Regional Transportation Plan for Clark County

Draft Update: December 2018

Southwest Washington Regional Transportation Council

Regional Transportation Plan for Clark County

Clark County
Skamania County
Klickitat County
City of Vancouver
City of Camas
City of Washougal
City of Battle Ground
City of Ridgefield
City of La Center
Town of Yacolt
City of Stevenson
City of North Bonneville
City of White Salmon
City of Bingen
City of Goldendale
C-TRAN
Washington DOT
Port of Vancouver
Port of Camas-Washougal
Port of Ridgefield
Port of Skamania County
Port of Klickitat
Metro
Oregon DOT
15th Legislative District
17th Legislative District
18th Legislative District
49th Legislative District

Adopted: xxxx
RTC Board Resolution xx-xx-xx

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The policies, findings, and recommendations contained in this Plan do not necessarily represent the views of the state and federal agencies identified above and do not obligate those agencies to provide funding to implement the contents of the Plan as adopted.

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Agenda Item VII
Resolution 12-14-24

STAFF REPORT/RESOLUTION

TO:	Southwest Washington Regional Transportation Council Board of Directors
FROM:	Matt Ransom, Executive Director MHR
DATE:	November 25, 2014
SUBJECT:	**Regional Transportation Plan for Clark County, 2014 Update, Resolution 12-14-24**

AT A GLANCE - ***ACTION***

This resolution requests adoption of the Regional Transportation Plan, Resolution 12-14-24. The Regional Transportation Plan (RTP) for Clark County is the long-range, regional transportation plan. The RTP provides conformity with both federal and state transportation planning requirements and has year 2035 as its horizon. The RTP is based on the population and land-use forecasts of the Growth Management Comprehensive Plan for Clark County and is the collective regional strategy for developing a transportation system to provide mobility and accessibility for person trips as well as freight and goods movement.

INTRODUCTION

The Regional Transportation Plan (RTP) for Clark County is the long-range, regional transportation plan. The Plan is required by the federal and state government as a pre-condition for receipt of federal and state transportation funding to this region. The RTP must be regularly updated, must address planning and project needs for multiple modes of travel, be fiscally constrained, and it must be consistent with federal, state and local plans and policies. The RTP is the result of a process that requires collaboration, coordination and consultation to make sure there is consistency between federal, state and local Plans.

At the November meeting, RTC Board members were provided with a draft RTP for review and discussion. Subsequently, Regional Transportation Advisory Committee members have reviewed the draft RTP and voted unanimously to recommend approval of the 2014 RTP. The draft RTP is made available with this month's meeting materials at http://www.rtc.wa.gov/packets/board/2014/12/201412-07-B-RTPdocument.pdf. A paper copy of the RTP will be available at the meeting.

The RTP must have at least a twenty-year planning horizon, therefore the 2014 RTP update plans for a 2035 regional transportation system. The RTP is a part of the required federal and state transportation planning process and represents the collective strategy among responsible transportation agencies for implementing a regional transportation system to provide mobility and accessibility for person trips as well as freight and goods movement. The transportation plan is based on the population and land-use forecasts of the Comprehensive Growth Management Plan for Clark County and supports local land uses and the region's economic development. The RTP identifies future travel needs, recommends policies and transportation strategies, and

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identifies implementation programs to meet future transportation needs. Federal and state law requires that the Plan undergo periodic review.

The RTC Board of Directors adopted the initial Regional Transportation Plan (RTP) for Clark County in December 1994, and the RTP has been subject to annual review. Since 1994, six major updates and eight RTP amendments have been adopted.

RTP UPDATE

Elements of the RTP update have been presented to the RTC Board for review and discussion during the course of the past year. The 2014 RTP update focuses on continuing compliance with the current federal transportation act, MAP-21. It also focuses on consistency between state, regional, and local plans with projects from state and local plans incorporated into the RTP.

Since the existing Metropolitan Transportation Plan (MTP) was adopted in December 2011, there have been a number of changes that need to be reflected in an updated RTP. These changes include passage of Moving Ahead for Progress in the 21st Century (MAP-21) and the move toward performance monitoring and targeted transportation investment to improve transportation system performance. As addressed in the RTP's chapter 2, the RTP update is based on Washington Office of Financial Management's (OFM's) mid-range population forecast for counties in Washington State as updated by OFM in August 2012 which forecasts a Clark County population of 562,207 in 2035 as well as related household and employment forecasts at the outset of Clark County's Comprehensive Plan update. Other changes reflected in the Plan update include: update to the National Highway System to include local principal arterials under MAP-21 and update to the transportation Urban Area Boundary (UAB) as addressed in the RTP's Chapter 3. In chapter 5, the new federal requirement to designate a federal primary freight network is described.

Key elements of the RTP that have been reviewed during 2014 are listed below:

- RTP Framework, Purpose and Goals (Chapter 1)
- 2035 Horizon Year and Demographic Forecast (Chapter 2)
- 2035 Travel Demand Forecast (Chapter 3)
- Designated Regional Transportation System (Chapter 3)
- Regional Transportation System Needs, Projects & Strategies (Chapters 3, 5 and Appendix B)
- Financial Plan (Chapter 4)
- Safety Assessment (Chapter 5)
- Modal Elements, including freight, transit, pedestrian and bicycle (Chapter 5)
- Determination of Conformity with Air Quality State Implementation Plan (SIP) (Appendix C)

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The RTP is developed with technical review and input provided by the Regional Transportation Advisory Committee (RTAC) and policy review provided by the RTC Board of Directors. The Regional Transportation Advisory Committee (RTAC) reviewed the draft 2014 Regional Transportation Plan update at its November 21, 2014 meeting and has recommended adoption by the RTC Board of Directors. RTC Board action on this Resolution will complete the federally-required RTP update process for RTC. The adopted RTP will be forwarded to WSDOT, the Federal Highway Administration, and Federal Transit Administration.

PUBLIC PARTICIPATION

Throughout 2014, there have been public outreach efforts to let the public know that the RTP is in the process of being updated and to solicit public input. The public has been encouraged to participate in the 2014 RTP update and to comment on transportation elements via e-mail, phone or mail. RTP information and RTC Board materials on the RTP have been made available through RTC's website, www.rtc.wa.gov. The draft 2014 RTP update was made available for a formal 30-day public comment period beginning on October 30, 2014. RTC received public comments through the electronic comment card available on RTC's website. Comments received from the public and RTC's responses are documented in Appendix M of the RTP.

RTC staff has sent out updates on the RTP's progress to Clark County and Vancouver neighborhood coordinators and has kept small cities informed through Regional Transportation Advisory Committee (RTAC) representatives. RTC hosted a round table discussion on regional transportation issues in collaboration with the Washington State Transportation Commission (WSTC) as part of the Washington Transportation Plan and Regional Transportation Plan update processes. A September 8 Open House held at the Downtown Vancouver Public Library also was also jointly hosted by the WSTC and RTC. An additional RTC open house was held at the Downtown Vancouver Public Library on Wednesday, November 19, to allow public comment on the draft RTP 2014 update document. The open house was attended by over 30 members of public.

Involvement of the public in regional transportation planning builds from local efforts with public meetings held by WSDOT, C-TRAN and local jurisdictions to support development of local transportation plans and projects. Monthly RTAC briefings allowed for review and inclusion of local agency participation and comments in the RTP planning process. Formal consultation with stakeholder agencies and persons through the State Environmental Policy Act procedures was completed.

Monthly meetings of the RTC Board of Directors allow the public to comment on regional transportation issues in a formal setting. All comments at these meetings become part of the meeting record. The RTP update has been a regular agenda item at many of the RTC Board meetings during 2014.

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POLICY IMPLICATION

The RTP represents the framework plan and policies for development of the regional transportation system. Projects must first be identified in the RTP before they can be programmed for federal funding in the Transportation Improvement Program (TIP).

Given the Clark County region's air quality status, the region no longer has to carry out regional air quality conformity analysis but the RTP does need to include a determination of conformity with the State Implementation Plan. The Determination of Conformity with the Air Quality State Implementation Plan is included in the RTP's Appendix C. The region's air quality status is also described in Chapter 5. In summary, the region, under the 8-hour federal standard, is now in attainment for Ozone and no longer needs to demonstrate conformity. In addition, the region is currently a CO maintenance area under a Limited Maintenance Plan (LMP) published by Southwest Clean Air Agency in 2007 and approved by the Environmental Protection Agency and is re-designated back to "attainment" status for CO. Transportation projects are still subject to air quality conformity analysis to ensure they do not cause or contribute to any new localized carbon monoxide violations.

On November 4, 2014, staff from the Environmental Protection Agency, Federal Highway Administration, and State Departments of Ecology and Transportation consulted with RTC on the air quality conformity determination for the 2015-2018 Transportation Improvement Program and a further consultation meeting is anticipated for the 2014 RTP update. The region's TIP must be based on a conforming RTP.

RTC works in coordination with WSDOT, C-TRAN, and local jurisdictions as state and transit plans are developed and as the transportation elements of local comprehensive plans are updated. This close coordination helps to ensure consistency between state, regional, and local plans. RTC, as the Regional Transportation Planning Organization (RTPO), must certify that there is consistency between the RTP and the transportation elements of local comprehensive plans required under the Growth Management Act (GMA) and that the transportation elements conform with the GMA's requirements.

Regular update and amendment of the adopted RTP is a requirement for the receipt of federal and state transportation funds. Current regulations require that the RTP contain a financial plan that demonstrates consistency between proposed transportation investments and available and projected revenues. One of the key federal requirements of an RTP is that it be "fiscally constrained" meaning there should be a reasonable application of assumptions and expectation that revenues will be available to provide for the list of projects and transportation strategies contained in the RTP and to support the operations and maintenance of a safe, multimodal, transportation system. The RTP's financial plan is in Chapter 4. Year of expenditure is addressed in Appendix E. The RTP finance assumptions and plan have been reviewed by stakeholder agencies, and during a roundtable briefing of all local agency public works directors and/or finance managers. Based on analysis of forecast revenues and cost estimates for

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operations, maintenance, projects, and strategies, the 2014 RTP update meets the federal requirement for "fiscal constraint".

A Determination of Non-Significance (DNS) for the RTP 2014 update was issued on November 14 after review of a State Environmental Policy Act (SEPA) checklist prepared for the Plan. The SEPA notice was made available on the Washington State Department of Ecology's SEPA website. The SEPA checklist and links to the draft RTP available on RTC's website was distributed to over 100 interested parties.

RTP development is anticipated in 2015 with focus on further implementation Moving Ahead for Progress in the 21st Century (MAP-21), transportation system performance and Plan monitoring, review of the region's 10-year transportation system priorities and on modal elements of the RTP.

BUDGET IMPLICATION

No direct budget impact. Ongoing federal and state planning, monitoring, and compliance requirements associated with the Regional Transportation Plan are funded by the RTC through contributions of federal, state and local agency revenues. Adoption of the RTP and fulfillment of mandatory compliance and monitoring activities can be funded through available and anticipated RTC operating revenues.

ACTION REQUESTED

Adoption of Resolution 12-14-24, "Regional Transportation Plan for Clark County, 2014 Update."

ADOPTED this 2nd day of December 2014,

by the Southwest Washington Regional Transportation Council.

SOUTHWEST WASHINGTON
REGIONAL TRANSPORTATION COUNCIL

Jack Burkman
Chair of the Board

ATTEST:

Matt Ransom
Executive Director

Attachment

20141202RTCB-Resol121424-RTP.docx

Chapter 1: Introduction – RTP Vision, Purpose and Goals

2040 is the horizon year for the 2018 RTP update.

The Regional Transportation Plan (RTP) for Clark County is the region's principal transportation planning document. It represents a coordinated planning process between local jurisdictions and transportation agencies to develop regional solutions to transportation needs. The first *Regional Transportation Plan* (RTP) for Clark County was adopted in December 1982. An *Interim Regional Transportation Plan*, which acted as a framework for development of Growth Management Act (GMA) transportation elements, was adopted in September 1993. The first RTP for Clark County to comply with the requirements of the federal Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 was adopted in December 1994. Since then, the RTP has been updated regularly.

The 2018 update to the RTP has 2040 as the Plan's horizon year and is compliant with the requirements of the current federal transportation act, Fixing America's Surface Transportation Act, the FAST Act of 2015. The RTP update continues to support land uses and growth allocations resulting from the June 2016 update to the local Comprehensive Growth Management Plan. The RTP also includes updated transportation data and recommendations from recent transportation studies. Projects and/or planning concepts whose scale, financial structure and economic significance are beyond the "fiscally constrained" RTP's scope are included in the Strategic RTP section in Appendix I.

The RTP provides an overview of the metropolitan transportation planning process and is intended to be a plan to meet transportation needs over the next 20-plus years. This introductory chapter presents the basis for the RTP; its vision, purpose, and goals. A brief overview of the RTP's scope, statutory requirements and decision-making process is also provided.

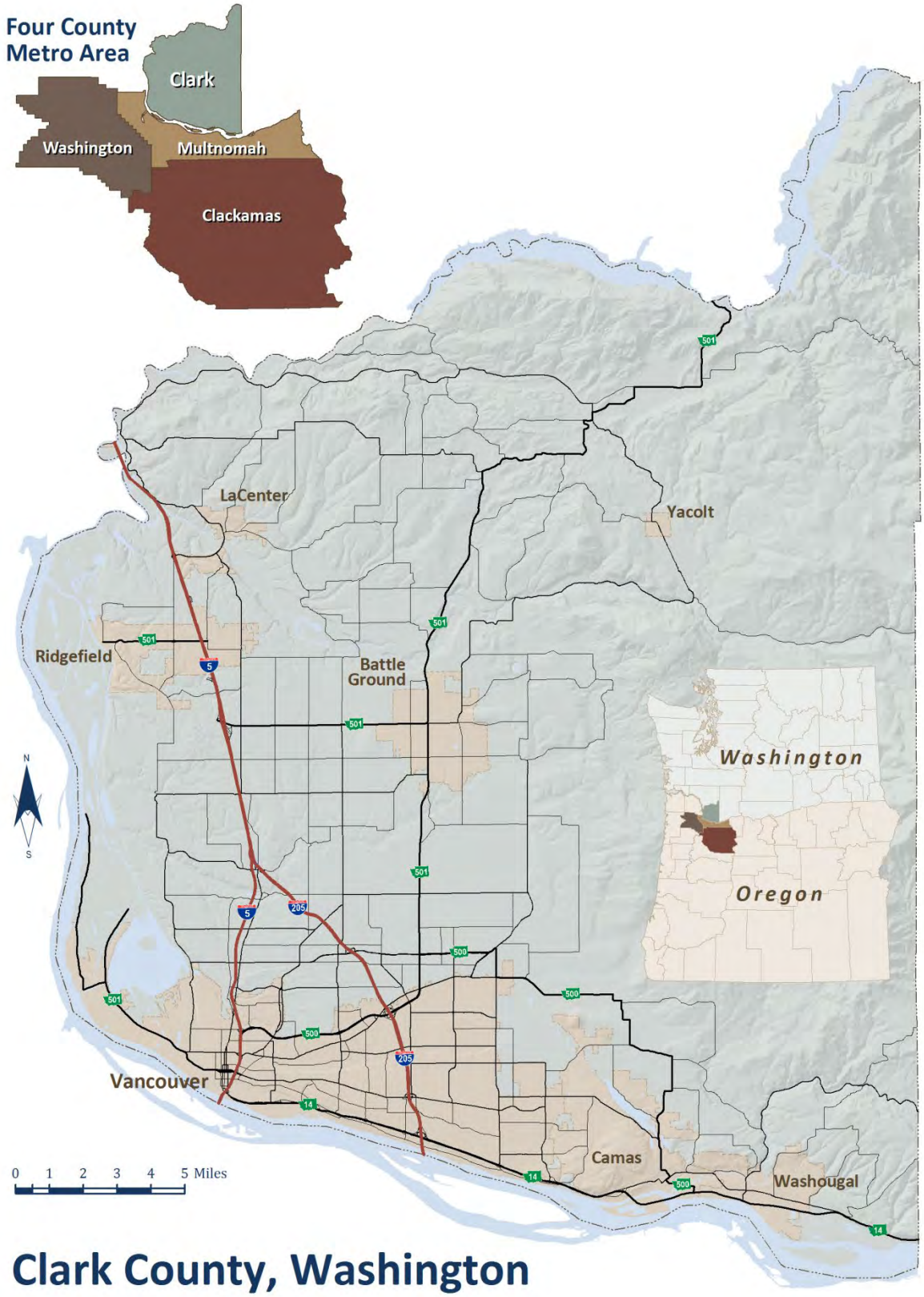
RTP 2018 Update: An Overview

The Regional Transportation Plan for Clark County covers the Metropolitan Planning Organization (MPO) region served by Southwest Washington Regional Transportation Council (RTC).

The RTP is based upon past, current and emerging trends. The 2018 RTP update has been developed at a time when the region is enjoying a healthy economy with low unemployment rates and increasing demand for transportation. On the whole, the 2018 RTP update does not diverge too greatly from the 2014 Plan as it is developed to support locally-adopted comprehensive plans. The 2018 Plan is the first Plan to report on performance-based transportation planning, performance measures and transportation target setting consistent with the requirements of the federal transportation acts beginning with Moving Ahead for Progress in the 21st Century (MAP-21, July 2012) and continued with the current FAST Act. The Plan also incorporates WSDOT's concept of practical solutions to solve transportation challenges. The RTP (2018) uses a 2040 population growth forecast consistent with Washington Office of Financial Management's State and County population forecasts for Growth Management planning purposes released by OFM in 2017. Where the Plan can identify uncertainties and emerging issues, these will be tracked over time and any necessary changes incorporated into an RTP amendment or into the subsequent RTP update due within five years. Examples of these challenges include the following:

- How transit service and Transportation System Management and Operations (TSMO) strategies can address travel needs in transportation corridors that are built-out;
- How to improve access to transit;
- How to fund critical links in the region's transportation system, especially where bottlenecks exist; and
- How to connect missing links in the pedestrian and bicycle system;
- How to accommodate the transportation needs of a growing aged population;
- How to fund transportation system programs, projects and missing links.

Figure 1-1: Clark County, Washington, location map



RTP Vision and Goals

One of the first considerations in developing a transportation plan is to decide on an overall vision for the Plan. The Vision Statement provides a concise look forward to the important outcomes the RTP's implementation should lead us toward. The RTP Goals then guide the region toward development of the Plan and attainment of the Vision. These Vision and Goals are outlined below.

RTP Vision Statement

The RTP's vision statement looks forward to the year 2040:

"In 2040, the Clark County region is a vibrant region with centers of commerce, business, industrial activity and safe neighborhoods. The Clark County region promotes livability and helps to achieve broad community goals for its residents. The region is served by an integrated transportation system that balances transportation modes while providing mobility and access to support the region's growing prosperity and environmental protection. The transportation system is funded with sustainable levels of revenue".

RTP Goals

There needs to be consistency between federal, state, regional and local transportation plans so they are not at odds. The consistency requirement also applies to goals and policies. In determining policy goals for the RTP update, a review of key themes and issues in federal, state, regional and local laws, codes and plans was carried out. The basic transportation policy framework at all four levels of governance (federal, state, region and local) focuses on these key policy themes: Economy, Safety and Security, Accessibility and Mobility, Environment, Efficiencies, Management and Operations, Preservation, Finance, Vision and Values. These key policy themes are reflected in the Goals established for this region's RTP (see below).

Key RTP policy themes include:

Economy

Safety and Security

Accessibility and Mobility

Management and Operations

Environment

Vision and Values

Finance

Preservation

Economy (outcome)

Support economic development and community vitality.

Safety and Security (outcome)

Ensure safety and security of the transportation system.

Accessibility and Mobility (outcome)

Provide reliable mobility for personal travel and freight movement by addressing congestion and transportation system bottlenecks. Also, provide access to locations throughout the region while protecting the integrity of neighborhoods by discouraging cut-through traffic. These policy goals should be accomplished through development of an efficient, balanced, multi-modal regional transportation system.

Management and Operations (strategy)

Maximize efficient management and operation of the transportation system through transportation demand management and transportation system management strategies.

Environment (outcome)

Protect environmental quality and natural resources and promote energy efficiency

Vision and Values (outcome)

Ensure the RTP reflects community values to help build and sustain a healthy, livable, and prosperous community

Finance (strategy)

Provide a financially-viable and sustainable transportation system

Preservation (strategy)

Maintain and preserve the regional transportation system to ensure system investments are protected

RTC Board discussion focused on the RTP's policy goals at the outset of the RTP update development process and once again concluded that core to provision of transportation system and services are the policy goals of transportation system Safety and Security and Accessibility and Mobility. However, the Board also requested that the 2018 RTP continue to highlight the two major issues of Economy and Finance, specifically, how to deal with financing the transportation system now and into the future and how to ensure the transportation system can sustain the current range of businesses and industry as well as be an attractor for new jobs to the region.

RTP Framework

Development of the transportation system is one component required to support the land uses defined in local Comprehensive Growth Management Plans. The RTP is a collective effort to address the development of a regional transportation system that will help to achieve the land use vision presented in the local comprehensive plans, to facilitate planned economic growth and help sustain the region's quality of life.

Purpose

The RTP identifies future regional transportation system needs and outlines transportation plans and improvements necessary to maintain mobility within and

People and goods move throughout the region without consideration for city, county, and state boundaries.

through the region as well as access to land uses within the region. The RTP is one of the reports needed to fulfill federal requirements to ensure the continued receipt of federal transportation funding to this region. The region has to plan for a future regional transportation system that can adequately support the population and employment growth projected for Clark County. The transportation system is multi-modal and includes the region's highway system for transportation of people and freight, the transit system, pedestrian and bicycle system, as well as ports, airports and rail facilities of regional significance. Intermodal connecting points are a vital part of the system. The RTP's goals, objectives and policies help to guide jurisdictions and agencies involved in planning and programming of transportation projects throughout Clark County.

Scope

The RTP for Clark County takes year 2040 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 travel demand.

The area covered by the RTP is the whole of Clark County (see Figure 1-1). Clark County is located in the southwestern part of the state of Washington at the head of the navigable portion of the Columbia River. The Columbia River forms the western and southern boundaries of the county and provides over 41 miles of river frontage. The county's northern boundary is formed by the Lewis River and to the east are the foothills of the Cascades. Urban Clark County is part of the northeast quadrant of the Portland-Vancouver-Hillsboro, OR-WA metropolitan area.

People and goods move throughout the regional transportation system without consideration for city, county, and state boundaries. Transportation problems extend beyond jurisdictional boundaries so the RTP analyzes the future transportation needs for the entire region and, at the same time, provides a cooperative framework for coordinating the individual actions of a number of jurisdictions.

Transportation Issues Highlighted in the 2018 RTP Update

- Year 2040 demographic and travel demand forecast
- Changing demographics and lifestyles
- System preservation

Federal regulations require that a designated MPO be the forum for cooperative decision-making.

- Safety of the transportation system
- Transportation system management and operations
- Active transportation and community health
- Freight mobility
- Transportation system needs, projects and strategies
- Emerging technologies and their impact on transportation
- Financial plan

Statutory Requirements

The following section briefly describes federal and Washington state statutory requirements that direct development of the RTP.

