

Investments in transit service and capital facilities will be needed to accommodate the future demands of a growing population in the Sedro-Woolley area. The City encourages Skagit Transit to consider increasing service frequency of the City’s existing transit routes as growth occurs. Increased service will make transit a more convenient and attractive alternative to driving alone. In addition, the Sedro-Woolley transportation plan recommends the following transit improvements.

- **Regional Routes** – Continue to create and enhance linkages to regional destinations. Improve connections to regional hubs, such as to the Skagit Station transportation hub in Mount Vernon as well as the Washington State Department of Transportation (WSDOT) Ferry Terminal in Anacortes. Changes to future routes should be consistent with the needs of the Sedro-Woolley community and should be based on a collaborative route planning process involving the citizens of Sedro-Woolley.
- **Transit Center** – Consider developing a Sedro-Woolley Transit Center in the downtown area. Development of a transit center would provide an opportunity to consolidate the three existing park & ride lots into one central and convenient location.
- **Carpooling and Vanpooling** – Provide incentives to encourage carpooling and vanpooling by Sedro-Woolley commuters.
- **Transit Accessibility** – Improve access to transit for all users in compliance with the Americans with Disabilities Act (ADA) by evaluating accessibility to public transportation from future developments.

The City will continue to coordinate with Skagit Transit in the development of a convenient, integrated, and efficient transit system that supports future growth in the City.

*Transportation Demand Management Strategies*

In addition to improving the transit system, reducing travel demand by supporting transportation demand management (TDM) programs is an effective component in the City’s comprehensive transportation system. TDM programs consist of measures for reducing peak hour single occupancy vehicle travel that are largely focused on major employers. The Washington Commute Trip Re-

duction Law (RCW 70.94.521) requires TDM performance targets for firms with over 100 employees. Coordination with regional agencies, such as Skagit County, Skagit Transit, and the Skagit Council of Governments (SCOG), will improve the effectiveness of the City’s TDM program in providing commuting alternatives to the citizens of Sedro-Woolley.

Sedro-Woolley will experience more urban levels of development as a result of future growth in employment and households within the city. TDM programs provide effective strategies for reducing single occupancy vehicles during the commute hours in areas that are higher in density and more urban in character. TDM programs can also provide effective alternatives for smaller developing communities such as Sedro-Woolley. Potential TDM strategies for Sedro-Woolley need to be regionally coordinated. The following strategies should be considered:

- **Encouraging car and van pools.** Employer incentives for commuters to carpool and vanpool can be in the form a financial incentive or as simple as reserved car and vanpool parking closest to the building.
- **Transit fare subsidies.** Employer subsidies for transit passes provide an incentive for those who are able to commute by transit the incentive to do so.
- **Bicycle lockers/showers at work sites.** Bicycle lockers and shower facilities at work sites provide the means for workers to commute by bicycle.
- **Telecommuting.** The use of telecommunications technology can allow some employees to work from home. This reduces the need for travel to/from a work site for some work days.

- **Flexible work schedules.** Flexible work hour schedules allow employees to adjust start/end times to accommodate carpools, vanpools, or transit options. Alternative work schedules may be used to reduce the number of days an employee commutes during peak travel periods. These programs help reduce the need for adding capacity to highways and arterials, and reduce the levels of peak hour congestion.
- **Guaranteed ride home programs.** Many commuters who have children or have unpredictable schedules rely on their cars. This employer incentive provides the option of a guaranteed ride home in case of an emergency or unexpected schedule change.

#### *Pedestrian and Bicycle Plan*

The projects presented in Table 15 include pedestrian and bicycle facilities as part of the identified roadway improvements. Pedestrian and bicycle facilities promote mobility without the aid of motorized vehicles. A well-established system encourages healthy recreational activities, reduces vehicle demand on city roadways, and enhances safety within the community. The proposed facilities are needed to supplement the existing facilities and provide a more comprehensive system of facilities to accommodate non-motorized transportation in the city and UGA.

Existing and planned nonmotorized facilities are shown in Figure 2.

