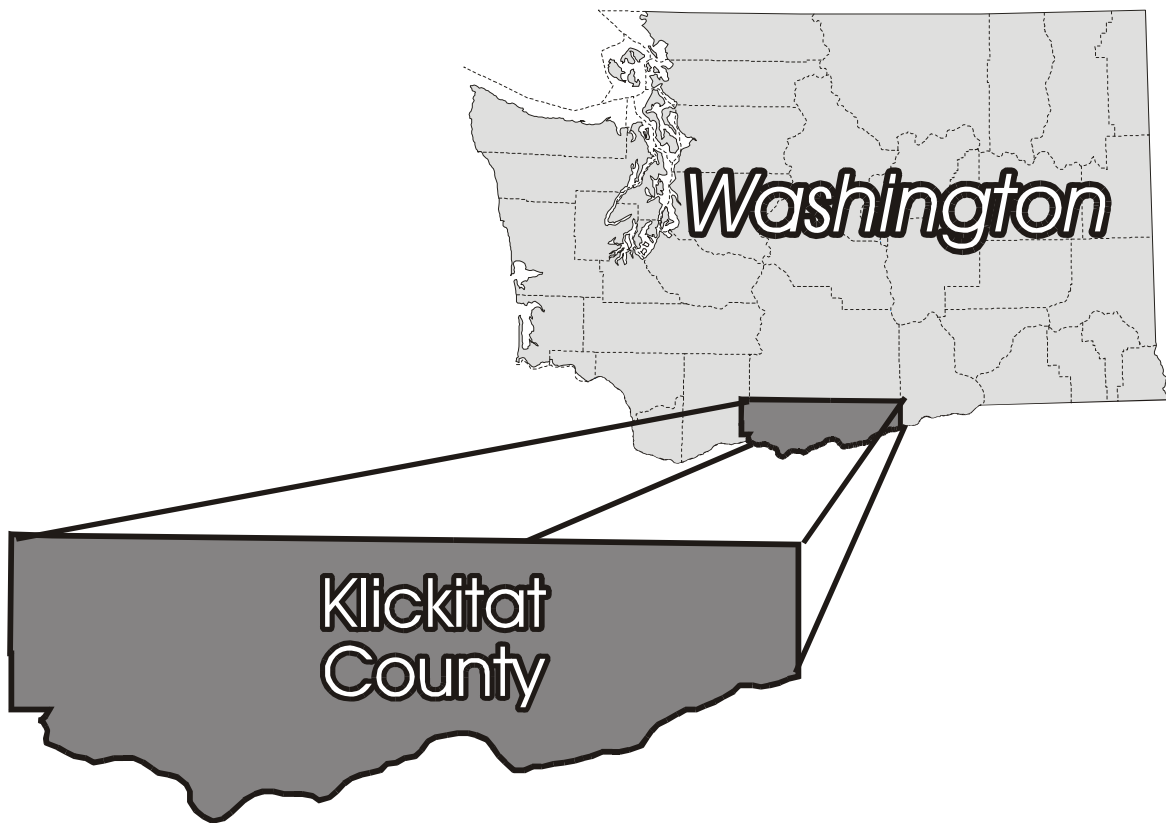


# Klickitat County Regional Transportation Plan

**Updated: May 2009**

**Amended: December 2011**



*Southwest Washington Regional Transportation Council*



# **KLICKITAT COUNTY REGIONAL TRANSPORTATION PLAN**

Updated: May 2009  
Amended: December 2011

*Prepared by:*

Southwest Washington  
Regional Transportation Council  
PO Box 1366  
Vancouver, WA 98666-1366  
(360) 397-6067



# TABLE OF CONTENTS

<u>Chapter</u>	<u>Page</u>
Title Page .....	i
Table of Contents .....	iii
List of Figures and Tables.....	v
Klickitat County Transportation Policy Committee .....	vi
1 INTRODUCTION	1
Vision.....	1
Purpose.....	1
Goals .....	1
Transportation Strategy.....	2
Guidelines and Principles .....	2
Scope.....	3
Transportation Issues Addressed in RTP.....	3
Statutory Requirements.....	4
Intergovernmental Coordination – RTP Development Process.....	7
Klickitat County Regional Transportation Plan: Work Plan .....	8
Outline of RTP Chapters.....	8
2 LAND USE, GROWTH, AND TRANSPORTATION	11
Land Use and Transportation.....	11
Growth and Development .....	12
General Land Use in Klickitat County.....	13
Planned Land Use .....	13
Population and Employment Forecast .....	14
Demographic and Travel Trends .....	14
3 IDENTIFICATION OF REGIONAL TRANSPORTATION NEEDS	19
Current Functional Classification of the Regional Roadway System.....	19
Designation of the RTP Regional Transportation System.....	20
Growth in Traffic Volumes.....	24
Future Travel Demand .....	24
Levels of Service.....	24
Level of Service Standard.....	25
Capacity Analysis .....	26
Safety Analysis .....	26
Preservation and Maintenance Need.....	27
Enhancement Need .....	28
Economic Development Need .....	28

<b><u>Chapter</u></b>	<b><u>Page</u></b>	
4	FINANCIAL PLAN	29
	Overview.....	29
	Accomplishments Since Last RTP.....	29
	Revenue Sources.....	29
	Revenue Allocation.....	35
	Projected Transportation Revenues and Expenditures .....	35
5	SYSTEM IMPROVEMENT AND STRATEGY PLAN	37
	Overview.....	37
	Maintenance.....	37
	Preservation.....	37
	Improvements .....	38
	Miscellaneous Strategies and Solutions.....	38
	Conclusion .....	39
6	PERFORMANCE MONITORING	41
	Overview.....	41
	Safety .....	41
	Capacity Analysis .....	41
	Preservation and Maintenance .....	41
	Special Studies.....	41
7	PLAN DEVELOPMENT AND IMPLEMENTATION	43
	Public Involvement in Regional Transportation Planning Process.....	43
	RTP Implementation.....	43
	RTP Update Process .....	43
A	APPENDICES	45
	Glossary .....	46
	Functional Class Map .....	47

## List of Figures and Tables

<u>Figure/Table</u>	<u>Page</u>
Figure 1-1	Klickitat County Vicinity Map ..... 3
Figure 1-2	RTC Agency Structure..... 7
Figure 1-3	RTP Development Process ..... 8
Figure 2-1	Land Use/Transportation Cycle ..... 11
Figure 2-2	Growth in Klickitat County, 1980 to 2000 ..... 12
Figure 2-3	Population, Housing, & Employment, 1980 to Forecast 2025 ..... 14
Table 2-1	Klickitat County Residents Employed in Other Counties ..... 15
Figure 2-4	Registered Vehicles and Population ..... 16
Table 2-2	Klickitat County Population, Housing, and Vehicle Registration ..... 16
Table 2-3	1990 and 2000 Census: Journey to Work Comparison..... 17
Table 3-1	Klickitat County Railroad Crossings ..... 23
Table 3-2	Traffic Volumes ..... 23
Table 3-3	Deficient Capacity Segments..... 25
Table 3-4	Deficient Safety Segments..... 26
Table 3-5	Rockfall Hazard Location..... 27
Table 4-1	Projected Revenue ..... 36
Table 5-1	Klickitat County Transportation Improvements ..... 40
Figure 5-1	Funding and Cost ..... 40
Attachments	Functional Class Map ..... 47

# 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
Washington State Department of Transportation	Port of Klickitat County

