Regional Transportation Plan for Klickitat County, Washington

May 2014

RTC

DRAFT

Southwest Washington Regional Transportation Council

Regional Transportation Plan for Klickitat County, Washington

Clark County
Skamania County
Klickitat County
City of Vancouver
City of Camas
City of Washougal
City of Battle Ground
City of Ridgefield
City of La Center
Town of Yacolt
City of Stevenson
City of North Bonneville
City of White Salmon
City of Bingen
City of Goldendale
C-TRAN
Washington DOT
Port of Vancouver
Port of Camas-Washougal
Port of Ridgefield
Port of Skamania County
Port of Klickitat
Metro
Oregon DOT
14th Legislative District
17th Legislative District
18th Legislative District
20th Legislative District
49th Legislative District

RTC

Klickitat County, Washington

Published: May 2014

Southwest Washington Regional Transportation Council

Street Address
1300 Franklin Street
Vancouver, WA 98660

Mailing Address
P.O. Box 1366
Vancouver, WA 98666-1366

Phone: 360-397-6067

Fax: 360-397-6132

http://www.rtc.wa.gov

Preparation of this Report was funded by grants from the Washington State Department of Transportation (WSDOT) and local funds from RTC member jurisdictions.

Title VI Compliance

The Southwest Washington Regional Transportation Council (RTC) assures that no person shall, on the grounds of race, color, national origin, or sex as provided by Title VI of the Civil Rights Act of 1964 and the Civil Rights Restoration Act of 1987 (P.L. 100.259), be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity. RTC further assures that every effort will be made to ensure nondiscrimination in all of its programs and activities, whether or not those programs and activities are federally funded.

Americans with Disabilities Act (ADA) Information

Materials can be provided in alternative formats by contacting the Southwest Washington Regional Transportation Council (RTC) at 360-397-6067 or info@rtc.wa.gov.

Table of Contents

Chapter 1: Introduction: RTP Vision, Purpose and Goals 1
Vision 1
Purpose 1
Goals 2
Management Plan for the Columbia River National Scenic Area 3
SR-14 Corridor Management Plan 3
Transportation Strategy 3
Guidelines and Principles 3
Scope 4
Transportation Issues Addressed in RTP 5
Statutory Requirements 6
State 6
Intergovernmental Coordination 10
Klickitat County Transportation Policy Committee 10
Bi-State Coordination 11
Klickitat County Regional Transportation Plan: Work Plan 11
Outline of RTP Chapters 11

Chapter 2: Land Use, Growth and Transportation 13
Land Use and Transportation 13
Growth and Development 14
Growth in Klickitat County 15
General Land Uses in Klickitat County 16
Planned Land Use 17
Population and Employment Forecast 17
Demographic and Travel Trends 18

Chapter 3: Identification of Regional Transportation Needs 21
Current Functional Classification of the Regional Roadway System 21
Rural Principal Arterials 22
Rural Minor Arterials 22
Rural Major Collector Roads 22
Rural Minor Collector Roads 23
Rural Local Roads 23
Designation of the RTP Regional Transportation System 23
All state transportation facilities and services 23
All local principal arterials 24
All other transportation facilities and services considered necessary to complete the regional transportation plan. 24
Rural Major Collectors 24

Port Facilities 25
Airport Facilities 25
Bridges 25
Columbia River 26
Public Transportation 26
Rail Facilities 27
Enhancements 28
Growth in Traffic Volumes 28
Future Travel Demand 28
Levels of Service 30
Level of Service Standards 30
Capacity Analysis 31
Safety Analysis 31
Washington State Department Unstable Slopes 33
Tunnels 33
Trucks 33
Preservation and Maintenance Need 34
Enhancement Need 35
Economic Development Need 35

Chapter 4: Financial Plan 37
Overview 37
Challenges and Accomplishments 37
Revenue Sources 38
Federal Funding 38
State Funding 39
Local Funding 41
Transit Revenues 41
Revenue Assumptions 42
Cost Assumptions 43
Balancing Revenue and Cost 43

Chapter 5: System Improvement and Strategy Plan 45
Overview 45
Maintenance and Preservation 45
Improvements 46
Miscellaneous Strategies and Solutions 46
Bridge Deficiencies 46
Safety Deficiencies 47
Economic Development and Freight Transportation Deficiencies 47
Non-Motorized Transportation Deficiencies 47
Transit Deficiencies 48
Illustrative 48

Conclusion 48

Chapter 6: Performance Monitoring 51

Overview 51
Safety 51
Capacity Analysis 51
Preservation and Maintenance....52
Special Studies 52

Chapter 7: Plan Development and Implementation.... 53

Public Involvement in Regional Transportation Planning Process....53
RTP Implementation 53
RTP Update Process 54

Glossary 55

List of Figures

Figure 1-1: Map of Klickitat County Location....5
Figure 1-2: Agency Structure 10
Figure 1-3: RTP Process....12
Figure 2-1: Land Use/Transportation Cycle 13
Figure 2-2: Population Housing and Employment Growth 15
Figure 2-3: Population, Housing, and Employment Forecast 18
Figure 4-1: Transportation Revenue and Cost, 2014-2035....44

List of Tables

Table 2-1: Klickitat Work Flow by County....19
Table 2-2: Work Travel Mode 20
Table 3-1: Klickitat County Public Railroad Crossings 28
Table 3-2: Traffic Volumes 2004 to 2013....28
Table 3-3: Deficient Capacity Segment 31
Table 3-4: Klickitat County Fatality and Serious Injury Factors, 2010-2012 32
Table 3-5: Priority Unstable Slope Project along SR 14 33
Table 4-1: Projected Revenue....43
Table 4-2: Projected Cost....43
Table 5-1: Klickitat County Transportation Improvement Projects 49
Table 5-2: Illustrative Needs 49

Klickitat County Transportation Policy Committee

Policy/Mission Statement

The Committee supports the improvement of safety and efficiency of the regional transportation system in Klickitat County.

The Committee supports transportation planning and project development that addresses the improvement of public safety along the regional transportation system.

The Committee supports the identification of "corridor segments" throughout the Klickitat County region, which should be the focus of transportation improvement, enhancement, multimodal, and mobility funding.

The Committee supports the coordination between agencies in identifying and addressing, when practical, the needs of a multimodal transportation system.

Klickitat County Member Jurisdictions

Klickitat County
City of Bingen
City of Goldendale
City of White Salmon
Port of Klickitat
Washington State Department of Transportation

Klickitat County Transportation Policy Committee Members

Jim Sizemore	Klickitat County Commissioner
Better Barnes	City of Bingen, Mayor
Larry Bellamy	Goldendale City Administrator
David Poucher	City of White Salmon, Mayor
Marc Thornsbury	Port of Klickitat, Director
Don Wagner	WSDOT, SW Region Administrator

Staff (Member Agency and Coordinating Agencies)

Ken Burgstahler	WSDOT, SW Region
Mike Clark	WSDOT, SW Region
Chris Tams	WSDOT, SW Region
Gordon Kelsey	Klickitat County, Public Works
Sharon Carter	Klickitat County, Senior Services
Debi Budnick	Klickitat County, Health Department
Jan Brending	City of Bingen
Karl Enyeart	City of Goldendale
Matt Ransom	Regional Transportation Council
Dale Robins	Regional Transportation Council

Chapter 1: Introduction: RTP Vision, Purpose and Goals

The Regional Transportation Plan (RTP) for Klickitat County is the region's principal transportation planning document. It represents a regional transportation plan for Klickitat County area developed through a coordinated process between local jurisdictions in order to develop regional solutions to transportation needs. The first RTP for Klickitat County was adopted in April 1995. This update to the Klickitat County RTP will use 2035 as the horizon year and incorporate the latest available data. The RTP is intended to be a plan to meet the transportation needs over the next 20 years by implementing a regional transportation planning process. This introductory chapter presents the vision, purpose, goals, scope, statutory requirements, and decision-making process involved in development of the RTP for Klickitat County.

Vision

The RTP is a collective effort to address the development of a safe regional transportation system that will support planned economic growth and maintain the region's rural quality of life.

Purpose

The RTP identifies future regional transportation system needs and outlines transportation plans and improvements necessary to maintain adequate mobility and safety within and throughout the Klickitat County region. The region must plan for a future regional transportation system that adequately serves the population, employment, and visitor growth projected for Klickitat County. The RTP's goals,

objectives, and policies will guide the various jurisdictions and agencies involved in planning and programming of transportation projects throughout Klickitat County.

Goals

The following goals were used to guide the development of the Klickitat County Regional Transportation Plan:

- Preservation: Maintain and preserve the existing regional transportation system.
- Safety and Security: Provide a safe and secure transportation system.
- Economy: Provide a transportation system that fosters economic development.
- Finance: Provide for the development of a transportation system that efficiently uses financial resources.
- Accessibility and Mobility: Provide an integrated and coordinated transportation system that includes a variety of mobility options.
- Environment: Provide a transportation system that is sensitive to the quality of the environment and natural resources.
- Vision and Values: Provide for viable and livable local communities.
- Management and Operations: Maximize efficient management and operation of the transportation system.

There is consistency between the general RTP goals and the policies established by local jurisdictions and agencies as part of their local comprehensive planning process. The Regional Transportation Plan (RTP) for Klickitat County, where applicable, will also consider the goals established in the *Management Plan for the Columbia River Gorge National Scenic Area, SR-14 Corridor Management Plan*, and other long-range plans.

Management Plan for the Columbia River National Scenic Area

- Provide transportation facilities that meet the needs of the traveling public and implement this plan's recreation goals and objectives while protecting scenic, natural, cultural, and recreation resources.
- Promote alternative modes of transportation to improve safety and enjoyment of the traveling public and to help alleviate future traffic demand.
- Ensure that a replacement Columbia River Bridge between the Hood River and Bingen/White Salmon Urban Areas provides for regional transportation and public safety needs while being consistent with both purposes of the Scenic Area Act.

SR-14 Corridor Management Plan

- Improve safety along SR-14 with respect for the protection and enhancement of resources.
- Enhance the economy of communities along the highway.
- Design Highway 14 as a national attraction by protecting and enhancing scenic, natural, cultural, and recreation resources within the highway corridor, with respect to local residences, and business.
- Manage the SR-14 Corridor in the most efficient and effective manner possible.

Transportation Strategy

The Regional Transportation Plan for Klickitat County is the region's transportation strategy.

Guidelines and Principles

In 1994, the State Legislature passed Substitute House Bill 1928. This legislation requires RTPO's to establish Guidelines and Principles that provide direction for the development of the transportation elements of comprehensive plans. The following represent these guidelines and principles:

- Identify adequate areas for future commercial, retail, and industrial economic growth. Coordinate identified economic growth areas with an efficient transportation system.
- Identify adequate land for residential development and density within urban areas that is coordinated with the transportation system.
- Provide a transportation system that supports the economic vitality of the region, and provides for long-term freight mobility needs and port access.
- Provide a range of non-motorized opportunities within the regional transportation system.
- Work toward the development of a core system of all-weather roads for freight travel.
- Encourage reducing the reliance on the single occupant vehicle by providing other modes of transportation.
- Encourage present and future railroad right of way to be utilized for transportation purposes.
- Enhance intermodal freight connections.

Scope

The RTP for Klickitat County takes the year 2035 as its horizon year. Travel demand for the region is forecast for this future year and improvements to the transportation system are recommended based on the projected demand.

The area covered by the RTP is the whole of Klickitat County. Klickitat County is situated along the northern bank of the Columbia River in south-central Washington. The County lies on the southeast flank of Mount Adams. On the north, the county borders the Simcoe Hills and contains part of the Yakama Indian Reservation. (See Figure 1-1).

Figure 1-1: Map of Klickitat County Location

People and freight move throughout the regional transportation system without consideration for city, county, and state boundaries. Since transportation problems extend beyond jurisdictional boundaries, the RTP must analyze the future transportation needs for the entire region while creating a cooperative framework for coordinating the individual actions of various jurisdictions.