Federal

The joint Federal Highways Administration (FHWA) and Federal Transit Administration (FTA) regulations require that, as a condition for receiving federal transportation funding, urbanized areas with population over 50,000 establish a "continuing, cooperative, and comprehensive transportation planning process." The process should result in transportation plans and programs that are consistent with the comprehensive land use plans of all jurisdictions within the region.

Federal regulations require that a designated **Metropolitan Planning Organization** (MPO) be the forum for cooperative decision-making by principal elected officials of the region's general purpose local governments. Southwest Washington Regional Transportation Council (RTC) was designated as the Metropolitan Planning Organization (MPO) for Clark County by agreement of the Governor of the State of Washington and units of general purpose local governments (representing at least 75 percent of the affected population, including the central cities) on July 8th of 1992. With passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, Clark County became a federally-designated **Transportation Management Area** (TMA).

The Southwest Washington Regional Transportation Council, as the MPO, in cooperation with the Washington State Department of Transportation and C-TRAN, Clark County's transit operator, is responsible for carrying out federal transportation planning requirements. Federal requirements include the development of a long-range **Regional Transportation Plan**.

The first Regional Transportation Plan for Clark County was developed by the MPO and was adopted in December 1982. It established regional transportation policies and provided consistency with the regional Transportation Improvement Program (TIP). This 1982 RTP version provided a bench-mark document for local decision-makers and met federal requirements of the FHWA and FTA. Prior to the development of the 1982 RTP, the Portland-Vancouver Metropolitan Area Transportation Study (PVMATS) served as the long-range plan for Portland and Vancouver. PVMATS was developed by the Columbia Regional Association of Governments (CRAG) and listed a number of highway projects needed in the region by 1990.

The federal government requires the MPO to develop a Regional Transportation Plan to meet the requirements of federal laws including successive federal transportation acts; the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, 1998's Transportation Equity Act for the 21st Century (TEA-21), SAFETEA-LU (the Safe, Accountable, Flexible, Efficient Transportation Equity Act, A Legacy for Users of August 2005), Moving Ahead for Progress in the 21st Century (MAP-21) enacted in 2012 and the current federal transportation act, the Fixing America's Surface Transportation Act (FAST Act) signed into law by President Obama in 2015. MAP-21 was the first Act to create a streamlined and performance-based surface transportation program and each Act builds on the highway, transit, bike, and pedestrian programs and policies established with the Intermodal Surface Transportation Efficiency Act (ISTEA) back in 1991.

The MPO must also select and prioritize transportation projects for programming in a **Transportation Improvement Program** (TIP). The Fast-Act requires that metropolitan TIPs be updated at least every 4 years and must contain at least 4 years of projects and strategies. The TIP specifies federally funded transportation projects to be implemented during the next four years. Projects are listed in the TIP based upon a realistic estimate of available revenues. Projects programmed for funding in the TIP have to be consistent with the adopted RTP.

The RTP should consist of short- and long-range strategies to address transportation needs and should guide effective investments to enhance transportation system efficiency. The transportation plan must be consistent with the region's comprehensive long-range, land use plans and development objectives as well as the region's overall social, economic, environmental, system performance, and energy conservation goals and objectives.

When developing the transportation plan, the urban transportation planning process shall include:

- Consideration of social, economic and environmental effects as required by the federal Transportation Act and the Clean Air Act;
- Provisions for citizen participation;
- No discrimination on the grounds of race, color, sex, national origin, or physical disability under any program receiving federal assistance;
- Special efforts to plan public mass transportation facilities and services for the elderly, people with disabilities and low income;
- Consideration of energy conservation goals and objectives;
- Involvement of appropriate public and private transportation providers; and
- The following activities as necessary, and to the degree appropriate, for the size of the metropolitan area and the complexity of its transportation problems:
  - Analysis of existing conditions of travel, transportation facilities, vehicle fuel consumption and systems management;
  - Projections of urban area economic, demographic, and land use activities consistent with urban development goals, and projections of potential transportation demands based on these activity levels;
  - Evaluation of alternative transportation improvements to meet area-wide needs for transportation and make more efficient use of existing transportation resources and reduce energy consumption;
  - Refinement of transportation plan by corridor, transit technology, and staging studies; and subarea, feasibility, location, legislative, fiscal, functional classification, institutional, and energy impact studies; and
  - Monitoring and reporting of urban development, transportation and energy consumption indicators and a regular program of reappraisal of the transportation plan.

The RTP must meet federal planning requirements outlined above and comply with provisions set forth in the FAST Act, the Clean Air Act, the Americans with Disabilities Act, Title VI of the Civil Rights Act of 1964 and Executive Order 12898, a 1994 Presidential Order that directed every federal agency to make environmental justice a part of its mission. The FAST Act continues to require that specified planning factors are addressed as part of the metropolitan planning process

with two added factors related to stormwater mitigation/resiliency and reliability and travel and tourism. The growing importance of operating and managing the transportation system is recognized as a focal point for transportation planning. There is also an increased recognition of the importance of security of the transportation system. The planning factors are:

1. Support the **economic vitality** of the metropolitan area, especially by enabling global competitiveness, productivity and efficiency;
2. Increase the **safety** of the transportation system for motorized and non-motorized users;
3. Increase the **security** of the transportation system for motorized and non-motorized users;
4. Increase the **accessibility** and **mobility** options available to **people** and for **freight**;
5. Protect and enhance the **environment**, promote **energy conservation**, and improve **quality of life**;
6. Enhance the integration and **connectivity** of the transportation system, across and between modes, for people and freight;
7. Promote efficient **system management** and **operation**; and
8. Emphasize the **preservation** of the existing transportation system.
9. Improve the **resiliency** and **reliability** of the transportation system and reduce or **mitigate stormwater** impacts of surface transportation;
10. Enhance **travel** and **tourism**.

State

Within Washington State, Regional Transportation Plans are expected to be consistent with the policy framework and objectives described in the transportation plan for Washington State. The current WTP 2035 and Executive Summary Phase 1 policy document was published in January 2015 with a Phase 2 implementation document and Executive Summary published in April 2018. The Washington Transportation Commission released a draft update to the State's Washington Transportation Plan, Washington Transportation Plan 2040 and Beyond, in 2018 and the final version will be presented to Governor Inslee and the State Legislature in January 2019.

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

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

- **Preservation**: To maintain, preserve, and extend the life and utility of prior investments in transportation systems and services;
- **Safety**: To provide for and improve the safety and security of transportation customers and the transportation system;
- **Mobility**: To improve the predictable movement of goods and people throughout Washington state;
- **Health and the Environment**: To enhance Washington's quality of life through transportation investments that promote energy conservation, enhance healthy communities, and protect the environment; and
- **Stewardship**: To continuously improve the quality, effectiveness, and efficiency of the transportation system.

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

HSP Preservation

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

HSP Safety

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

HSP Economic Vitality

Identification of highly-productive freight investments.

HSP Mobility

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

HSP Environmental Quality and Health

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

WSDOT planning reports are documented on WSDOT's Planning section website. Plans include the Travel Washington Intercity Bus Plan Update (2018), the Washington State Freight System Plan (2017), the Grain Train Strategic Plan (2017), the Washington Aviation System Plan (2017), the Ultra High Speed Ground Transportation Study (2017), Target Zero Strategic Highway Safety Plan (2016), the Washington State Public Transportation Plan (2016), Statewide Human Services Transportation Plan (2014), the Passenger & Freight Rail Plan (2014), the WSDOT Ferries Division Long Range Plan (2009), and the Bicycle Facilities and Pedestrian Walkways Plan (2008). Many of these plans are currently in the process of being updated.

Washington State's Regional Transportation Planning Program: RTPOs

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.

Duties of an RTPO

The duties of the RTPO, as outlined in state law, include:

- Designation of the regional transportation system.
- Development of a six-year Transportation Improvement Program (TIP) to include regionally-significant city road projects, county road projects,

transit capital projects and WSDOT transportation 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 Plan should also establish the relationship of High Capacity Transit to other public transportation providers. The concept of least cost planning is to be used in development of the RTP.

- Review of the Regional Transportation Plan at least every two years to ensure that it is current.
- Establish guidelines and principles for development and evaluation of local comprehensive plan transportation elements and certify that the transportation elements meet the requirements of the GMA and are
-
- 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 RTPO has to be the same organization as that designated as the current MPO. 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 in urban and rural areas.

RTPO: Transportation Planning Process

The regional transportation planning process follows the principles listed below. The 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.

The RTC Board provides the forum for guiding future transportation system investment decisions.

- 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.
- Meet the requirements of the state's 1990 Growth Management Act RTC continues the established regional transportation planning process for the MPO, supplemented by the regional transportation planning standards formulated by WSDOT for RTPOs.

Regional Transportation Plan: Required Elements

To comply with Washington state standards the RTP will include the following components:

- Description of the designated regional transportation system,
- Regional transportation goals and policies. Level of service standards will be established and used to identify deficient transportation facilities and services,
- Development of financial plan for necessary transportation system improvements,
- Regional transportation system improvement and strategy plan. Specific facility or service improvements, transportation system management and demand management strategies 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, and
- Plans for implementation of the RTP.

State legislation of significance in regional transportation planning includes the Growth Management Act (1990), High Capacity Transit legislation (1990), the Clean Air Washington Act (1991), and the Commute Trip Reduction law (1991).

RTP Decision-Making Process

The RTP needs to identify solutions to transportation issues and problems that jurisdictions agree with and can successfully implement. To enable the regional transportation planning process, the regional transportation planning committee structure is established. Committees are established by RTC to carry out MPO/RTPO activities and to strengthen the process of RTP development. These Committees include the RTC Board of Directors, the Clark County Regional Transportation Advisory Committee (RTAC), the Skamania County Transportation Policy Committee and the Klickitat County Transportation Policy Committee. Representation on the RTC Board of Directors and individual County Policy Boards and Committees is described in the *Bylaws of Southwest Washington Regional Transportation Council* (last amended December 2017) and *Interlocal Agreement for Establishment of the Southwest Washington Regional Transportation Council* (July 1992).

RTC Board of Directors

Consistent with the 1990 GMA legislation, a three-county RTC Board of Directors is established and meets monthly to serve the RTPO region. Current representation on the RTC Board of Directors includes three representatives from Clark County, one from Skamania County, one from Klickitat County, two from the City of Vancouver, one from small cities to the East, one from small cities to the north, one from C-TRAN, one representative of the Ports of Clark County, Washington State Department of Transportation, bi-state representation from Oregon Department of Transportation and Metro as well as state legislators of the 14th, 17th, 18th, 20th and 49th districts. The RTC Board is the governing body that takes action to adopt the RTP.

Regional Transportation Advisory Committee (Clark County)

For Clark County, the Regional Transportation Advisory Committee (RTAC) provides technical advice to the RTC Board of Directors.

Emerging Issues to Track

The Regional Transportation Plan must comply with federal and state laws and must maintain consistency between federal, state and local plans. Relating to the RTP's development, including its vision, purpose and goals, RTC should be prepared to respond to changing laws and guidance including:

- Performance based planning and programming, including performance measures and target setting as first required by MAP-21 (2012) and continued with the FAST-Act (2015).
- Washington State's Department of Commerce provides guidance on transportation planning in Washington state and has published a guide to

local communities regarding implementation of the state's Growth Management Act. The State Department of Commerce published "Your Community's Transportation System, A Guide to Reviewing, Updating and Implementing Your Transportation Element" (first published, 1993; updated September 2012) which should be used as guidance by local jurisdictions in updating local transportation elements as part of the Comprehensive Growth Management Plan update process.

Chapter 2: Transportation – It's all about Land Uses and People

Transportation planning is about meeting the travel demands of people and goods. The transportation system must connect people to jobs and services and connect freight and goods to markets and consumers. This chapter describes trends in Clark County demographics and land uses and the transportation challenges posed by these trends. Development of a transportation policy plan to provide for mobility of people, freight and goods has to consider how to plan for a transportation system that can support travel demand increases as a result of anticipated growth in population and employment. At the same time, the transportation system has to be affordable and avoid environmental impacts to maintain the quality of life enjoyed in the Clark County region.

Growth and Development

Sustained economic development and growth within a region can be 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, the impacts of the growth must be addressed which includes ensuring that needed infrastructure and services are provided to serve the community. If transportation infrastructure and services do not keep pace with the growth, then worsening levels of traffic congestion, decline in air quality, and overall degradation of the quality of life may result.

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 can also contribute to the quality of life for residents of a region and can act as an attractor for economic development.

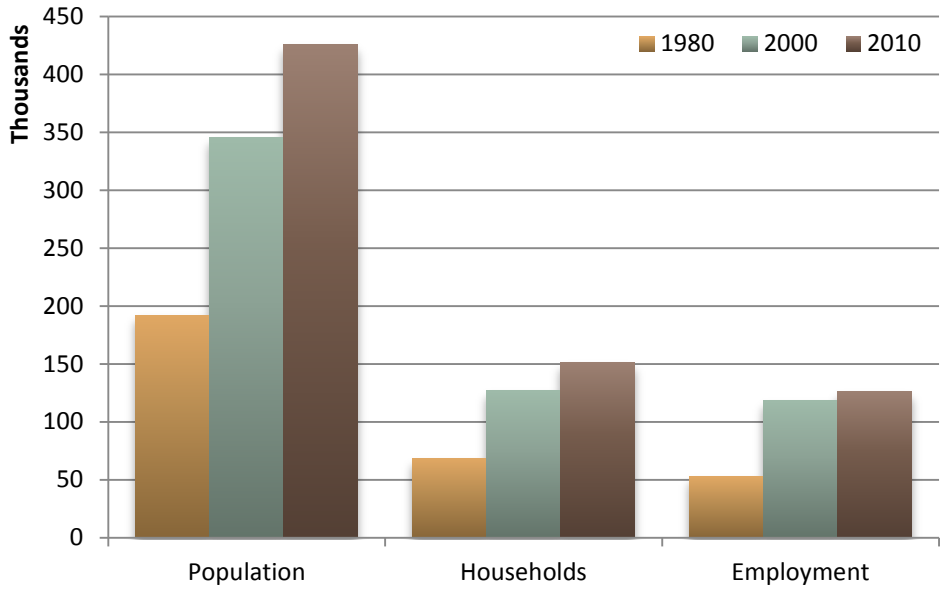
Growth in Clark County

Clark County has seen significant rates of growth in the last three decades. Between 1980 and 2010 the population of the county increased by 121% from 192,227 in 1980 to 425,363 in 2010 while the number of households increased by 120% from

The rapid growth seen in the County over the last three decades has increased demands on the regional transportation system.

68,750 in 1980 to 151,300 in 2010 (see Figure 2-1). Employment[1] in Clark County increased by 139% between 1980 and 2010, from 52,870 jobs in 1980 to 126,500 in 2010. Jobs growth in the region was negatively impacted by the Great Recession of 2007-2009 but has since recovered. In 2016, Clark County employment was reported at 155,000. Washington State's Office of Financial Management (OFM) estimates Clark County's 2018 population at 479,500. The rapid growth seen in the County in the last three decades has increased demands on the regional transportation system.

Figure 2-1: Growth in Clark County, 1980 to 2000 and 2010



From 1980 to 2010: Population grew 121%, Households grew 120%, Employment grew 139%.
Sources: U.S. Census Bureau, U.S. Bureau of Labor Statistics, Washington State Office of Financial Management (OFM)

Development of a transportation policy plan to provide for mobility of people, freight and goods has to consider how to plan for a transportation system that can support an increase in travel demand caused by growth in population and employment. At the same time, this system has to be affordable and avoid environmental impacts to maintain the quality of life. A safe, efficient transportation system can work to enhance economic development within a region and development of the transportation system in conjunction with land use plans can contribute to positive growth management.

[1] *Employment numbers used in the RTP are the equivalent of U.S. Department of Labor, Bureau of Labor Statistics (BLS) or 'covered employment.' In comparison, the Department of Commerce, Bureau of Economic Analysis (BEA), reports total employment that includes all wage and salaried jobs as well as proprietors' jobs that includes sole proprietor, self-employed and farm employment.*

Clark County's location on the northern periphery of the Portland metropolitan area has contributed to the significant growth in residential developments and employment activities.

Existing Land Uses in Clark County

From the City of Vancouver, the urban hub of the county on the banks of the Columbia River, Clark County spreads through a growing suburban band, across agricultural lands and a network of smaller cities and towns to the slopes of the Cascade Mountain Range. The county is compact, measuring approximately 25 miles across in either direction and has an area of 405,760 acres (627 square miles).

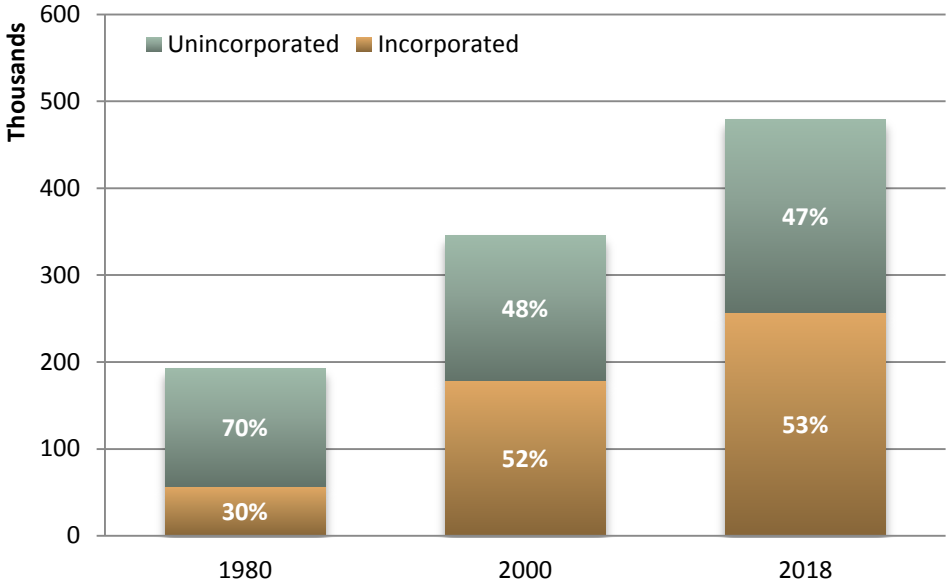
Clark County's location on the northern periphery of the Portland metropolitan area has contributed to the significant growth in residential development and employment activities within the county. The nationwide trend toward development of the suburbs of metropolitan areas for residential developments, as well as employment activities, is apparent in this region. This development trend has implications for the provision of transportation infrastructure and services.

The region's location on the Pacific Rim, with easy access to Portland International Airport, has contributed to its growth and development. With the establishment of high technology industries the region has been successful in diversifying its economic base. Today, Clark County's major employers include service sector and high tech industry; the local school districts, PeaceHealth Southwest Medical Center, county and city government, Fred Meyer stores, the Bonneville Power Administration, Safeway stores, Wafertech, SEH America, Kaiser Permanente, the Vancouver Clinic, Legacy Hospital - Salmon Creek, Clark College, Washington State University - Vancouver, Columbia Machine, Frito-Lay, Electric Lightwave and Holland-Burgerville.

In Clark County the past three decades has seen population growth in both the incorporated and unincorporated areas. Between 1980 and 2018 the incorporated areas saw a growth in population of 349% (57,248 population in 1980 to 257,080 in 2018) while the growth in the unincorporated areas was 65% (from 134,979 population in 1980 to 222,420 in 2018). The proportion of the population living in the unincorporated areas decreased from 70% in 1980 to 46% in 2018 while the proportion living in the incorporated areas increased from 30% in 1980 to 54% in

2018 (see Figure 2-2). Annexations by the City of Vancouver and the County's smaller cities have resulted in this trend. A large annexation of the Cascade Park area to Vancouver took place in 1997 when Vancouver became the State's fourth largest city. In 1996, the City of Vancouver's population was at 67,450 and in 2018 it is estimated at 183,500.

Figure 2-2: Population of Clark County: 1980, 2000 and 2018 Incorporated and Unincorporated Areas



From 1980 to 2018, population grew 349% in incorporated areas, and 65% in unincorporated areas. During the same period, the overall percentage of population within incorporated areas increased from 30% to 54%.

Source: Washington State Office of Financial Management (OFM)

The provision of public facilities and services, including transportation facilities such as highways, bicycle lanes, pedestrian paths, and transit services is a significant determinant of land use patterns. Contemporary land use patterns in Clark County have evolved largely as a result of its residents' dependence on the automobile for mobility. A look at land use maps for Clark County indicate that residential and commercial development has spread out along Highway 99, Fourth Plain, Mill Plain and SR-14. The opening of SR-500 and I-205 stimulated growth in the Vancouver Mall and Cascade Park/East County areas in the late 1980s and 1990s by offering increased accessibility to the two areas.

The area around Vancouver Mall was relatively isolated, undeveloped and unincorporated when construction began in 1977.

The City of Vancouver saw relatively small growth in its population in the 1970s and 1980s. However, several significant annexations of land into the City boosted its population from 65,360 in 1995 to 127,900 in 1997. In 2018, Vancouver's population is estimated at 183,500. In the late 1970s and early 1980s, the focus of retail activity shifted from downtown to the area of the Vancouver regional mall and it was annexed to the City in 1992. In the early 2000s, downtown Vancouver saw revitalization with opening of new office buildings, residential units and a new hotel and events center and in 2018 the Vancouver Waterfront development is drawing

people and tourists to Vancouver with fine dining, hotels, offices and residential development on the Columbia river.

The area around Vancouver Mall, now known as Westfield Vancouver, was a relatively isolated and undeveloped tract of unincorporated Clark County when the 918,000 square foot shopping mall was constructed in two phases in 1977 and 1980. However, the improved access provided by the completion of I-205 in 1982 and SR-500 in 1984 contributed to the area's rapid development. New commercial, retail, and residential developments have been attracted to the area, including offices, shops, restaurants, hotel units and apartments. Vancouver Plaza, a 45-acre retail development to the south-west of Vancouver Mall opened in fall 1988, Parkway Plaza to the west of the Mall includes several large office buildings. Columbia Tech Center has developed in east Vancouver and Hazel Dell Town Center is open for business in Hazel Dell.

The Glenn-Jackson Bridge that carries I-205 traffic across the Columbia opened in 1982. This provided a second Portland-Vancouver area river crossing. It relieved the bottleneck on I-5 and opened up access to the Portland region including access to Portland International Airport. Rapid development of the area to the east of I-205 followed. Much of the region's 1990s growth focused on the Mill Plain and 164/162nd Avenue corridors in east County where a mix of residential, commercial and business development took place. Residential development ranges from the adult community at Fairway Village to numerous large apartment developments as well as Fisher's Landing development. Commercial development began in the area in 1978 when Fred Meyer opened a shopping center at Chkalov and Mill Plain. Others were quick to realize the area's commercial potential. More recent commercial developments have included Mill Plain Town Center, anchored by Target, at Mill Plain and 164th Avenue, Columbia Tech Center shops and commercial development in the 192nd Avenue corridor. Business center developments include Columbia Tech Center and Stonemill Business Park.