## Klickitat County Transportation Policy Committee Members

### *Committee Members:*

Ray Thayer	Klickitat County Commissioner
Betty Barnes	Mayor City of Bingen
Larry Bellamy	Goldendale City Administrator
David Poucher	Mayor City of White Salmon
Marc Thornsbury	Director Port of Klickitat
Don Wagner	Washington State Department of Transportation, SW Region Administrator

### *Staff:*

Ken Burgstahler	WSDOT, SW Region
Chris Tams	WSDOT, SW Region
Gordon Kelsey	Klickitat County, Public Works
Keith Grundei	City of Goldendale, Public Works
Sharon Carter	Klickitat Co. Senior Services
Dean Lookingbill	Regional Transportation Council
Dale Robins	Regional Transportation Council

# CHAPTER ONE

## *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. RTP updates were adopted in 1998, 2001, 2003, and 2006. This update to the Klickitat County RTP will use 2030 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 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:

- Maintain, preserve, and improve the existing regional transportation system.
- Provide a safe and secure transportation system that allows for the movement of people and freight.
- Provide a transportation system that fosters economic development.
- Provide for the development of a transportation system that efficiently uses financial resources.
- Provide an integrated and coordinated transportation system that includes a variety of mobility options.
- Provide a transportation system that is sensitive to the quality of the environment and natural resources.
- Provide for viable and livable local communities.

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 2030 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*

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

Regional Transportation Plans are expected to be consistent with the policy framework and objectives described in Washington's Transportation Plan (WTP) 2007-2026 (WSDOT; November 2006). The WTP is required by state and federal law to be regularly updated. The Washington State Transportation Commission, working together with Washington's Citizens, business owners, elected officials, tribes, transportation planners and others, developed the 2007-2026 WTP. The 2007 update to the WTP is a blueprint for transportation programs and investments needed to develop Washington's transportation system for the future. The plan addresses all modes of Washington's transportation system: roadways, ferries, public transportation, aviation, freight rail, passenger rail, marine ports and navigation, bicycles and pedestrians. The 20-Year Transportation Vision is that "Washington's transportation system should serve our citizens' safety and mobility, the state's economic productivity, our communities' livability, and our ecosystem's viability." Five investment guidelines set the overall priorities and for the basis of the Plan:

- **Preservation:** Preserve and extend prior investments in existing transportation facilities and the services they provide to people and commerce.
- **Safety:** Target construction projects, enforcement and education to save lives, reduce injuries, and protect property.
- **Economic Vitality:** Improve freight movement and support economic sectors that rely on the transportation system, such as agricultural, tourism and manufacturing.
- **Mobility:** Facilitate movement of people and goods to contribute to a strong economy and a better quality of life for citizens.
- **Environmental Quality and Health:** Bring benefits to the environment and to our citizens' health by improving the existing transportation infrastructure.

The WTP provides an overview of the state and its transportation systems. It presents moving away from the historical practice of using gas tax revenue and attempting to build our way out of congestion; the WTP's 20-year plan warns that as we grow, we must choose strategies to manage growth and strategically invest to better move people and goods.

In addition to the investment guidelines, the WTP makes several policy recommendations in various areas such as funding, land use and transportation, safety, reduced reliance on fossil fuels, emergency preparedness, transportation and the economy, and rural economic vitality.

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 biennially 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, 1) preservation, 2) safety, 3) economic vitality, 4) mobility, and 5)

environmental quality and health, and identifies the highway system needs, strategies, and performance measurements associated with the guidelines.

**HSP Preservation** - includes 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** – includes the identification of highly productive freight strategy 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** – includes projects to remove culverts to restore fish passage, reduce highway noise, treat stormwater, reduce flooding, provide pedestrian crossings, and bicycle connections.

The WSDOT *Strategic Highway Safety Plan: Target Zero* (SHSP, revised February 2007) was developed to identify Washington State's traffic safety needs and to guide investment decisions in order to achieve significant reductions in traffic fatalities and disabling injuries. The *Public Transportation and Intercity Rail Passenger Plan for Washington State, 1997-2016*, (December 1996), is the twenty-year Plan for preserving public transportation systems while improving mobility for a growing population. Each year, WSDOT reports on the status of public transportation in Washington State as required by Section 35.58.2796 RCW. The *Washington State Summary of Public Transportation 2006*, was published in September 2007. In December 2007, the Washington State Transportation Commission published the *Washington State Rail Capacity and System Needs Study* that documents strategic freight and passenger rail system needs, challenges, and opportunities. The WSDOT Aviation Division completed a 20-Year Aviation System Plan in 2003 and is currently working on a long-term air transportation planning study (LATS) for generation aviation and commercial airports statewide.

### **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 was introduced in SHB 1928 and it is required that it be employed 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 - RTP Development Process

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* (July 7, 1992; amended February 3, 2004, April 6, 2004, January 3, 2006, and April 7, 2009) and *Interlocal Agreement for Establishment of the Southwest Washington Regional Transportation Council*. The regional transportation committee structure is outlined in Figure 1-2.

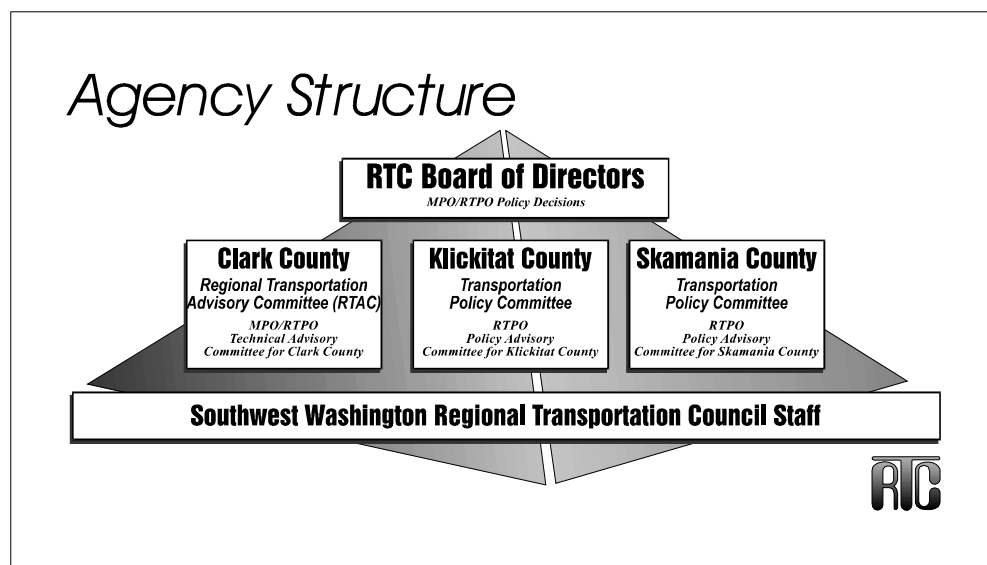


Figure 1-2

### **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 County.

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.