Transportation Issues Addressed in RTP

- Transportation system maintenance, preservation, and safety.
- Development of corridors to improve economic development potential.
- Accessibility across the Columbia River in terms of capacity, economic development, corridor location, and connecting roadways.
- Federal, state, local, and private sources of revenue for transportation projects.
- Access to ports, airports, intermodal transportation facilities, major freight

distribution routes, and recreation areas.

- The need to relieve and prevent congestion from occurring where it does not yet occur.
- The need to improve corridors with safety problems, including freight corridors.
- The need to provide a multimodal transportation system; including pedestrian, bicycle, bus, truck, rail, marine, and auto.
- The need to provide enhancements (signs, viewpoints, kiosk, etc.), to assist visitors.

Statutory Requirements

State

Within Washington State, Metropolitan Transportation Plans are expected to be consistent with the policy framework and objectives described in the transportation plan for Washington State. The most recent Washington Transportation Plan WTP 2030 was developed by the Washington Transportation Commission and adopted in December 2010.

The WTP is based on the following five transportation policy goals established by the Legislature:

- **Economic Vitality**: To promote and develop transportation systems that stimulate, support, and enhance the movement of people and goods to ensure a prosperous economy.
- **Preservation**: To maintain, preserve, and extend the life and utility of prior investments in transportation systems and services;
- **Safety**: To provide for and improve the safety and security of transportation customers and the transportation system;

- **Mobility**: To improve the predictable movement of goods and people throughout Washington State;
- **Environment**: To enhance Washington's quality of life through transportation investments that promote energy conservation, enhance healthy communities, and protect the environment; and
- **Stewardship**: To continuously improve the quality, effectiveness, and efficiency of the transportation system.

The Washington State Highway System Plan (HSP) is the element of Washington's Transportation Plan (WTP) that addresses current and forecast state highway needs. The HSP includes a comprehensive assessment of existing and projected 20-year deficiencies on the state's highway system. It also lists potential solutions that address these deficiencies. The HSP is updated periodically with each version building on the last. The document covers all issues related to the state's highway system. The 2007-2026 version of the HSP takes the WTP's investment guidelines, and identifies the highway system needs, strategies and performance measurements associated with the guidelines.

HSP Preservation: Pavement maintenance, preservation of 3,596 statewide structures including bridges, and preservation of other highway assets that include unstable slopes, rest areas, weigh stations and drainage and electrical rehabilitation.

HSP Safety: The objective of the safety program focuses on projects reducing and preventing fatalities, decreasing the frequency and severity of disabling injuries and minimizing the societal costs of accidents. The prevention of crossover accidents and run off the road accidents is a priority.

HSP Economic Vitality: Identification of highly-productive freight investments.

HSP Mobility: Bottlenecks, traffic incidents, bad weather, work zones, poor signal timing and special events are the most significant causes of congestion. HSP mobility solutions include strategies to address congestion at bottleneck and chokepoint locations, timely response to and clearance of incidents, as well as projects to improve system efficiency where traffic in congested corridors travels at speeds below 70% of the posted speed during the peak hour.

HSP Environmental Quality and Health: Projects to remove culverts to restore fish passage, reduce highway noise, treat storm water, reduce flooding, provide pedestrian crossings and bicycle connections.

Recent WSDOT plans are documented on WSDOT's Planning section website.

Washington State's Regional Transportation Planning Program

Washington State's Growth Management Act, enacted in 1990, approved the Regional Transportation Planning Program which created a formal mechanism for local governments and the state to coordinate transportation planning for regional transportation facilities. The Growth Management Act (GMA) authorized the creation of Regional Transportation Planning Organizations (RTPOs) by units of local government. Southwest Washington Regional Transportation Council (RTC) is the designated RTPO for the three-county area of Clark, Skamania, and Klickitat. In 1994 further state legislation clarified the duties of the RTPO outlined in the GMA and further defined RTPO planning standards.

The duties of the RTPO, as outlined in the GMA and SHB 1928, include:

- Designation of the regional transportation system.
- Development of a six year regional **Transportation Improvement Program** (TIP), including regionally significant projects. The TIP must include a financial plan.
- Development of a **Regional Transportation Plan (RTP)**, to include a regional transportation strategy, identification of existing and planned facilities and programs, Level of Service standards, a financial plan, assessment of regional development patterns and capital investment using a regional transportation approach. The concept of least cost planning is to be used in development of the RTP. The RTP must be reviewed at least every two years to ensure that it is current.
- Establish guidelines and principles for development and evaluation of the transportation elements of local comprehensive plans.
- Develop a regional Level of Service (LOS) standard for the regional system as required by the LOS Bill.

The Regional Transportation Planning Program is designed to be integrated with, and augment, the federally required Metropolitan Planning Organization (MPO) program. The Regional Transportation Planning Program extends transportation planning by the RTPO's to rural areas not covered by the federal program. The Regional Transportation Planning Program is also intended to tie in and be consistent with local comprehensive planning.

The regional transportation planning process should:

- Guide the improvement of the regional transportation system.

- Use regionally consistent technical methods and data.
- Consider environmental impacts.
- Ensure early and continuous public involvement.
- Be consistent with the local comprehensive planning process.
- Be an ongoing process.
- Incorporate multimodal planning activities.
- Address major capacity expansion and operational improvements to the regional transportation system.
- Be a partnership, including federal, state, and local governments, special districts, private sector, general public, and others during conception, technical analysis, policy development, and decision-making.

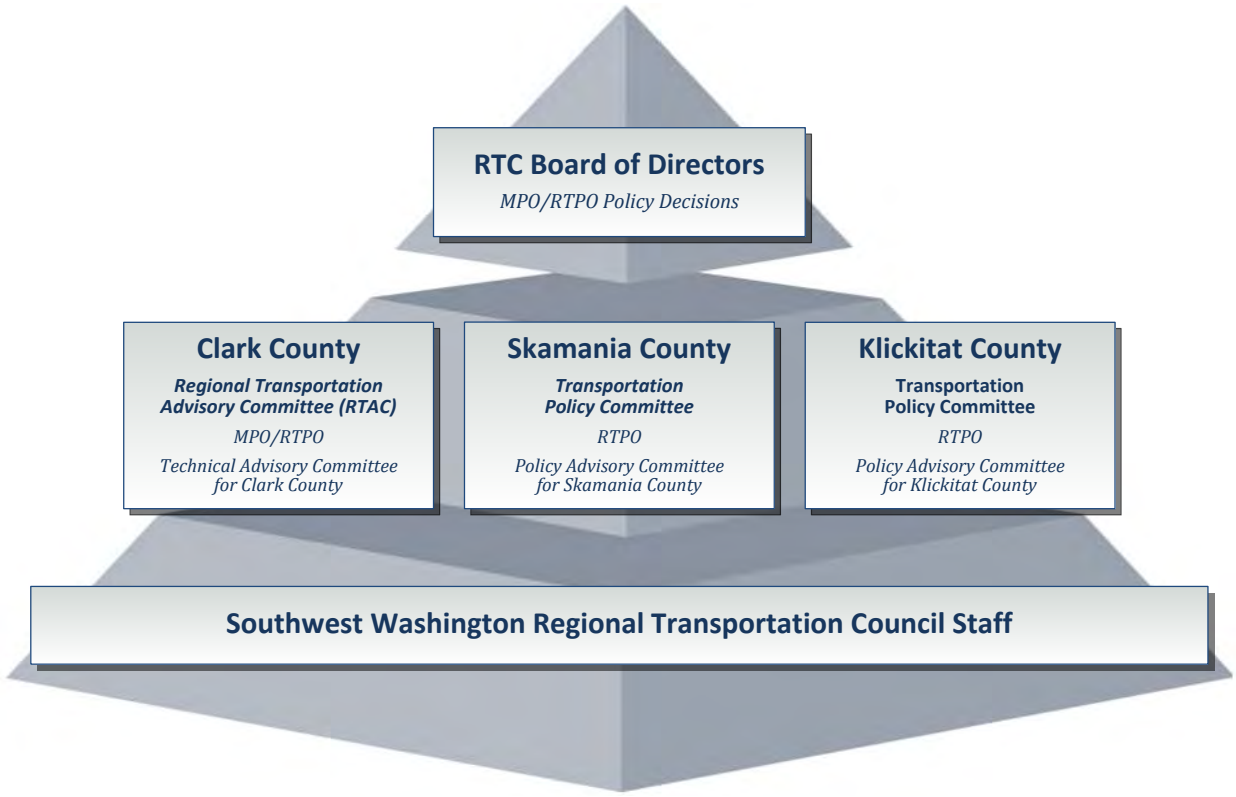
To comply with State standards the RTP shall include the following components:

- Description of the designated regional transportation system.
- Regional transportation goals, policies, and strategy.
- Regional land use strategy. Existing and proposed land uses defined on local and regional comprehensive land use plans determine the regional development strategy.
- Identification of regional transportation needs. An inventory of existing regional transportation facilities and services, identification of current deficiencies, and forecast of future travel demand will be carried out.
- Development of LOS standards consistent with House Bill 1487.
- Development of financial plan for necessary transportation system improvements.
- Regional transportation system improvement and strategy plan. Specific facility or service improvements will be identified and priorities determined.
- Establishment of a performance monitoring program. The performance of the transportation system will be monitored over time. The monitoring methodology, data collection, and analysis techniques to be used will be outlined.
- Plans for implementation of the RTP.

Intergovernmental Coordination

In order to make the RTP not only a Plan to provide carefully thought-out solutions to transportation issues and problems but also a Plan that all jurisdictions can implement, a regional transportation planning committee structure has been established. Consistent with the 1990 GMA legislation, a three-county RTC Board of Directors has been established to serve the RTPO region. Individual County Committees and Boards also play a part in the regional transportation decision-making. The Klickitat County Transportation Policy Committee continues to guide Klickitat County regional transportation policy. The role of, and representation on, the RTC Board of Directors and individual County Policy Committees is described in the Bylaws of Southwest Washington Regional Transportation Council (last amended November 2010) and Interlocal Agreement for Establishment of the Southwest Washington Regional Transportation Council. The regional transportation committee structure is outlined in Figure 1-2.

Figure 1-2: Agency Structure



Klickitat County Transportation Policy Committee

The Klickitat County Transportation Policy Committee was established to provide a focus for Klickitat County regional transportation issues and policies. It is composed of representatives of Washington State Department of Transportation (WSDOT),

Klickitat County, City of Bingen, City of Goldendale, City of White Salmon, and the Port of Klickitat.

The Klickitat County Transportation Policy Committee carries out regional transportation planning activities within Klickitat County. Other agencies and organizations are welcome to participate as non-voting members of the committee. Specifically, the Columbia River Gorge Commission, U.S. Forest Service, and Mt. Adams Transit are invited to participate on the Klickitat County Transportation Policy Committee.

Bi-State Coordination

Klickitat County is located on the Washington side of the Columbia River Gorge Region and bi-state travel is significant within this region. Oregon and Washington jurisdictions in the region have a history of coordinating their transportation and land use plans. These planning efforts ensure that regionally significant aspects of the transportation system are considered within a bi-state context.

RTC representatives participate in bi-state transportation opportunities with Oregon representatives. This includes the Gorge TransLink group, bi-state studies, and other bi-state opportunities. In addition, RTC welcomes participation of Oregon representatives in the Klickitat County transportation planning process. Coordination between Washington and Oregon on bi-state transportation needs will continue through the regional transportation planning process.

Klickitat County Regional Transportation Plan: Work Plan

As a first step in preparation of the Klickitat County RTP, a work plan was developed. (See Figure 1-3). The work plan outlines major tasks to be covered in the development of the RTP. The RTP is designed as a benchmark plan to meet RTPO elements required by the 1990 GMA legislation and SHB 1928 legislation of 1994.

Outline of RTP Chapters

Chapter 1: **Introduction: RTP Vision, Purpose, and Goals**. The RTP is introduced and its general goals, policies, statutory authority, and purpose are described. The RTP process is outlined as well as regional transportation committee structure and intergovernmental cooperation and coordination of the RTP.