Over the past twenty years, there has been significant growth in the smaller cities of Clark County (see Table 2-1) and this trend is continuing. While the County's population grew by 101% between 1990 and 2018, Camas grew by 250%, Battle Ground by 456%, Washougal by 236% and Ridgefield's population grew by 478%. Growth of the smaller cities of Clark County leads to a need to improve transportation facilities connecting these urban areas with the larger Vancouver and Portland metropolitan area.

The provision of public facilities and services, including transportation, has shaped the development of land uses in Clark County up to the present and will likely continue to do so into the future.

Table 2-1: Growth in Population of Clark County Cities, 1980 to 2018

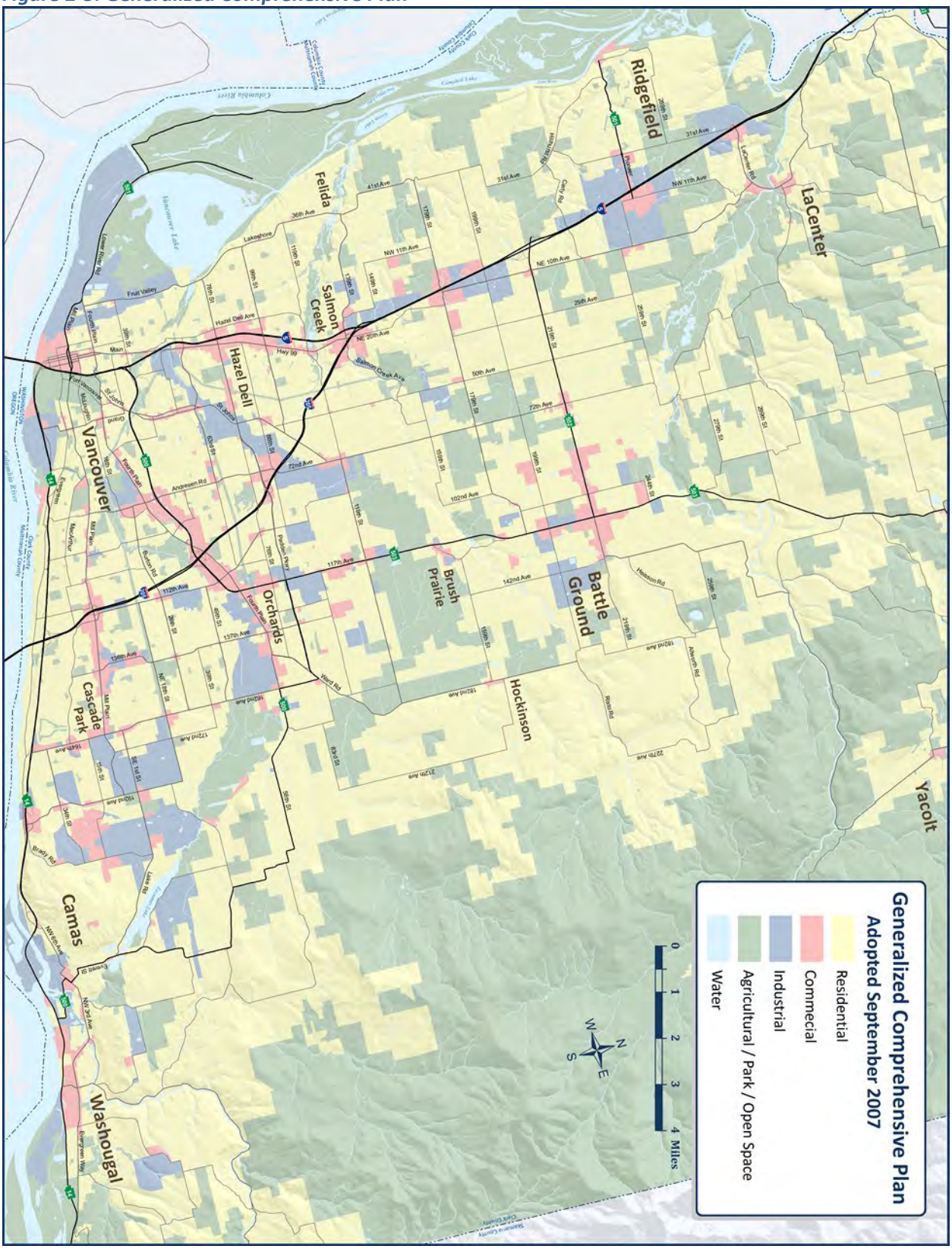
	1980	1990	2000	2010	2018	% Increase 1990-2018	2018 % of Total
Clark County	192,227	238,053	345,238	425,363	479,500	101%	100.0%
Unincorporated	134,979	173,844	166,279	203,339	222,420	28%	46.4%
Incorporated	57,248	64,209	178,959	222,024	257,080	300%	53.6%
Battle Ground	2,774	3,758	9,322	17,571	20,890	456%	4.4%
Camas	5,681	6,798	12,534	19,355	23,770	250%	5.0%
La Center	439	483	1,654	2,800	3,320	587%	0.7%
Ridgefield	1,062	1,332	2,147	4,763	7,705	478%	1.6%
Vancouver	42,834	46,380	143,560	161,791	183,500	296%	38.3%
Washougal	3,834	4,764	9,595	14,095	16,020	236%	3.3%
Woodland *(partial)*	80	94	92	83	95	1%	0.02%
Yacolt	544	600	1,055	1,566	1,780	197%	0.4%

The Comprehensive Growth Management Plan: Land Use for the Future

Comprehensive plans are the means by which local jurisdictions plan for their future growth and development. Development of these comprehensive plans provides 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. Before passage of the Growth Management Act, comprehensive plans were 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. Under planning provisions contained in the 1990 Growth Management Act, codified in RCW 36.70a and RCW 47.80, local comprehensive plans are now the basis for defining and integrating land use, transportation, capital facilities, public utilities and environmental protection elements. Within the comprehensive planning process these elements have to be inter-related and there has to be consistency between them. The GMA legislation requires that land use decisions should not be made without consideration of transportation needs and impacts. A generalized map showing Comprehensive Plan land uses is displayed in Figure 2-3.

Local land use plans drive transportation needs by directing future growth and development.

Figure 2-3: Generalized Comprehensive Plan


Generalized Comprehensive Plan
Adopted September 2007
Residential
Commercial
Industrial
Agricultural / Park / Open Space
Water
0 1 2 3 4 Miles
N
W
E
S
Ridgefield
LaCenter
Felida
Salmon Creek
Hazel Dell
Vancouver
Orchards
Brush Prairie
Battle Ground
Hockinson
Cascade Park
Camas
Washougal
Yacolt
Columbia River
Vancouver Lake
Lake River
Lake River
Lake River

Clark County Jurisdictions' Comprehensive Land Use Plans and Zoning: Use in the Regional Transportation Planning Process

As part of the Growth Management planning process, Clark County adopted a Community Framework Plan in April 1993 to serve as a guide for the County's long-term growth over a period of fifty plus years. The Framework Plan envisioned a collection of distinct communities; a hierarchy of growth and activity centers with land outside the population centers to be dedicated to farms, forests, rural development and open space. The twenty-year Comprehensive Growth Management Plan for Clark County guides the growth of the County toward the future vision. The Comprehensive Plan was first adopted in 1994 with updates in 1997, 2004, 2007 and 2016. The Board of Clark County Commissioners adopted the most recent update to the *Clark County Comprehensive Plan, 2015-2035*, in June 2016 following an in-depth review. The 2016 Comprehensive Growth Management Plan established 577,431 as the population forecast for 2035 and 232,500 (Bureau of Labor Statistics or 'covered' employment) jobs as the employment forecast.

Comprehensive plans are used in the regional transportation planning process as the basis for determining future land uses and identifying where future development is likely to occur. An RTP must cover at least a 20 year planning period and must be based on the adopted land use plans of local jurisdictions. This RTP's horizon year is set at 2040. 2040 land uses are based on the *Comprehensive Growth Management Plan for Clark County* (Clark County, June 2016) which has a horizon year of 2035 extended a further five years to the RTP's 2040 horizon. The 2040 demographic projections and land use allocations were developed by local jurisdictions working in partnership with RTC.

Population will grow 30%, according to the 2040 forecast, while employment grows 56%.

Population and Employment Forecast

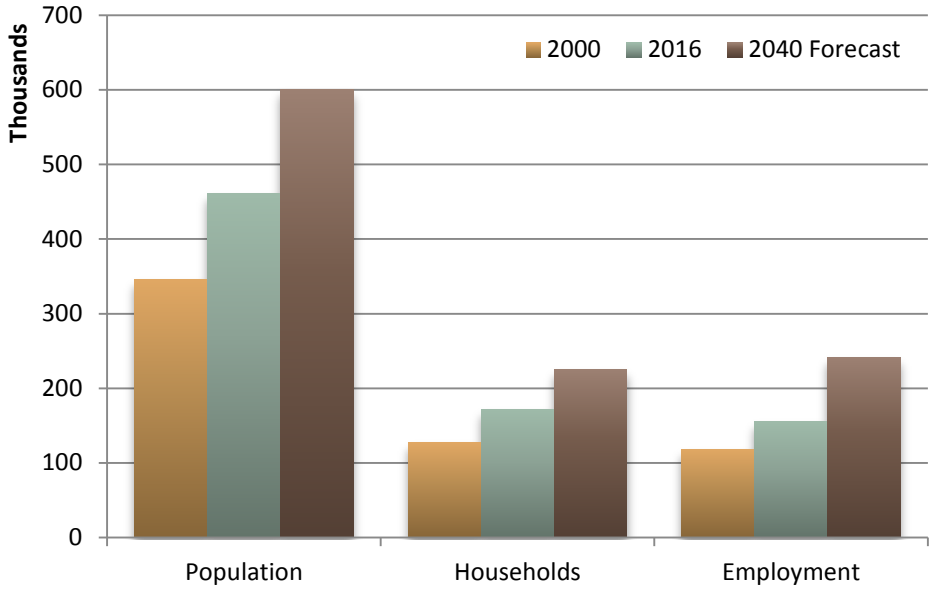
The 1990 state Growth Management Act (GMA) requires that local Growth Management Plans support a population forecast developed by the Washington Office of Financial Management (OFM). The GMA directs OFM to prepare twenty-year GMA planning projections that are updated every five years. Each County's GMA projection is expressed as a range between a High and Low projection. Counties select a GMA planning population within the range established by OFM. In this region, OFM consults with local jurisdictions as well as Metro in Oregon as OFM prepares the forecast. In August 2018, OFM released a report on the 2017 GMA County projections to 2040. For Clark County, the OFM-projected 2040 population falls within a range from a low of 540,963 to a high of 762,479 with a mid-range projection of 643,551. For the Portland-Vancouver-Beaverton metropolitan region as a whole, demographic forecasts are usually formulated through a cooperative planning process led by the Metropolitan Service District (Metro), Portland, Oregon. The Portland Metropolitan Statistical Area includes Clark County and Skamania County in Washington State, as well as Multnomah, Clackamas, Washington, Yamhill, and Columbia counties in Oregon. Worldwide, national and regional economic assumptions are the basis for determining future forecast demographics in the region.

For RTP regional transportation planning purposes, a 2040 population forecast of 600,361 is used consistent with OFM's projection. 2040 household numbers are forecast at 225,700 and 2040 employment forecast at 241,499. From 2016, these forecasts represent a 30% increase in population (from 461,010 to 600,361), a 31% increase in households (from 172,000 to 225,700) and a 56% increase in employment[2] (from 155,000 to 241,499).

In the regional transportation planning process the forecast growth in housing and employment for the year 2040 is converted into projections of future travel demand. For the purpose of analyzing future travel demand, a "Transportation Analysis Zone" (TAZ) System is used. The Portland metropolitan area is divided into TAZs; there are 665 zones in Clark County and 2 Clark County external zones. For each Clark County TAZ, the comprehensive plan land use designations and existing zoning are used as a basis for distributing 2040 forecasts for housing and employment. The demographic distributions are based on the County Assessor's data, building permit data and on vacant, buildable lands analysis.

[2] *Bureau of Labor Statistics equivalent employment or 'covered' employment.*

Figure 2-4: Growth in Clark County – 2000, 2016 and Forecast 2040



2016 to 2040 forecasts indicate Population will grow 30% and Employment will grow 56%, during the period.
Sources: U.S. Census Bureau, U.S. Bureau of Labor Statistics, WA State Office of Financial Management (OFM), August 2012 Forecast, and Clark County

Where will future growth locate?

The population of Clark County is forecast to grow by 139,351 people during the planning period from 2016 to 2040 and employment is set to grow by 86,499. In growth management planning, denser patterns of development are to be encouraged along the main transportation corridors where there is transit service. In significant transit corridors, densities and appropriate urban designs are to be encouraged to maximize the efficiencies of land use and transit usage.

The 1994 Comprehensive Plan forecasted significant development in three growth centers within the Vancouver UGA: Downtown Vancouver, Vancouver Mall and the Salmon Creek/Washington State University vicinity. More recent Comprehensive Plan updates forecast significant growth for the smaller cities within Clark County. The smaller cities of Clark County are planning for denser development and expanded urban boundaries as they become the focus for growth outside of the core urban area of Vancouver.

The smaller cities of Clark County are planning for denser development and expanded urban boundaries.

Demographic and Land Use Trends

Growth in population and employment, development, and resulting distribution of land uses all affect travel demand. Additional factors that influence travel demand include household size, workforce participation, employment patterns and vehicle ownership.

Multi-family housing is becoming more common as the average household size shrinks.

Household Size and Type

Household size is a significant demographic factor that influences land use and demand for transportation services. Smaller household size may result in development pressures for more housing and further expansion of residential lands to accommodate additional homes. Expansion of residential land uses requires improvements and expansion to the transportation system to access newly developing areas. Over the past two decades, the ratio of single family to multi-family housing has changed in Clark County with a move toward more multi-family housing. In 1980 81% of the homes in the County were single family (including mobile homes) compared with 19% multi-family housing units. By 2000 these housing percentages had changed to 77% single family and 23% multi-family.

In the 1980s there was a trend toward smaller household size due to more single-person households and smaller family size. In 1980, the average number of persons per household in Clark County was 2.76 but by 1990 it had fallen to 2.69. The 1990s saw no change in average household size in Clark County with the 2000 U.S. Census also reporting an average 2.69 persons per household. The U.S. Census Bureau's American Factfinder reports that household size in Clark County was at 2.67 persons per household in 2010.

Employment Trends

Employment in Clark County has also changed over time, with a relative decline in traditional, blue-collar, industrial jobs and an increase in service sector employment. There has been growth in "high-tech" employment and a large increase in the retail sector in recent years. The number of jobs is increasing in suburban areas of Clark County and employment is dispersing throughout the region. The "new" suburban places of employment have tended to add to travel demand because of their dispersal. This design has catered to auto-commuters and is not as easily served by transit service.

Clark County: Summary Demographics

Table 2-2 provides information that compares 1990, 2000, 2010 and 2016 Census or more recent ACS demographic data relevant to regional transportation planning. This table reports on demographic data of particular significance in considering environmental justice and special services transportation needs.

Table 2-2: Summary of Clark County Demographics

		1990	%	2000	%	2010	%	2016	%
Population		238,053	100%	345,238	100%	425,363	100%	450,893	100%
Age	65 and Over	25,367	10.7%	32,808	9.5%	48,710	11.5%	61,772	13.7%
Race	White	225,192	94.6%	306,648	88.8%	363,397	85.4%	381,593	84.6%
	Bla ck or African American	2,976	1.3%	5,813	1.7%	8,426	2.0%	8,486	1.9%
	American Indian, Alaska Native	2,296	1.0%	2,910	0.8%	3,624	0.9%	2,841	0.6%
	Asian*	5,670	2.4%	11,095	3.2%	17,504	4.1%	19,282	4.3%
	Native Hawaiian, Other Pacific Islander	see above		1,274	0.4%	2,708	0.6%	3,502	0.8%
	Other*	1,919	0.8%	17,498	5.1%	29,704	7.0%	14,547	3.2%
Origin	Non-Hispanic / Non-Latino	232,181	97.5%	328,990	95.3%	393,197	92.4%	411,851	91.3%
	Hispanic / Latino	5,872	2.5%	16,248	4.7%	32,166	7.6%	39,042	8.7%
Language at Home**	Population over 5 years	219,563	100%	318,152	100%	397,749	100%	422,005	100%
	Speak English Only	207,291	94.4%	281,613	88.5%	342,064	86.0%	358,622	85.0%
	Language other than English	12,272	5.6%	36,539	11.5%	55,685	14.0%	63,383	15.0%
	Speak English less than "Very Well"	4,556	2.1%	17,638	5.5%	25,058	6.3%	N/A	N/A
Disability Status	*(reported for population 5 years and over)*			55,601	17.6%	55,273	12.5%	51,918	12.2%
Poverty	*Total Population for whom poverty status is determined*	212,660	100%	341,464	100%	423,029	100%	446,978	100%
	Poverty Status (as defined by U.S. Census Bureau)	21,910	10.3%	31,027	9.1%	53,376	12.6%	45,773	10.2%
Households	With No Vehicle			7,262	5.7%	7,708	5.0%	7,568	4.6%

NOTES: * Direct comparison between 1990 and 2000 data is not possible for some categories. In 1990, Asian and Pacific Islanders were grouped together and there was no reporting on two or more races.

** 2010 column, Language at Home data from 2008-2012 ACS, 5-year estimate

*** 2010 column Disability Status data from 2013 ACS 1-year estimate

2016 data from ACS, 2012-2016, 5-year estimates

Increase in the Aged Population

According to the Washington State Office of Financial Management's (OFM's) 2017 population projections, medium series, (published August 2018), Clark County's population is forecast to grow by 42.4% over the next 20+ years from 451,818 in 2015 to 643,551 in 2040. However, the population aged over 65 is projected to grow by 122.9%, from 63,997 in 2015 to 142,656 in 2040. The senior age group's share of population is forecast to grow from 14.2% in 2015 to 22.2% by 2040. Those aged 85 and over are forecast to grow by 284.1% between 2015 and 2040, from 7,612 to 29,235, from 1.7% of total population to 4.5%. Those aged 85 and over are often frail and need help in reaching services they need. This will have a significant impact on required transportation services with a likely growing demand for C-TRAN's paratransit service, C-VAN.

Transportation Modal Trends: Journey to Work

Table 2-3 provide information that compares 1990, 2000 and 2016 (ACS) census data showing mode used to get to work. Most notable is the increase in numbers working from home between 1990 and 2016.

Table 2-3: Clark County Journey to Work

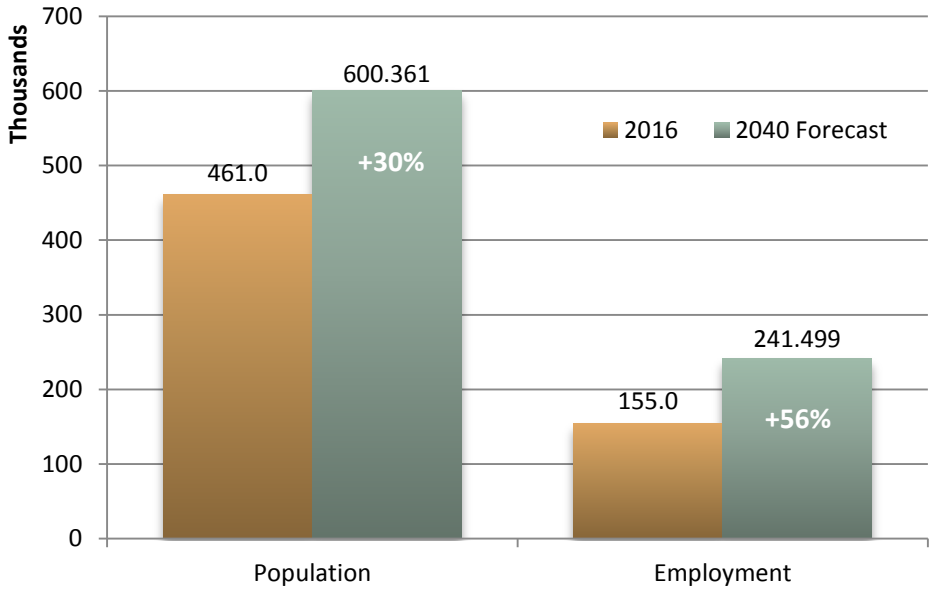
	1990	Percent	**2000**	Percent	**2016**	Percent
Commuters	108,945		161,471		203,037	
Drive Alone	87,748	80.5%	128,014	79.3%	160,196	78.9%
Carpool	12,017	11.0%	18,089	11.2%	18,273	9.0%
Public Transportation	2,275	2.1%	4,228	2.6%	4,670	2.3%
Walked	2,091	1.9%	2,211	1.4%	3,858	1.9%
Bicycle					812	0.4%
Taxi, Motorcycle or Other	1,224	1.1%	1,788	1.1%	2,233	1.1%
Worked at Home	3,590	3.3%	7,141	4.4%	13,197	6.5%
Mean Travel Time to Work (those that work outside home)	21.2 min.		24.7 min.		26.0 min.	

Source: U.S. Census Bureau (including 2016, from 2012-2016 ACS,5-year estimates)

Growth in population as well as other land use and demographic factors described in this chapter has resulted in an increase in travel demand to be met by Clark County's transportation system. Development of land, growth in population and travel demand requires a combination of expansion of public facilities and service provision and a revision to land use plans to ensure mixed use developments and better balance of jobs and housing throughout the region. One of the goals of the

comprehensive plan for the Clark County region, developed under the Growth Management Act (GMA), is to slow the trend of increased dependence on the automobile. In the comprehensive plan, land uses and transportation have been linked in the planning process and their inter-relationships considered in developing a vision for future growth and future growth patterns. In assessing future transportation needs for the Clark County region the comprehensive plans of its jurisdictions are used as a basis for analysis of the transportation system. The GMA requires that transportation system improvements be put in place, concurrent with land development.

Figure 2-5: Clark County RTP Growth Forecast 2016 to 2040



Sources: U.S. Census Bureau, U.S. Bureau of Labor Statistics, WA State Office of Financial Management Forecast (OFM, 2017), and Clark County

Emerging Issues to Track

New economic trends and changing demographics will impact future transportation decisions.

When considering demographics, land use and transportation, the following issues and trends should be tracked:

- Demographic trends are tracked and reported in RTC's Clark County Demographic Profile. The first profile report was published to provide a foundation for the 2014 update to the Regional Transportation Plan and an update was prepared for the 2018 RTP update.
- Analyze American Community Survey data from the U.S. Census Bureau as it becomes available to identify and monitor trends.
- Economic trends – how will these affect the region's growth forecasts?
- Washington Office of Financial Management (OFM) updates demographic forecasts for Growth Management planning purposes with the next update to population forecasts due in 2022, including updates to forecast of the growing senior population.
- Continue to coordinate with local jurisdictions on Growth Management including Comprehensive Plan updates and on certification of transportation policies and transportation elements of local plans.

Chapter 3: The Regional Transportation System; Existing System and Future Performance

The RTP focuses on the regional transportation system. First, this regional transportation system must be designated. As an introduction to planning for the future development of a regional transportation system, an inventory of existing component pieces of the transportation system is provided. Also, a brief description of the context for regional transportation planning, with regard to meeting federal requirements and designation of federal transportation area boundaries is described. The chapter ends with a section on use of the regional travel forecasting model with comparisons of existing and future transportation performance.