## 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.

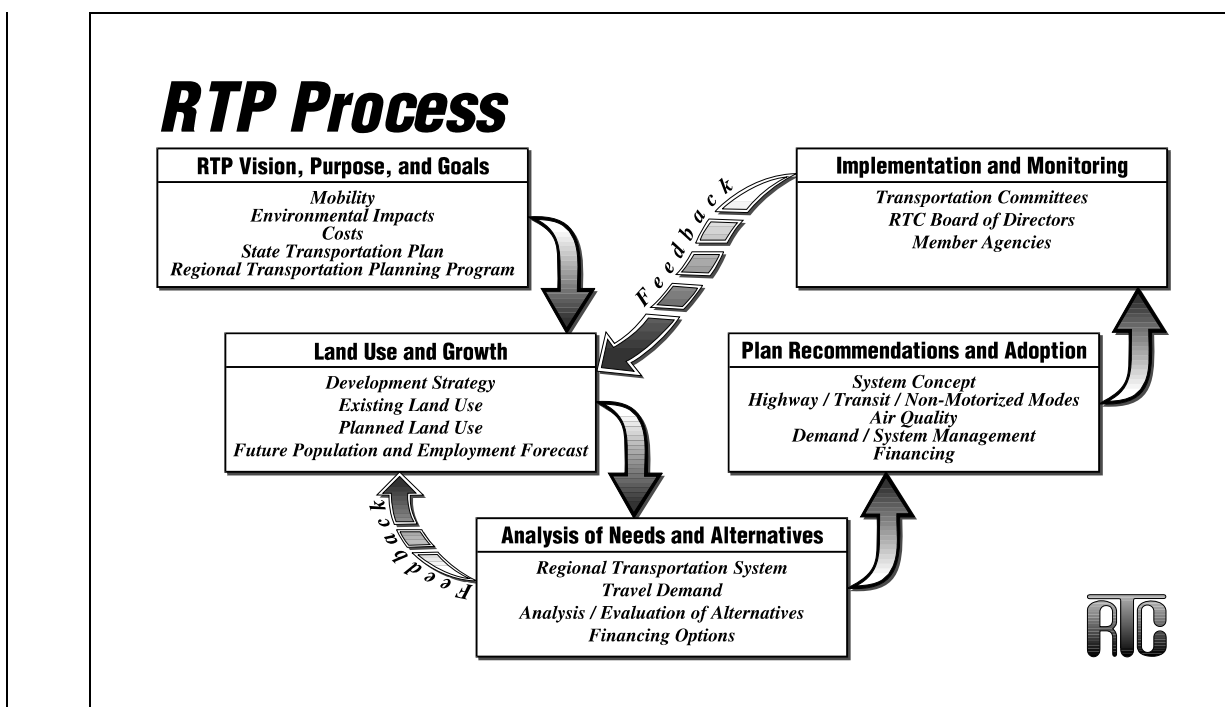


Figure 1-3

## 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.



## CHAPTER TWO

### LAND USE, GROWTH, AND TRANSPORTATION

#### Land Use and Transportation

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.

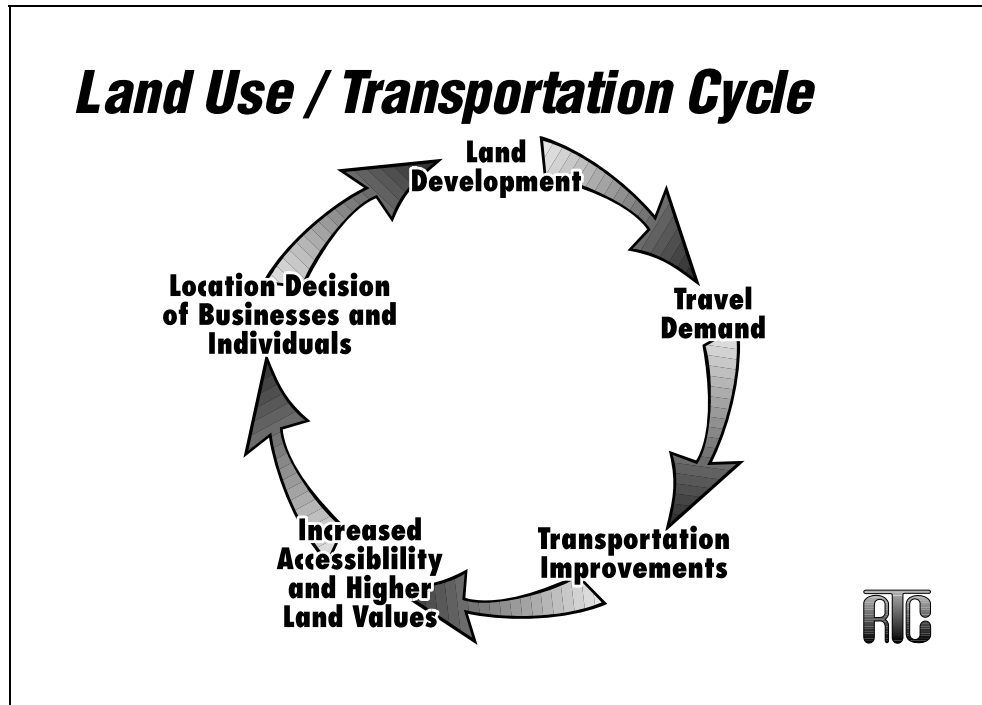


Figure 2-1

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

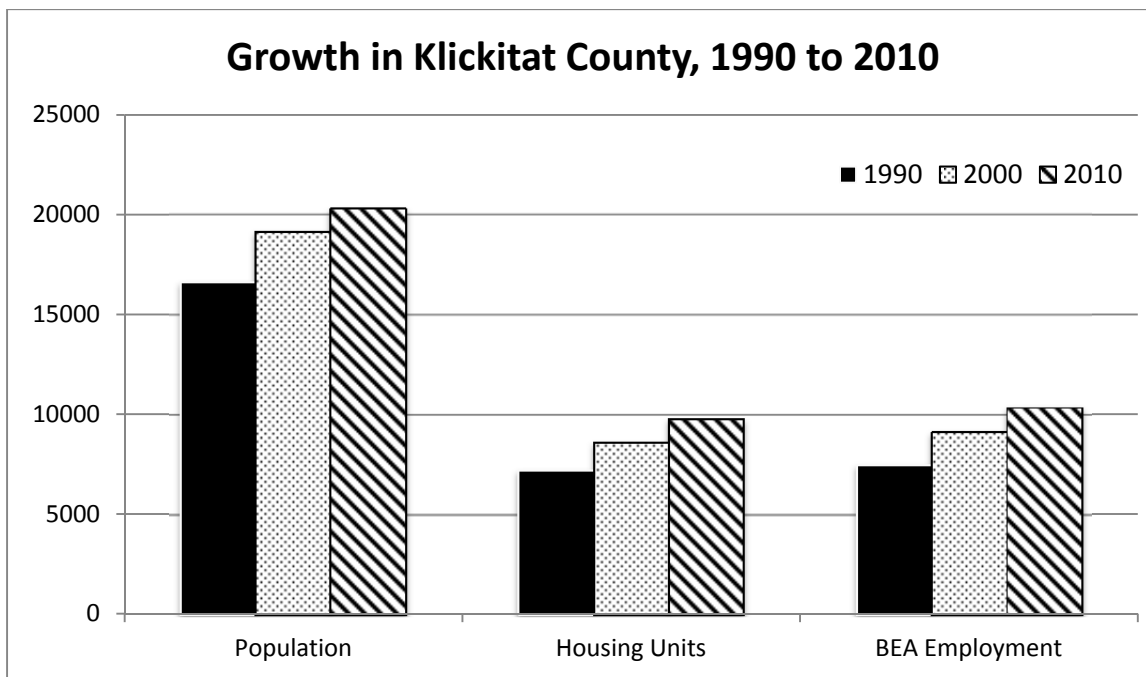
growth can contribute to the health of a region’s economy, it can also have negative impacts. Unmanaged, fast rates of growth can have a severe impact on the ability of a community to provide needed infrastructure and services.