#### *Pedestrian Routes*

Sidewalks, walkways, and trails are integral parts of the pedestrian system. The City desires to have sidewalks on both sides of the streets, unless special circumstances prevent it or topography or environmental impacts make it cost prohibitive. Sidewalks should especially be located along streets providing access to the CBD, schools, parks, public buildings, and transit routes.

The major pedestrian system includes providing sidewalks along all arterial streets. Much of the system will be constructed concurrent with future developments adjacent to the arterials or local streets and as part of the future roadway improvement projects. The Nonmotorized Improvement Program is identified as an annual program that will be used to construct key missing links. It will also fund repairs of existing sidewalks and other pedestrian improvements such as crosswalks, ADA ramps, or signing.

Along with the system of planned and existing sidewalks, The City will continue to develop the portions of the regional Cascade and Centennial “rail” trails which run through the City, providing nonmotorized connectivity with other cities and recreational destinations throughout the region.

#### *Bicycle Routes*

The bicycle route plan provides a system of roadways and trails to connect residential areas of the city with schools, parks, and employment centers. The bicycle routes and trails also serve recreational bike travel. The Sedro-Woolley bicycle plan is comprised of bicycle routes along arterials and local streets in the city. Bicycle routes are streets that are signed for bicycle travel and will occasionally have separate bicycle lanes or wide, paved shoulders to promote the safe and efficient movement of bicyclists. The City has identified that all arterials shown as bicycle routes should accommodate use by bicycles, including possible striped bicycle lanes. However, it is recognized that many of the bicycle routes in the city will require bicyclists to share the roadway with motorized traffic.

The major improvements for bicycle travel will be the completion of the trail projects discussed as part of the pedestrian system plan. Other significant improvements will be part of the arterial roadway projects. The Trail Road extension will provide a bicycle connection between SR 20 and F&S Grade Road. This new route also provides a

connection to the regional Bayview to Sedro-Woolley bicycle route that follows an old railroad right-of-way along F&S Grade Road. Trail Road will also link up with bicycle improvements along Jones Road and John Liner Road. These roadway projects will provide important linkages for bicyclists heading to/from the northern residential areas of the city and UGA. Together with the system of new trails, the existing and proposed bicycle routes will help complete a bicycle system throughout the city, with important connections to the regional system.

(Ord. 1554-06 § 3 (Exh. A)(part))

## TRANSPORTATION FINANCING PLAN

### Financing Program

The State of Washington's Growth Management Act (GMA) requires that a jurisdiction's transportation plan contain a funding analysis of the transportation projects it recommends. The analysis should cover funding needs, funding resources, and it should include a multi-year financing plan. The purpose of this requirement is to ensure that each jurisdiction's transportation plan is affordable and achievable. If a funding analysis reveals that a plan is not affordable or achievable, the plan must discuss how additional funds will be raised, or how land use assumptions will be reassessed. Alternatively, the City can adjust its level of service (LOS) standards.

The transportation financing program becomes a subset of the City's Capital Facilities Plan (CFP) Element. The GMA requires the CFP Element to include at least a six-year plan that finances capital facilities and identifies the sources of public money for the projects.

A comprehensive list of transportation improvement projects was developed based on the citywide travel demand forecast and Sedro-Woolley's LOS standards. Planning level cost estimates were prepared for each project and program. Analysis of the City's capability to fund the projects was also conducted. This included review of existing and projected revenues and potential grants or other agency funding. In addition, the Plan provides a strategy for adjusting the funding program over time if revenues fall short of expectations.

### Project Cost Summary

Table 15 summarizes Sedro-Woolley's planned arterial and state highway improvements through 2036. Planning level cost estimates are included for each project. The cost estimates were derived based upon

average unit costs calculated by the City of Sedro-Woolley and similar projects in the region. The project costs assume that right-of-way will be needed for some projects to match the City street design standards. Costs are expressed in constant 2016 dollars. Projects are listed in order of priority for the short-term (2016-2021) and long-range (2022-2036) planning horizons. Projects which are necessary to maintain City and state concurrency standards are identified as eligible for transportation impact fee (TIF) funding.

Approximately **\$59.2 million** (in 2016 dollars) will be needed to fully fund the City's transportation improvement project needs through 2036. Over 80 percent of the costs will be needed for capital improvements to upgrade the City arterial system. An average of **\$3.0 million** per year (in 2016 dollars) would be required to fully fund the Plan by 2036.