Defining the Regional Transportation System

The designated regional transportation system is the focus for transportation planning in the RTP. Consistent with the state's Regional Transportation Planning Program Planning Standards, the designated RTP regional transportation system (see Figure 3-1) includes:

- All state transportation facilities and services (including highways, state-owned park-and-ride lots, etc.).
  - In Clark County these highway facilities are I-5, I-205, SR-14, SR-500, SR-501, SR-502 and SR-503 and a park and ride lot at I-5/Ridgefield Junction. (see Table 3-1)
- All local freeways, expressways, and principal arterials (the definition of principal arterials can be the same as used for federal classification or be regionally determined).
  - These include principal arterials, such as Mill Plain Blvd, Fourth Plain Blvd, N.E. 78th Street, Padden Parkway, N.E. 112th Avenue, SE/NE164th/162nd Avenues and segments of St. John's Blvd and Andresen Road.

- All high-capacity transit systems (any express-oriented transit service operating on an exclusive right-of-way including high occupancy vehicle (HOV) lanes).
  - Included is The Vine, C-TRAN's Bus Rapid Transit (BRT) Corridor on Fourth Plain. C-TRAN is now planning for a second BRT corridor along Mill Plain.
- All other transportation facilities and services, including airports, transit services and facilities, roadways, rail facilities, marine transportation facilities etc. that the RTPO considers necessary to complete the regional plan.
  - This includes the C-TRAN public transit system. C-TRAN's service and taxing boundary, effective June 1, 2005, includes the City of Vancouver and its urban growth boundary, and the city limits only of Battle Ground, Camas, La Center, Ridgefield, Washougal, and the Town of Yacolt.
  - The Columbia river is part of America's Marine Highway System designated as America's Marine Highway Route M-84 together with the Willamette and Snake rivers and is an important part of the Clark County region's transportation system.
- Any transportation facility or service that regional need or impact places in the plan, as determined by the RTPO.

Table 3-1: State Route Mileage in Clark County (2017)

Facility	Begins	Ends	Miles
I-5	Oregon State Line, Interstate Bridge	Cowlitz Co. Line	20.78
I-205	Oregon State Line, Glenn Jackson Br.	I-5 Interchange	10.57
SR-14	Interchange with I-5, Vancouver	Skamania Co. Line	21.52
SR-500	Interchange with I-5	SR-14 Intersection, Camas	22.64
SR-501, south	Interchange with I-5	Terminus of S. segment	9.72
SR-501, couplet	Interchange with I-5	Franklin St., Vancouver	0.55
SR-501, north	City of Ridgefield	Interchange, I-5 at Pioneer	2.89
SR-502	Intersection with I-5 at N.E. 219 St.	Intersection with SR-503	6.12
SR-503	Intersection with SR-500	Cowlitz Co. line	27.60

Note: Miles column represents the centerline length of facility.
Source: WSDOT State Highway Log

Figure 3-1: Map of Designated Regional Transportation System

Highway System Segments: Interstates and State Routes

I-5

Clark County has a 20.78 mile section of I-5, the major interstate freeway serving the west coast of the U.S.A.. I-5 provides for north-south travel and is used for interstate travel from southern California, through the state of Oregon northward through Washington State to the Canadian border. I-5 crosses the Columbia River from Oregon to Washington over the Interstate Bridge. The region is considering a future replacement of the I-5 Interstate Bridge. I-5 has three through lanes in each direction from the Interstate Bridge north to the county line.

I-205

A 10.57 mile stretch of I-205 traverses Clark County until it joins I-5 just north of N.E. 134th Street. I-205 was constructed as an alternative route to I-5, as a by-pass facility through the Portland/Vancouver metropolitan area. I-205 crosses the Columbia River over the Glenn Jackson Bridge which opened in 1982. The Glenn Jackson Bridge has four travel lanes in each direction. North of the bridge the facility has three lanes in each direction to a point just north of the interchange with SR-500. I-205 continues north to its terminus as a two lane facility in each direction.

SR-14

SR-14 provides the main east-west highway from the southwest of Washington state to the southeast of the state along the north bank of the Columbia River. The facility extends 21.52 miles through Clark County to the Skamania County line. It has two through lanes in each direction up to milepost 12, and reduces to one lane across the Camas Slough Bridge, An expanded segment through Camas has two lanes each direction.

SR-500

SR-500 is a 22.64-mile facility entirely within Clark County and allows for east-west cross-county travel. It crosses I-205, provides access to the Orchards area, then traverses rural Clark County until it reaches the Camas urban area. SR-500 intersects with SR-14 in Camas. The facility carries traffic to and from the Clark County regional shopping mall. The segment of SR-500 between I-5 and I-205 was first opened as a limited access facility in 1984.

SR-501

SR-501 is comprised of two unconnected segments. The south segment extends from the interchange with I-5 westward with three lanes in each direction along the Mill Plain/15th Street couplet to Columbia Street. West of Columbia the facility is two lanes in each direction. This segment of SR-501 carries traffic to and from the Port of Vancouver. The facility reduces to two lanes, one in each direction, and branches into two in the Vancouver Lake lowlands area with both branches terminating in the lowlands. The northern segment of SR-501 extends as a two-lane facility from I-5 westward to the City of Ridgefield where it terminates. Originally it was intended that the two segments join to complete a circumferential route around the westside of the Vancouver urban area and to carry traffic to and from the lowlands industrial area. However, the facility was never completed.

SR-502

SR-502 extends from the I-5/N.E. 219 Street interchange to an intersection with SR-503 in Battle Ground.

SR-503

SR-503 extends northward from its intersection with SR-500. It carries traffic between the Vancouver urban area and North County through Battle Ground. SR-503 extends into Cowlitz County.

National Highway System (NHS)

The National Highway System (NHS) includes the Interstate Highway System as well as other roads important to the nation's economy, defense, and mobility. It is designated to focus federal investment on a set of high priority routes. Initially, ISTEA required that roads be designated as National Highway System (NHS) facilities and Congress approved the initial NHS System with passage of the National Highway System Designation Act of 1995 (NHS Act). Under Section 1104 of MAP-21 (2012), update and expansion of the NHS was required to add urban and rural principal arterials that were not included in the NHS before October 1, 2012. This resulted in increasing the NHS in Clark County from about 78.5 centerline road miles to about 148.5 centerline road miles. Maps of the 2012 expanded NHS system, a sub-set of the MTP's designated regional transportation system, are available on FHWA's website.

Highways of Statewide Significance (HSS)

In 1999 the state legislature adopted Highways of Statewide Significance, fulfilling a requirement of House Bill 1487 passed in 1998. In Clark County highway facilities defined as "of Statewide Significance" are I-5, I-205, SR-14 and part of SR-501 to access the Port of Vancouver.

Federal Functional Classification of the Regional Highway System

Functional classifications describe roadway characteristics based on overall traffic volumes, typical trip lengths, and sorts of lands accessed.

Arterials are categorized into a functional classification system; the classifying of highways, roads and streets into groups having similar characteristics for providing mobility and/or land access. Interstate freeways, classified as divided principal arterials, are designed to provide for the highest degree of mobility of large volumes of long-distance traffic. Collector facilities generally provide equal emphasis upon mobility and land use accessibility. Local facilities emphasize access to land uses.

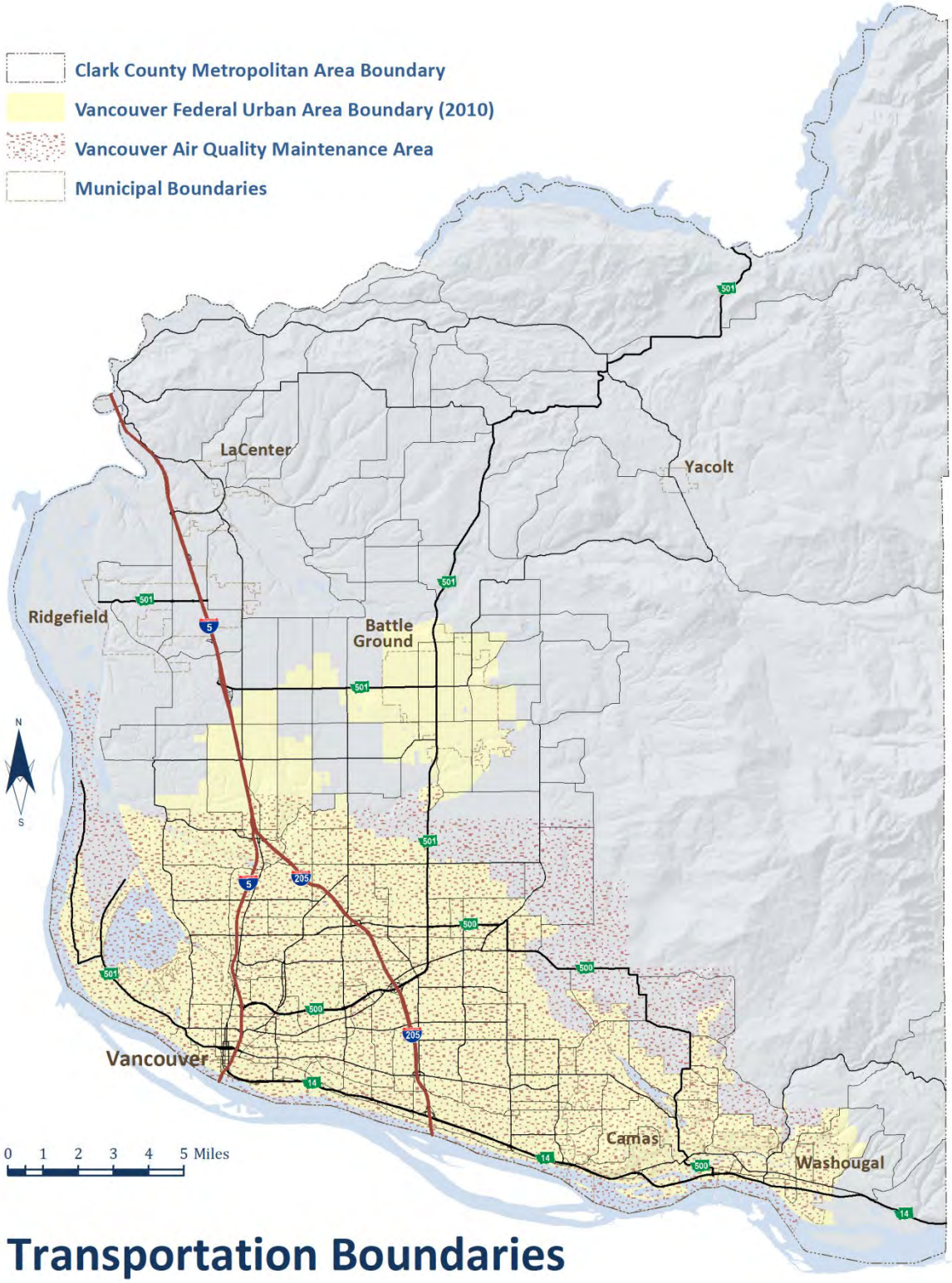
Federal Transportation Boundaries

As a pre-requisite to the federal functional classification of roads, an Urban Area Boundary must be defined (refer to Figure 3-2; Transportation Boundaries). The federal Transportation Act requires that an Urban Area Boundary (UAB) is defined to delineate areas that are urban in nature distinct from those that are largely rural in nature. The distinction between urban and rural is important because facilities classified as collector or above in urban areas are eligible for federal funding while in the rural area those facilities classified as major collector and above are eligible. Generally, minor collectors in rural areas are not eligible for federal funding.

The federal transportation Urban Area Boundary is not to be confused with Urban Growth Areas established under the Washington State Growth Management Act (GMA). The federal UAB should cover, at a minimum, the area designated by the decennial U.S. Census as "urbanized" by meeting certain population and density criteria. Following the 2010 Census, the Vancouver urbanized area encompasses Vancouver, urbanized areas of unincorporated Clark County, Camas, Washougal and Battle Ground.

Federal transportation regulations also call for MPOs to establish a Metropolitan Area Boundary marking the area to be covered by MPO regional transportation planning activities. At a minimum it must include the urban area, the contiguous area expected to be urbanized within the next twenty years, and, in air quality attainment areas, must include the area enclosed by the attainment area boundary; the Vancouver Air Quality Maintenance Area. The Metropolitan Area Boundary established for the Clark County region includes the whole of Clark county (refer to Figure 3-2; Transportation Boundaries). With a population of over 200,000 the Portland-Vancouver metropolitan area is designated as a Transportation Management Area (TMA) by the U.S. Secretary of Transportation. Within TMAs, the MPO must develop a congestion management process which was first adopted by the RTC Board in May 1995 and has since been updated annually. The MPO has authority to select, in consultation with the state, projects to receive federal funds (see Chapter 4 for further details).

Figure 3-2: Transportation Boundaries



Functional Classification

Federal

The Federal Functional Classification system for Clark County undergoes a comprehensive update at least once every decade following the results of the decennial census and accompanying changes made to the federally recognized Urbanized Area and to the Urban Area Boundary (UAB) for the region. This usually occurs about three years following the decennial census. Further information on the functional classification of roads can be found on WSDOT's website with links to maps showing the federal functional classification, allowing for zooming in to Clark County and city detail (see example in Figure 3-3).

A description of the federal functional classification urban categories follows:

Principal Arterials

Principal arterials permit traffic flow through the urban area and between major elements of the urban area. They are of great importance in the regional transportation system as they interconnect major traffic generators, such as the central business district and regional shopping centers, to other major activity centers and carry a high proportion of the total urban area travel on a minimum of roadway mileage. They also carry traffic between communities. Frequently principal arterials carry important intra-urban as well as intercity bus routes. Many principal arterials are fully or partially controlled access facilities emphasizing the through movement of traffic. Within the category are (1) interstates (2) other freeways and expressways and (3) other principal arterials. Spacing of principal arterials may vary from less than one mile in highly developed central business areas to five miles or more in the sparsely developed urban fringes.

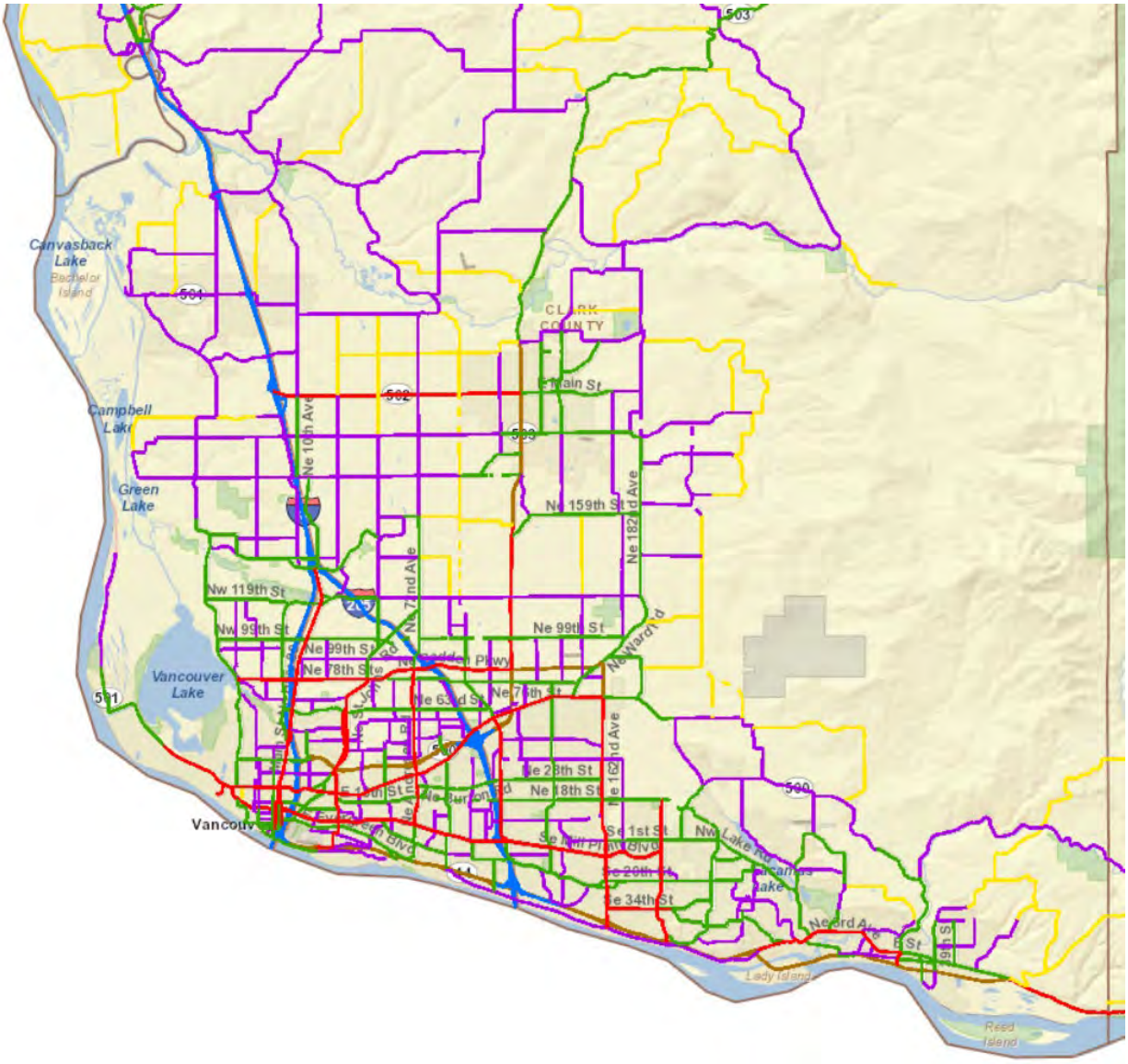
Minor Arterials

Minor arterials collect and distribute traffic from principal arterials to lesser classified streets, or allow for traffic to directly access their destinations. They serve secondary traffic generators such as community business centers, neighborhood shopping centers, multiple residence areas, and traffic from neighborhood to neighborhood within a community. Access to land use activities is generally permitted. Such facilities are usually spaced under two miles apart and in core areas can be spaced at 1/8 to 1/2 mile apart.

Major and Minor Collectors

Collectors provide for land access and traffic circulation within residential neighborhoods and commercial and industrial areas. They distribute traffic movements from such areas to the arterial system. Collectors do not handle long through trips and are not continuous for any great length.

Figure 3-3: Federal Functional Classification System, Clark County



Source: [WSDOT Functional Classification Map]

Local Streets

Local streets provide direct access to abutting land and access to the higher classification facilities. They offer the lowest level of mobility and usually contain no bus routes. They are not intended to carry through traffic but make up a large percentage of the total street mileage.

Rural roads consist of those facilities that are outside of urban areas. They too are categorized into functional classifications:

Rural Principal Arterials

Rural principal arterials are sub-divided into two sets: (1) interstate facilities, and (2) other principal arterials. They consist of a connected

rural network of continuous routes and provide an integrated network without stub connections.

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.

Other rural road classifications are:

- **Rural Major Collector Roads** (are eligible for federal funding)
- **Rural Minor Collector Roads** (are not eligible for federal funding) and
- **Rural Local Roads**

Local Functional Classification

A local classification system also exists. Clark County maintains a local classification system as part of its Comprehensive Growth Management Plan. This classification system is reported in the Clark County Arterial Atlas which shows arterial and local street cross-sections anticipated for roads in Clark County within the next twenty years. The Arterial Atlas is approved by the Board of County Commissioners. Efforts are made to try to be as consistent as possible between the federal functional classification system and the local classification. Local cities also maintain a local classification system as part of their comprehensive plans.

Bicycle and Pedestrian Transportation Modes

Active transportation includes use of bicycling and walking transportation modes to get from place to place. More information on planning for active transportation

modes is included in Chapter 5 of the RTP. Below is information on the bicycling and pedestrian transportation networks in Clark County.

Bicycle Network

Clark County and the City of Vancouver produce a bicycle map (see Figures 3-4 and 3-5) showing the major bicycle routes, road segments with bike lanes and slope.