Chapter 2: **Regional Land Use and Growth**. Klickitat County's demographic data, development trends, and regional development strategy are discussed. Existing and future land uses and development patterns are identified.

Chapter 3: **Identification of Regional Transportation Needs**. The regional transportation system is designated and defined. The characteristics and patterns of today's and future regional travel demand, today's transportation problem locations, and future regional needs are described. Needs criteria such as accessibility, levels of service, and safety are outlined.

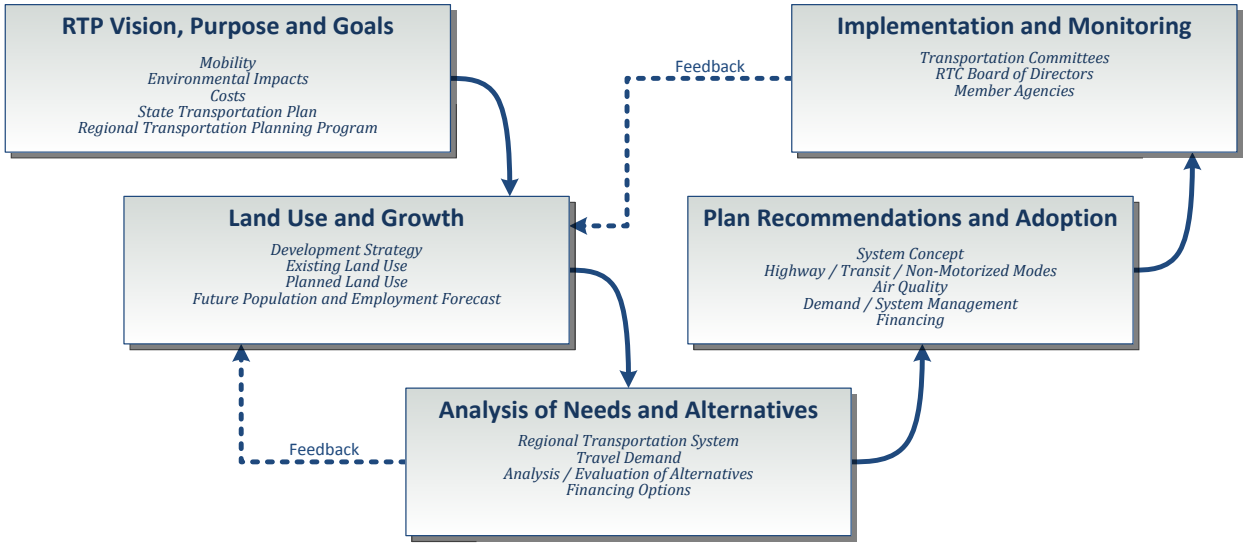
Chapter 4: **Financial Plan**. Revenue sources are identified and described, and a plan for financing transportation system improvements is presented.

Chapter 5: **System Improvement and Strategy Plan**. Recommendations for development of the regional transportation system are made. Regional transportation goals and policies are reviewed.

Chapter 6: **Performance Monitoring**. Performance monitoring measures are described. Monitoring the RTP's consistency with the state transportation plan, local transportation plans, land use regulations, and regional demographic projections are outlined.

Chapter 7: **Plan Development and Implementation**. Provisions for the implementation of the public in development of the RTP are described. Provisions for the implementation of regional transportation goals, policies, and actions established by the RTP are described. The RTP review and amendment process is outlined should changing policies, financial conditions, or growth patterns warrant amendment of the Plan. The required biennial update of the RTP is described.

Figure 1-3: RTP Process

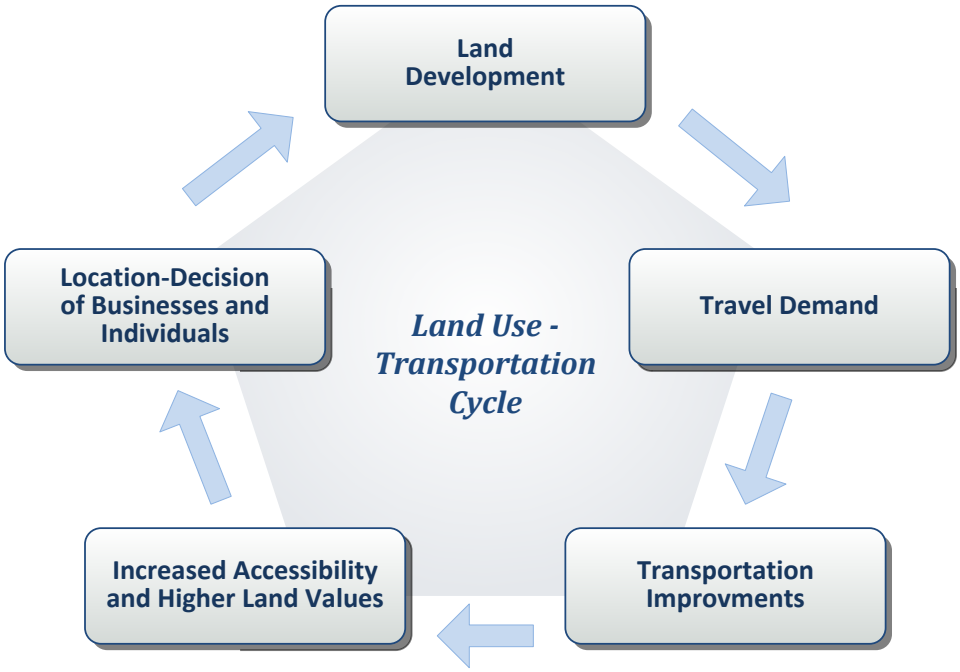


Chapter 2: Land Use, Growth and Transportation

Land Use and Transportation

Transportation planning is about meeting the travel demands of people and goods. The transportation system must connect people to jobs and services and connect freight and goods to markets and consumers. In developing a regional transportation plan, the fundamental relationship between transportation and land use must be recognized, and the effect that land use and growth have on transportation must be taken into consideration. The Land Use/Transportation cycle is illustrated in Figure 2-1.

Figure 2-1: Land Use/Transportation Cycle



The linkage between land use and transportation is a complex issue, but on a simple level, the linkage can be thought of as working in two ways:

1. The spatial distribution and type of land use activity influence both the demand for travel and travel characteristics. Different types of land use generate and attract differing traffic rates; for example, retail land uses will generate more trips than residential land uses.

2. Improving access by expanding the transportation system allows for the development of land that was formerly inaccessible.

Land use and transportation are inter-linked because land use activities largely determine travel demand and desire. When different land uses are segmented or segregated, length of trips tends to increase. For example, people have to travel between their homes and their workplaces. To meet mobility needs, these longer trips usually have to be served by the automobile, thus reducing the use of transportation alternatives, such as walking or transit.

Growth and Development

Sustained economic development and growth within a region is desirable because of the economic benefits that increased employment and a larger tax base can bring. However, while growth can contribute to the health of a region's economy, it can also have negative impacts. Unmanaged, fast rates of growth can have a severe impact on the ability of a community to provide needed infrastructure and services.

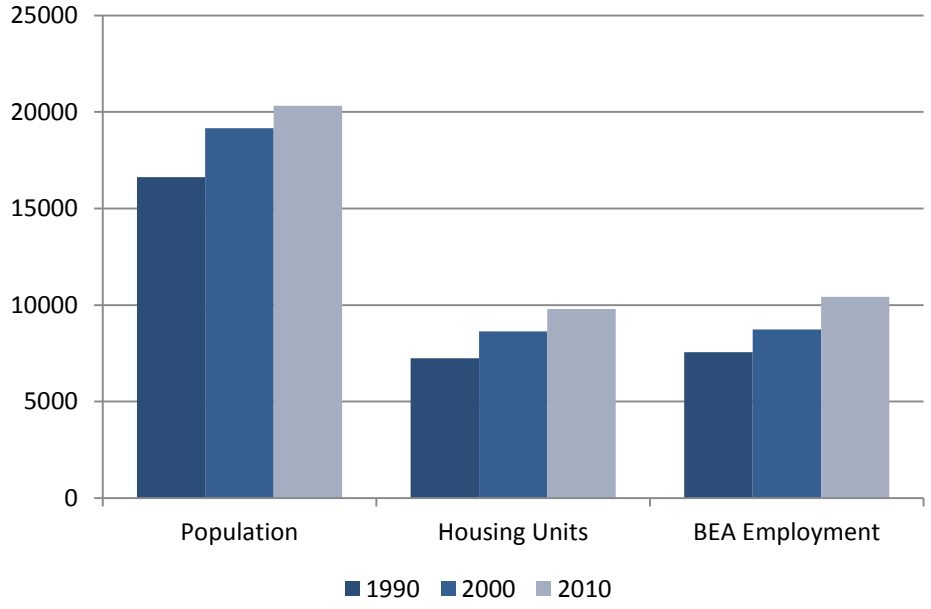
The need to maintain economic viability and at the same time, quality of life, is a challenge. Elements that contribute to a desirable quality of life include job opportunities, affordable housing, a healthy environment with clean air, and recreational opportunities. An efficient, safe transportation system contributes to the quality of life for residents of a region and can act as an attractor for economic development. Conversely, a transportation system dependent on deteriorating and outmoded facilities can be an inhibitor to the efficient, safe movement of people and goods.

Growth in Klickitat County

Klickitat County has seen moderate growth in the last few decades. The U.S. Census Bureau, Washington State's Office of Financial Management (OFM), and Bureau of Economic Analysis (BEA) provided the following data. BEA employment includes all wage and salaried jobs as well as proprietors jobs that includes sole proprietor, self-employed, and farm employment.

Between 1990 and 2010 the population of the county increased by 22% from 16,616 to 20,318, while the number of housing units increased by 35% from 7,238 to 9,786. The increase in BEA employment was 39% from 7,508 in 1990 to 10,430 in 2010 (see Figure 2-2). Much of the growth occurred between 1990 and 2007, while growth slowed between 2007 and 2010.

Figure 2-2: Population Housing and Employment Growth



Klickitat County has seen a large increase in recreation activity due in part to the Columbia River Gorge National Scenic Area and a variety of other recreational opportunities. The growth in recreation activities seen in the county in the last few decades has increased demands on the regional transportation system.

Development of a transportation policy plan must consider how to plan for a transportation system that can support increases in travel demand caused by growth in population, employment, and recreational activity. At the same time, this system has to be affordable and minimize environmental impacts to maintain the quality of life. A safe, efficient transportation system can work to enhance economic development within a region.

General Land Uses in Klickitat County

Klickitat County is a rural county located in south central Washington. Approximately two-thirds of Klickitat County residents live in unincorporated areas. The three incorporated population centers are located in Goldendale in the central part of the county and in Bingen and White Salmon in the southwest corner of the county. The county is 84 miles long and varies between 13 and 29 miles wide. The total area of the county is 1,908 square miles. Klickitat County ranks 16th in size among Washington's 39 counties and 30th in population.

Klickitat County's economic base is tied to agriculture, timber, the Roosevelt Regional Landfill, Insitu, and wind power. When compared with the rest of the state, the county has a much higher percentage of its work force in agriculture, and transportation and utilities (the industry classification which includes landfills and wind power). On the other hand, the single fact of the county's relative isolation from major metropolitan areas provides a powerful limit on the types of economic activity that are located in the county, not only in terms of manufacturing, but in distribution, retail, finance, and services as well.

The provision of public facilities and services, including transportation, is a principal determinant of land use patterns. Land use patterns in Klickitat County have evolved largely as a result of its residents' dependence on the automobile. A look at land use for Klickitat County indicates that residential development has occurred mainly along state highways and major rural arterials.

Planned Land Use

Comprehensive plans are the means by which local jurisdictions can plan for their future growth and development; they can provide a process for anticipating and influencing the orderly and coordinated development of land. Within Washington State, planning authority is delegated by the state to local governments in RCW 36.70A, 35.63 and 35A.63. Comprehensive plans are required to have a land use element showing the general distribution and location of land for various uses, as well as a circulation element showing the street system and transportation routes. Klickitat County and incorporated cities of Bingen, Goldendale, and White Salmon all have currently adopted comprehensive plans.