The project is the phased reconstruction and extension of Jones Road and John Liner Road, which includes a new railroad undercrossing. Total cost for this four-phase project is estimated at \$13.1 million, which represents 26 percent of forecasted 20-year arterial improvement costs.

Table 18 summarizes ongoing citywide programs which provide funding for system maintenance, operations, and nonmotorized/ADA improvements. These programs rely on local operating funds and their costs are excluded from the transportation capital improvement costs described above. This plan estimates a total 20-year cost of \$20.0 million for the identified citywide transportation programs.

Figure 9 shows transportation projects which are eligible for inclusion in the City's Transportation Impact Fee (TIF) program. These improvements have been identified, using the citywide planning model, as necessary to support growth, both in the City and by regionally generated traffic.

Figure 9  
 Transportation Impact Fee Eligible Improvement Projects

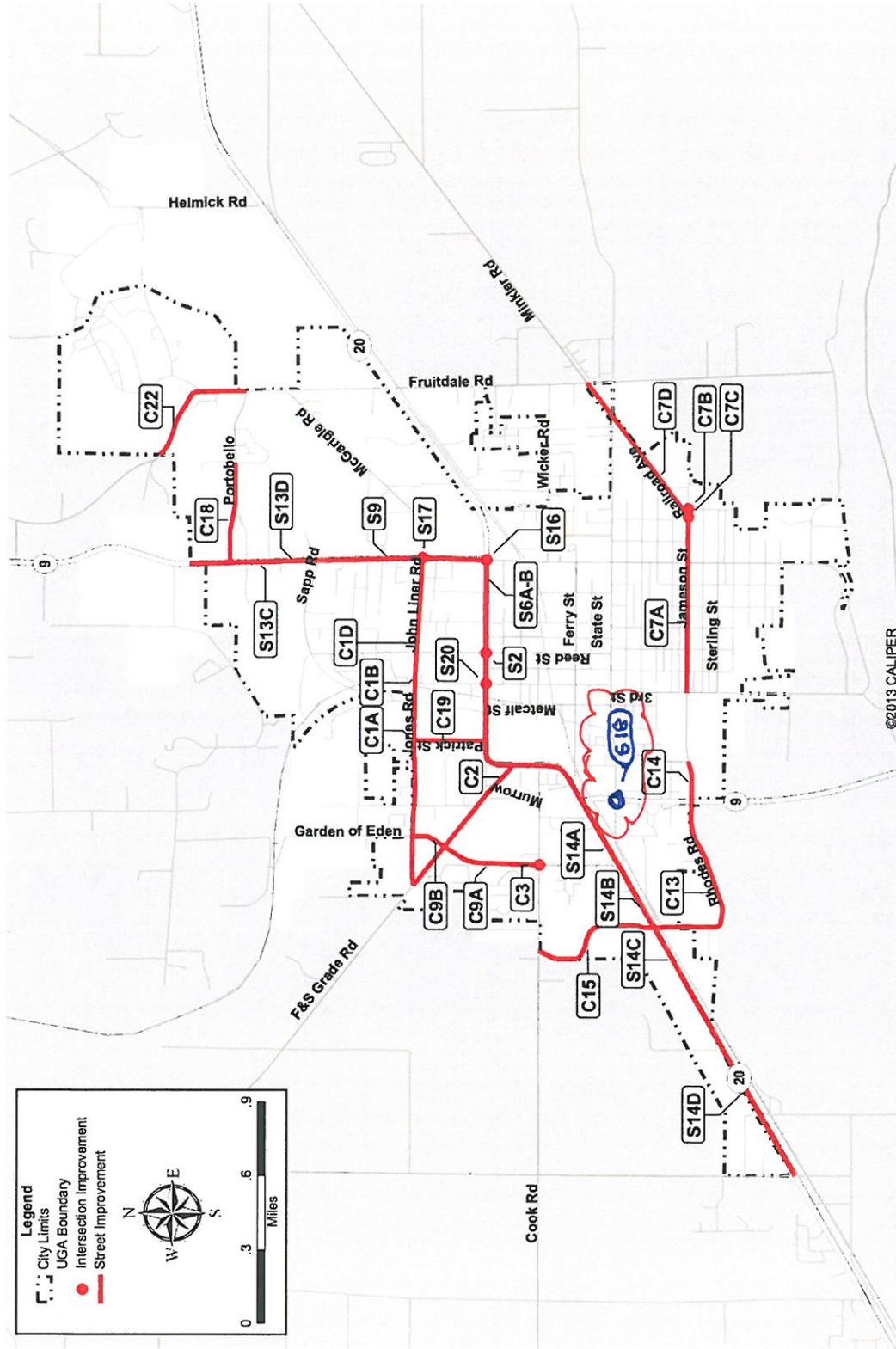


Figure 9  
 Impact Fee Eligible Projects  
 City of Sedro-Woolley



## Revenue Sources

### *Federal Revenue Sources*

The Fixing America's Surface Transportation (FAST) Act (P.L. 114-04) was signed into law by President Obama on December 4, 2015, and covers the five-year period from October 1, 2015 through September 30, 2020. The FAST Act supersedes the previous transportation authorization bill, MAP-21. The FAST Act funds surface transportation programs at \$305 billion for federal fiscal years (FFY) 2016 through 2020.

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

The state can expect to receive almost \$3.6 billion in Federal Highway Administration funds via the FAST Act, starting with \$687 million in 2016 and growing to \$750 million by 2020.