Figure 3-4: Bicycle Routes in Clark County

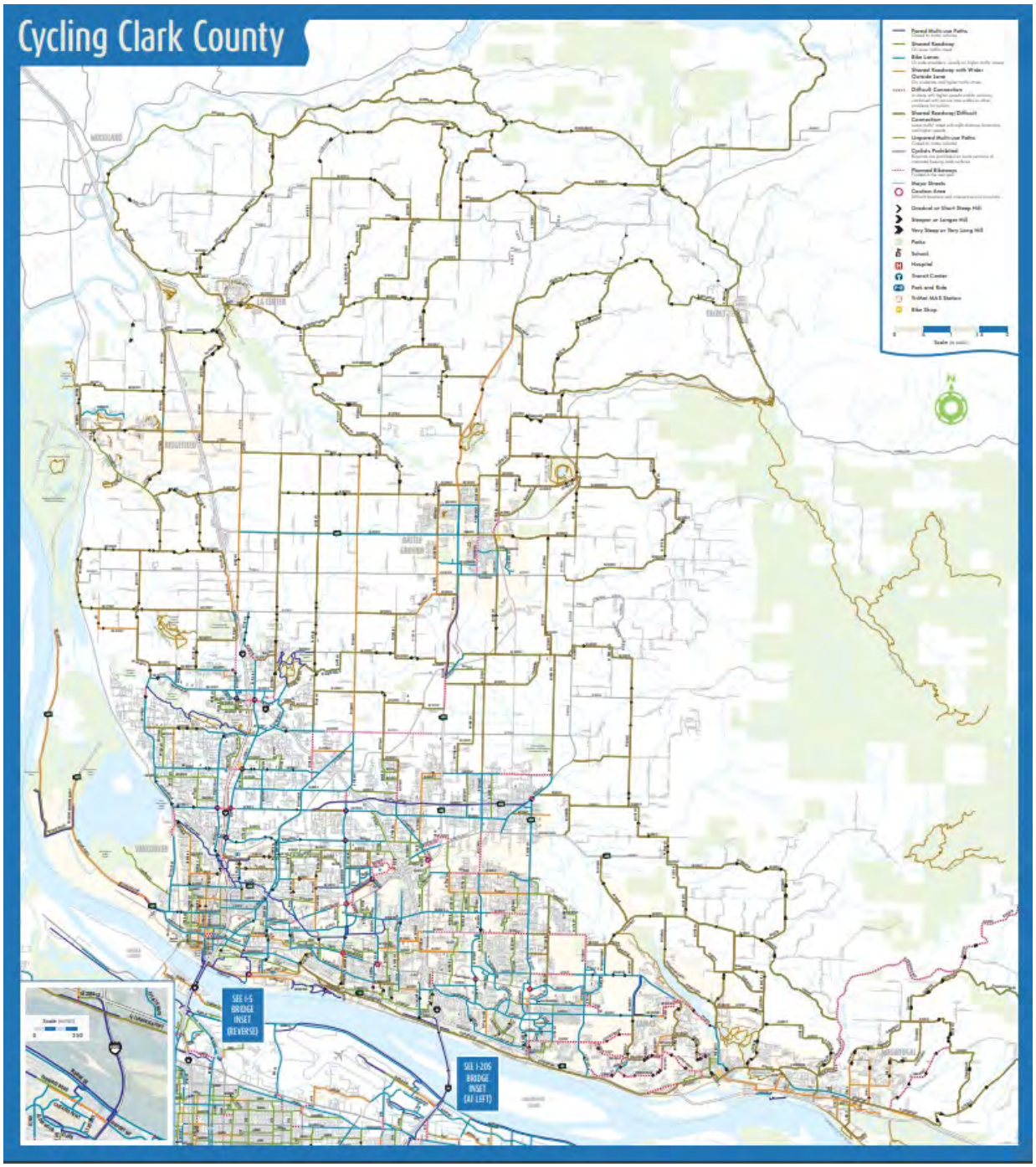
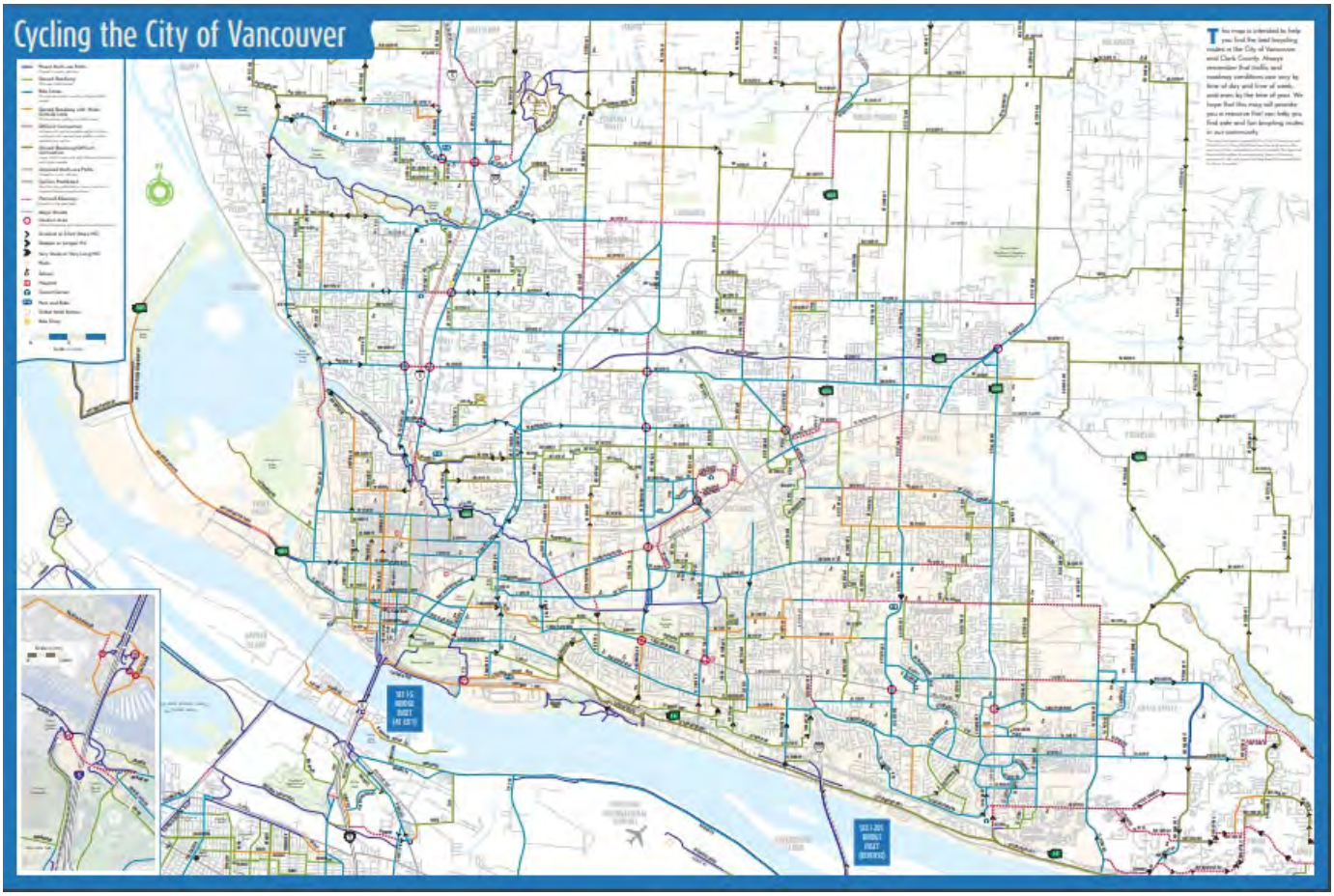


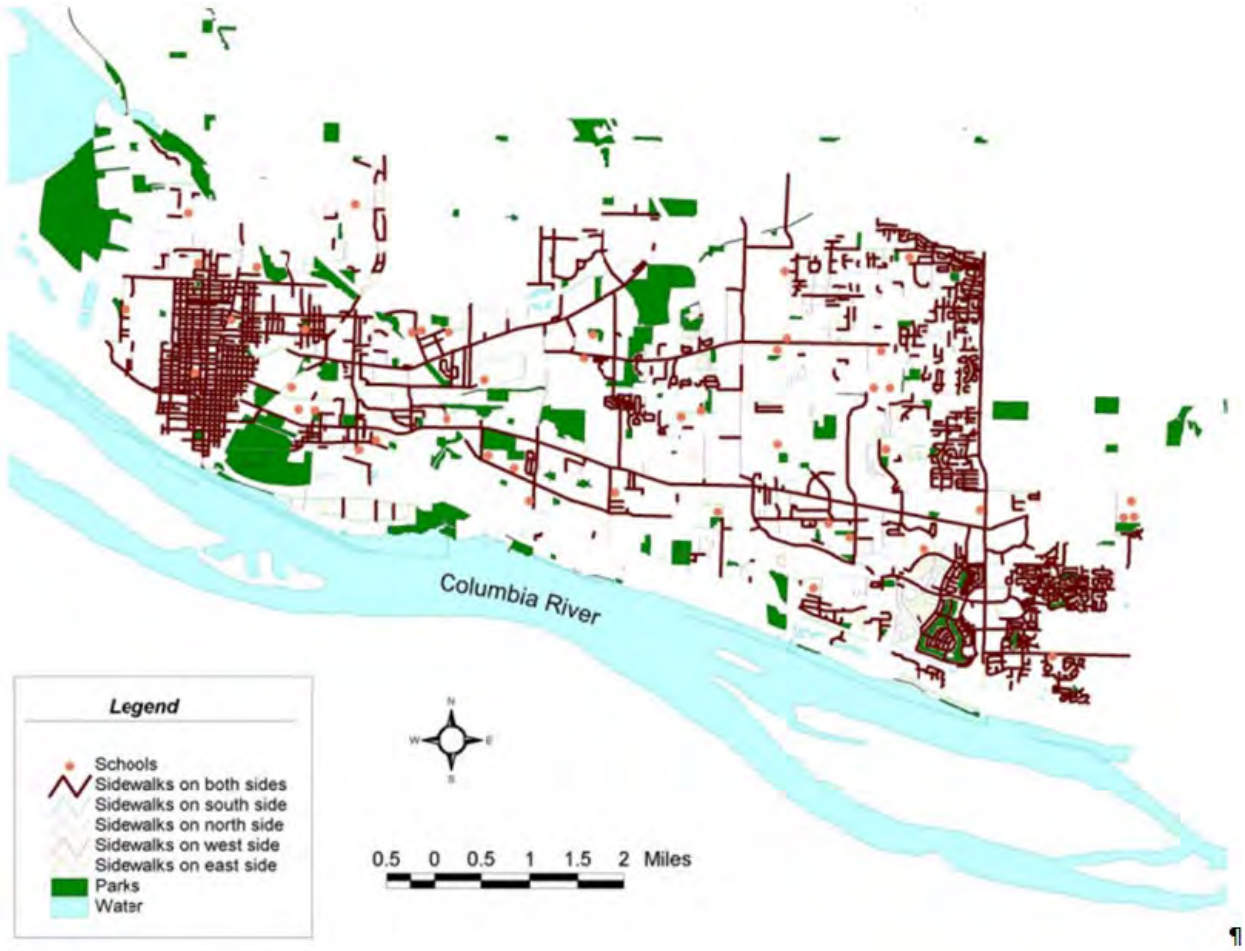
Figure 3-5: Bicycle Routes in the City of Vancouver



Pedestrian Network

Local jurisdictions in Clark County also map the pedestrian networks within their communities. Figure 3-6 shows Vancouver's existing sidewalks as mapped in the City's Transportation System Plan which is anticipated for update in 2019. Vancouver, in its TSP, also provides maps showing arterial walkability, walkability and schools, pedestrian supply and walkability.

Figure 3-6: Vancouver WA, Existing Sidewalks



Regional Trail System

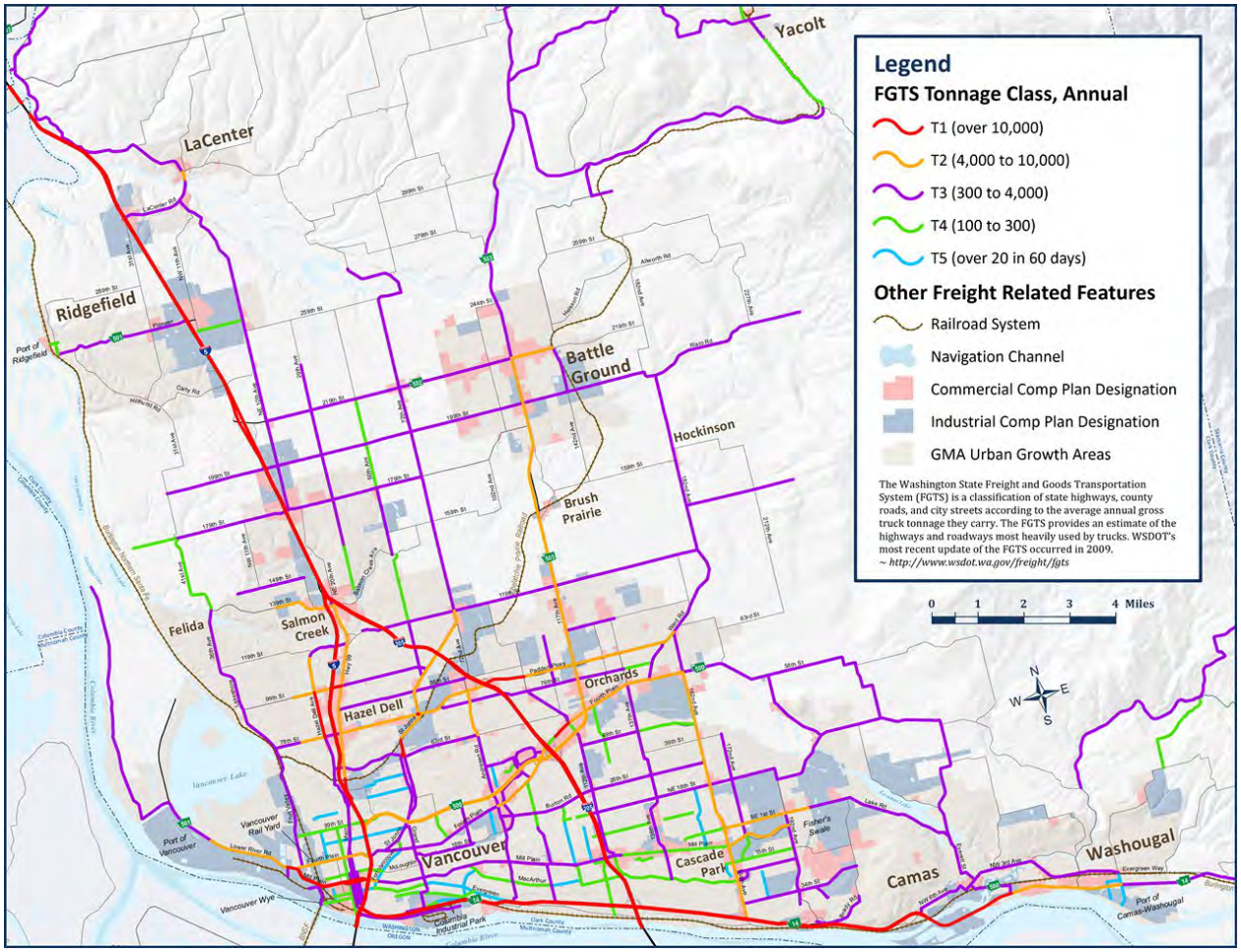
Regional trails can serve travel, recreational and health purposes. Clark County has an extensive system of trails as shown in Figure 3-7. Some of the most significant regional trails include the Burnt Bridge Creek Trail, the Ellen Davis Trail, the Padden Parkway Trail, the Salmon Creek Trail, the Lacamas Heritage Trail, the Captain William Clark Park Trail at Cottonwood Beach and the Columbia River Renaissance Trail and Discovery Historic Loop.

Figure 3-7:Trails of Clark County

Freight Transportation Network

Figure 3-8 shows WSDOT's Freight and Goods Transportation System (FGTS) with the Clark County designated industrial and commercial lands the freight transportation network serves.

Figure 3-8: WSDOT Defined Freight and Goods Transportation System in the Clark County Region



Public Transportation

C-TRAN Public Transit System

Clark County Public Transportation Benefit Authority (C-TRAN) provides public transit service in Clark County. C-TRAN's service area is shown on Figure 3-9. All C-TRAN's system and facilities are included as part of the designated regional transportation system. In addition to C-TRAN's fixed route service that provided 5.7 million rides in 2017 and C-VAN paratransit service that provided 245,919 rides in 2017, there are opportunities to connect with TriMet for fixed route transit to Portland, Oregon, connection with Skamania County with service provided by Skamania County Senior Services and connection with Cowlitz County with service provided by Lower Columbia Community Action Council's CAP. All C-TRAN routes use lift-equipped buses, making them easily accessible to people with disabilities.

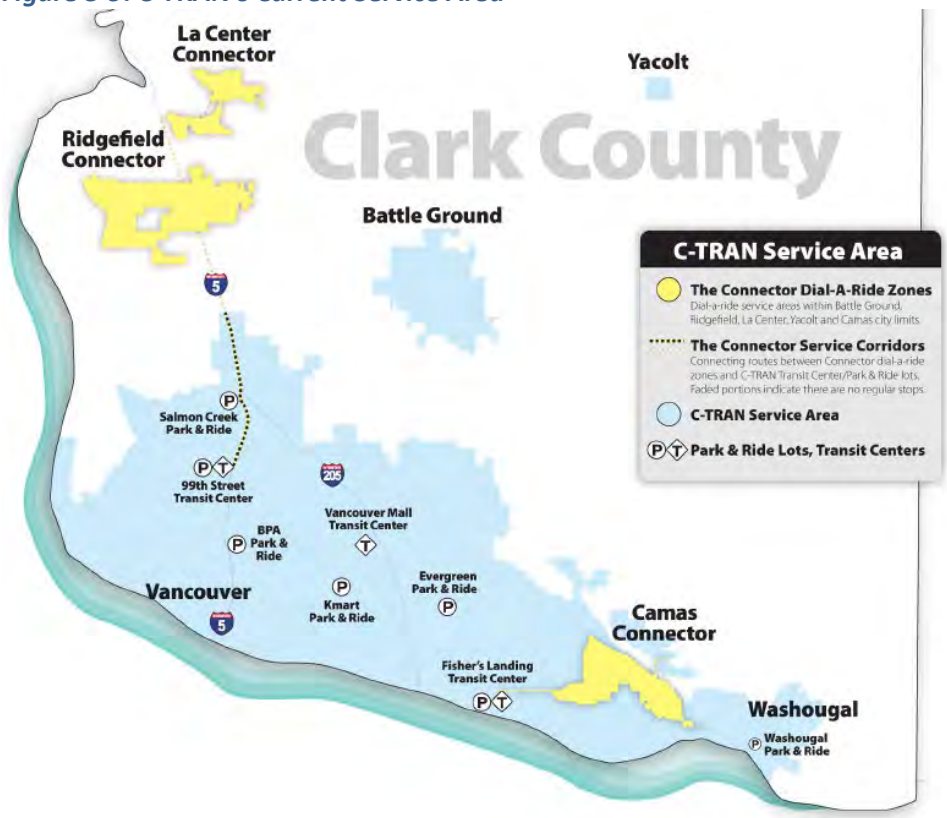
C-TRAN's system includes three transit centers at 1) Fisher's Landing, 2) 99th Street at Stockford Village and 3) Vancouver Mall as well as six park and ride lots. Some are operated under a site use agreement. The six C-TRAN park and ride facilities provide more than 2,200 parking spaces at 1) Andresen, 2) Evergreen, 3) Fisher's Landing Transit Center, 4) La Center, 5) 99th Street Transit Center at Stockford Village, and 6) Salmon Creek.

Throughout the fixed route system, C-TRAN maintains over 989 bus stops including 188 passenger shelters and 79 "Simme" seats providing durable seating at bus stops that do not have enough ridership to merit a shelter. C-TRAN has installed solar-powered shelter flashers and transit stops, which provide passenger-activated illumination for safety and to more easily read posted schedule information, at bus stops along key transit corridors. All C-TRAN buses are also equipped with a bicycle

rack that holds two bicycles. C-TRAN provides instruction and assistance to bicyclists who plan to use transit for part of their trip. Bike lockers are provided at most of C-TRAN's transit centers and park and ride lots.

C-TRAN publishes a yearly Transit Development Plan (TDP) that documents its service and plans for service within the next six years. The latest TDP, C-TRAN 2018-2023 Transit Development Plan, was published in September 2018. C-TRAN's plans for future transit service are documented in C-TRAN 2030 (June 2010, updated December 2016). The implementation of the long-range transit plan is contingent on funding being available (see details in RTP's financial plan in Chapter 4).

Figure 3-9: C-TRAN's Current Service Area



C-TRAN Fixed Route Service

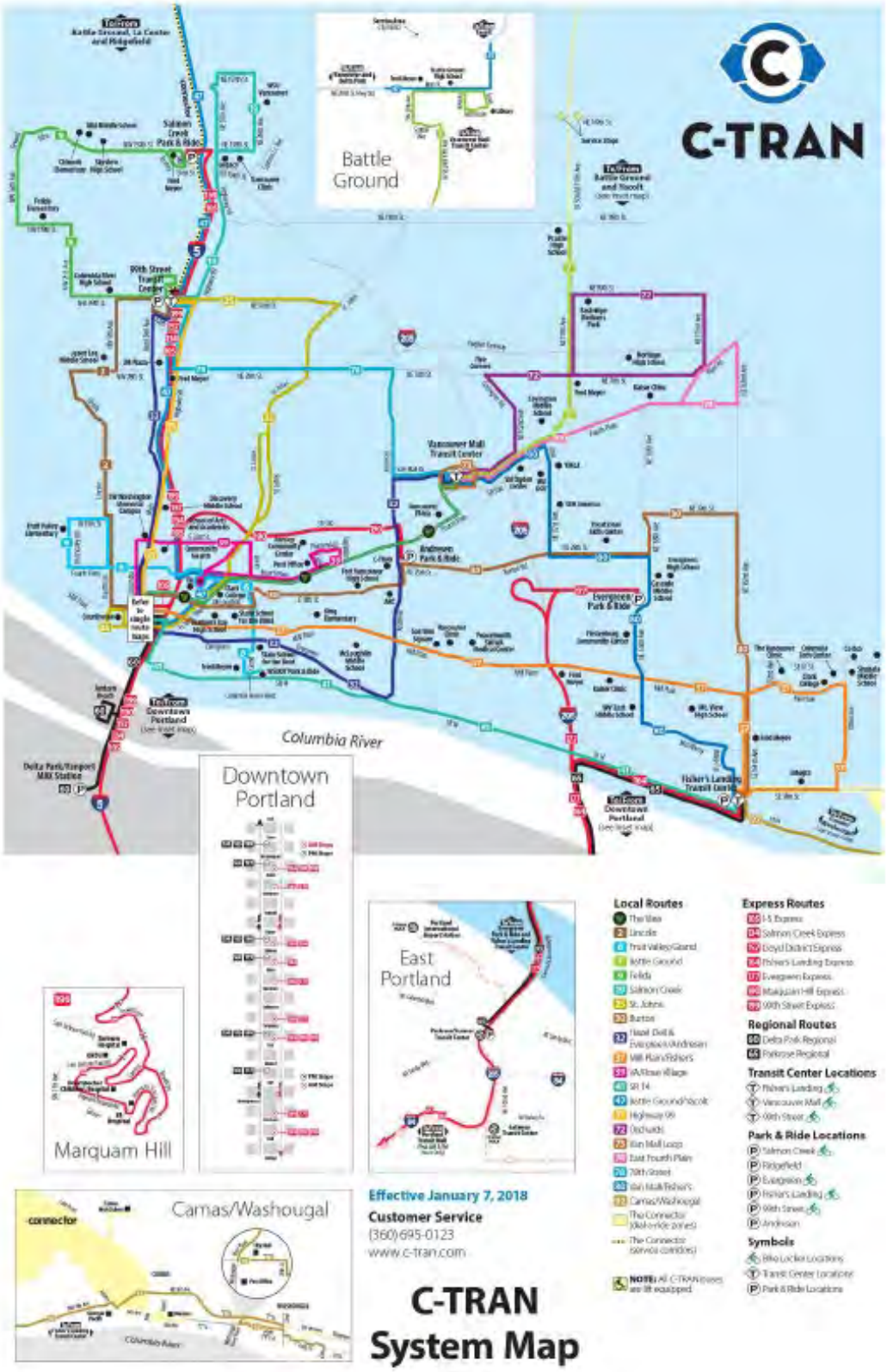
C-TRAN operates a fixed route bus system with urban and suburban routes, express commuter service to destinations in Portland, limited routes that connect with light rail in Portland, and a vanpool program. Figure 3-10 maps C-TRAN's fixed route system. C-TRAN also provides general purpose dial-a-ride/deviated fixed route, Connector service, and Americans with Disabilities Act (ADA)-compliant paratransit service.

C-TRAN currently operates one Bus Rapid Transit (BRT) route, 19 local routes that operate within Clark County, two regional routes that connect Clark County to TriMet's light rail system in Portland, Oregon, and seven commuter express routes serving employment centers in Portland (see Figure 3-5 for a map of the routes).

Operating hours are generally 4:30 a.m. to 12:30 a.m. on weekdays, 6:00 a.m. to 12:30 a.m. on Saturdays, and 6:00 a.m. to 12:30 a.m. on Sundays/holidays.

C-TRAN provided 298,529 total vehicle hours and 270,430 revenue hours of fixed route service in 2017, with ridership totaling 5,726,870. C-TRAN service levels are dependent on sustaining funding sources, with local sales tax being a significant revenue source for system operations (see Chapter 4 for additional information on transportation revenues).

Figure 3-10: C-TRAN's Fixed Route Transit System Map



While C-VAN carries 4% of C-TRAN system ridership, it accounts for approximately 22% of C TRAN's operating budget.

C-VAN Paratransit Service

C-TRAN provides an ADA-compliant paratransit service, known as C-VAN. Paratransit service is provided inside the Vancouver urban growth boundary (UGB) and within three-quarters of a mile of all C-TRAN fixed routes operating outside Vancouver's UGB. C-TRAN attained full compliance with the ADA by January 1997. Connections with TriMet's LIFT service, operating in the Portland, Oregon metropolitan region, are made at the Parkrose and Jantzen Beach transit centers. Figure 3-11 provides a map showing C-VAN coverage and Table 3-2 provides a summary of paratransit service hours and ridership between 2000 and 2017.