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 38% from 7,508 in 1990 to 10,355 in 2009 (see Figure 2-2). Much of the growth occurred between 1990 and 2007, while growth slowed between 2007 and 2010.



**Figure 2-2**

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 16<sup>th</sup> in size among Washington's 39 counties and 30<sup>th</sup> in population.

Klickitat County's economic base is tied to agriculture, timber, the Roosevelt Regional Landfill, and recently to 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**

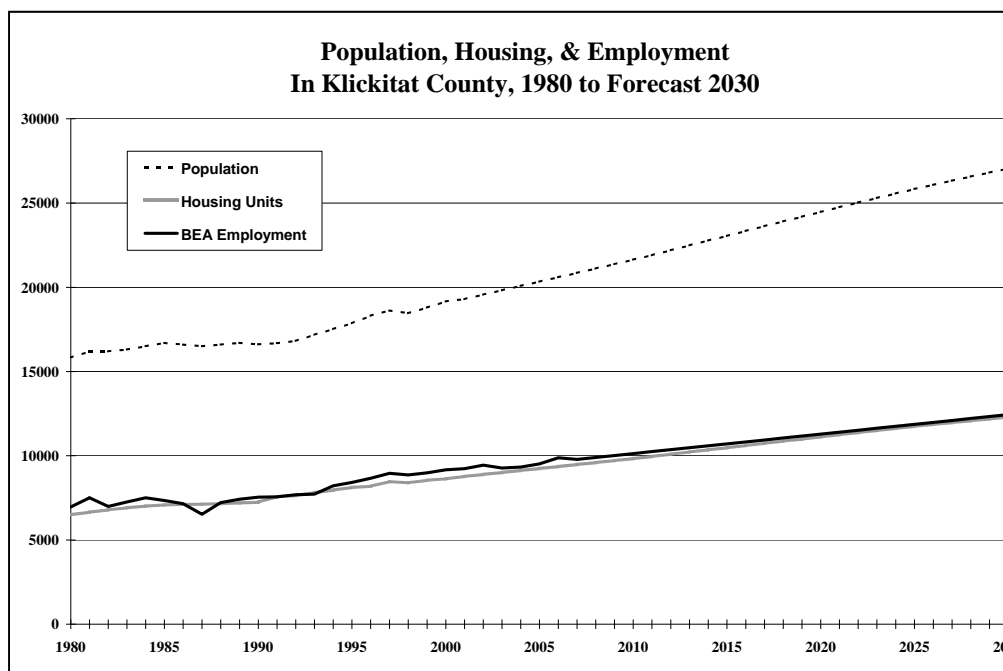
Comprehensive plans are the means by which local jurisdictions can plan for their future growth and development; they can provide a process for anticipating and influencing the orderly and coordinated development of land. Within Washington State, planning authority is delegated by the state to local 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 2007 forecast developed by OFM for 2030 population in Klickitat County ranges from a low of 22,315 to a high of 32,798. For the purpose of the Regional Transportation Plan, the medium forecast of 27,049 will be used. The 2030 forecast represents a 41% or 7,888 increase in population from 2000 to 2030.

Housing and employment forecasts for Klickitat County were developed by RTC based on OFM population forecast and historical trends. Estimated 2030 housing is 12,295 units. The 2030 forecast represents a 42% or 3,662 increase in housing units from 2000 to 2030. Estimated 2030 employment is 12,443. This 2030 forecast represents a 36% or 3,280 increase in employment from 2000 to 2030 (see Figure 2-3).



**Figure 2-3**

## 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 1990 there was a trend toward smaller household size due to more single-person households and smaller family size. In 1970 the average number of persons per housing unit in Klickitat County was 2.60, but by 1990 it had fallen to 2.30. The decade of the 1990's saw a small decrease in persons per housing unit in Klickitat County with the 2000 U.S. Census recording an average 2.22 persons per housing unit. The 2030 forecast is 2.22 persons per housing unit.

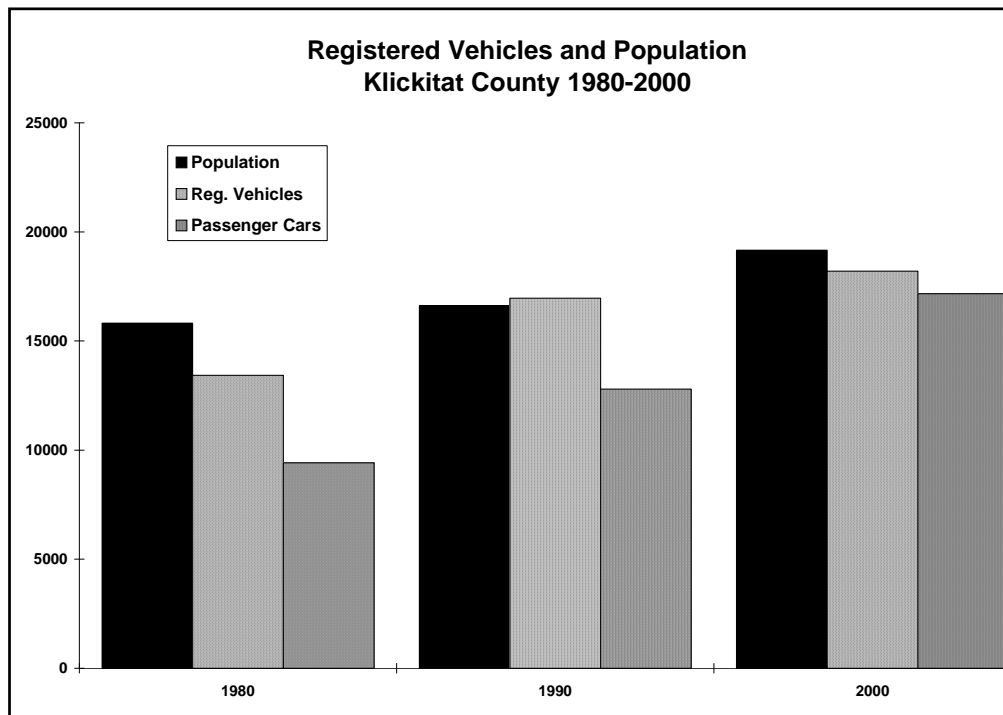
Another demographic trend that affects travel demand is the increase in two-worker households. Typically, the two workers in the household each use an auto to get to work, use the auto for work purposes while at work, use it to run errands at lunch time and before or after work, and if they have a family, 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 2000 Census shows that 26.5% of the county residents worked outside of Klickitat County. Table 2-1 shows data of those living and/or working in Klickitat County (1990 & 2000 Census).