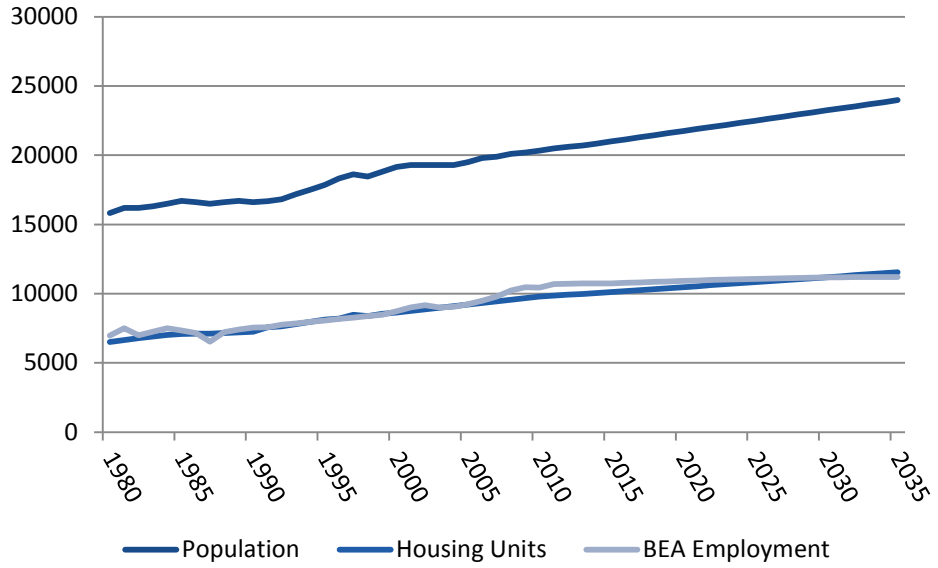
The Columbia River Gorge Commission has adopted and is administering a Columbia River Gorge Management Plan pursuant to the requirements of the National Scenic Area Act. Within the Columbia River Gorge National Scenic Area, future residential and commercial development is encouraged to occur in the Urban Areas, but there is allowance for some residential development outside the urban areas. In addition, there are two federally designated Wild and Scenic River segments that have adopted management plans that are administered by the Forest Service.

Population and Employment Forecast

The Washington State Office of Financial Management (OFM) develops population forecasts for all counties in the State of Washington. Their forecast contains a low, medium, and high estimate. The April 2012 forecast developed by OFM for 2035 population in Klickitat County ranges from a low of 17,148 to a high of 26,511. For the purpose of the Regional Transportation Plan, the medium-high forecast of 23,975 will be used. The 2035 forecast represents an 18% or 3,657 increase in population from 2010 to 2035.

Housing and employment forecasts for Klickitat County were developed by RTC based on OFM population forecast and historical trends. Estimated 2035 housing is 11,544 units. The 2035 forecast represents an 18% or 1,758 increase in housing units from 2010 to 2035. Estimated 2035 employment is 11,205. This 2035 forecast represents a 7.4% or 775 increase in employment from 2010 to 2035 (see Figure 2-3).

Figure 2-3: Population, Housing, and Employment Forecast



Demographic and Travel Trends

Growth in population and employment, development, and resulting land use patterns together with its distribution all affect travel demand. However, other demographic factors also influence travel demand. These factors include household size, workforce participation, employment patterns, and vehicle ownership.

Household size is one of the most significant demographic factors that influences land use and demand for transportation services. Between 1970 and 2010 there was a trend toward smaller household size in Klickitat County due to more single-person households and smaller family size. The average number of persons per housing unit was 2.60 in 1970, but had fallen to 2.08 by 2010. The 2035 forecast is 2.00 persons per housing unit.

Another demographic trend that affects travel demand is the increase in two-worker households. Typically, the two workers in the household each use an auto to get to work, use the auto for work purposes while at work, use it to run errands at lunch time and before or after work, and if they have a family, to take their children to activities. All result in people's increased reliance on the automobile that people consider their most convenient transportation mode.

Employment patterns have also been changing, with a relative decline seen in the traditional industrial or timber jobs and an increase in service sector employment. With modern technology, there has also been a rapid growth in workers who are able to work at home. In addition, there is a trend for a significant number of Klickitat County residents to be employed in other counties. The 2010 Census

shows that 30.8% of the county residents worked outside of Klickitat County. Table 2-1 shows data of those living and/or working in Klickitat County.

Table 2-1: Klickitat Work Flow by County

Place of Residence	Place of Work	2000	2000 Percent	2010	2010 Percent	2000-2010 Change
Klickitat County	Klickitat County	5,632	73.5%	5,340	69.2%	-292
	Hood River Co., OR	688	9.0%	625	8.1%	-63
	Wasco Co., OR	680	8.9%	945	12.3%	265
	Skamania Co., WA	147	1.9%	340	4.4%	193
	Yakima Co., WA	104	1.4%	50	0.6%	-54
	Sherman Co., OR	73	1.0%	65	0.8%	-8
	Benton Co., WA	44	0.6%	10	0.1%	-34
	Other Washington	137	1.8%	153	2.0%	16
	Other Oregon	109	1.4%	154	2.0%	45
	Other	50	0.6%	32	0.4%	-18
Klickitat Co. Employed Workforce		**7,664**		**7,714**		**50**
Klickitat County	**Klickitat County**	5,632	84.8%	5,340	80.3%	-292
Hood River Co., OR		167	2.5%	255	3.8%	88
Wasco Co., OR		399	6.0%	245	3.7%	-154
Skamania Co., WA		205	3.1%	340	5.1%	135
Yakima Co., WA		82	1.2%	35	0.5%	-47
Other Washington		65	1.0%	259	3.9%	194
Other Oregon		92	1.4%	84	1.3%	-8
Other		2	0.0%	92	1.4%	90
Employment within Klickitat County		**6,644**		**6,650**		**6**

Travel demand has also grown as the number of passenger vehicles in Klickitat County has increased in the past few decades. As population has increased, there has been an increase in the number of vehicles registered in Klickitat County adding to the demands put on the transportation system. In 2010, there were 13,127 registered passenger vehicles with 69.3% of the Klickitat County households having two or more vehicles available. The relationship between land use and transportation should be carefully considered when developing a vision for future growth and future growth patterns.

There are several trends that affect seasonal travel demand within Klickitat County. First, is the trend of additional retired residents who live in Klickitat County, but spend their winters in a warmer climate. These residents add to the local traffic from spring to fall. Second, is the increased popularity of the Columbia River Gorge area as a recreational attractor. Since its designation as a National Scenic Area, summer traffic volumes have rapidly increased.

Table 2-2 also provides information that compares 2000 and 2010 Census Journey to Work data. This data displays several trends impacting the commuter travel times. First, the data shows that commute times have decreased by over 2 minutes. Second, the use of drive alone, bicycle or walk, and work from home have increased. Third, there has been a significant decline in the number of people who carpool on their journey to work.

Table 2-2: Work Travel Mode

Klickitat County	2000	2000 Percent	2010	2010 Percent	2000-2010 Growth	2000-2010 Percent Change	2010 WA State Percent
Drive Alone	5,505	71.8%	5,810	75.3%	305	5.5%	72.3%
Carpool	1,182	15.4%	854	11.1%	-328	-27.7%	11.6%
Transit	51	0.7%	14	0.2%	-37	-72.5%	5.6%
Bicycle or Walked	363	4.7%	465	6.0%	102	28.1%	4.3%
Motorcycle/Other	90	1.2%	65	0.7%	-25	-27.8%	1.2%
Worked at Home	473	6.2%	525	6.8%	52	11.0%	5.1%
Totals	**6,285**	**100.0%**	**7,666**	**100.0%**	**1,380**	**22.0%**	**100.0%**
Mean Travel Time to Work (minutes)	21.9	n/a	19.5	n/a	-2.4	n/a	25.4

Chapter 3: Identification of Regional Transportation Needs

Current Functional Classification of the Regional Roadway System

Functional classification is the grouping of highways, roads, and streets by the character of service they provide. Comprehensive transportation planning uses functional classification to determine how travel can be channelized within the network in a logical and efficient manner. A functional classification defines the major role that a road or street serves within the total existing and future roadway network. In simple terms, highways, streets, and roads function as arterials, collectors, or local access. Arterials provide the highest degree of mobility and limited access to local property. Collectors generally provide equal emphasis upon mobility and land access. Local roads and streets emphasize land access in lieu of mobility.

The Washington State Department of Transportation (WSDOT) has the primary responsibility for developing and updating the highway functional classification system. They work cooperatively with local and regional agencies in developing and updating the functional classification system. The Federal Functional Classification system for Klickitat County roads has been completed and resulted in a countywide uniform classification system. Generally, facilities classified as Major Collector or above in rural areas are eligible for federal funding. Further information on the functional classification of roads can be found on WSDOT's website. A statewide map of the federal functional classification is available, allowing the zooming in to Klickitat County and City detail.

ISTEA also required that roads be

designated as National Highway System (NHS) facilities. Congress approved the NHS System with passage of the National Highway System Designation Act of 1995. In Klickitat County, SR-97 and SR-14 (between the Skamania County line and SR-97) are designated as NHS facilities.

In 1999, the state legislature adopted Highways of Statewide Significance, fulfilling a requirement of House Bill 1487 passed in 1998. In Klickitat, SR-97 and SR-14 (between the Skamania County line and SR-97) are designated as Highways of Statewide Significance.

A description of the rural functional classification categories follows:

Rural Principal Arterials

Rural principal arterials are sub-divided into two sets (1) interstate facilities and (2) other principal arterials. Rural principal arterials serve corridor movements having trip length and travel density characteristics of statewide or interstate travel. They consist of a connected rural network of continuous routes.

Rural Minor Arterials

In conjunction with the principal arterials, the rural minor arterials form a rural network which link cities and larger towns together with other major traffic generators. The principal arterials and rural minor arterials are spaced at such intervals that all developed areas of the state are within a reasonable distance of an arterial highway. Minor arterials should be expected to provide for relatively high overall travel speeds with minimum interference to through movement.

Rural Major Collector Roads

Rural major collectors provide service to larger towns not directly served by the higher systems and to other traffic generators of equivalent importance. Rural major collectors serve the more important travel corridors within the county.

Rural Minor Collector Roads

Rural minor collectors are spaced at intervals, consistent with population density, to collect traffic from local roads and provide developed areas with reasonable distance to a collector road. Rural minor collectors provide service to the remaining smaller communities and link the locally important traffic generators with surrounding rural areas.

Rural Local Roads

Local streets provide direct access to abutting land and access to the higher classification facilities. They offer the lowest level of mobility. They are not intended to carry through traffic; however, they do make up a large percentage of the total street mileage.

Designation of the RTP Regional Transportation System

Consistent with the state's Regional Transportation Planning Program Planning Standards, the RTP regional transportation system has been designated to include:

1. All state transportation facilities and services (including state highways).
2. All local principal arterials (the definition of rural principal arterials can be the same as used for federal classification or be regionally determined).
3. All other transportation facilities and services, including airports, transit services and facilities, roadways, bridges, rail facilities, marine transportation facilities, etc. that the RTPO considers necessary to complete the regional plan.
4. Any transportation facility or service that is regionally needed or impacts places in the plan, as determined by the RTPO.

A detailed description of the designated RTP Regional Transportation System follows:

All state transportation facilities and services

In Klickitat County this category includes the following State Routes: SR-14, SR-35, SR-97, SR-141, SR-141 Spur, SR-142, and SR-197.

- SR-14 provides the main east-west access from the Skamania/Klickitat County line to south-east Benton/Klickitat County line along the north bank of the Columbia River. The facility has one lane in each direction and extends 88.76 miles through Klickitat County between Skamania County and Benton County lines.