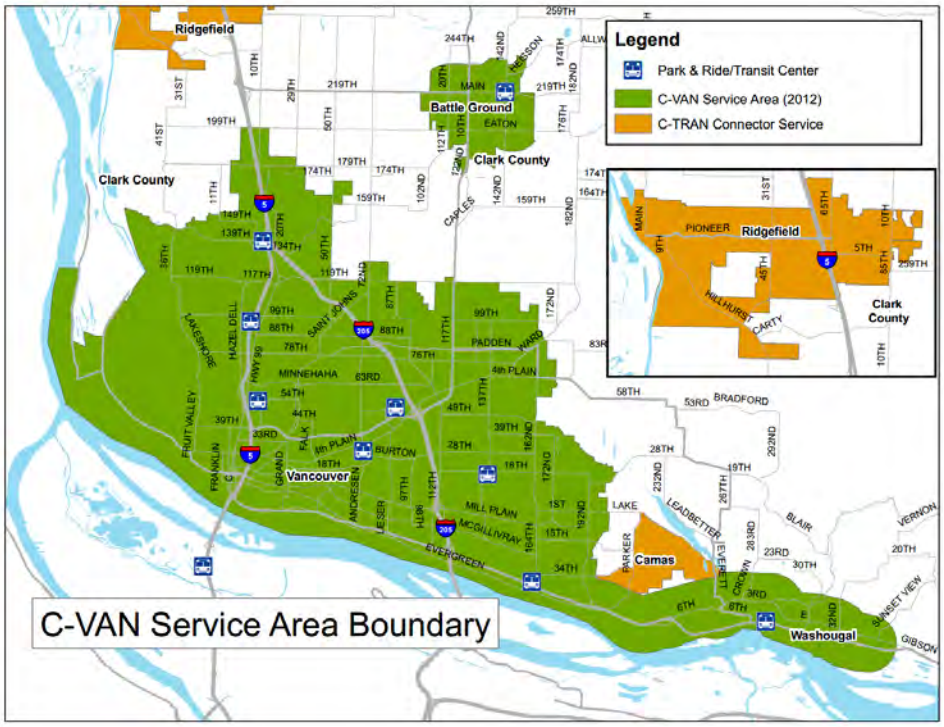
C-TRAN uses a functional assessment process to determine eligibility for paratransit services. Additionally, C-TRAN offers a Travel Training program that provides customized training to seniors and individuals with disabilities so they become comfortable with riding the bus. Participants learn the skills necessary to plan trips and travel across the C-TRAN system. Travel trainers offer the Blue Strap program, providing a blue securement strap to individuals using mobility devices who ride fixed route buses. The blue strap helps ensure mobility devices can be quickly and safely secured.

Table 3-2: C-TRAN; C-VAN Paratransit Service

Year	Trips	Operating Hours per Year	In-Service Hours per Year
2000	162,130	62,275	55,308
2005	196,478	80,487	72,004
2010	218,104	87,973	80,555
2015	248,788	100,791	92,548
2016	249,532	102,960	94,736
2017	245,919	95,126	87,175

While C-VAN carried 4.1% of C-TRAN system ridership in 2017, it accounted for approximately 22% of C-TRAN's operating costs. With forecasts of significant growth in demand for paratransit service in the coming years with the increase in percent of aged population in Clark County, managing the costs of this service is a challenge for C-TRAN.

Figure 3-11: C-VAN Service Area



Connector Service

C-TRAN operates other innovative transit services including Connectors and the shopping shuttle. In 2003, C-TRAN implemented its first innovative transit service, a dial-a-ride route replacing a low performing fixed route in Camas. In 2006, three additional innovative Connector routes were deployed resulting in a significant increase in trips and revenue hours. These additional routes restored a transit connection to smaller cities in C-TRAN's service area. In early 2007, the Battle Ground Connector was replaced with Route #7 Battle Ground due to ridership demand.

Connector services are equally accessible and available to the general public. These routes take standing reservations, same day reservations as available, and also pick customers up at identified stop locations.

The Camas Connector operates in the Camas area, with a connection to the Fisher's Landing Transit Center. This service operates 5:30 a.m. to 9:15 a.m. and 2:00 p.m. to 7:00 p.m., Monday – Friday.

Connectors also serve the cities of Ridgefield and La Center. These Connectors each have two components: 1) a deviated fixed route within each city's limits and 2) a feeder service connection to the local urban fixed route system at the 99th Street Transit Center.

Shopping Shuttle

The shopping shuttle was established at the recommendation of C-TRAN's ADA Task Force. It provides direct transit service between select housing areas and shopping destinations on a fixed schedule.

C-TRAN, Security

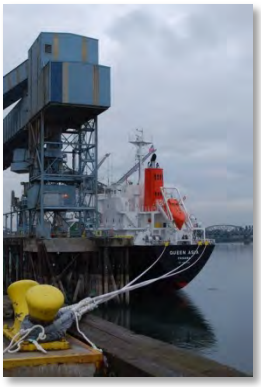
C-TRAN uses safety and security measures to make the transit system safer for its users. These security measures include provision of mobile security patrols at C-TRAN transit centers and park and rides. The local police and sheriff's departments maintain a close working relationship with C-TRAN and responds, as needed, to ensure a safe and secure environment for transit passengers. C-TRAN buses are equipped with emergency alarms, automated vehicle locators, and two-way radios. Additionally, most C-TRAN buses and transit centers are equipped with surveillance cameras.

Human Services Council: Transportation Brokerage

The Human Services Council Transportation Brokerage arranges rides for elderly, low income and people with medical needs and disabilities through contracts and arrangements with a variety of transportation providers. This service is highly valued in the community by people that have no access to C-TRAN or C-VAN services or for people for whom regular transit service does not work. Between July 1, 2017 and June 30, 2018 HSC brokered over 82,000 employment transportation trips and over 4,100 Reserve-a-Ride trips. Continuation of the Brokerage services is dependent on grant funding.

Inter-City Bus

Inter-city bus service to cities throughout the northwest and nation-wide, provided by Greyhound Bus Lines, is no longer available from Vancouver. The Greyhound bus service stop in Vancouver, Washington closed on January 1, 2009. Vancouver residents now have to travel to Portland, Oregon to access this service and the Bolt Bus service. Connection with Skamania County is provided through Skamania Senior Services and connection with Cowlitz County provided by CAP managed by Lower Columbia Community Council. Connections to both Skamania and Cowlitz counties are subject to continued grant funding.



Marine Transportation

The Columbia River provides a navigable waterway for the Clark County region as part of the Columbia/Snake River system. Barge traffic operates from the Portland-Vancouver metropolitan area to eastern Washington and Oregon. Ocean-going ships use the Port of Vancouver, USA. Clark County has three port districts; the Port of Vancouver, the Port of Camas-Washougal and the Port of Ridgefield though only

the Port of Vancouver serves marine freight vessels. There is currently renewed interest in serving passengers by ferry service, the Frog Ferry, between Vancouver and Portland.

Port Districts

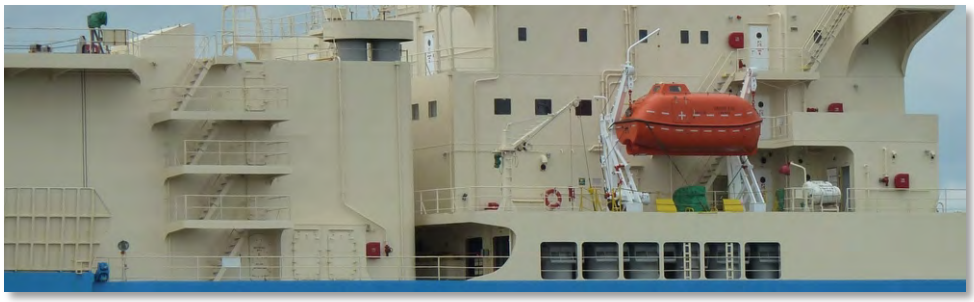
Port of Vancouver USA

The Port of Vancouver USA is situated at the terminus of the Columbia River's deep draft channel and forms a natural gateway to the river-barge ports of eastern Oregon/Washington and northern Idaho. The Port operates international cargo docks. It is the third-largest port in the state of Washington. It has five marine terminals, provides 13 deep-draft vessel berths and has two 140-metric ton mobile harbor cranes to enable heavy lift cargo.

The Port is served by numerous river and ocean-going barge lines. Annually, the port handles around 350 ocean-going vessels, as well as river barges with a total cargo volume of approximately 7.5 million metric tons. The Port handles a wide range of cargoes including general break bulk, project and direct transfer cargoes, containers, automobiles, steel slab, meal products, and dry bulk commodities such as scrap steel, bentonite clay, copper concentrates, and grains. In recent years, the Port had become a leader in import of wind energy components. The Port has dockside warehousing for general cargo and bulk storage warehouses.

The Port of Vancouver supported the Columbia River Channel Improvement Project to deepen the Columbia River channel from a 40-foot navigation channel to 43 feet to facilitate deep-draft transportation of goods for years into the future and to help keep the region competitive. The Port supports the Lower Columbia River Channel Maintenance Plan to ensure the channel is maintained and operational at its 43-foot depth for another 20 years.

The Port is located within 2 miles of I-5 and is served by Burlington Northern Santa Fe and Union Pacific Railroad, Canadian National and Canadian Pacific railroads. The Port of Vancouver has 830 acres of developed industrial and marine property with over 50 industrial tenants. Over 3,200 people are directly employed by these businesses and nearly 9,000 jobs are connected to port activities. The Port has over 600 additional acres of land for future development. The Port's future development includes Phase 2 of the Centennial Industrial Park and the Columbia Gateway area. In 2018 the Port completed its West Vancouver Freight Access Project with the addition of over 40 miles of track to the port facilities. The project also reduced



congestion on the main BNSF rail line by 40%. With completion of the project, the Port of Vancouver USA significantly increased its railcar handling capacity to 400,000 rail cars per year.

Freight dependent businesses represent 44% of the state's jobs.

Today, the Port of Vancouver is revitalizing the area around its Terminal 1 offering commercial development opportunities, such as a new hotel development. The waterfront's Renaissance Trail will continue through the property.

Port of Ridgefield

The Port of Ridgefield is located about 15 miles north of Vancouver USA. The Port's taxing district extends over 57 square miles and the district is bisected by the I-5 corridor. The Port adopted the Port of Ridgefield Comprehensive Plan in 2008. Port-owned assets include a 41-acre site, Miller's Landing, on Lake River, 3 miles from I-5, with a programmed bridge project over the BNSF rail lines which will enhance access to the site. The Port developed the 78-acre Ridgefield Industrial Park located at the southwest quadrant of I-5 and Pioneer Street, now home to over twenty businesses providing some 800 jobs. The port's dark fiber project will make high-speed data fiber available for lease to internet service providers and others who wish to meet the data needs of businesses and citizens in the Discovery Corridor.

Port of Camas/Washougal

The Port of Camas/Washougal provides facilities and services for land, air, water-based commerce and to enhance employment and recreational opportunities, contributing to the quality of life in the community. The 500-acre industrial park, located south of SR-14 by Index and 27th to 32nd Streets, was created in 1966 when the U.S. Army Corps of Engineers created a 5.5-mile levee along the Columbia River. It is home to an average of 50+ businesses with approximately 1,000 employees, and an annual payroll exceeding $35 million. Steigerwald Commerce Center, the 120+ acres development project is into phase #2 with over 50+ acres of ready developable property. Also, the Port recently purchased 26.5 acres of waterfront property along the Columbia River for commercial, office, mixed use and retail development. The marina has moorage to accommodate 350-plus boats and a 4-lane launch ramp. The Port district also operates Grove Field Airport (described in a later section). The marina has moorage to accommodate 350-plus boats and a 4-lane launch ramp.

Rail

There are two mainline rail lines, both owned by Burlington Northern Santa Fe (BNSF), that run through Clark County. The mainlines carry both freight and passengers. In

addition, the Lewis and Clark Railroad is a 33-mile short line railroad owned by Clark County.

The BNSF Seattle/Vancouver line is in excellent condition and has 70 to 80 trains operating in the corridor each day. The BNSF Vancouver/Eastern Washington line is also in excellent condition and handles about 40 trains daily. Union Pacific Railroad operates some freight trains to Tacoma and Seattle on BNSF's lines.

Amtrak has an agreement with BNSF to operate passenger service on the freight carrier's rail lines. Amtrak trains serve Vancouver daily. During the 1990s Washington and Oregon began to invest transportation funds to improve local Amtrak service. In 1993, Amtrak offered a single local daily round-trip connecting Eugene and Seattle with ridership totaling 94,061 trips. By 2018, service has grown to four daily Amtrak Cascades roundtrips operating between Seattle and Portland, with two extending to Eugene and Vancouver BC, Canada. Ridership in 1993 was at 94,061 annual riders, increasing to 775,000 by 2008 and 811,000 in 2017. 96,448 passengers boarded or de-boarded at the Vancouver Amtrak station in 2017.

The *Coast Starlight*, with service between Seattle and Los Angeles, via Vancouver and Portland, also provides once a day, daily service. The *Empire Builder* also provides one train a day, on a daily basis, between Chicago and Spokane from where one part of the train continues to Seattle and the other part continues, via Pasco and Bingen-White Salmon, to Vancouver with service terminating in Portland.

The Pacific Northwest Rail Corridor is one of eleven designated high-speed corridors in the nation. Its designation pre-qualified the region for federal high-speed rail funding. In late 1995, the Washington State Department of Transportation (WSDOT) and project partners published *Options for Passenger Rail in the Pacific Northwest Rail Corridor* report. An Environmental Impact Statement on corridor improvements was completed and construction of rail corridor improvements began in 1998. Custom-built Talgo trains were put into service on Amtrak's Pacific Northwest Rail Corridor

service. The Vancouver Amtrak station facility was upgraded as part of the Eugene to Vancouver B.C. passenger rail service improvements. In the early 2010's, the Vancouver Rail Project improvements in the vicinity of the Vancouver Yard were made with the intent of increasing safety, reducing rail congestion, and improving on-time performance of Amtrak's passenger rail service. The project added a new rail bypass track and a grade-separated crossing of the rail lines for vehicles using west 39th Street in Vancouver was opened in 2010.

Public and private freight railroads in Washington move 103 million tons of freight annually.

The Chelatchie Prairie Railroad is a 33-mile short line railroad owned by Clark County. The line diverges from the main BNSF northern line around NW 78th Street and traverses the County via Rye Yard off St John's Road and Battle Ground to its terminus at Chelatchie Prairie. This short line railroad is also known as the Lewis and Clark Railroad or the Clark County Railroad. The operating and maintenance responsibilities for the line are leased out under long-term operating contracts to two different railroad operators. On the line segment from Heisson to the south, the Portland Vancouver Junction Railroad (PVJR) is responsible for freight operations. At present, this line segment serves the only active freight shippers on the railroad's main freight corridor. On the line north of Heisson, the Battle Ground, Yacolt, and Chelatchie Prairie Railroad Association (BYCX), a volunteer group, is operating a passenger excursion program originating in Yacolt. On the lower 14 miles from Rye Junction to Battle Ground, it is anticipated that freight growth will continue through the freight operator to help support the economic development vision for Clark County. The upper 19 miles is anticipated for some possible freight operations and tourism. In 2007, the County was awarded $1.1 million from the WSDOT Rail Emergent Fund for rehabilitation to the lower 14 miles of track and more recent grant funding and expenditures on infrastructure improvements are outlined on Clark County's web page. Clark County will continue to pursue state and federal grants to upgrade the track to Class 1 status for safer operation and increased freight on both the upper and lower lines. A new trans-load facility has been created between 78th and 88th Streets. Under the Comprehensive Growth Plan (Clark County, 2007), the County has designated an area for railroad industrial. This will enable the development of industry and growth in shippers who will use the line.

Companies move $37 million worth of freight hourly on Washington's roadways.

Commuter Rail has been considered as an option for travel within the region. The Commuter Rail Feasibility Study (RTC, 1999) considered commuter rail options and reported on future capacity of the rail corridors in the region. Commuter rail was also considered as part of the I-5 Partnership study in 2001/2002.

Air Transportation

For Air Transportation, Clark County largely relies on the Portland International Airport (PIA) located in Portland, Oregon to the southwest of the I-205 Glenn Jackson Bridge. This is a regional airport with domestic and international passenger and freight service. Passenger airlines currently serving PIA include AeroMexico, Air Canada, Alaska Airlines, American Airlines, Boutique Air, Condor, Delta, Frontier, Hawaiian, Icelandair, Jet Blue, Southwest, Spirit, Sun Country Airlines, United, and Volaris. There are year-round, nonstop international flights to Vancouver BC and Calgary in Canada, Guadalajara in Mexico, Amsterdam in The Netherlands; and Tokyo/Narita in Japan. Seasonal, non-stop, international flights are available to destinations including, Los Cabos and Puerto Vallarta in Mexico, Keflavik in Iceland, London in the United Kingdom and Frankfurt in Germany. In addition, air freight carriers serving Portland currently include Ameriflight, Cathay Pacific Cargo, DHL, Empire Airlines, FedEx, United, UPS and Western Air Express. PIA has seen rapid growth in passenger numbers and freight. In calendar year 2017, Portland airport handled over 19 million passengers and 246,917 tons of air freight. The airport is served by Tri-Met's MAX light rail which connects the airport to downtown Portland. C-TRAN buses connect to the Airport's MAX light rail line at the Parkrose Station as well as to the Interstate MAX light rail line at the Delta Park/Vanport Station.

Washington State's aviation system is served by a diverse mixture of airports with a range of sizes. The system is comprised of public use airports, both publicly and privately owned, and meets a range of transportation needs for commercial, business, personal, recreation, training and medical emergencies. WSDOT's Aviation Division conducts long-term planning to face the challenge of maintaining and improving the aviation system for the future. The WSDOT Aviation Division completed the latest update to the Washington Aviation System Plan (WASP) in July 2017 addressing capacity of air cargo, commercial airline service and general aviation.

Within Clark County, general aviation airfields include Pearson Field and Grove Field. Pearson Field, located 2 miles south west of Downtown Vancouver off SR-14, is operated by the City of Vancouver and covers 134 acres owned by the U.S. Park Service. The Airpark has one paved runway (3,200 feet by 60 feet) and can accommodate over 150 aircraft. The Airpark is on the Washington State Historical Register. Pearson is designated as a part of the regional transportation system. Grove Field is a Basic Utility Stage I Airport operated by the Port of

Camas/Washougal. Located in the Fern Prairie area 5 miles north of Camas, Grove Airfield is one of only two publicly owned airfields in the county. Grove Field has a 2,832 foot paved runway illuminated by a low intensity lighting system and also a PAPI system, an above-ground self-fueling station and hangar space for over 70

aircraft.

In addition, there are a number of private airfields located in Clark County that include those described below. Taylor's Green Mountain Airpark is a 23-acre facility, located 9 miles east of downtown Vancouver with one paved runway, six hangars and ten-tie downs. Goheen Airport, located three miles northwest of Battle Ground, is privately owned. It has one turf runway and provides a base for about 18 planes. 45 acres of Goheen's 60 acre area are zoned for airport use.

The Washington State Department of Transportation's Aeronautics Division and the local pilots' association proposed that an additional airport should be sited in Clark County because of the vulnerability of existing airfields in the County due to ownership issues and development pressures. Efforts in the 1980s to site such a facility were thwarted when neighborhood residents opposed a proposed airport location in the vicinity of the I-5/Ridgefield Junction. Federal and state agencies and local jurisdictions have to work together to site such facilities and local jurisdictions must ensure that the land uses surrounding the facility are compatible with aircraft operations and remain that way.

Regional Transportation System Performance

A significant step in developing the RTP is the analysis of transportation system performance.

Traffic Counts

Traffic counts are a way to track highway system performance. RTC has had a traffic count program in place for over 20 years. Data is compiled and made available on RTC's website.

Change in Traffic Volumes

As a result of socio-economic and demographic changes described in Chapter 2 Clark County has seen significant changes in traffic volumes over the last 25 years. Traffic volumes are also affected by where capacity is constrained or additional capacity has been added to the transportation network. The MPO compiles traffic count data from local jurisdictions and other sources, and makes the compiled data available on RTC's website. Traffic count data is factored to adjust for seasonal, monthly, weekly and daily fluctuations in volumes. Examples of growth in traffic volumes at selected Clark County locations are listed in Table 3-3, with comparisons between the traffic count in 1985 and the most recent traffic counts available.

Table 3-3: Traffic Volumes; 1985 to Current Years

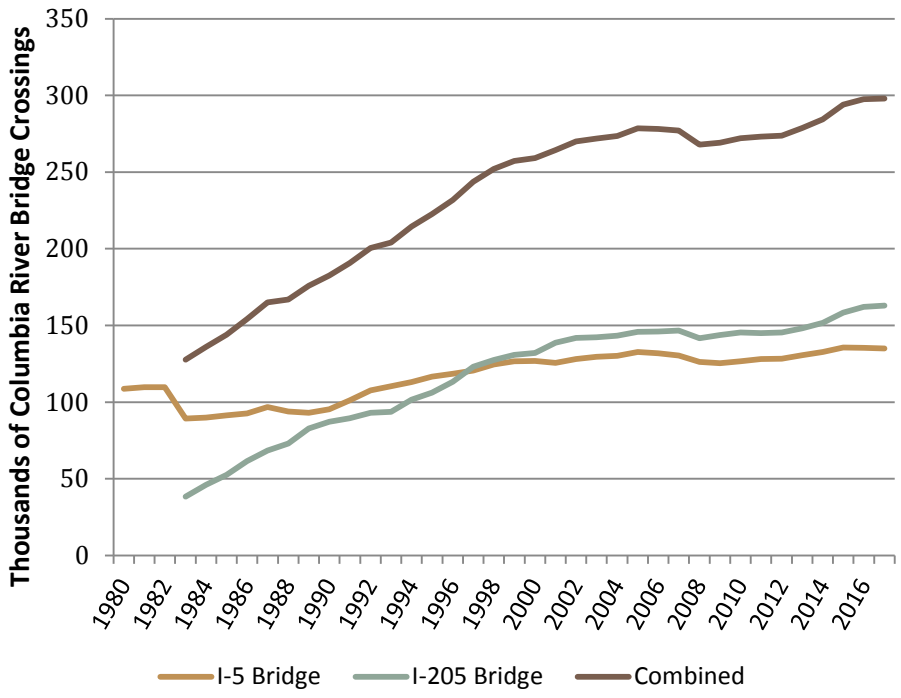
Location	1985 Volumes	Current Volumes	Last Counted	Increase	Annual Increase
I-5 Bridge	92,301	134,833	2015	46%	1.5%
I-5, South of SR-500	54,400	130,992	2007	141%	6.4%
I-5, South of NE 78th St	52,784	98,060	2004	86%	4.5%
I-5, South of Woodland	33,748	75,624	2015	124%	4.1%
Hwy 99, south of NE 99th St	19,653	17,077	2018	-13%	-0.4%
I-205 Bridge	52,568	159,982	2015	204%	6.8%
I-205, south of SR-500	40,440	122,292	2010	202%	8.1%
164th Ave, south of SE 34th St	7,052	31,469	2015	346%	11.5%
192nd Ave, south of SE 34th St	*not open*	22,202	2018	*n/a*	*n/a*
SR-14, west of SE 164th Ave	22,600	80,771	2007	257%	11.7%
SR-14, west of NW 6th Ave	17,600	42,567	2013	142%	5.1%
Mill Plain, east of NE Andresen	21,021	22,234	2015	6%	0.2%
Mill Plain, east of NE Chkalov	18,220	35,218	2016	93%	3.0%
NE 18th Street, east of 138th Ave	7,557	21,095	2016	179%	5.8%
Fourth Plain, west of NE Andresen	16,060	23,883	2018	49%	1.5%
Fourth Plain, west of 137th Ave	14,671	30,790	2015	110%	3.7%
SR-500, west of NE Andresen	20,054	59,203	2015	195%	6.5%
Padden Parkway, west of NE 94th Ave	3,952	30,255	2017	666%	20.38%
78th St, west of Hwy 99	23,646	31,657	2017	34%	1.1%

Location	1985 Volumes	Current Volumes	Last Counted	Increase	Annual Increase
139th St, east of NE 10th Ave	11,218	18,329	2017	63%	2.0%
SR-503, south of NE 76th St	17,460	39,772	2017	128%	4.0%
SR-503, south of SR-502	7,360	27,697	2018	276%	8.4%

Source: RTC's Regional Traffic Count Program.