**Table 2-1**

<b>Endflow Place of Work – Klickitat County</b>						
<b>Place of Residence</b>	<b>Place of Work</b>	<b>1990</b>	<b>1990 Percent</b>	<b>2000</b>	<b>2000 Percent</b>	<b>1990-2000 Change</b>
Klickitat County	Klickitat County	5,000	79.6%	5,632	73.5%	632
	Hood River Co., OR	443	7.1%	688	9.0%	245
	Wasco Co., OR	365	5.8%	680	8.9%	315
	Skamania Co., WA	131	2.1%	147	1.9%	16
	Yakima Co., WA	43	0.7%	104	1.4%	61
	Sherman Co, OR	83	1.3%	73	1.0%	-10
	Benton Co., WA	83	1.3%	44	0.6%	-39
	Other Washington	41	0.6%	137	1.8%	96
	Other Oregon	63	1.0%	109	1.4%	46
	Other	31	0.5%	50	0.6%	19
<b>Klickitat Co. Employed Workforce</b>		<b>6,283</b>		<b>7,664</b>		<b>1,381</b>
Klickitat County	Klickitat County	5,000	82.3%	5,632	84.8%	632
Hood River Co., OR		138	2.3%	167	2.5%	29
Wasco Co., OR		405	6.7%	399	6.0%	-6
Skamania Co., WA		247	4.1%	205	3.1%	-42
Yakima Co., WA		58	1.0%	82	1.2%	24
Other Washington		113	1.9%	65	1.0%	-48
Other Oregon		105	1.7%	92	1.4%	-13
Other		6	0.1%	2	0.0%	-4
<b>Employment within Klickitat Co.</b>		<b>6,072</b>		<b>6,644</b>		<b>572</b>

Travel demand has also grown as the number of registered vehicles and passenger cars in Klickitat County has increased in the past two decades (see Figure 2-4). From 1980 to 2000 there has been an increase in population of Klickitat County of 21%, but at the same time there has been an 82% increase in registered passenger cars. Table 2-2 shows the 1980 to 2000 increase in registered passenger cars and registered vehicles (includes all trucks, commercial and recreational vehicles, plus passenger cars) in Klickitat County. As population has increased, there has been a larger increase in the number of vehicles registered in Klickitat County adding to the demands put on the transportation system. The relationship between land use and transportation should be carefully considered when developing a vision for future growth and future growth patterns.



**Figure 2-4**

**Table 2-2**

KLICKITAT COUNTY							
Year	Population	Housing Units	Persons Per Housing Unit	Passenger Cars	Cars Per Housing Unit	Registered Vehicles	Vehicles Per Housing Unit
1980	15,822	6,498	2.43	9,417	1.45	13,428	2.07
1990	16,616	7,238	2.30	12,802	1.77	16,968	2.34
2000	19,161	8,633	2.22	17,166	1.99	18,198	2.11

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 2-3 also provides information that compares 1990 and 2000 Census Journey to Work data. This data displays several trends impacting the commuter travel times. First, the data shows that commute times have increased by approximately 4 minutes. Second, the use of drive alone, carpools, transit, and work from home have increased. Third, there has been a decline in the number of people who walk, bicycle, or use a motorcycle on their journey to work.

**Table 2-3**  
**JOURNEY TO WORK – Klickitat County**

<b>Klickitat County</b>	<b>1990</b>	<b>1990 Percent</b>	<b>2000</b>	<b>2000 Percent</b>	<b>1990 to 2000 Growth</b>	<b>1990 to 2000 Percent Change</b>	<b>2000 WA State Percent</b>
<b>Commuters</b>	<b>6,285</b>	<b>100.0%</b>	<b>7,666</b>	<b>100.0%</b>	<b>1,380</b>	<b>22.0%</b>	<b>100%</b>
Drive Alone	4,281	68.1%	5,505	71.8%	1,224	28.6%	73.3%
Carpool	864	13.7%	1,182	15.4%	318	36.8%	12.8%
Transit	41	0.7%	51	0.7%	10	24.4%	4.9%
Bicycle or Walked	676	10.8%	363	4.7%	-313	-46.3%	3.8%
Motorcycle/Other	100	1.6%	90	1.2%	-10	-10.0%	0.9%
Worked at Home	323	5.1%	473	6.2%	150	46.4%	4.3%
Mean Travel Time to Work (minutes)	18.0	N/A	21.9	N/A	4.0	N/A	25.5



## CHAPTER THREE

### *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. The appendices in the back of this document include a map of the Federal Functional Classification system. 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:

### **1. 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.

## 2. All local principal arterials

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

## 3. 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 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 a large portion of the County. The port district does exclude the county seat of Goldendale. The Port of Klickitat owns and operates two properties. 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. 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, and a Final Environmental Impact Statement is expected to begin soon.

### ***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 frequent 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**

<b>Klickitat County Public Railroad Crossings</b>	
<b>Road</b>	<b>Warning System</b>
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	(Closed to Public)
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.

**Table 3-2**

<b>Traffic Volumes - All Day (ADT)</b>				
<b>Location</b>	<b>Leg</b>	<b>1989 Volumes</b>	<b>2004 Volumes</b>	<b>% Increase</b>
SR-14 at SR-141 Spur	E	3,375	6,600	96%
SR-14 at Hood River Br.	E	3,700	8,300	124%
SR-14 at SR-97	E	1,300	1,900	46%
SR-14 at Benton Co. Ln.	W	740	830	12%
SR-197 at Columbia Rv.	N	3,350	5,300	58%
SR-97 at Columbia Rv.	N	2,650	5,100	92%
SR-97 at Goldendale	N	3,100	4,800	55%

## 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:

## 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 and successful changes are made to the transportation system.

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 could anticipate a modest increase in demand for 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 will 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<sup>1</sup> 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.

---

<sup>1</sup> From *Highway Capacity Manual*, Transportation Research Board, 1985.

- 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 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**

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 Br.	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 Software 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

### High Accident Segments

Accident rates were studied based on a three-year accident history (2005-2007) for segments, using accidents per million vehicle miles of travel. However, this methodology does have a tendency to inflate the problem along roads with relatively low traffic volumes. For the purpose of the plan, accident rates along roads with fewer than 2,500 Average Daily Traffic were not considered. Deficient segments associated with safety are found in Table 3-4.

**Table 3-4**

Road	Mile Post	Deficient Safety Segments	Total Accidents	Accident Rate
SR-14	77.10-77.95	East of Lyle Tunnels	9	2.86
SR-97	1.87-2.60	SR-97/SR-14 Intersections	28	6.31
SR-141	1.07-1.64	White Salmon	23	7.73

Three high accident segments were identified, that had accident rates greater than 2.5 accidents per million vehicles. Accidents East of Lyle Tunnels are mostly single vehicle accidents that hit an object. Accidents at the SR-97/SR-14 Intersections seem to be associated with poor sight visibility and speed. Accidents in White Salmon seem to be associated with poor sight visibility at intersections and driveways. Only three intersections in Klickitat averaged more than 2 accidents per year or more than 6 accidents over the 3 year period. They include SR-97/SR-14 intersection at MP 1.89 with 12 accidents, SR-14 Dock Grade intersection with 8 accidents, and SR-14/SR-97 Spur at MP 100.99 with 7 accidents. Poor sight distance and speed seem to contribute to accidents at these intersections. Accidents at the SR-14/Dock Grade intersection have all been associated with southbound vehicle turning eastbound and over 60% involve an injury. When you consider the low volume of vehicle traveling from Dock Grade southbound to eastbound SR-14, the risk for an accident and injury is significantly higher than average.

### 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**

<b>Road</b>	<b>Mile Post</b>	<b>Rating</b>	<b>B/C Ratio</b>	<b>Improvement</b>
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. The accident rate is above average in the vicinity of these tunnels. These tunnels have a 24 foot pavement width and no lighting. The tunnels are arched with a center clearance several feet higher than the 13.5 foot clearance at the outer edge of the pavement. Due to this low clearance at the outer edge, large vehicles will cross over the centerline when traveling through the tunnels. This creates a potentially dangerous situation, which is magnified by the lack of lighting in the tunnels. In addition, there are 5 tunnels along SR-14 just west of Klickitat County.