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

### *Other Existing Transportation Revenue Services*

The City utilizes a number of fees and tax revenues to construct and maintain transportation facilities. Summaries of these sources are shown in Tables 19, 20, and 21.

Funding options include the use of existing revenue sources such as motor vehicle fuel taxes, real estate excise taxes, and other City revenues, grant programs, and developer contributions (through

frontage improvements, environmental mitigation, and transportation impact fees).

### *Nonmotorized Revenue Sources*

#### Safe Routes to School

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

By partnering with Sedro-Woolley School District, the City can identify neighborhoods and streets most in need of non-motorized infrastructure and develop stronger grant applications.

#### Other Nonmotorized Funding Sources

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

- Washington State Recreation and Conservation Office:  
<http://www.rco.wa.gov/grants/index.shtml>
- Puget Sound Regional Council Transportation Improvement Program:  
<http://www.psrc.org/transportation/tip/amendments/applications/>
- United States Department of Transportation TIGER Discretionary Grants:  
<http://www.transportation.gov/tiger>
- Federal Transportation Administration Bicycle Funding Opportunities:  
[http://www.fta.dot.gov/13747\\_14400.html](http://www.fta.dot.gov/13747_14400.html)
- Federal Highway Administration Transportation Alternatives Program:  
[http://www.fhwa.dot.gov/environment/transportation\\_alternatives/](http://www.fhwa.dot.gov/environment/transportation_alternatives/)
- Federal Highway Administration Recreational Trails Program:  
[http://www.fhwa.dot.gov/environment/recreational\\_trails/](http://www.fhwa.dot.gov/environment/recreational_trails/)