Permanent traffic recorders are in place on the I-5 and on the I-205 bridges. RTC compiles the Columbia crossing traffic counts provided by Oregon Department of Transportation from these recorders or from estimates provided by ODOT. In March 1995 RTC published the *Columbia River Bridge Traffic, 1961 - 1994* report and continues to report on river crossing data online. Figure 3-12 shows the average weekday traffic volumes crossing the Columbia River bridges, 1980 to 2017. In 2016 the estimated average weekday traffic (AWDT) volumes on the I-5 Interstate Bridge were 135,496 and on the I-205 Glenn Jackson Bridge were 162,031.

Figure 3-12: Average Weekday Columbia River Bridge Crossings, 1980-2017



Source: Oregon Department of Transportation

The highest daily traffic ever recorded on the I-5 Interstate Bridge was on Friday July 2, 2004 when 157,301 bridge crossings were made. The highest evening peak hour traffic ever recorded on the I-5 Bridge was on Tuesday May 28, 1996 when 10,838 bridge crossing were made. For the northbound direction, the highest evening peak hour traffic was recorded on Thursday June 11, 1998 when 5,987

bridge crossings were made. For the southbound direction, the highest morning peak hour traffic was recorded on Wednesday March 31, 2004 when 6,119 bridge crossings were made. Since these records were set, the I-5 Bridge has been getting increasingly congested which reduces the volume of traffic that can use the Bridge. Traffic is stuck in congestion so the throughput of traffic is diminished.

The I-205 Glenn Jackson Bridge's highest daily number of crossings recorded was on Friday September 16, 2016 with 186,639 crossings. The highest evening peak hour traffic recorded on the I-205 Glenn Jackson Bridge was on Friday August 3, 2006 when 13,284 bridge crossings were made. The highest northbound evening peak hour traffic recorded on the Bridge is the 8,426 crossings made on Friday May 24, 1996. For the southbound direction, the highest morning peak hour traffic was recorded on Tuesday October 7, 2003 when 8,247 bridge crossings were made. The highest all-day total river crossings were recorded on Friday, July 2, 2004 when 325,095 trips crossed the Columbia river on the I-5 Interstate and I-205 Glenn Jackson bridges.

Regional transportation system intersections with the highest traffic volumes, measured by number of vehicles entering intersection, are listed in Table 3-4.

Table 3-4: Highest Volume Intersections in Clark County, 2017

Rank	East-West	North/South	Approx. Volume	Count Year
1	Fourth Plain Blvd.	State Route 500	72,000	2016
2	Mill Plain Blvd.	Chkalov Drive	71,000	2016
3	State Route 500	NE 54th Avenue	63,000	2017
4	Mill Plain Blvd.	136th Avenue	61,000	2015
5	Padden Parkway	State Route 503	61,000	2016
6	State Route 500	NE 42nd Avenue	58,000	2017
7	Fourth Plain Blvd.	Andresen Road	58,000	2015
8	Mill Plain Blvd.	SE 164th Avenue	57,000	2016
9	NE 78th Street	Highway 99	54,000	2016
10	Padden Parkway	Andresen Road	53,000	2015
11	Mill Plain Blvd.	NE 120th Avenue	52,000	2016
12	Mill Plain Blvd.	NE 117th Avenue	51,000	2014
13	State Route 502	State Route 503	50,000	2015

Notes: Volumes are based on the total number of vehicles entering an intersection on an average weekday, and are approximate due to the annual variability. Freeway ramp intersections with streets were not considered for this table.

Source: RTC's Regional Traffic Count Program.

Regional Travel Forecasting Model: Forecasting Future Travel Demand and Transportation Needs

The Regional Travel Forecasting Model for the Clark County region is used as a tool to analyze existing and future transportation system performance. It is specifically used to forecast future traffic volumes on the regional transportation system. The regional travel forecast model uses demographic data as a basis for travel forecasts

with the basis for the 2040 travel demand forecast model being the underlying forecast 2040 land uses. The travel model process involves trip generation, trip distribution, mode split and trip assignment to the regional transportation system.

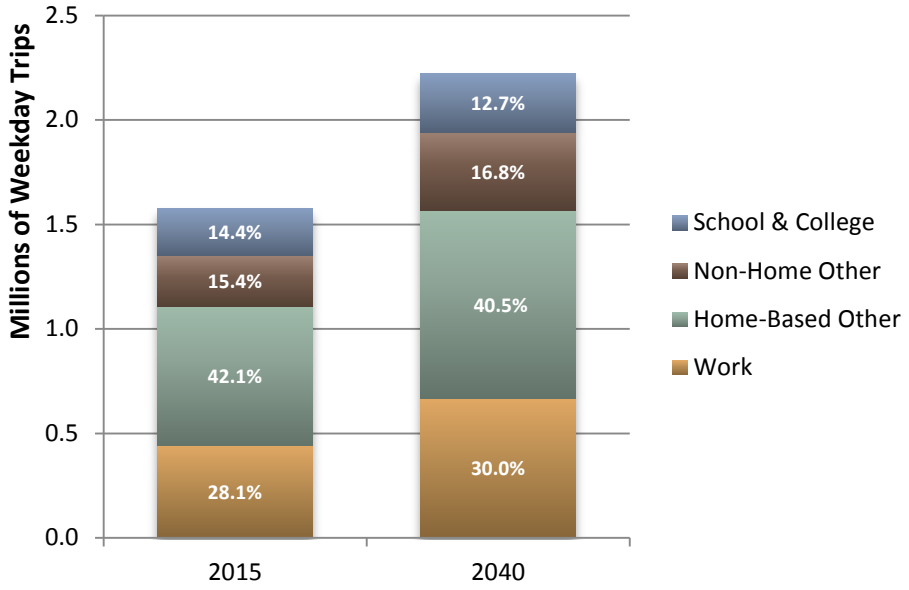
In the modeling process, a base year of 2015 was used with forecasting to the year 2040. As described in Chapter 2, the RTP update must be based on adopted land use plans of local jurisdictions. 2040 land uses are based on the adopted Comprehensive Growth Management Plan for Clark County (Clark County, June 2016) which has a horizon year of 2035, extended out to the RTP's 2040 horizon. Prior to adoption of the Comprehensive Growth Management Plans, alternative land use scenarios, and their effect on regional transportation needs, are tested and measured as part of the Growth Management planning process. The 2040 land use allocation to 665 Clark County Transportation Analysis Zones (TAZ's) was developed by local jurisdictions and RTC's partner agencies using their adopted comprehensive land use plans, as well as current zoning, as the basis for forecasting the future location of population, housing and employment within Clark County. Household and employment data allocated to the TAZs are the input to the regional travel forecast model. After trip generation, trip distribution, mode split and trip assignment onto the assumed regional transportation network, output from the regional travel forecast model is used as a tool to identify specific transportation system needs and future transportation solutions.

From 2015 to 2040 there is forecast to be a 41% increase in all-day person trips from around 1.58million trips per day in 2015 to over 2.22 million trips in 2040. Trips can be classified according to place of trip production and purpose of trip. The regional travel forecasting model for Clark County categorizes trips into several categories including Home-Based Work, Home-Based Shopping, Home-Based Other, Home-Based Recreation, Non-Home-Based Work, Non-Home-Based Other, and School and College trips. Figure 3-13 summarizes this information to show the proportion of trips in four categories for average weekday Clark County-produced person trips.

Figure 3-13 shows that in the 2015 base year the largest proportion of trips during a 24-hour period are home-based-other trips (42%). This category can include trips from home to the grocery store, home to childcare, home to leisure activities etc. The second highest category is home-based and non-home-based work trips (28%). Non-home-based-other trips make up 15% of the trips. This category can include such trips as shopping mall to restaurant trips. The home-based categories include trips originating at home and going to a destination as well as the return trip to home. School and college trips make up 14% of trips made on a daily basis The proportions for the year 2040 are forecast to be 41% home-based-other trips, 30% home-based and non-home-based work trips, 17% non-home-based-other trips, and 13% school/college trips.

The Regional Travel Forecasting Model for the Clark County region is used as a tool to analyze existing and future transportation system performance.

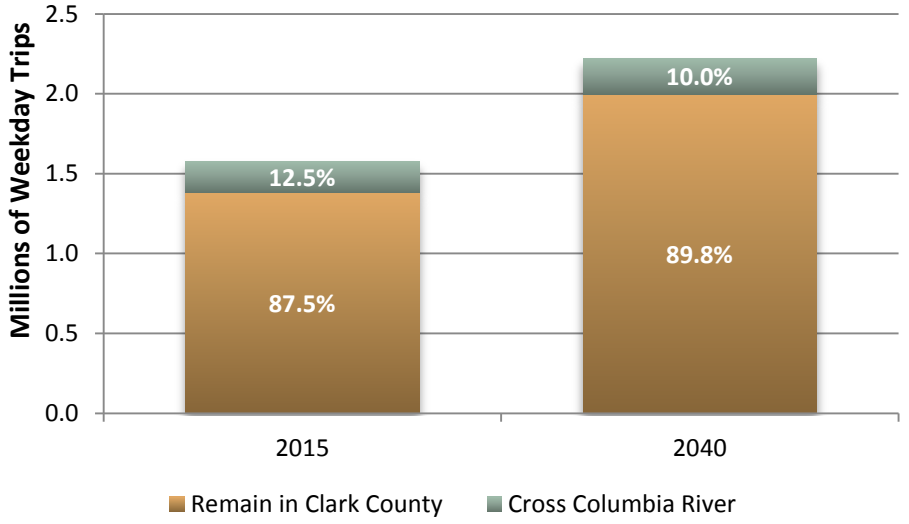
Figure 3-13: Average Weekday Person Trips by Trip Purpose for Clark County



Source: RTC Regional Travel Forecast Model

Trips can also be categorized according to where the trips begin and end. Figure 3-14 shows the proportions of trips that use the Clark County highway system; trips that remain in Clark County (87.5% of trips in 2015, 89.8% in 2040) and trips that cross the Columbia River (12.5% in 2015, 10% in 2040). Table 3-5 shows the distribution of Clark County generated person work trips with 67% of work trips remaining in Clark County in 2015 and the percentage growing to 74.7% by 2040. In 2015, 33% of trips cross the Columbia river for work but this percentage will reduce to 25.3% by 2040.

Figure 3-14: Distribution of Average Weekday Person Trips for Clark County



Source: RTC Regional Travel Forecast Model

Table 3-5: Person Work Trip Distribution – 2015 and 2040

	2015	2040 No Build	2040 RTP
Remain in Clark County	67.0%	75.4%	74.7%
Cross the Columbia	33.0%	24.6%	25.3%
Person Trips for Work Only			

Source: RTC Regional Travel Forecast Model

Needs analysis was carried out to determine what impact the forecast growth in travel demand might have on the transportation system. In carrying out analysis of existing and future transportation needs the regional travel forecasting model was used to run three scenarios:

Base-Year

2015 traffic volumes on 2015 highway network.

Committed System

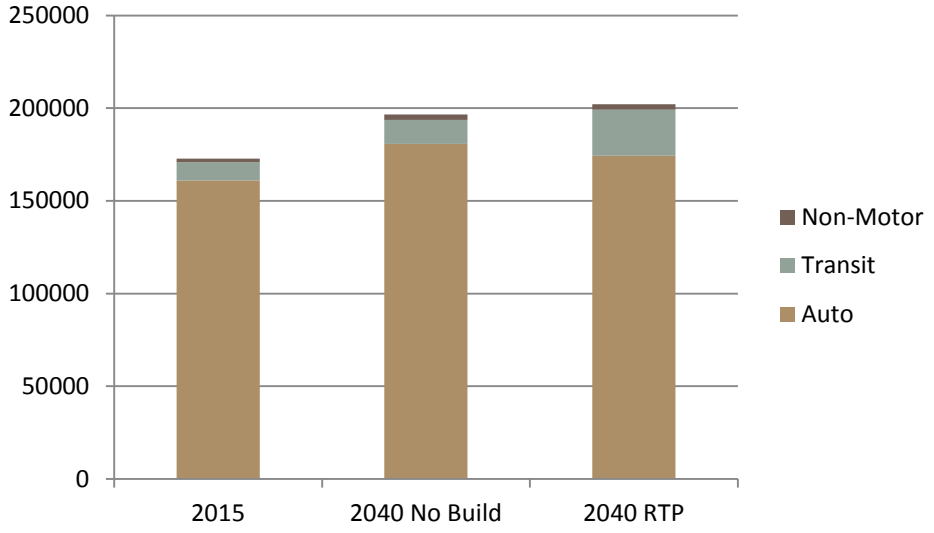
Forecast 2040 traffic volumes on "committed" highway network. The "committed" network has improvement projects for which funds are already committed in the Transportation Improvement Program (TIP).

RTP, Year 2040

Forecast 2040 traffic volumes on 2040 highway network with RTP improvements listed in Appendix B. RTP improvements are projects for which funds are already programmed and committed in the current Transportation Improvement Program, together with projects for which there is an identified regional need, regional support, and a reasonable expectation that funds will be available within the twenty-plus year horizon to construct and/or implement them.

In looking at mode choice, in 2015, 90% of all trips generated in Clark County were taken by auto, 1.6% transit, and 8.4% non-motorized (pedestrian or bicycle). The 2040 RTP forecasts 89.7% trips taken by auto, 2.2% transit, and 8.1% non-motorized. Figure 3-15 shows the mode choice for trips made to Oregon in 2015 and forecast to 2040. In 2015 about 93.2% were auto, 5.7% transit, and 1% non-motorized. For trips to Oregon in the 2040 RTP, 86.3% are forecast to be taken by auto, 12.3% transit, and 1.4% non-motorized. The number of Clark County residents crossing the river to Oregon in 2015 is about 170,000 daily and 200,000 daily in the 2040 RTP which includes an I-5 bridge replacement. By 2040 the transit use is forecast to nearly double.

Figure 3-15: Modal Choice, All Trips to Oregon – 2015 and 2040



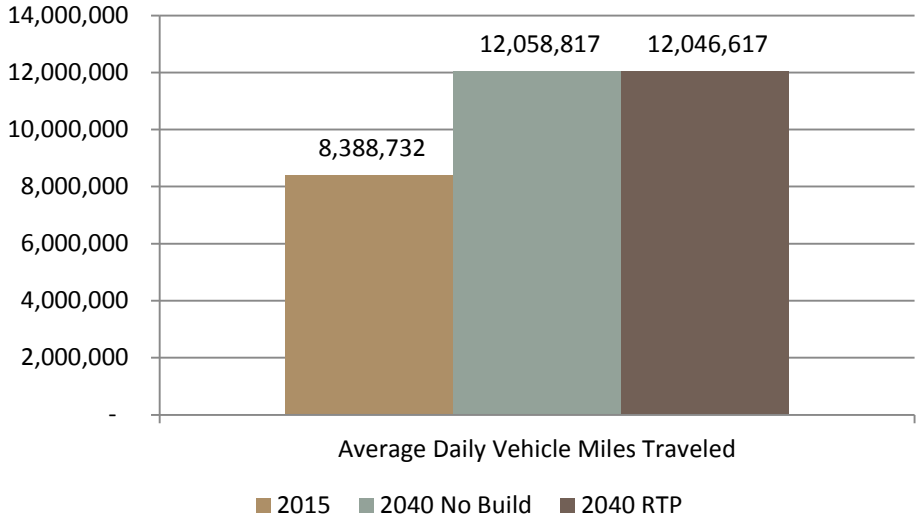
Source: RTC Regional Travel Forecast Model

Regional Travel Forecasting Model Analysis

Analysis of the Regional Travel Forecasting Model can yield data for forecast speed on a transportation facility, vehicle miles traveled, lane miles of congestion and vehicle hours of delay. RTC staff uses forecast model data to inform the project identification process. Figures 3-16 through 3-19 show some of the forecast results.

Figure 3-16 shows the growth in average daily vehicle miles traveled (VMT) between 2015 and 2040 on the regional highway system in Clark County; the regional system being primarily the interstate, state routes, principal arterials and some minor arterials and collectors. There are about 2,600 lane miles in the 2040 RTP. The vehicle miles traveled on an average weekday in Clark County in 2015 totaled about 8.3 million. By 2040, Vehicle Miles Traveled is forecast to grow to over 12 million daily VMT; a 41% increase in vehicle miles traveled.

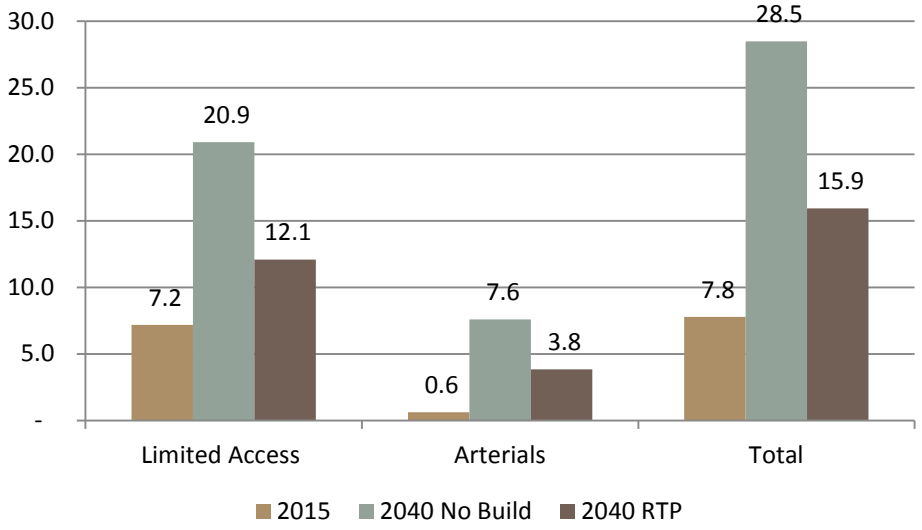
Figure 3-16: Regional System Vehicle Miles Traveled



Source: RTC Regional Travel Forecast Model

Figure 3-17 addresses PM peak hour lane miles of congestion; these are segments of the system at 90% capacity or greater. In 2015, the Clark County region experienced 7.8 lane miles of congestion in the PM peak. By 2040, in the no build scenario with no further transportation investment, congested lane miles reach close to 30 lane miles of congestion but with investments identified in the 2040 RTP the projection is for only 15.9 lane miles of congestion.

Figure 3-17: PM Peak Hour Lane Miles of Congestion

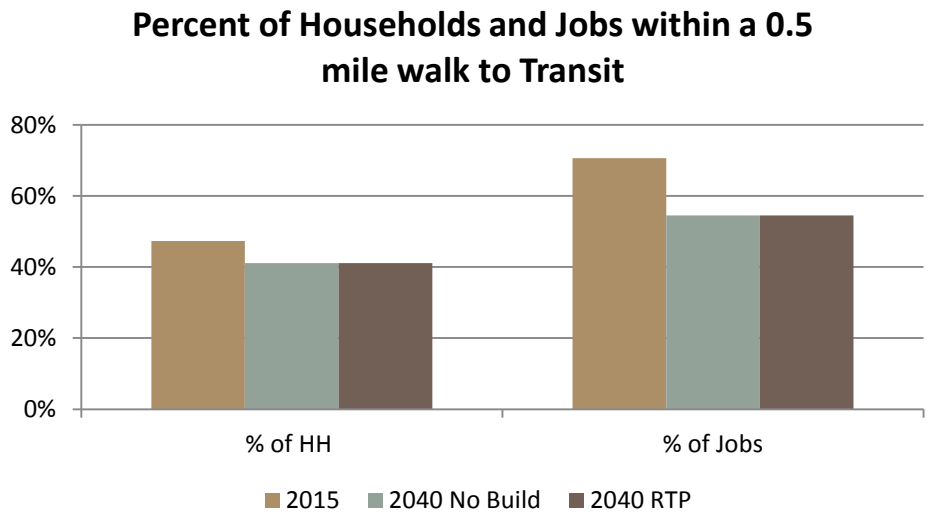


Source: RTC Regional Travel Forecast Model

Access to transportation and services is an important aspect in analyzing the region's transportation system. Figure 3-18 shows the percent of households and jobs within a 0.5 mile walk to fixed-route transit service. 45% of households and 77% jobs are within a 0.5 mile walk to transit in 2015. In the future the percentages

decrease in part because growth is moving outward from existing transit routes and there is little outward expansion of transit routes projected for the next 20 years.

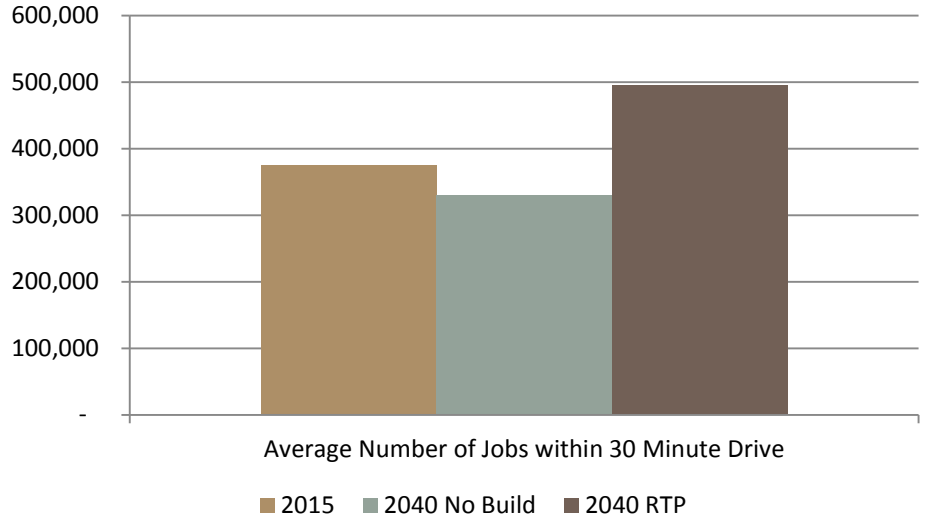
Figure 3-18: Walk Access to Fixed Route Transit – 2015 and 2040



Source: RTC Regional Travel Forecast Model

Figure 3-19 addresses access to jobs within the region as it compares the number of jobs available within a 30 minute drive for Clark County residents in 2015 and forecast to 2040. On average, in 2015, 370,000 jobs can be accessed by a Clark County resident within a 30 minute drive with average trip time at about 28 minutes. 370,000 jobs amounts to about 35% of all of the jobs in the region in 2015. With no further investment in the transportation system to 2040 (2040 No Build scenario) that drops to about 21% of the future regional jobs within a 30 minute drive but with the transportation investments identified in the 2040 RTP half a million (500,000) jobs are within a 30 minute drive for Clark County residents.