**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.

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.

### **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 FOUR

## 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.

### Accomplishments Since Last RTP

The RTP was last adopted in 2009; since that time, a number of improvements have been completed on the regional system within Klickitat County. These completed improvements include SR-142 Bowman Grade safety project, SR-14 at SR-141 Alternate rockfall improvement, and additional paving and safety improvements. Several improvements are planned over the next few years including additional paving and safety improvements.

### Revenue Sources

#### *Federal Funding*

The federal funding picture changed significantly with the passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 and successor Acts, the Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21) passed in 1998 and the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) passed in August 2005. Federal funding programs now allow much greater flexibility in the way money may be used. The federal funding programs now have a multimodal emphasis especially the Surface Transportation Program, which gives regions greater independence. ISTEA was considered landmark legislation because of funding flexibility and because it enhanced the role of regions in the programming and prioritization of federal transportation dollars.

SAFETEA-LU is funded through projected revenues from the Highway Trust Fund and General Fund as well as ethanol tax reforms. SAFETEA-LU includes \$286.5 billion in guaranteed spending for all programs over the six years of the Act, 2004 through 2009. This is a 38% increase over TEA-21’s program levels. In SAFETEA-LU, Washington State should average about 92.3 cents return on the dollar. SAFETEA-LU allocates \$24 billion, amounting to 8.5% of the total bill, to about 6,300 earmarked projects identified by U.S. Congress. Within the

Klickitat County region, the only earmark project is the SR-35 Final Environmental Impact Statement for \$640,000.

A brief description of the existing funding programs available through the federal transportation funding Act follows.

### **1. National Highway System (NHS)**

The NHS program provides funding for improvements to rural and urban roads that are part of the National High System. These roads include the interstate system; other routes identified for their strategic defense characteristics; routes providing access to major ports, airports, public transportation and intermodal transportation facilities; and principal arterials that provide regional service. Funding in this category may be used for a wide variety of projects. In addition to roadway construction and operational and maintenance improvements, eligible projects include: start-up for traffic management and control, infrastructure-based intelligent transportation system capital improvements, fringe and corridor parking, carpool and vanpool projects, bicycle and pedestrian projects, and wetlands and natural habitat mitigation. The funding level for the NHS program is \$30.542 billion nationwide under SAFETEA-LU, 2005 through 2009. In Washington State, federal NHS program funds require a 13.5% local match.

### **2. Surface Transportation Program (STP)**

The Surface Transportation Program is a block grant type funding program which provides flexible funding that may be used by States and localities for projects on any Federal-aid highway<sup>2</sup> including the NHS, bridge projects on any public road, transit capital projects, and intracity and intercity bus terminals and facilities. In addition to eligibility for operational and capacity improvements to roadways, it allows for the programming of transit capital projects, intracity and intercity bus terminals, carpool projects, fringe and corridor parking, capital and operating costs for traffic monitoring, management or control, transportation enhancements, and transportation planning. Under SAFETEA-LU, total funding for the STP program is \$32.55 billion nationwide for years 2005-2009. In Washington State, federal STP program funds require a 13.5% local match.

Of the money received by the state, 10% must be set aside for safety projects and 10% for transportation enhancements. The following outlines the subprograms that are available.

Safety: 10% of STP funds are set aside for safety projects available for cities and counties to improve safety. There are three programs under safety. (1) Railway/Highway Crossings funds are available to reduce fatalities, injuries, and damages through improved railway crossings. (2) Hazard Elimination funds are available to improve specific locations which constitute a danger to vehicles or pedestrians as shown by frequency of accidents. (3) High Accident Potential funds are to reduce a potentially unsafe situation. The costs are shared approximately 90% federal, and 10% local match. The State selects and prioritizes projects for funding. For 2006 and thereafter, the Safety set aside is eliminated as the new Highway Safety Improvement Program takes over the funding of the safety programs.

---

<sup>2</sup> Roads with a federal functional classification above local in urban areas and above rural minor collector in rural areas.

Enhancements: 10% of STP funds are set aside for transportation enhancement projects (bikeways, walkways, highway beautification, scenic or historic transportation projects). The RTPO (RTC) prioritizes projects and the State selects projects. Allocation of funds is determined at the State level.

Regional Allocation: Available to cities, counties, and other public agencies on a county basis. To be eligible, road projects must be on a federal functionally-classified route of rural major collector or above, except for planning studies and enhancement projects. The County selects projects for funding in cooperation with local jurisdictions and agencies.

STP-State: Formula allocation to the Washington State Department of Transportation, for use on State highway projects. The State selects projects.

STP-Statewide Competitive: This is a portion of STP funds that can be used in any area of the State. The State selects and prioritizes projects for funding.

### **3. Highway Safety Improvement Program**

The Highway Safety Improvement Program is established as a new core program, separately funded for the first time. It allows states to target funds to their most critical safety needs to achieve a significant reduction in traffic fatalities and serious injuries on all public roads. States are required to develop and implement a strategic highway safety plan and submit annual reports describing at least 5% of the State's most hazardous locations, progress in implementing projects, and their effectiveness in reducing fatalities and injuries. The program is set to begin in FY 2006. From 2006 through 2009, funding for this program is \$5.1 billion nationwide with \$880 million set aside for the Railway-Highway Crossing program. The costs are shared approximately 90% Federal and 10% local match, except that the Federal share is 100% for certain safety improvements.

### **4. Highway Bridge Program (BR)**

The Highway Bridge Program provides funding to enable States to improve the condition of their highway bridges through replacement, rehabilitation, and systematic preventive maintenance. The nationwide program provides \$21.607 billion in funding from 2005 through 2009. The costs are shared approximately 80% federal and 20% local match.

### **5. High Priority (Demonstration) Projects**

The High Priority Program provides designated funding for specific projects identified by Congress and listed in SAFETEA-LU. 5,091 projects, costing a total of \$14.83 billion, are identified in SAFETEA-LU. These funds generally require a 20% local match.

### **6. Job Access and Reverse Commute (JARC)**

The federal Job Access and Reverse Commute grant program assists states and localities in developing new or expanded transportation services that connect welfare recipients and other low income persons to jobs and other employment related services. Job Access projects are targeted at developing new or expanded transportation services such as shuttles, vanpools, new bus routes, connector services to mass transit, and guaranteed ride home programs for welfare recipients and low income persons. Reverse Commute projects provide transportation services to suburban employment centers from urban, rural, and other suburban locations for all populations. The Job Access and Reverse Commute (JARC) program will be administered as a formula program beginning in FY 2006. Previously,

Klickitat County Senior Services obtained JARC funding to implement job access through a competitive WSDOT grant program.

#### **7. National Scenic Byways Program**

The program recognizes roads having outstanding scenic, historic, cultural, natural, recreational, and archaeological qualities and provides for designation of these roads as National Scenic Byways, All-American Roads, or America's Byways. Projects are prioritized at the State level and selected at the Federal level. The nationwide program provides \$175 million in funding from 2005 through 2009. The funds require a 20% local match.

#### **8. Community Development Block Grant (CDBG)**

Community Development Block Grant (CDBG) funds are administered by the Department of Housing and Urban Development (HUD). Grants can be used for public facilities, economic development, housing, and comprehensive projects which benefit low and moderate income households. Transportation projects that use CDBG funds are usually sidewalk projects and small capital improvements. Projects are selected at the County level.