- SR-35 will provide a future link across the Columbia River to Oregon in the Bingen/White Salmon area.
- SR-97 provides the main south-central access from the Columbia River (Oregon) to north-central Yakima/Klickitat County line, through Goldendale the county seat. The facility has one lane in each direction and extends 33.52 miles through Klickitat County between the State of Oregon and Yakima County line.
- SR-141 provides north and south access from Bingen to the Skamania/Klickitat County line near Trout Lake. The facility has one lane in each direction and extends 29.19 miles from SR-14 to its end at the Skamania/Klickitat County line.
- SR-141 Spur provides north and south access from SR-14 near the Klickitat/Skamania County line to SR-141 northwest of White Salmon. The facility has one lane in each direction and extends 2.16 miles.
- SR-142 provides access from Lyle to Goldendale. The facility has one lane in each direction and extends 35.29 miles from SR-14 (Lyle) to SR-97 (Goldendale).
- SR-197 provides north and south access from The Dalles, Oregon, across the Columbia River to SR-14. The facility has one lane in each direction and extends 3.18 miles from the Columbia River to SR-14 near Dallesport, Washington.

All local principal arterials

The State Routes are the only local rural principal arterials in Klickitat County.

All other transportation facilities and services considered necessary to complete the regional transportation plan.

These include transit services and facilities, roadways, rail facilities, airports, marine transportation facilities, etc.

Rural Major Collectors

All local major collectors are designated as part of the regional transportation system. Major collectors include such facilities as Maple St., Main Av., Dock Grade Rd., Dewalt Driver, Estes Av., Alderdale Rd., McKinley Springs Rd., Roosevelt Grade/East Rd., Bickleton Hwy., BZ-Glenwood Hwy., Glenwood Hwy., Trout Lake Hwy./Sunnyside Rd./Warner Rd., Snowden Rd., Canyon Rd., Centerville Hwy., Dallesport Rd., Loop Rd., South Columbus, Horseshoe Bend Rd./Simcoe Mtn. Rd, and Mt. Adams Rd. In addition, major collectors include important Port roads, such as

Lake View Blvd., Shore Dr., Dock Rd., Dow Rd., Parallel Av., Bingen Point Way, and Columbia River Way.

Port Facilities

Klickitat County has one Port District, the Klickitat County Port District #1. This Port District is not a countywide port district, but does include most of western Klickitat County. The port district does exclude the county seat of Goldendale. The Port of Klickitat owns and operates two business/industrial parks within the county. First, the port has 142 acres of commercial/recreational/light industrial zoned property, which fronts the Columbia River at River Mile 172, located to the south of the City of Bingen. This business park includes approximately 55 acres of developable property, 30 acres of lake and wetland, a 18 acre boat basin, and a boat launch and park area. Secondly, the port has a 660 acre industrial park at Dallesport. The park is served by all utilities, rail, and a barge dock facility. The property is located on the Columbia River at River Mile 192, upriver from The Dalles Dam, and is adjacent to SR-197, one mile from Interstate 84 in Oregon, and one mile from the Dallesport regional airport.

Airport Facilities

There are two public airfields currently operating in Klickitat County. The airfields are located in Goldendale and Dallesport. The airfield in Dallesport is co-owned and operated by the City of The Dalles (Oregon) and Klickitat County. The Columbia Gorge Regional Airport also includes a business park. In addition to public airfields, there are several private landing strips in Klickitat County. The nearest regional airport with domestic and international passenger and freight service is the Portland International Airport (PDX). PDX is located in Portland, Oregon, approximately 70 miles west of the Bingen/White Salmon area.

Bridges

All public bridges including Columbia River bridges are designated as part of the regional transportation system. All bridges are important to the movement of people and goods within the region. Of great importance are those bridges that cross the Columbia River.

There are three bridges in Klickitat County crossing the

Columbia River between Washington and Oregon, connecting SR-14 to Interstate 84. The Hood River Bridge is a two laned toll bridge owned and maintained by the Port of Hood River, connecting Hood River, Oregon to Bingen/White Salmon, Washington. The SR-197 Bridge is a two laned bridge connecting The Dalles, Oregon to Dallesport, Washington. The SR-197 Bridge is maintained by ODOT. The SR-97 Bridge is a two laned bridge connecting Biggs Junction, Oregon, and Maryhill, Washington. The SR-97 Bridge is maintained by WSDOT.

In addition, the Washington State Legislature designated an SR-35 corridor in the 1997 legislative session. The SR-35 corridor will provide a future link across the Columbia River to Oregon in the Bingen/White Salmon area. A Draft Environmental Impact Statement for a future river crossing in the SR-35 corridor was completed in 2004, a Type Size and Location Study was completed in 2011, and a Final Environmental Impact Statement will be the next step in the project development process.

Columbia River

Historically, the Columbia River has always been an important transportation corridor to Klickitat County. The Columbia River, as a transportation corridor, is used today to move goods by barge and people by boat. Tour boats visit the Columbia River and dock in the region.

Public Transportation

Klickitat County Senior Services runs Mt. Adams Transit. Mt. Adams Transit operates a general demand response public transportation system in Klickitat County. Service includes both buses and volunteer drivers.

Although, the dial-a-ride service provides preference to seniors and persons with disabilities, all County residents are eligible. The majority of system trips are for medical, social services, shopping, and educational opportunities. Mt. Adams Transportation goes to all areas of Klickitat County, The Dalles, and Hood River on a regular basis. Mt. Adams Transportation often goes to the Portland/Vancouver and Yakima regions for medical services

Grants through the Washington State Department of Transportation are essential in maintaining the existing service. In 1998, the voters of Klickitat rejected, by a small margin, an increase in sales tax to fund a Public Transportation Benefit Area (PTBA).

Mt. Adams Transit participates with Gorge TransLink coalition. The Gorge TransLink is an alliance of transportation providers offering public transportation services throughout the Mid-Columbia River Gorge area as well as to destinations, such as Portland and Vancouver. The goal of this coordination effort is to improve interconnectivity between the various transit providers in the Mid-Columbia River Region in both Oregon and Washington.

Rail Facilities

There is one main rail line in use in Klickitat County which provides freight and passenger service. Burlington Northern Santa Fe Railroad (BNSF) owns the rail line. The BNSF Vancouver/Eastern Washington line has one track in good condition with approximately 60 trains operating on them daily. Within Klickitat County, there are vital transfer sites located at Bingen, Dallesport, Roosevelt, and Wishram. AMTRAK also has an agreement with BNSF to operate passenger service on the freight carrier's rail lines. Seven days a week, the AMTRAK Empire Builder travels through Klickitat County both east and west between Portland, Oregon and Chicago, Illinois, with stops in Bingen and Wishram.

Along the main rail line, there are seven public and numerous private at-grade railroad crossings in Klickitat County. The public at-grade railroad crossings are listed in Table 3-1.

Table 3-1: Klickitat County Public Railroad Crossings

Road	Warning System
Dock Grade (White Salmon)	Warning Lights and Drawbars
Walnut St. (Bingen)	Warning Lights
Maple St. (Bingen)	Warning Lights and Drawbars
Old Ferry Rd. (Dallesport)	Warning Lights
Horsethief Park	Stop Sign
Avery Rd.	Warning Lights
Stonehenge Rd. (Maryhill)	Warning Light and Drawbars

Enhancements

Transportation enhancements are designed as part of the regional transportation system. Enhancements include facilities for bicycles and pedestrians, scenic vistas, thematic signage, rest stops, tourist information, and roadside beautification along the regional road network.

Growth in Traffic Volumes

As a result of socio-economic and demographic changes described in Chapter 2, Klickitat County has seen an increase in traffic volumes in recent years. Washington State Department of Transportation compiles traffic count data along State Routes. Examples of growth in traffic volumes at selected locations along State Routes in Klickitat County are listed in Table 3-2:

Table 3-2: Traffic Volumes 2004 to 2013

Location	Leg	2004 Volumes	2013 Volumes	% Increase
SR-14 at SR-141 Spur	E	6,600	7,750	17%
SR-14 at Hood River Br.	E	8,300	9,950	20%
SR-14 at SR-97	E	4,700	5,900	26%
SR-14 at Benton Co. Ln.	W	830	890	7%
SR-197 at Columbia Rv.	N	5,300	6,000	13%
SR-97 at Columbia Rv.	N	5,100	6,100	20%
SR-97 at Goldendale	N	4,800	5,200	8%

Future Travel Demand

Future auto travel demand was forecasted for the Klickitat County region based on historic trends, net changes in land use and activity levels, applying appropriate

traffic generation rates, and then using trip distribution information to determine the direction of travel.

The RTP network is considered to be the same transportation network as exists today. It is used only as a base case scenario for forecasting future travel demand and potential traffic volumes on road segments and does not constitute a recommended network. Traffic volumes could differ significantly from those that result from the future trip assignment onto the RTP network if significant changes to the population, land use, or transportation system occur.

Burlington Northern Santa Fe operates the east-west railroad route along the Washington side of the Columbia River Gorge and through Klickitat County. This route is currently experiencing capacity constraints and will continue to in the future without some kind of expansion. With a moderate increase in population, Klickitat County has adequate airport facilities. The Columbia River system is an important transportation corridor for the movement of goods. In order to meet the travel demand associated with this corridor, it will be essential to preserve appropriate channel depths and widths for shipping and to maintain current lock handling capacity. Walking and bicycling are integral parts of the transportation system. People walk and bike for various trips. Walking and bicycling trips are usually short and demand is greater in urban areas. However, there is a demand for bicycling facilities along major corridors and routes. Public transit is an important aspect of the transportation system, especially for those with limited income, elderly, and disabled. With an aging population and per capita income lower than the state average, the demand for public transit is likely to increase in Klickitat County.

Levels of Service

Levels of service standards represent the minimum performance level desired for transportation facilities and services within the region. They are used as a gauge for evaluating the quality of service on the transportation system and can be described by travel times, travel speed, freedom to maneuver, traffic interruptions, comfort, convenience, and safety. These levels of service are designated A through F, from best to worst. Level of service E describes conditions approaching and at capacity. For uninterrupted flow conditions, the following definitions[1] apply:

- Level of Service A describes free flow conditions, with low volumes and high speeds. The general level of comfort and convenience provided to the motorist, passenger, or pedestrian is excellent.
- Level of Service B is in the range of stable flow but the presence of other users in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver with the traffic stream from Level of Service A.
- Level of Service C is still in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream. The general level of comfort and convenience declines noticeably at this level.
- Level of Service D represents high-density, but stable flow. Speed and freedom to maneuver are severely restricted, and the driver or pedestrian experiences a generally poor level of comfort and convenience.
- Level of Service E represents operating conditions at or near the capacity level. All speeds are reduced to a low, but relatively uniform value. Comfort and convenience levels are extremely poor and driver or pedestrian frustration is generally high.
- Level of Service F describes forced or breakdown flow. These conditions usually result from queues of vehicles backing up from a restriction downstream. Operations within the queue are characterized by stop-and-go waves, and they are extremely unstable.

Level of Service Standards

In 1998, the Washington State Legislature passed the Level of Service (LOS) Bill. The Bill set new requirements relating to transportation and growth management planning. The intent of the legislation was to enhance the coordination of planning

[1] From *Highway Capacity Manual*

efforts and plan consistency at the local, regional, and state level. The key applicable elements include:

Highways of Statewide Significance: The State must give higher priority to correcting identified deficiencies on transportation facilities of statewide significance. Designation of Highways of Statewide Significance (HSS) was completed in 1999. In Klickitat County, the HSS system includes SR-97 and SR-14, between the Skamania County line and SR-97. WSDOT has established an LOS 'C' for rural HSS facilities like SR-14.

Non-Highways of Statewide Significance: Non-HSS state highways, otherwise known as Highways of Regional Significance, in Klickitat County include the remaining portion of SR-14, SR-141, SR-142, and SR-197. The RTPO has established an LOS 'C' for rural non-HSS.