**Table 19.** Possible Transportation Revenue Sources

|  |   |
|--|---|
| <p><b>Street &amp; Arterial Street Funds</b></p>       | <p>The Street Fund (Account 103) receives revenues from state distributions of motor vehicle fuel taxes, allocated based on the number of residents within corporate limits. These state distributions are not sufficient to maintain city streets. The City’s general fund provides subsidies in order for the street fund to operate. The arterial street fund (Account 104) receives revenues from GMA Transportation Impact Fees, grants, and developer agreements.</p>           |
| <p><b>General Fund</b></p>                             | <p>The City has supplemented the Street Fund with General Fund money in previous years. General Fund revenue has many sources, including motor vehicle fuel taxes, property taxes, business taxes, and local retail sales and use tax. The majority of the existing tax revenue sources will be used for maintenance, or to provide the matching funds for grants or to complete a portion of the roadway widening projects not covered by other agencies or traffic impact fees.</p> |
| <p><b>Transportation Impact Fee Program</b></p>        | <p>In 2013 the City updated its transportation impact fee, a financing tool which allows the collection of revenue to offset the traffic impacts of new development. The impact fee rate is based the net new PM peak hour trips generated by a development and varies by district from \$587 to \$3,635 per PM peak hour vehicle trip. The Impact Fee program will be updated on completion of the 2016 Transportation Plan update.</p>  |
| <p><b>Transportation Benefit District (TBD)</b></p>    | <p>The City implemented a TBD in 2014. The TBD is funded by a \$20 per vehicle tab fee, generating an estimated \$170,000 per year.</p>   |
| <p><b>Transportation Improvement Account (TIA)</b></p> | <p>The Transportation Improvement Board (TIB) is a Washington State Department of Transportation (WSDOT) organization used to distribute funds for road projects. The TIA funds are from a 1.3-cent motor vehicle fuel tax and are used for achieving a balanced transportation system. Multi-agency projects are a requirement.</p>  |
| <p><b>Urban Arterial Trust Account (UATA)</b></p>      | <p>The TIB administers this program which is funded by a 1.74-cent motor vehicle fuel tax. The program funds projects which reduce congestion and improve safety, geometrics and structural concerns.</p>   |
| <p><b>FAST Act</b></p>                                 | <p>Fixing America’s Surface Transportation (FAST) Act funds are federal funds to allow road improvements. These are programmed through metropolitan planning organizations including Skagit Council of Governments. These funds are managed by WSDOT.</p>   |
| <p><b>Grant Funding</b></p>                            | <p>Numerous infrastructure and transportation grants from local, State, Federal, and private sources may be identified to assist with the funding of the Sedro-Woolley transportation improvements.</p>   |

**Revenue Forecast**

A description of available transportation capital improvement funding sources and projected average yearly revenue is listed in Table 20. Approximately 84 percent of funding for the City’s Transportation Capital Facilities Plan will come from Intergovernmental Revenue. Transportation Impact Fees, Transportation Benefit District, developer mitigation fees and other miscellaneous revenue are expected to fund approximately 16 percent. The City may consider implementing new revenue sources if deemed appropriate and necessary in the future. This strategy ensures that the City can accomplish the transportation plan and use the available funding options efficiently.

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

Local funding sources including the City share of the motor vehicle fuel tax (MVFT), property taxes, sales and use taxes, real estate excise taxes, and other general fund contributions, as shown in Table 21, are anticipated to be used to sustain citywide safety, maintenance, operations, and pedestrian/ADA improvement programs.

**Table 20.** Transportation Improvement Revenue Forecast 2016 to 2036

| Funding Source                        | Description   | 2016-2036 Revenue Forecast |                          |             |
|---------------------------------------|---|----------------------------|--------------------------|-------------|
|                                       |   | Estimated Annual Revenue   | Total Forecasted Revenue | %           |
| Transportation Impact Fees            | Per SWMC 15.060, estimated \$50,000/year  | \$50,000                   | \$1,000,000              | 1.7%        |
| Transportation Benefit District       | Funds generated from a \$20/vehicle car tab fee, estimated \$170,000/year.                        | \$170,000                  | \$3,400,000              | 5.7%        |
| Other Developer Mitigation            | Including SEPA mitigation and development agreements  | \$250,600                  | \$5,012,000              | 8.5%        |
| Intergovernmental Revenue/Grants      | Includes federal and state grants as well as cost sharing agreements with WSDOT and Skagit County | \$2,487,300                | \$49,746,000             | 84.1%       |
| Other - New debt, new funding sources | Bonds, Low Interest Loans   | \$0                        | \$0                      | 0%          |
| <b>Total Revenue</b>                  |   | <b>\$2,958,000</b>         | <b>\$59,158,000</b>      | <b>100%</b> |

**Table 21.** Revenue for Citywide Transportation Programs

| <b>Funding Source</b>            | <b>2015 Budget</b> | <b>Estimated Revenue<sup>1</sup>, 2016-2036</b> |
|----------------------------------|--------------------|---|
| Real and Personal Property Taxes | \$214,000          | \$5,200,000                                     |
| Sales & Use Tax                  | \$165,000          | \$4,009,000                                     |
| Motor Vehicle Fuel Taxes (MVFT)  | \$293,000          | \$7,119,000                                     |
| Real Estate Excise Tax           | \$86,000           | \$2,090,000                                     |
| <b>Total Revenue</b>             | <b>\$758,000</b>   | <b>\$18,418,000</b>                             |

<sup>1</sup>Twenty-year estimate assumes 2% growth per year

**Summary of Financing Strategy**

Based on the revenues and costs listed above, the proposed arterial transportation improvements are affordable within the City’s expected transportation revenues. Table 22 summarizes forecasted costs and revenues for transportation improvement projects identified in this study.