#### **9. Safe Routes to School Program**

The Safe Routes to Schools Program is to enable and encourage children, including those with disabilities, to walk and bicycle to school; to make walking and bicycling to school safe and more appealing; and to facilitate the planning, development, and implementation of projects that will improve safety, and reduce traffic, fuel consumption, and air pollution in the vicinity of schools. The nationwide program provides \$612 million in funding from 2005 through 2009. The Federal share is 100%.

#### **10. Recreational Trails Program**

The Recreational Trails program provides funds to the States to develop and maintain recreational trails and trail-related facilities for both nonmotorized and motorized recreational trail uses. The nationwide program provides \$370 million in funding from 2005 through 2009.

#### **11. Federal Lands Highways**

The Federal Lands Highways Program provides for transportation planning, research, engineering, and construction of highways, roads, and parkways and transit facilities that provide access to or within public lands, national parks, and Indian reservations. The nationwide program provides \$4.465 billion in funding from 2005 through 2009. The federal share is 100%. Projects are selected at the federal level.

### ***State Funding***

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

#### **1. 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.

## **2. Transportation Improvement Board (TIB) Programs**

The Washington State Legislature created 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 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 Program (SCP): Funds projects that preserve and improve the roadway system in a manner that is consistent with local needs (Incorporated cities under 5,000 population). A local match of 5% or greater is required.

Pedestrian Safety & Mobility Program (PSMP): Funds projects that enhance and promote pedestrian safety and mobility by providing access and addressing pedestrian system continuity and connectivity. A local match of 5% or greater is required.

Federal Match: Provides the local match for federally funded projects meeting routine small city program eligibility.

Pavement Preservation Program: Provides funding for rehabilitation and maintenance of the small city roadway system, in some cases in partnership with WSDOT or county paving projects.

## **3. County Road Administration Board (CRAB)**

The County Road Administration Board was created by the Legislature in 1965 to provide statutory oversight of Washington's thirty-nine county road departments. The agency and the two grant programs they administer are funded from a portion of the counties' share of the State fuel tax.

Rural Arterial Program (RAP): This program provides funding for reconstruction of rural arterial roads. Proposed projects for this program are rated by a specific set of criteria including (1) structural ability to carry loads, (2) capacity to move traffic at reasonable speeds, (3) adequacy of alignment and related geometrics, (4) accident rates, and (5) fatal accident rates. This program generates approximately \$19 million a year for county road improvements.

County Arterial Preservation Program (CAPP): This program provides funding to assist counties in preserving their existing paved arterial road networks. Funding is provided to counties as direct allocation based on paved arterial lane miles. This program generates approximately \$14 million a year for county road improvements.

## **4. Washington State Public Works Board**

The Public Works Board was created by the 1985 legislature. The mission of this board is "to assist Washington's local governments and private water systems in meeting their public works needs to sustain livable communities." They loan money for public facilities, including roads and bridges.

Public Works Trust Fund (PWTF): The Public Works Trust Fund has a pre-construction and a construction loan program. These loan programs provide funds for design work, engineering, permit acquisition, environmental review, right-of-way acquisition, and construction. These loans have a 5-year term for pre-construction and a 20-year term for construction with an interest rate of only one-half percent.

#### **5. Community Economic Revitalization Board (CERB)**

This fund 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 Department of Community Trade and Economic Development administer this program.

#### **6. WSDOT Grant Programs**

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

### ***Local Funding***

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

#### **1. Local Gas Tax Revenue**

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

#### **2. 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.

#### **3. 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.

#### **1. Farebox**

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.

#### **2. 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. These programs include

Federal Sections 5310, 5311, 5311(f), 3037 and State Rural Mobility, Paratransit/Special Needs, and Transit Formula Revenue Equity. 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.

### **3. Medicaid**

Eligible medical trips are funded by Medicaid.

### **4. 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 Allocations**

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.

Between 1995-2004, federal revenues comprise 21% of the transportation funds for the Klickitat County regional system. State and local sources make up 65.5% and 13.5%, respectively, of the transportation revenues for the Klickitat County regional system. The percentage breakdown is somewhat different when jurisdictional authority of the projects receiving funding further delineates revenues.

The financial analysis presented in the RTP assumes revenues and costs in 2008 dollars. This method has advantages in that the methodology is straight forward, but has drawbacks in that inflation is not considered in the analysis. However, the inflation factor has an impact on both the revenue and cost sides of the equation. On the revenues side, gas taxes do not keep pace with inflation. On the project cost side, the longer a project is deferred the more expensive it will be. Another problem that the transportation sector faces is that although the federal government authorizes transportation dollars at a certain level, the actual appropriation for their use is at a lower level.

## **Projected Transportation Revenue and Expenditures**

Projected revenues for the regional transportation system were calculated in order to determine the level of funding available to meet RTP project needs. Data received from WSDOT Economics Branch on transportation revenues generated in the Klickitat County region during the past decade (1995-2004) is used to provide a basis for determining revenues likely to be generated for future transportation needs. Historic data derived from the State Transportation Improvement Program (STIP) are also used as the basis for annual revenue estimates. Of the total revenue, 85% of the federal, 80% of the state revenue, and 50% of the local revenue is assumed to be used on the regional system. The 1995-2004 transportation revenues were then extrapolated, based on the current trend, and factored by the number of years out to the RTP

forecast year of 2030. Table 4-1 contains projected transportation revenues for the regional transportation system, by federal, state, and local funding sources.

**Table 4-1**

<b>Projected Revenue</b>		
	<b>Annual Average</b>	<b>21 Years Forecast</b>
Federal	\$2,000,000	\$42,000,000
State	\$9,700,000	\$203,700,000
Local	\$3,100,000	\$65,100,000
<b>TOTAL</b>	<b>\$14,800,000</b>	<b>\$310,800,000</b>

Data received from WSDOT Economics Branch on expenditures from the past decade (1995-2004) was reviewed to determine potential future expenditures. Expenditures are higher than revenue. Klickitat County is a “recipient county,” in that the county collects less in transportation taxes and fees than it receives back in transportation revenues. In recent years, the gap between revenue and expenditures has narrowed. WSDOT estimates for years 2004 to 2017 that Klickitat County will receive \$1.62 back for every dollar contributed by Klickitat County residents. Based on this return rate, the \$310,800,000 in projected revenue would equate to \$503,500,000 available for expenditures over the 21 years.

# CHAPTER FIVE

## 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.

### Maintenance

Of prime importance in the planning for the regional transportation system is the need to maintain the existing 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. The Washington State Department of Transportation (WSDOT) and local jurisdictions monitor the condition and operation of the existing system and program projects to maintain the system. The RTP supports the routine, regularly-scheduled, and necessary maintenance work identified by local jurisdictions. The RTP supports maintenance being given high priority in the programming of transportation funds. The estimated 21 year public maintenance cost for the regional transportation system is \$350.9 million.

### Preservation

Preservation of the existing regional transportation system is also important to protect the heavy investments already made in the system. Preservation can prolong the life of the existing transportation system through such projects as repaving roads, rehabilitating bridges, and rock fall protection. Preservation needs are identified through a Pavement Management System (PMS), Bridge Management System (BMS), and local needs analysis. The RTP is supportive of giving prime consideration to such project needs. The estimated 21 year public preservation cost for the regional transportation system is \$97.7 million.