Table 3-3: Deficient Capacity Segment

Road	Mile Post	Deficient Capacity Segment	LOS
SR-14	65.95-66.96	Bingen	C
SR-14	100.2-101.44	SR-14 Maryhill Spur to SR-97	C
Hood River Bridge	Columbia River	Hood River Bridge: between SR-14 and I-84	C
SR-97	0.00-12.67	Biggs Rapid Bridge to End Climbing Lane	C
SR-97	20.29-27.16	Allen Creek Road to Ski Lodge Road	C
SR-97	30.80-31.44	Satus Creek Bridge Vicinity	C

Capacity Analysis

The Highway Capacity Manual methodology was used to analyze roadway level of service within the Klickitat County Region based on P.M. peak hour traffic. In addition, there are several locations with capacity deficiencies associated with substandard curves and steep grades, which create a particular problem on some facilities due to the mix of trucks, recreational vehicles, and autos. Deficient segments associated with capacity are included in Table 3-3.

Safety Analysis

Improving safety for all modes of transportation is critical to improving quality of life and improving access for all the citizens of the region. Washington State's Strategic Highway Safety Plan, Target Zero, establishes a statewide policy of zero fatalities and zero disabling injury collisions by 2030. Target Zero, helps to assess the safety needs statewide, encouraging and promoting good safety practices in the design and operation of the transportation system, as well as promoting safety by

system users. Target Zero sets state-wide priorities, provides a resource for potential strategies, and monitors outcome at a statewide level.

At the regional level traffic safety priorities are set based upon the most frequently cited contributing factors. More than one factor is commonly involved in most collisions. This results in each fatality and serious injury collision being represented under multiple factors. The factors in fatal and serious traffic collisions are prioritized based on the percentage of traffic fatalities and serious injuries associated with each factor. Table 3-4 shows the Klickitat County Fatality and Serious Injury Factors by Priority Levels, based on the 2010-2012 collision data.

Table 3-4: Klickitat County Fatality and Serious Injury Factors, 2010-2012

	Fatalities		Serious Injuries	
	# of People	% of Total	# of People	% of Total
Priority Level One				
Distracted Driver Involved	8	50.0%	5	8.6%
Run Off the Road	7	43.8%	27	46.6%
Motorcyclist	6	37.5%	20	34.5%
Impaired Driver Involved	6	37.5%	13	22.4%
Speeding Involved	5	31.3%	18	31.0%
Priority Level Two				
Unrestrained Vehicle Occupants	4	25.0%	3	5.2%
Young Driver 16-25 Involved	3	18.8%	10	17.2%
Unlicensed Driver Involved	3	18.8%	0	0.0%
Heavy Truck Involved	2	12.5%	10	17.2%
Priority Level Three				
Drowsy Driver Involved	0	0.0%	6	10.3%
Wildlife	0	0.0%	6	10.3%
Opposite Direction	0	0.0%	6	10.3%
Older Driver 75+ Involved	1	6.3%	5	8.6%
Intersection Related	1	6.3%	4	6.9%
Vehicle-Train	1	6.3%	0	0.0%
Pedestrian	1	6.3%	0	0.0%
School Bus Involved	0	0.0%	0	0.0%
Bicyclist	0	0.0%	0	0.0%
Total	**16**		**58**	

Target Zero includes specific objectives and strategies to help reduce traffic fatalities and serious injuries for each of the primary factors. Within Klickitat County, the focus should be on implementing strategies that address the highest prioritizing factors.

Washington State Department Unstable Slopes

Washington State Department of Transportation (WSDOT) began their Unstable Slope Management System in 1993. This management system incorporated a numerical slope hazard rating system. The rating system utilizes a matrix evaluating eleven categories. In 2004 an environmental assessment of SR-14 unstable slopes was completed. Of the sites investigated, 3 priority projects were identified in Klickitat County. Priority projects had an Unstable Slope Management System rating greater than 200. Those with ratings above 300 total points represent a relatively high hazard slope. A Benefit to Cost (B/C) Ratio is then used to determine project priority. Table 3-5 lists the priority projects along SR-14 in Klickitat County.

Table 3-5: Priority Unstable Slope Project along SR 14

Road	Mile Post	Rating	B/C Ratio	Improvement
SR-14	68.75-69.10	429		Remove debris/Euromesh/Reslope
SR-14	73.18-73.87	303	3.61	Rockfall ditch
SR-14	77.31-77.67	525	2.03	Scaling/Fence/Euromesh

Tunnels

There are two tunnels along SR-14 in Klickitat County, near Lyle. These tunnels have a 24 foot pavement width, no lighting, and bicycle warning system. The tunnels are arched with a center clearance several feet higher than the 13.5 foot clearance at the outer edge of the pavement.

Trucks

Interstate 84 (I-84) and State Route 14 (SR-14) are parallel east/west highways traveling through the southern portion of the Klickitat region. I-84 is a 4-lane Interstate facility located in Oregon and SR-14 is a rural 2-lane State Highway located in Washington. Both routes are public routes that are open to all legal trucks. As a rural highway, SR-14 is less conducive to through truck traffic because of sharp curves, steep grades, and height restrictions. Through truck traffic should be encouraged to use I-84 to increase mobility and safety.

Preservation and Maintenance Need

Of overwhelming importance in the planning for the regional transportation system is the need to maintain and preserve the existing system in order to protect the heavy investments already made in the system. The RTP supports projects programmed in the Transportation Improvement Program to maintain and preserve the regional transportation system.

Washington State has developed a Bridge Management System, a procedure to visually survey bridge conditions. This system is intended to assist with the prioritization of bridge replacement and maintenance. Projects with immediate needs are programmed into the State or local Six-Year Transportation Improvement Program. There are several bridges in deteriorating condition, or of substandard width that need to be replaced within the next 20 years. The Hood River Bridge is regularly inspected by the Oregon Department of Transportation. Maintenance and repairs are made by the Port of Hood River, who owns the bridge.

A Pavement Management System has been developed for pavement condition on all state road facilities. This system is intended to assist with the prioritization of pavement preservation and to respond to recently observed conditions and predict probable future conditions. WSDOT and local jurisdictions visually inspect pavement conditions of facilities to determine needed maintenance and preservation. Projects that have reached a condition that warrants rehabilitation are programmed into the State and local Transportation Improvement Programs.

Burlington Northern Santa Fe Railroad maintains the BNSF main rail line through Klickitat County. The Port of Hood River maintains the Hood River Bridge. The Goldendale and The Dalles municipal airports are operated and maintained by the City of Goldendale and Klickitat County/City of The Dalles, respectively. Under the direction of the U.S. Army Corps of Engineers, the Columbia River is maintained. Local jurisdictions and WSDOT maintain bicycle and pedestrian facilities.

The Regional Transportation plan supports additional transportation dollars for the preservation and maintenance of the regional transportation system.

Enhancement Need

There is a need to develop and improve facilities for bicycles, pedestrians, scenic vistas, rest areas, thematic signage, roadside beautification, and other enhancements within Klickitat County. The Regional Transportation Plan supports cost effective enhancements to the transportation system.

Economic Development Need

The prosperity of a region is dependent on the provision of transportation infrastructure to support economic development. The movement of goods by highway, rail, water, and air are essential to the economy of Klickitat County.

The RTP supports the development of an all-weather road network for the movement of people and goods within the region. This all-weather road network should include all facilities functionally classified as major collectors and above. This all-weather road network will provide the transportation infrastructure necessary for the movement of goods to market, and will strengthen the local economy.

The RTP supports the replacement of the Hood River Bridge. The Hood River Bridge is a major transportation corridor providing access between southwest Klickitat County and Hood River, Oregon. The Hood River Bridge provides the principle access for southwest Klickitat County to employment, services, and goods. This facility is important for the movement of local goods (fruit and timber) to market. This facility is essential to the regions diversification by providing access and employment opportunities related to the tourism/recreational sector. The existing facility is narrow and inadequate to handle the demands of the region. The facility is aging and will likely need to be replaced within the next 15-20 years. The local economy depends heavily on the Hood River Bridge, ensuring an adequate replacement facility is a high priority for the region.

The RTP supports improvements to the transportation system that will give prime consideration to economic development and the safe, efficient movement of people and freight. Specifically, freight produced by or material necessary for the operation of businesses and industries within Klickitat County.

Chapter 4: Financial Plan

Overview

Potential transportation improvement projects proposed in this Plan are intended to meet the RTP goals and policy objective as outlined in Chapter One. These goals and policies include making the most efficient use of and enhancing the existing transportation system.

The availability of federal, state, and local moneys will have a significant impact on the ability to fund proposed projects. This chapter describes revenue sources and discusses changes to revenue sources as a result of federal and state legislation. The projection of funding ability is based on historical funding levels. The ability of the projected funding to meet RTP costs is determined.

Transportation has traditionally been funded by "user fees". Today, the major tax sources to fund transportation are the gas tax, vehicle licenses, permits, and fees. Gas tax is imposed at the federal level ($0.184 per gallon) and at the State level ($0.375 per gallon) and is devoted to roadway purposes.

Challenges and Accomplishments

The RTP faces considerable challenges for funding the transportation system into the future. Over the last decade fewer dollars have been spent on the transportation system as transportation revenues have declined. As the transportation system ages, the cost of preserving and maintaining the existing transportation system has increased. There is a need to have a public discussion on how transportation cost will be paid for in the future

The RTP was last adopted in 2012; since that time, a number of improvements have been completed on the regional system within Klickitat County. The completed improvements include the reconstruction of several regionally significant county roads, safety projects, transportation enhancements, and the maintenance and preservation of the existing transportation system.

Planned future transportation improvements will continue to maintain and enhance the existing transportation system. Without additional revenue there will be limited opportunities to improve the Klickitat County regional transportation system.

Revenue Sources

Federal Funding

The federal gas tax and other transportation fees and taxes are the major federal revenue sources for federal transportation funding. On July 6, 2012, the President signed into law the Moving Ahead for Progress in the 21st Century Act (MAP-21). MAP-21 provides funding for fiscal years 2013 and 2014. MAP-21 restructures core transportation programs with programs created, eliminated, or restructured under other programs. This document includes a brief description of MAP-21 programs.

National Highway Performance Program (NHPP): This program provides support for the condition and performance of the National Highway System (NHS), for the construction of new facilities on the NHS, and to ensure that investments of Federal-aid funds in highway construction are directed to support progress toward the achievement of performance targets established in the State's asset management plan for the NHS. Under MAP-21 the National Highway System is expanded to include all principal arterials.

Surface Transportation Program (STP): This program provides flexible funding that may be used for projects to preserve and improve the conditions and performance of any Federal-aid highway, bridge, and tunnel on any public road. This includes improvements to roads, pedestrian and bicycle infrastructure, and transit capital projects. STP funds are divided between the follow programs:

- STP-Rural (STP-R): Formula allocation for projects outside the Urban Area boundary. RTC (MPO) selects projects for funding.
- STP-State (STP-S): Formula allocation to the Washington State Department of Transportation, for use on State highway projects. The State selects projects.

Highway Safety Improvement Program (HSIP)

This program is intended to achieve a significant reduction in traffic fatalities and serious injuries on all public roads. The HSIP requires a data-driven, strategic approach to improving highway safety.

Transportation Alternatives Program (TAP)

MAP-21 established a new program to provide for a variety of alternative transportation projects, including many that were previously eligible activities under separately funded programs. The TAP replaces the funding from Recreational Trails, Safe Routes to Schools, and several other discretionary programs, wrapping them into a single funding source.

Community Development Block Grant (CDBG)

CDBG funds are administered by the Department of Housing and Urban Development (HUD). Funds can be used for public facilities, economic development, housing, and comprehensive projects which benefit low and moderate income households. Projects are selected by the county.

Federal Lands Highways:

The Federal Lands Highways Program provides funds for projects that improve access within federal lands.

State Funding

The State Gas Tax is the primary State source of highway maintenance and arterial construction funds:

Washington State Department of Transportation (WSDOT)

The Washington State Department of Transportation administers state and federal funded state highway projects. State transportation revenues are divided into separate programs. The budget for these programs is determined by the state legislature. WSDOT then prioritizes projects and determines which projects can be constructed within the budget of each program.

WSDOT Grant Programs

WSDOT administers many transportation related grants that are available to local agencies. However, most of these programs are dependent on the legislature allocating funding and can vary from year to year.