The proposed Transportation Capital Facilities Plan, including both short and long range improvement lists, is estimated to cost **\$59,158,000**. Proposed improvements and expected revenues are therefore balanced as shown in Table 22.

The proposed financial strategy relies upon an aggressive assumption for state and federal grants and an assumption that additional city debt will not be necessary to balance the plan financially. If state and federal grant availability decrease over the planning period, the City may need to seek other funding sources including new debt sources.

Local revenues for citywide transportation programs are projected to fall short of expected expenses. This will be addressed in the City budget process on an annual basis.

*Reassessment Strategy*

The financing strategy identifies a balance between revenues and expenditures over the life of the Transportation Element. However, the City is committed to reassessing their transportation needs and funding sources each year as part of their annual Six-Year Transportation Improvement Program (TIP). This allows the City to match the financing program with the shorter-term improvement projects and funding. The Transportation Element also includes goals and policies to periodically review land use growth, adopted level of service standards, and funding sources to ensure they support one another and meet concurrency requirements.

**Table 22. Financing Strategy Summary**

| Revenue/Cost Category                          | Total<br>(2016-2036) | Percent       |
|--|----------------------|---------------|
| <b>Estimated Revenues (2016-2036)</b>          |                      |               |
| Transportation Impact Fees                     | \$1,000,000          | 1.7%          |
| Transportation Benefit District                | \$3,400,000          | 5.7%          |
| Other Developer Mitigation                     | \$5,012,000          | 8.5%          |
| Grants/Intergovernmental Funding               | \$49,746,000         | 84.1%         |
| New Debt Sources                               | \$0                  | 0.0%          |
| <b>Total Revenue</b>                           | <b>\$59,158,000</b>  | <b>100.0%</b> |
| <b>Estimated Improvement Costs (2016-2036)</b> |                      |               |
| State Highway Improvements                     | \$50,781,000         | 85.8%         |
| Arterial Improvements                          | \$8,377,000          | 14.2%         |
| <b>Total Costs</b>                             | <b>\$59,158,000</b>  | <b>100.0%</b> |

In order to successfully implement the City’s Transportation Plan, the City will apply the following principles in its funding program:

- As part of the development of the annual Six-Year Transportation Improvement Program, the City will balance improvement costs with available revenues;
- Review project design standards to determine whether costs could be reduced through reasonable changes in scope or deviations from design standards;
- Work with SCOG and Skagit County to develop multi-agency grant applications for projects that serve growth in the City and its UGA;
- Review transportation impact fee revenues each year to determine whether the impact fees should be increased to account for project cost increases;
- If the actions above are not sufficient, consider changes in the level of service standards and/or possibly limit the rate of growth in the City or UGA.

*Project Priorities and Timing*

The City of Sedro-Woolley will use the annual update of the Six-Year Transportation Improvement Program (TIP) to re-evaluate priorities and timing of projects. Throughout the planning period, projects will be completed and priorities will be revised. This will be accomplished by annually

reviewing traffic growth and the location and intensity of land use growth in the City and the UGA. The City will then be able to direct funding to areas that are most impacted by growth or to arterials that may fall below the City’s level of service (LOS) standards. The development of the TIP will be an ongoing process over the life of the Plan and will be reviewed and amended annually.

*Concurrency Management / Development Review*

Concurrency refers to the ongoing process of coordinating infrastructure needs with community development. This concept was formalized in the GMA to ensure that adequate public facilities are provided in concert with population and employment growth. For transportation facilities, the GMA requirement is fulfilled if the City’s LOS standards are met concurrent with the additional travel demand generated by each succeeding development action. GMA defines concurrency as having projects or strategies in place within six years of the development impact.