## **Improvements**

In addition, the Regional Transportation Plan recommends transportation improvements needed to provide an adequate level of safety and regional mobility for the anticipated growth in travel demand. 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 curve, adding rest areas, adding scenic vistas, improving sight distance, adding a climbing lane, realignment of a roadway, and adding alternative modes of transportation. The estimated 21 year improvement cost is \$112.5 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.

### ***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 remedial measures 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 criteria 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 motorists 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.

## **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.

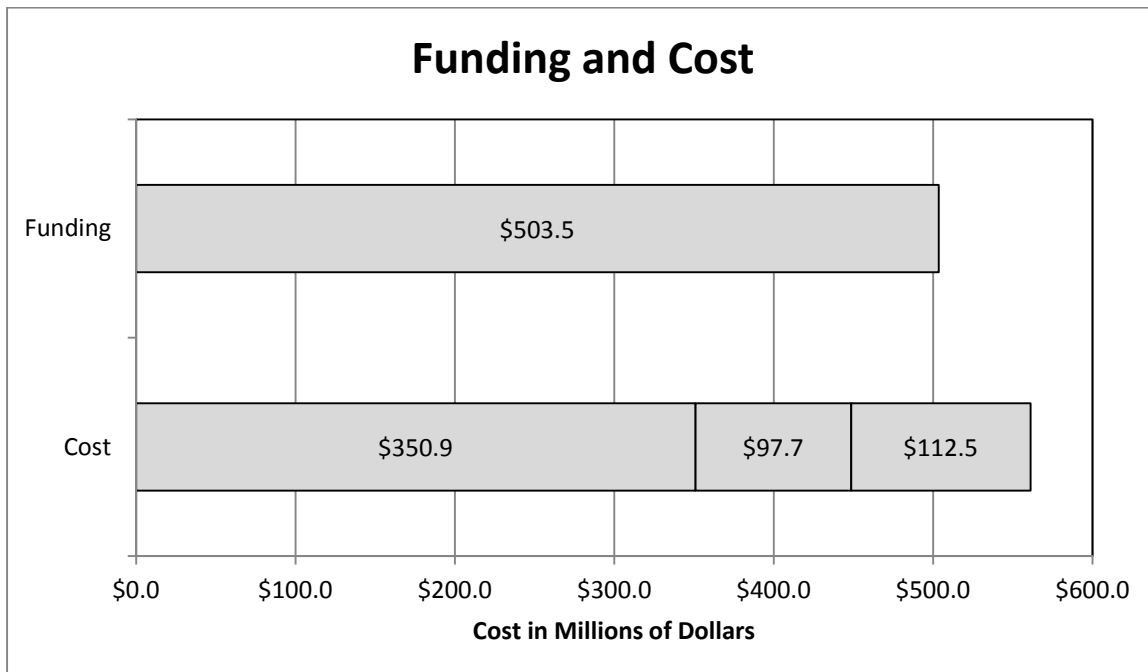
A prioritization process helps the region to make most effective use of limited transportation funding to meet transportation system improvement needs. The projects listed in Table 5-1 were prioritized based on the regional prioritization process. The following key issues were considered in the prioritization process: 1) Safety, 2) Economic Development, 3) Congestion, 4) Connectivity, 5) Support, and 6) Cost/Funding.

**Table 5-1**

Klickitat County Transportation Improvements						
Rank	Facility	Mile Post	Location	Existing Condition	Improvement	(Millions) Cost*
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	66-67	Port of Klickitat: Bingen Point	At-grade crossing at Maple St.	Grade-separated RR crossing	\$20.0
4	SR-97	2.3-2.8	Maryhill Spur SR-97/SR-14	Offset intersections	Feasibility Study: Intersection improvement	\$1.0
5	SR-97	25.4-27.2	Brooks Park to Ski-Lodge Rd	One lane each direction	Passing lane	\$8.0
6	SR-14	63.5-77.7	SR-14 within Klickitat Co.	Existing rockfall locations	Rockfall protection	\$5.0
7	SR-14	63.5-64.8	SR-141 Alt. to Dock Grade	Narrow two-lane road	Feasibility Study: Improve width and grade	\$1.0
8	SR-14	75.8-76.3	Lyle	Uncontrolled access	Add sidewalk and curbs	\$3.0
9	SR-97	14.5-21.3	Little Klickitat Rv - Allen Cr	One lane each direction	Passing lanes	\$18.0
10	SR-141	2.0-6.9	White Salmon to Northwestern Lake Rd. Vic.	Sharp curves	Realignment of curves	\$26.0
11	SR-197	1.15	Dock Road	Intersection	Add left turn pocket, acceleration and deceleration lane	\$0.5
<b>Total</b>						<b>\$112.5</b>

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

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 improvements. The funding and cost difference is illustrated in Figure 5-1.



**Figure 5-1**

# **CHAPTER SIX**

## *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 accident rates and rockfall is an ongoing activity of the regional transportation system. Accident data will be collected and studied based on a three year accident rate as part of each RTP review. The accident rates will be used to identify the performance of the transportation system by identifying deficient road segments. High accident 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 SEVEN**

### *PLAN DEVELOPMENT AND IMPLEMENTATION*

#### **Public Involvement in Regional Transportation Planning Process**

Southwest Washington Regional Transportation Council (RTC) has an adopted public involvement process outlining the public involvement efforts in the development of regional transportation plans and programs. Copies of the public involvement process 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. Should changing policies, financial conditions, or growth patterns warrant, an RTP amendment will occur.

The first RTP for Klickitat County was adopted in April 1995. RTP updates were adopted in April 1998, May 2003, February 2006, and May 2009. The 2011 RTP Amendment includes revisions to committee members, 2010 demographic data, and system improvements.

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 2013.



## **APPENDICES**

## Glossary

<u>ABBREVIATION</u>	<u>DESCRIPTION</u>
ADT	Average Daily Traffic
BEA	Bureau of Economic Analysis
BNSF	Burlington Northern Santa Fe Railroad
BMS	Bridge Management System
BR	Highway Bridge Program
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
HSS	Highways of Statewide Significance
ISTEA	Intermodal Surface Transportation Efficiency Act (1991)
JARC	Job Access and Reverse Commute Grant
LOS	Level of Service
Management Plan	Management Plan for the Columbia River National Scenic Area
MPO	Metropolitan Planning Organization
NHS	National Highway System
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
PWTF	Public Works Trust Fund
RID	Road Improvement District
RTC	Southwest Washington Regional Transportation Council
RTP	Regional Transportation Plan
RTPO	Regional Transportation Planning Organization
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SHB	Senate House Bill
SR-	State Route
STP	Surface Transportation Program
TDM	Transportation Demand Management
TEA-21	Transportation Equity Act for the 21 <sup>st</sup> Century
TIB	Transportation Improvement Board
TIP	Transportation Improvement Program
TSM	Transportation System Management
VMT	Vehicle Miles Traveled
WSDOT	Washington State Department of Transportation
WSTC	Washington State Transportation Commission
WTP	Washington Transportation Plan



### **Americans with Disabilities Act (ADA) Information**

Materials can be provided in alternative formats: large print, Braille, cassette tape, or on computer disk for people with disabilities by contacting the Southwest Washington Regional Transportation Council (RTC) at (360) 397-6067 or [info@rtc.wa.gov](mailto:info@rtc.wa.gov).

### **Civil Rights Act of 1964, Title VI Statement to Public**

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.