Transportation Improvement Board (TIB) Programs

The Washington State Legislature create the Transportation Improvement Board (TIB) to foster state investment in quality local transportation projects. The TIB distributes grant funding, which comes from the revenue generated by three cents of the statewide gas tax, to cities and urban counties for funding transportation projects. The TIB identifies and funds the highest ranking transportation projects based on criteria established by the Board for each program.

- Small City Arterial Program (SCAP): Funding provided to preserve and improve the arterial roadway system for cities under 5,000 population. A local match of 5% or greater is required; a jurisdiction with a population under 500 needs 0% local match.
- Small City Pavement Preservation Program (SCPPP): Provides funding for rehabilitation and maintenance of the small city roadway system.
- Federal Match: Funding provided to meet the local match of some federally funded projects in small cities (population under 5,000). The program provides match for federally funded projects. The Transportation Improvement Board funds are made available following approval of federal funds.

County Road Administration Board (CRAB)

The County Road Administration Board (CRAB) was created by the Legislature in 1965 to provide statutory oversight of Washington's thirty-nine county road departments. CRAB manages two grant programs to assist counties in meeting their transportation needs.

- Rural Arterial Program (RAP): This is a state fund for financing arterial road improvements in rural areas. RAP funds cannot be used for right-of-way. Projects are rated by five criteria. Projects are selected by the County Road Administration Board.
- County Arterial Preservation Program (CAPP): Funding is provided for the preservation of existing paved county arterials. Funding is provided to counties as direct allocation based on paved arterial lane miles by the County Road Administration Board.

Washington State Recreation and Conservation Office (RCO)

The RCO manages nine grant programs, including the largest park grant program in the state of Washington. RTO creates and maintains opportunities for recreation, protects the best of the state's wild lands, and contributes to the state's effort to recover salmon from the brink of extinction.

Community Economic Revitalization Board (CERB):

CERB was established by the legislature to make loans and/or grants for public facilities, including roads, which will stimulate investment and job opportunities, reduce unemployment, and foster economic development. The Community Economic Revitalization Board selects projects.

Local Funding

Local revenue comes from a variety of sources such as gas tax, property tax, sales tax, permits, fees, and private development.

Local Gas Tax Revenue

This is the distribution of the state gasoline tax to the cities and counties based on each jurisdiction's population.

Road Improvement District (RID)

RID's can be formed and funded by properties benefiting from an improvement. They are usually formed at the request of property owners. Local government will build the project using revenue bonds from the road improvement district.

Frontage Improvement Agreements

Developments are often required to construct frontage improvements as a condition of their development. In cases where the development abuts a proposed road improvement project, it may be beneficial for the developer to pay local government for their share of the frontage improvement and for local government to construct the improvement as part of the overall capital project.

Transit Revenues

Revenue sources that have been described previously are generally intended for roadway improvements. The transit system is generally funded by fare box proceeds, federal and state grants, Medicaid, and other local funds.

Fare Box

Patrons of the Mount Adams Transportation Service pay a fare to use the service. The fare revenues pay for a portion of the operating cost.

Consolidated State and Federal Grants

The Washington State Department of Transportation is responsible for distributing a variety of state and federal grants for public transportation programs. WSDOT created a consolidated application process that is used for both state and federal public transportation grants. By creating a consolidated application process, applicants only need to submit their proposals for all funding only once every two years.

Medicaid

Eligible medical trips are funded by Medicaid.

Local Funds

Senior Transportation is funded in part by the Southwest Agency on Aging and Klickitat County. In addition, United Way provides additional public transit funding.

Revenue Assumptions

SHB 1928 requires the RTP be 'fiscally constrained' or "include a financial plan demonstrating how the regional transportation plan can be implemented, indicating resources from public and private sources that are reasonably expected to be made available to carry out the plan, and recommending any innovative financing techniques to finance needed facilities, services, and programs." There must be a balance between forecast revenues and costs of identified transportation system improvements. With limited revenues available for funding transportation improvements, the most cost-effective transportation solutions must be identified and selected. The following outlines the assumptions and methodology used for the RTP revenue forecast.

- WSDOT provided historical data for transportation revenues for years 2004 through 2012 (9-year period).
- Total transportation revenue was estimated for a 21-year period through 2035, using the following approach: 1) calculated annual Klickitat County transportation revenue for years 2004-2012; 2) increased annual revenue by 10% to reflect the recovery of the economy; 3) multiplied transportation revenue by 80% to reflect the revenue available for the regional transportation system; 4) multiplied regional transportation revenue by 21 years to estimate total regional revenue generated by Klickitat County through 2035.
- The regional revenue estimate accounts for the trend that Klickitat County receives a $1.50 return for every dollar contributed by Klickitat County residents.
- Assumed the equivalent of a new statewide transportation funding package of 11.5 cents per gallon. With Klickitat County receiving approximately $25 million dollars over the 21-year period.

- Assumed the continuation of the federal transportation revenue at current levels.
- The RTP assumes revenues and costs in 2012 dollars.

Table 4-1 contains projected transportation revenues for the regional transportation system.

Based on this estimate, the Klickitat County region would have approximately $245.7 million in transportation revenue available over the next 21 years.

Table 4-1: Projected Revenue

Revenues	Annual Average	21 Year Forecast
Transportation Revenue	$10,500,000	$220,500,000
State Revenue Package	$1,200,000	$25,200,000
TOTAL	**$11,500,000**	**$245,700,000**

Cost Assumptions

- The following outlines the assumptions and methodology used to estimate costs.
- WSDOT provided historical data for transportation expenditures for years 2004 through 2012 (9-year period).
- Future maintenance and preservation cost were based on trends from years 2004-2009. The full maintenance and preservation need is significantly higher than the available cost.
- Cost for transportation improvements are based on planning level cost estimates.
- Cost for other modes such as rail, air, and river are assumed to be met outside of the RTP.

Table 4-2 contains projected transportation cost for the regional transportation system. Based on this estimate, the Klickitat County region would have $176.5 million in maintenance and preservation cost, $69.2 million in improvement cost, and $342.0 million in illustrative needs cost over the next 21 years.

Table 4-2: Projected Cost

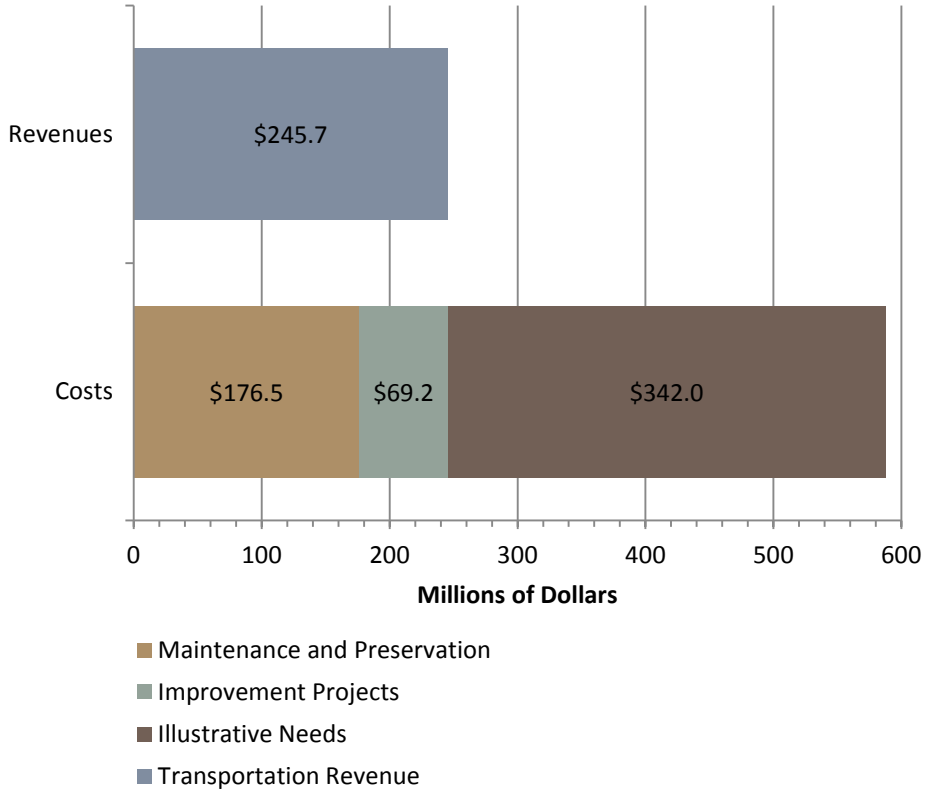
Cost Type	21-Year Forecast
Maintenance & Preservation	$176,500,000
Improvement Projects	$69,200,000
Illustrative Needs	$342,000,000

Balancing Revenue and Cost

The “fiscally constrained” test focuses on assuring that there is a reasonable expectation that revenues will be available to provide for the transportation improvements identified in the RTP. Based on the revenue assumptions described

in this chapter, there are insufficient resources within the region to meet the maintenance, preservation, and improvement needs of the regional transportation system. If additional resources are not obtained, there will be inadequate funds for all of the transportation improvement needs. The funding and cost difference is illustrated in Figure 5-1. To meet the financial constraints of the RTP, some improvement needs have been moved to an illustrative list.

Figure 4-1: Transportation Revenue and Cost, 2014-2035



Chapter 5: System Improvement and Strategy Plan

Overview

This chapter summarizes the solutions and strategies needed to provide an adequate level of regional mobility over the next 20 years. A wide range of solutions and strategies are needed to meet the regional travel demand. There are strategies to address the travel demand side as well as transportation system supply side, and strategies to increase the efficiency of the existing regional transportation system as well as strategies to provide for a safer transportation system. The solutions and strategies outlined in this chapter will provide Klickitat County residents with a well-maintained, structurally sound, safe regional transportation system. In developing a balanced regional transportation system, it is not only capacity and safety deficiencies that must be addressed but also preservation and maintenance of the existing regional transportation system. This chapter concludes with a prioritized list of transportation system improvements.

The solutions and strategies for the Klickitat County regional transportation system have been divided into subheadings. Maintenance is the daily operations that keep the transportation system safe, clean, and efficient. Preservation is an investment that prolongs the life of the transportation system. Improvements are modifications that increase the safety, mobility, and effectiveness of the transportation system. Miscellaneous includes specific improvements which may be included under one of the other subheadings or is tied to a specific funding source, thus no cost estimate is provided for these strategies. Illustrative includes additional transportation projects that have been identified and currently lack sources of funding.

Maintenance and Preservation

Of prime importance in the planning for the regional transportation system is the need to maintain and preserve the existing transportation system.

Maintenance will address the day-to-day activities needed to keep the transportation system in good working order; daily operations that keep the system safe, clean, reliable and efficient. Such activities include filling potholes, repairing

bridges, repairing drainage ditches, repairing guardrails, replacing damaged signs, plowing snow, removing rocks, and efficiently operating traffic signals. Preservation can prolong the life of the existing transportation system through such projects as repaving roads, rehabilitating bridges, and rock fall protection.

The Washington State Department of Transportation (WSDOT) and local jurisdictions monitor the condition and operation of the existing system and program projects to maintain and preserve the system. The RTP supports the routine, regularly-scheduled, and necessary maintenance and preservation work identified by local and state agencies. The RTP supports maintenance and preservation being given high priority in the programming of transportation funds. The estimated 21 year public maintenance and preservation expenditure for the regional transportation system is $176.5 million. This does not reflect the full maintenance and preservation need.

Improvements

In addition, the Regional Transportation Plan recommends transportation improvements needed to provide an adequate level of safety and regional. Improvements should be related to an identified deficiency, as identified in Chapter 3 (safety, capacity, economic development, non-motorized mode, and bridge). Improvements would include adding lanes, removing a dangerous curves, intersection improvements, grade separation, adding transportation enhancements, improving sight distance, adding a climbing lane, realignment of a roadway, and adding alternative modes of transportation. The estimated 21 year improvement cost is $69.2 million.

Miscellaneous Strategies and Solutions

The RTP supports strategies for bridges, safety, economic development, non-motorized modes, and transit that will support the mobility of people and goods within Klickitat County.