Concurrency determinations for the roadway network are closely linked with the City’s development review process. As required by GMA, the City has adopted a Concurrency Management program for transportation. (SWMC 15.56)

The City also reviews new developments under SEPA. As part of the SEPA review potential impacts to the transportation network are identified and mitigation may be required. The City also has adopted development regulations and street standards that are applied to developments.

(Ord. 1554-06 § 3 (Exh. A)(part))

### INTERGOVERNMENTAL COORDINATION

Implementation actions for transportation projects involve several agencies, each with different responsibilities and controls. A major focus of the GMA is to establish coordination among the responsible agencies and to increase the effectiveness of intergovernmental planning. This transportation element took into account planned improvements and policies of various state, regional, and local agencies, including Washington State Department of Transportation (WSDOT), Skagit Council of Governments (SCOG), Skagit County, Skagit Transit, and the City of Mount Vernon. Overall, the Sedro-Woolley transportation element is consistent and supportive of these other transportation plans and policies.

The following summarizes the consistency of the Sedro-Woolley transportation plan with the state, regional, and county plans.

#### **Washington State Department of Transportation (WSDOT)**

As required by GMA, the Sedro-Woolley transportation plan fully addresses the state highway system serving the City.

The State has adopted level of service (LOS) standards for Highways of Statewide Significance (HSS), establishing LOS D as the standard for HSS facilities in urban areas and LOS C for HSS facilities in rural areas. The City's standard of LOS D for SR 20 within the City is consistent with the State standard for HSS facilities in urban areas. The City's standard of LOS C for SR 9 within the city is higher than the State's and regions LOS D standard for SR 9.

The Transportation Element describes an update to the City's Street Functional Classification System which is consistent with WSDOT policy.

#### **Skagit Council of Governments (SCOG)**

The projects, programs, and policies of the Sedro-Woolley transportation plan support the goals and policies of the Skagit 2040 Regional Transportation Plan (Skagit 2040). The Sedro-Woolley plan was developed with opportunities for public input and was coordinated with other agencies. The plan also identifies improvements and policies to improve travel safety for all modes and connectivity of travel modes.

The Sedro-Woolley transportation plan coordinates transportation and land use planning and identifies programs and policies to enhance use of other transportation modes, as identified in the regional plan.

The Sedro-Woolley transportation plan was prepared using a travel forecasting model developed from and coordinated with the SCOG regional model. Outside of the city limits and its UGA, the city model is based on land use and transportation system assumptions from the regional model. Within the city, the Sedro-Woolley model is based on updated land use data (consistent with the Sedro-Woolley Land Use element) and a refined transportation analysis zone and network structure. This data are available to SCOG as it prepares its regional travel forecasts and transportation plans.

The City anticipates a certification review of this Transportation Element by SCOG to ensure its conformity with the Skagit 2040 plan.

#### **Skagit County**

Skagit County transportation and capital improvement plans were reviewed as part of the Sedro-Woolley transportation element update.

The City will continue to coordinate with Skagit County to address the needs of travel across jurisdiction limits, including developing joint regulations for developments within the unincorporated

UGA to ensure that the future transportation system can adequately support the growth projections. Application of street standards, impact fees and other development regulations are being addressed.

Roadway improvement projects which were included in the Skagit County's Six-Year Transportation Improvement Plan (2016-2021) were reviewed and incorporated, as appropriate, into the City's plan. The most significant improvement project in the County's TIP involving the City is the Fruitdale/Kalloch Road project, which will widen and reconstruct Fruitdale Road and Kalloch Road.

The City plan also supports and incorporates connections to the regional trail system. These include developing trails along the railroad rights-of-way.

#### **Skagit Transit**

The Sedro-Woolley transportation plan acknowledges the need for coordination between the City and Skagit Transit to identify transit service improvements and strategies for serving growth in Sedro-Woolley, considering land uses, densities, cost of service, and revenues. The City has also identified policies to provide adequate streets and non-motorized facilities to support transit service.

**APPENDIX A**  
**PLACEHOLDER**