Bridge Deficiencies

Maintenance, preservation, and replacement projects required on bridges are identified through the Bridge Management System (BMS) administered by WSDOT.

The region has identified the long-term need to replace the functionally obsolete Hood River Bridge. The region must continue to work collaboratively on this long-term need.

Safety Deficiencies

Accidents and their number, location, and type are monitored by WSDOT and local jurisdictions. If there is deemed to be a safety deficiency, then countermeasures are considered and corrective action taken.

Economic Development and Freight Transportation Deficiencies

The prosperity of a region is dependent on the provision of transportation infrastructure to support economic development. Economic development emerged as a prime evaluation criterion for prioritizing projects for the Regional Transportation Plan.

WSDOT has adopted a Statewide Freight and Goods Transportation System, which categorizes highways and local roads according to the tonnage of freight they carry. Washington State also created the Freight Mobility Strategic Investment Board (FMSIB) with a mission to create a comprehensive and coordinated state program to facilitate freight movement between and among local, national, and international markets that enhances trade opportunities.

The Washington State Legislature has defined the purpose of the state's freight rail program and planning activities and established a comprehensive freight rail policy. This policy directs WSDOT to maintain and improve the state freight rail system through better freight rail planning, better cooperation to preserve rail lines, and increased financial assistance from the state.

Washington and Oregon have identified the deepening of the lower Columbia River channel to 43 feet as essential for the movement of freight. This improvement will help keep the region economically competitive in the future.

Non-Motorized Transportation Deficiencies

The development of non-motorized transportation modes is a strategy that will maximize the capacity of the existing transportation system in urban areas. Reduced reliance on automobiles is largely dependent on the development of adequate sidewalks and bikeways. Pedestrian and bicycle needs are most appropriately identified at the local level.

Transportation demand management (TDM) strategies to reduce vehicle trips on the regional transportation system can include use of transit, carpooling, vanpooling, working of flex-hours and/or compressed work week, and working from home with use of communications technology.

Transportation system management (TSM) is also a strategy to maximize the efficiency of the existing transportation system. TSM measures include a wide range of strategies, most of which are related to the use of intelligent transportation

systems. These include incident response programs, programs to monitor travel conditions (weather/congestion), variable message signage to alert motorist of travel conditions, improved communication means, and Intelligent Vehicle/Highway Systems. Other TSM elements include minor capital upgrades such as channelization at traffic intersections.

Transit Deficiencies

Transit is important in meeting the mobility needs of the transit dependent; those unable to drive automobiles because of age, infirmity, disability, or low income. Transit can also meet the mobility needs for commute trips to and from employment centers.

Illustrative

Projects that address an identified deficiency, but do not have identified revenue, are contained in the Illustrative Projects list. These projects are considered "financially unconstrained," because estimated resources would not cover project costs.

The Illustrative Projects have "conceptual improvements" indicated and estimated costs identified. These conceptual improvements will not become committed projects until further study is completed; including moving through the regional transportation planning process and potential revenue has been identified. In many cases, the Illustrative projects will require further study of feasible alternatives. The estimated 21 year improvement cost is $43.3 million.

Conclusion

The RTP provides for strategies and solutions to meet regional travel demand and to develop a balanced regional transportation system over the 21-year planning period. Projects are identified in the RTP and then programmed in the local Transportation Improvement Program. Table 5-1 provides a listing of needed improvements for the regional transportation system. This table includes a list of projects for which regional need has been identified and for which there is strong regional commitment. The list focuses on safety improvements since these are the projects that are most readily needed. The list also identifies a wide range of transportation system improvements that will contribute to the development of a balanced regional transportation system.

A prioritization process helps the region to make most effective use of limited transportation funding to meet transportation system improvement needs. The projects listed in Table 5-1 were prioritized based on the regional prioritization process. The following key issues were considered in the prioritization process:

1) Safety, 2) Economic Development, 3) Congestion, 4) Connectivity, 5) Support, and 6) Cost/Funding.

Table 5-1: Klickitat County Transportation Improvement Projects

Rank	Facility	Mile Post	Location	Existing Condition	Improvement	Cost* *(millions)*
Unranked	All	N/A	Klickitat County	Existing transportation system	Preservation and Maintenance	Ongoing
Unranked	All	N/A	Klickitat County	Existing transportation system	Safety Improvements	Ongoing
Unranked	All	N/A	Klickitat County	Existing transportation system	Transportation Enhancements	Ongoing
Unranked	All	N/A	Klickitat County	Existing transit system	Maintain and improve public transit	Ongoing
1	SR-35	N/A	White Salmon to Hood River	Hood River Bridge	Bridge replacement: FEIS and design	$10.0
2	N/A	N/A	Klickitat County	Existing rural arterials	Reconstruct to all-weather roads	$20.0
3	SR-14	65-67	Bingen Freight Mobility Study	SR-14 Thru Bingen	Study Freight movement needs in Bingen	$0.3
4	SR-14	66-67	Port of Klickitat: Bingen Point	At-grade crossing at Maple St.	Grade-separated RR crossing	$20.0
5	SR-14	66.41	SR-141	Intersection	Signalized Intersection	$0.3
6	SR-97	2.3-2.8	Maryhill Spur SR-97/SR-14	Offset intersections	Study: Intersection improvement	$1.0
7	SR-97	25.4-27.2	Brooks Park to Ski-Lodge Rd	One lane each direction	Preliminary Engineering: Passing lane	$0.8
8	SR-14	63.5-77.7	SR-14 within Klickitat Co.	Existing rockfall locations	Rockfall protection	$5.0
9	SR-14	63.5-64.8	SR-141 Alt. to Dock Grade	Narrow two-lane road	Study: Improve width and grade	$1.0
10	SR-14	75.8-76.3	Lyle	Uncontrolled access	Add sidewalk and curbs	$3.0
11	SR-97	14.5-21.3	Little Klickitat Rv - Allen Cr	One lane each direction	Study: Passing lanes	$1.8
12	SR-141	2.0-6.9	White Salmon to Northwestern Lake Rd. Vic.	Sharp curves	Study: Realignment of curves	$2.0
13	SR-197	0.8-1.2	Dallesport Rd. to Dock Rd.	Intersections	Add left turn pocket, acceleration and deceleration lane	$1.0
14	SR-141	0.8-1.2	Ash St. to SE 10th St.	Uncontrolled access	Sidewalk and curbs	$3.0
Total						**$69.2**

**These are planning level estimates and additional work will be needed to determine actual cost.*

Table 5-2 provides a listing of needed improvements along the regional transportation system that do not have an identified revenue source. These projects will be added to the committed list when adequate financial resources are identified.

Table 5-2: Illustrative Needs

Rank	Facility	Mile Post	Location	Existing Condition	Improvement	Cost* *(millions)*
1	SR-35	N/A	White Salmon to Hood River	Hood River Bridge	Bridge replacement	$210.0
2	SR-97	2.3-2.8	Maryhill Spur SR-97/SR-14	Offset intersections	Intersection improvement	$68.0
3	SR-97	25.4-27.2	Brooks Park to Ski-Lodge Rd	One lane each direction	Passing lane	$8.0
4	SR-14	63.5-64.8	SR-141 Alt. to Dock Grade	Narrow two-lane road	Improve width and grade	$12.0
5	SR-97	14.5-21.3	Little Klickitat Rv - Allen Cr	One lane each direction	Passing lanes	$18.0
6	SR-141	2.0-6.9	White Salmon to Northwestern Lake Rd. Vic.	Sharp curves	Realignment of curves	$26.0
Total						**$342.0**

**These are planning level estimates and additional work will be needed to determine actual cost.*

Chapter 6: Performance Monitoring

Overview

The transportation planning process requires that monitoring of system performance takes place. Monitoring of the regional transportation system's performance is an ongoing activity, which at a minimum, will occur as part of the review of the Regional Transportation Plan (RTP). The RTP must be reviewed at least every two years. Several elements of system monitoring activities are described below.

Safety

Monitoring of collision data and rockfall is an ongoing activity of the regional transportation system. Collision data will be collected and studied based on a three year collision rate as part of each RTP review. The collision rates will be used to identify the performance of the transportation system by identifying deficient road segments. High collision locations will be used as a tool for identifying improvement strategies to alleviate a safety problem.

In addition, WSDOT will monitor rockfall. Future updates of the RTP will contain the most recent rockfall information. Rockfall locations will be used as a tool for prioritizing rockfall improvements.

Capacity Analysis

Traffic volumes will be used as a tool for monitoring traffic congestion and for identifying improvement strategies to alleviate the congestion. The Highway Capacity Software will be used to analyze the level of service along the regional transportation network. Deficient segments will be analyzed to identify improvement strategies to alleviate congestion.

Preservation and Maintenance

Local, regional, and state tools are being used to monitor preservation and maintenance needs. Washington State has developed a Bridge Management System and Pavement Management System to identify deficient conditions along roadways and bridges. These tools along with other tools are ongoing activities which monitor preservation and maintenance needs of the regional transportation system.

Special Studies

Local and state studies and plans are occasionally undertaken which monitor the performance of the transportation system. As these special studies or plans are completed, the associated information will be included in the next update of the Regional Transportation Plan.

Chapter 7: Plan Development and Implementation

Public Involvement in Regional Transportation Planning Process

Southwest Washington Regional Transportation Council (RTC) has an adopted Public Participation Plan outlining the public involvement efforts in the development of regional transportation plans and programs. Copies of the Public Participation Plan are available from RTC's Web site or office. All RTC Board meetings and the Klickitat County Transportation Policy Committee meetings are open to the public. Public involvement efforts build from those carried out at the local level in development of local plans and programming of transportation projects.

A public meeting is held to adopt the Klickitat County Regional Transportation Plan. Amendments to the RTP are presented to both the Klickitat County Transportation Policy Committee and the RTC Board of Directors for their consideration and adoption. Transportation issues, studies, plans, and programs are outlined and reported on RTC's web site at http://www.rtc.wa.gov.

RTP Implementation

Implementation of regional transportation goals, policies, and actions established by the Klickitat County Regional Transportation Plan (RTP) are carried forward through a local and regional decision-making process. Through the local development of a Transportation Improvement Program (TIP), transportation needs identified in the RTP are programmed for receipt of funds.

RTP Update Process

The RTP is to be reviewed at least every two years and has been updated or amended many times over the years. Should changing policies, financial conditions, or growth patterns warrant, an RTP update or amendment will occur.

Results and recommendations from transportation studies and improvements will be incorporated into future RTP updates. The next review/update to the RTP is anticipated in 2016.

Glossary

Abbreviation	Description
ADT	Average Daily Traffic
BEA	Bureau of Economic Analysis
BNSF	Burlington Northern Santa Fe Railroad
BMS	Bridge Management System
CAPP	County Arterial Preservation Program
CDBG	Community Development Block Grant
CERB	Community Economic Revitalization Board
CRAB	County Road Administration Board
FMSIB	Freight Mobility Strategic Investment Board
GMA	Growth Management Act
HSP	State Highway System Plan
HSIP	Highway Safety Improvement Program
HSS	Highways of Statewide Significance
ISTEA	Intermodal Surface Transportation Efficiency Act (1991)
LOS	Level of Service
MPO	Metropolitan Planning Organization
NHS	National Highway System
NHPP	National Highway Performance Program
OFM	Washington State's Office of Financial Management
Scenic Area	Columbia River Gorge National Scenic Area
NHS	National Highway System
PMS	Pavement Management System
PTBA	Public Transportation Benefit Area
RID	Road Improvement District
RTC	Southwest Washington Regional Transportation Council
RTP	Regional Transportation Plan
RCO	Washington State Recreation and Conservation Office
RTPO	Regional Transportation Planning Organization
SHB	Senate House Bill
SR-	State Route
STP	Surface Transportation Program
TAP	Transportation Alternatives Program
TDM	Transportation Demand Management
TIB	Transportation Improvement Board
TIP	Transportation Improvement Program
TSM	Transportation System Management
VMT	Vehicle Miles Travelled
WSDOT	Washington State Department of Transportation
WTP	Washington Transportation Plan