Figure 3-19: Regional Jobs Access – 2015 and 2040



Source: RTC Regional Travel Forecast Model

The GMA requires local jurisdictions to set levels of service standards for transportation facilities.

Levels of Service

Level 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 of the transportation system and can be described by travel times, travel speed, freedom to maneuver, traffic interruptions, comfort, convenience, and safety. The Washington State Growth Management Act states that these standards should be established locally and standards should be regionally coordinated. The standards are used to identify deficient facilities and services in the transportation plan, and are also to be used by local governments to judge whether transportation funding is adequate to support proposed land use developments.

Levels of service are defined as "qualitative measures describing operational conditions within a traffic stream and their perception by motorists and/or passengers." A level of service definition generally describes these conditions in terms of such factors as speed and travel time, volume conditions, freedom to maneuver, traffic interruptions, comfort and 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 (that is, critical density).

For uninterrupted flow conditions (such as freeways and long sections of roadways between stop signs or signalized intersections), the following definitions[3] apply:

Level of Service A

Free flow conditions, with low volumes and high speeds. Freedom to select desired speeds and to maneuver with the traffic stream is extremely high. The general level of comfort and convenience provided to the motorist, passenger, or pedestrian is excellent.

Level of Service B

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 LOS A.

Level of Service C

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 selection of speed is now affected by the presence of others, and maneuvering within the traffic stream requires substantial vigilance on the part of the user. 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

[3] *From* Highway Capacity Manual*, Transportation Research Board, 1985*

generally poor level of comfort and convenience. Small increases in traffic flow will generally cause operational problems at this level.

Level of Service E

Represents operating conditions at or near the capacity level. All speeds are reduced to a low, but relatively uniform value. Freedom to maneuver within the traffic stream is extremely difficult, and it is generally accomplished by forcing a vehicle or pedestrian to "give way" to accommodate such maneuvers. Comfort and convenience levels are extremely poor, and driver or pedestrian frustration is generally high. Operations at this level are usually unstable, because small increases in flow or minor perturbations within the traffic stream will cause breakdowns.

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. It marks the point where arrival flow exceeds discharge flow.

These definitions are general and conceptual in nature, and they apply primarily to uninterrupted flow. Levels of service for interrupted flow facilities vary widely in terms of both the user's perception of service quality and the operational variables used to describe them.

Table 3-6, below, quantifies Level of Service as defined by the Highway Capacity Manual: Special Report 209, Third Edition (Transportation Research Board, 1998). The average travel speeds are shown with their corresponding level of service designation.

Table 3-6: Level of Service Definitions (HCM)

LOS Class	A	B	C	D	E	F
Type I Urban Arterials Roadway Segment: Average Travel Speed (mph)	≥ 42	≥ 32	≥ 27	≥ 21	≥ 16	< 16
Type II Urban Arterials Roadway Segment: Average Travel Speed (mph)	≥ 35	≥ 28	≥ 22	≥ 17	≥ 13	< 13
Signalized Intersections Control Delay per Vehicle (seconds)	≤ 10	> 10 & ≤ 20	> 20 & ≤ 35	> 35 & ≤ 55	> 55 & ≤ 80	> 80
Unsignalized Intersections Delay per Vehicle (seconds)	≤ 10	> 10 & ≤ 15	> 15 & ≤ 25	> 25 & ≤ 35	> 35 & ≤ 50	> 50

Level of Service Standards on Highways of Statewide Significance and Highways of Regional Significance

Congestion and Levels of Service continue to be issues of significance for Clark County as the region continues to experience rapid growth. In 1998 the Washington State Legislature passed House Bill 1487, otherwise known as the Level of Service (LOS) Bill. The Bill set new requirements relating to transportation and growth management planning. The LOS Bill aimed at clarifying how state-owned transportation facilities should be planned for and included in city and county comprehensive plans required under the Growth Management Act. The intent of the legislation was to enhance the coordination of planning efforts and plan consistency at the local, regional and state levels. The LOS Bill amended several laws including the Growth Management Act (RCW 36.70A), Priority Programming for Highways (RCW 47.05), Statewide Transportation Planning (RCW 47.06) and Regional Transportation Planning Organizations (RCW 47.80). The combined amendments to these RCWs were provided to enhance the identification of, and coordinate planning for major transportation facilities identified as "transportation facilities and services of statewide significance". The key requirements to the bill are listed below

- Designation of Highways of Statewide Significance (HSS) completed in 1999 and most recently updated in 2004. The State must give higher priority to correcting identified deficiencies on transportation facilities of statewide significance. In the Clark County region the HSS system is I-5, I-205, SR-14 and SR-501 between I-5 and the Port of Vancouver.
- State-owned facilities, including Highways of Statewide Significance, to be included in local plans.
- Level of Service for Highways of Statewide Significance is set by the State in consultation with other jurisdictions.
- Level of Service for regional state highway facilities (not part of the HSS) to be set through a Regional Transportation Planning Organization (RTPO) coordinated process with state, regional and local input.
- Highways of Statewide Significance are statutorily exempt from local concurrency requirements.
- The LOS Bill does not address concurrency requirements for regional state highway facilities.

For the HSS system the Bill requires that the transportation element of the comprehensive plan address the land use impact on the state highway facilities. The State, in consultation, will set the LOS for the HSS system and they are exempt from local concurrency analysis. In Clark County, WSDOT has established a LOS 'C' for rural HSS facilities and 'D' for urban HSS facilities.

Non-HSS state highways, otherwise known as Highways of Regional Significance, in Clark County include SR-500, non-HSS segments of SR-501, SR-502, and SR-503 must also be addressed in the comprehensive plan, and have LOS set in coordination with the RTPO. The law is silent in terms of including or exempting them from local concurrency rules. In December 2001, the RTC Board adopted LOS 'E' or better for non-HSS urban state highway facilities and LOS 'C' or better on rural non-HSS facilities.

Urban areas and urban facilities are defined by the GMA urban growth boundaries. Rural areas and rural facilities are outside of the GMA urban growth boundaries. Although local agencies may establish their own methodology for analyzing LOS, these LOS standards must be consistent with the Highway Capacity Manual LOS criteria.

Local agencies should incorporate the LOS standards established for both the Highways of Statewide Significance and regional state highway facilities (or non-HSS) into the transportation elements of their Comprehensive Growth Management Plans. Once local Growth Management Plans are updated, RTC must certify that the local transportation elements are consistent with the Regional Transportation Plan, include LOS standards for the HSS and non-HSS segments and describe the impacts of land uses on the state highway system.

Clark County/Vancouver LOS Standards

Capacity analysis is an estimate of the maximum amount of traffic that can be accommodated by a facility while maintaining prescribed operational qualities. The definition of operational criteria is through levels of service, as described above, or by other operational criteria. The Growth Management Act requires local jurisdictions to set levels of service standards for transportation facilities. This ties in with the GMA concurrency requirement that transportation and other infrastructure is available concurrent with development. Levels of Service (LOS) standards are to be regionally coordinated and were coordinated within the region during the GMA planning process in 1994.

Initially, Vancouver adopted a corridor-based concurrency ordinance in March 1998 and has made subsequent amendments to the City of Vancouver's concurrency program and methodology with the most recent Transportation Concurrency Management Administrative Manual published in January 2012 and updated Traffic Study Guidelines in December 2013. The City of Vancouver's concurrency ordinance is codified in Vancouver Municipal Code Chapter 11.95.

The Board of Clark County Commissioners has an adopted Transportation Concurrency Ordinance and related levels of service. The County's code 40.350.020 provides details of the Clark County Concurrency Program, concurrency corridors and travel speed standards.

Transit LOS Indicators

In 1994, as part of the GMA planning process, C-TRAN also identified LOS indicators to assess the operational quality of the transit system. These indicators include load factor, headways, bus stop spacing, accessibility, span of service, land use densities, and other supporting factors.

Highway System Capacity Analysis

The Regional Travel Forecasting Model is used to analyze highway capacity needs for the Clark County region. Appendix B lists projects identified in the *RTP* as needed to meet future forecast capacity deficiencies determined by assigning forecast 2040 trips to an assumed transportation network. The lists of projects contained in Appendix B are those projects incorporated into the 2040 regional travel forecasting model.

Transportation System Analysis

Highway capacity is not the only consideration in analysis of the regional transportation system. Consecutive federal Transportation Acts, beginning with the Intermodal Surface Transportation Efficiency Act of 1991, emphasize the need to develop alternative modes and increase capacity of the existing highway system through more efficient use by, for example, ridesharing, system management, bicycling, walking and transit use. Other alternatives have to be considered before highway capacity expansion is identified as the solution. Such strategies are described in more detail in Chapter 5. In addition, Chapter 5 also addresses the need for maintenance and preservation of the existing regional transportation system, safety of the transportation system, development of non-motorized modes and high capacity transportation systems.

Emerging Issues to Track

There are several emerging issues which will need to be tracked in the short-term. These include:

- Updates to the federal functional classification system resulting from local jurisdictions' requests to better align the federal and local functional classifications and the anticipated 2023 changes resulting from 2020 Census population densities. Following the 2020 Census, Ridgefield will become part of the federal urban area for functional classification purposes because it has now exceeded 5,000 in population.
- Any changes in forecast funding and the potential deferral and/or cancellation of projects and transit service will have impacts on transportation system performance. The Regional Travel Forecasting Model should be used to analyze the transportation system impacts of any such changes.

Chapter 4: Transportation Finance Plan – Investing in the Future

The financial element of the Regional Transportation Plan is a required component of the federal transportation planning process. The RTP's financial plan element includes (1) financial assumptions, (2) revenue sources and projections, and (3) cost estimates for transportation projects and transportation system maintenance and operations. The RTP Finance Plan addresses federal, state and local revenue sources. The focus of the RTP Finance Plan is on forecast revenues and cost estimates for improvements that are part of the RTP Designated Regional Transportation System. Federal provisions require that the RTP must be "fiscally constrained" meaning that "revenues are reasonably expected to be available" to provide for the list of projects identified in the twenty four year timeframe of the RTP. The revenue assumptions for the I-5 Bridge Replacement Project are described in a separate section of this chapter. Its funding strategy is supported by its own financial plan.

Achievements and Challenges

Electric, hybrid and more fuel efficient vehicles generate a smaller share of federal and state gas revenue compared to their miles driven.

The 2018 RTP faces challenges for funding transportation into the future. Over the last several years the economy has recovered significantly since the 2014 RTP update, although there continues to be a negative impact on the amount of revenue available to transportation. The primary revenue source for transportation is the motor vehicle fuel tax which is subject to several factors limiting its long term viability including: increasing preservation and maintenance costs, increasing fuel efficiency, the emergence for hybrid and electric vehicles, and dwindling purchasing power of the gas tax as a source of transportation revenue.

The future of the fuel tax as the primary road finance strategy is limited. Continual advances in vehicle technology and constant erosion of purchasing power from inflation may indicate the need to find more innovative ways to pay for transportation investments. Under the current transportation funding model, electric, hybrid, and more fuel efficient vehicles generate a smaller share of transportation revenue compared to the miles they drive on the roadway. This makes it even more important that transportation planners and policy makers discuss transportation financing strategies and the benefits of how transportation is paid for.

The Regional Transportation Plan has traditionally focused on transportation system capacity expansion. Since adoption of the last RTP update in December 2014, several significant regional transportation system capital improvement projects have been completed amounting to over $330 million in project costs. Significant projects completed since 2014 include: WSDOT's I-205 project to add ramps to 18th Street and frontage road between Mill Plain and 18th Street, WSDOT's project to widen SR-502 from NE 10th Avenue to Battle Ground, opening of C-TRAN's Bus Rapid Transit, The Vine, serving the Fourth Plain Corridor, expansion of the Fisher's Landing Park and Ride, and Clark County's improvements to segments of 119th Street between Salmon Creek Avenue and 87th Avenue.

In addition, the Connecting Washington Package, a 11.9 cent fuel tax passed by the Washington Legislature in 2015, committed funds to the following major Clark County projects: I-5/179th St Interchange, replacement of the northbound East Lewis River Bridge on I-5; SR-14 widening from I-205 to 164th, the I-5/Mill Plain Boulevard Interchange, SR-14 from 15th to 32nd Access Improvements, SR-501 from I-5 to the Port of Vancouver, Ridgefield Rail Overpass, and SR-502/Main Street Project Widening. These projects and others are fully funded and amount to another $288 million in improvements.

The Clark County region is investing almost $290 million in transportation infrastructure over a 15 year period.

Although, the region has committed almost $290 million of investment in transportation infrastructure over a fifteen year period, compared to the last RTP update in 2014, future revenue for major capacity improvements is limited. While the 2018 RTP contains significant mainline capacity expansion projects, many of the projects contained in this RTP update consist of modernizing interchanges, adding new ones, or upgrading arterial roadways to urban standards.

As the region looks to future needs, the costs of providing new transportation capacity continue to increase and the effectiveness of that capacity is often quickly compromised by growing traffic.

In addition, as the region grows and matures, so do its transportation assets as well as the cost of preserving and maintaining them. This expanded infrastructure and the ageing of existing infrastructure requires regular and predictable investments in maintenance, preservation, and operations. Much of the region's infrastructure was built many decades ago and over the next two decades will require significant preservation efforts or will need major rehabilitation. Deferring maintenance of

transportation facilities can further increase the cost of conserving critical transportation assets.

Revenues

Revenues for transportation system development are available from federal, state, local and private sources. Funding sources that have been historically available are extrapolated into the future to provide an estimate of the resources reasonably expected to be available. A full description of current and potential revenue sources and funding programs available for transportation uses is available in Appendix D of the RTP. This section will provide an overview of the current revenue sources available to fund the transportation system.

Federal gas tax, unchanged at 18.4 cents per gallon since 1993, makes up 27% of the total gas tax paid by residents of Washington, a 20% decline since 2002.

Current Transportation Revenue Sources

At the federal level, the Fixing America's Surface Transportation Act (FAST Act) was passed in 2015. Since the passage of Intermodal Surface Transportation Efficiency Act (ISTEA) in 1992, Federal funding programs have allowed much greater flexibility in the way money may be used. The federal funding programs now have a multimodal emphasis, especially the Surface Transportation Block Grant Program which gives regions greater independence to invest in alternate modes of travel including capital transit projects, such as High Occupancy Vehicle (HOV), Light Rail Transit (LRT), and park and ride facilities. ISTEA was considered landmark legislation because of this and because it enhanced the role of the Metropolitan Planning Organization in the programming, planning, and prioritization of STBG funds. The current federal transportation act, FAST Act, continues to be funded through revenues from the Highway Trust Fund and General Fund as well as ethanol tax reforms. Current federal gas tax is 18.4 cents which has been unchanged since 1993.

The State gas tax is the major state revenue source for highway maintenance and arterial construction funding. The base gas tax is 23 cents, however, the State Legislature enacted fuel tax increases in 2003 (the Nickel Package) 2005 (the Partnership Package at 9.5 cents) and 2015 (Connecting Washington at 11.5 cents. The set of projects funded by nickel and partnership funds were completed in 2017 and future revenue generated by these funds will be dedicated to debt service and are not available to new projects. The Connecting Washington Package is primarily for a designated set of state projects and debt service, although some funds are available for multimodal and local agency projects. Other state funding sources include licenses, permits, and fees as well as a vehicle sales tax. 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.*

In 2018, almost 54% of the state gas tax was dedicated to debt service and currently funded projects.

Local revenue comes from a variety of sources such as property tax for road projects and sales tax for transit projects and operations. Other revenues include moneys from street use permits, gas tax, utility permits, and impact fees. In addition, local governments have authority for a variety of transportation taxing options. Most of these alternatives require voter approval to enact.

- Local options for transportation funding consist of vehicle license fees, sales tax, and taxes on gas and commercial parking. RCW 36.73.020, established by the Washington State legislature in 2005, authorizes cities and counties to establish Transportation Benefit Districts (TBDs) for the purpose of 'constructing, improving, providing, and funding transportation improvements' and allows jurisdictions to pass an additional vehicle registration fee. Two jurisdictions have established RTBDs. A $20 local registration fee for Battle Ground became effective on July 1, 2015. Vancouver adopted a $20 local registration fee effective in July 2016 with a scheduled increase to $40 that began on July 1, 2018. Washougal and Ridgefield recently adopted $20 local registration fees that go into effect later in 2019.

C-TRAN provided over 298,000 hours of fixed route service in 2016. C-TRAN's 2030 Plan calls for almost a 50% increase to 446,000 hours.

C-TRAN has exercised local funding options through use of sales tax for transit funding. Transit systems are also funded by fare box proceeds, federal funds and other local funds. Federal revenue sources described above are intended exclusively for highway investment, but also have the flexibility to be used for transit funding.

C-TRAN is the Public Transportation Benefit Area for the Clark County region. As such, it has the authority to impose up to 0.9 percent local sales tax to support operations with majority support from registered voters in the Public Transportation Benefit Authority area. In September 2005, voters approved a funding proposition that added 0.2 percent sales and use tax to C-TRAN's previously approved 0.3 percent, for a total of 0.5 percent (five cents on a $10.00 purchase). This additional funding brought stability and modest expansion to C-TRAN service. C-TRAN's 2030 Plan, adopted by the C-TRAN Board in June 2010 and amended in 2016, identifies an overall sales tax implementation strategy to maintain its core bus and paratransit service and expanded transit service into the future. The initial step in this strategy was in November 2011 when Clark County voters approved an additional 0.2 percent sales tax increase to preserve core bus service and paratransit service up to the current rate of 0.7 percent. The implementation strategy calls for a total of 0.9 percent sales tax by 2030 to provide service for bus rapid transit, new facilities and additional service to meet demands of a growing population.

Revenue Assumptions for the RTP

The Finance Plan addresses a twenty-one year period from 2019 to 2040. The estimate of revenues available to fund RTP projects was extrapolated from historical revenue information for Clark County from the Washington State Department of Transportation Strategic Planning and Finance Division. The Finance Division provided data on state and federal transportation revenues generated in the Clark County region and also made available historic local transportation revenue and expenditure data for Clark County and cities within the County. This information was used to provide a basis for determining federal, state and local revenues likely to be generated for future transportation needs. The 2016 update to the C-TRAN 2030 Plan was the basis for determining transit revenue and expenditures out to 2040. This section outlines the assumptions and methodology used for the revenue forecast.

The WSDOT Finance Division provided historical transportation revenue information. Revenue forecast data was also compiled from the Washington State Office of Financial Management (OFM) which provides support to the WSDOT's Finance Division. The primary data sources for the revenue forecast consist of:

The cost of a gallon of gas

- State transportation revenue generated by category for Clark County from 2013 to 2017 including the motor vehicle fuel tax and 'other fees' (license plate fees, car rental tax, and vehicle sales tax).
- State transportation expenditures for Clark County from 2013 to 2017.
- Federal gas tax revenue generated by Clark County from 2013 to 2017.
- Receipts and expenditures by category for Clark County and the Cities from 2003 to 2016.
- State-wide gross fuel tax revenue forecast from 2018 to 2029.

State Revenues

The historical financial data is extrapolated into the future to provide an estimate of funding reasonably expected to be available. Revenue sources for Clark County are compared with statewide revenue trends out to 2029 as calculated by Office of Financial Management. The total estimated costs for system preservation and maintenance was subtracted from the total revenue available for capital construction. Historical system preservation and maintenance cost was provided by WSDOT's Finance Division and the Southwest WSDOT Region.

The approach for estimating revenue for the RTP was developed in consultation with the Finance Division and, with some minor refinements, is similar to the methodology employed for the 2014 forecast. A summary of the revenue methodology is below.

- Projected state gas tax is based on current law at 23 cents a gallon. It makes up 47% of total state fuel tax and is the only portion of the fuel tax available for

capital projects. Fuel tax revenue from the 2003, 2005, and Connecting Washington packages are dedicated to specific improvements or debt service and is not available for other RTP projects.

Transportation expenditures made up 16% of total 2017 household expenditures.

- The calculation of state revenue uses 47% of total state motor vehicle fuel tax (MVFT) from 2013 to 2017 and is used to determine average annual MVFT revenue for capital. Ten percent of 'other transportation fees' are also made available for capital.
- Total state revenue for capital is calculated by year from 2019 to 2040 based on the annual growth rate from the OFM estimate of yearly statewide gross MVFT. The OFM forecast goes to 2029; therefore, revenue growth from 2030 to 2040 is based on the last 4 years of the annual OFM growth rate.
- Since Clark County does not receive all revenue generated in the County, a return on contribution (ROC) factor of 80% is applied to total gas tax revenue to estimate available revenue to the County.
- Available funds for capital are also reduced by revenue used for preservation and maintenance
- Variables affecting revenue such as population growth, debt service, fuel costs and improved fuel efficiency of vehicles are factored into the OFM forecast of gross motor vehicle fuel tax revenue.
- The state revenue gas tax forecast assumes the equivalent of a new 1.1 cent a gallon gas tax beginning in 2021.

*State gas tax available for capital = total revenue - debt service * ROC - preservation and maintenance*

Federal Revenue Sources

Historical financial data is extrapolated into the future to provide an estimate of funding reasonably expected to be available. Historical system preservation and maintenance cost was provided by WSDOT's Finance Division and the Southwest WSDOT Region.

- Federal revenue assumes continuation of the federal authorization (FAST Act) at current levels. Federal MVFT generated by Clark County from 2013 to 2017 is used to calculate annual federal revenue. It uses the same basic methodology as state gas tax estimation. It calculates growth out to 2040 based on OFM gross MVFT rates and applies an 80% ROC factor.
- It uses the same basic methodology as state gas tax with federal gas tax growth out to 2040 based on OFM. The historical return on contribution for the federal gas tax is assumed to be 80%.

*Federal gas tax available for Capital = total revenue * ROC*

The annual cost to own a vehicle in 2018 was $9,700. Of that amount, 74% was for payments, finance charges, depreciation, maintenance, and insurance. The remainder was for fuel, federal, state gas taxes and other transportation fees.

Local Revenue

Data for Clark County and the cities in Clark County included revenue categories for property and sales tax, general fund dollars, special assessments, and other state funds. The local data from WSDOT also includes historical expenditures that account for debt service, preservation and maintenance, and construction.

- Local receipts and expenditures (for debt service, preservation and maintenance and traffic policing) for Clark County and local cities are calculated from 2003 to 2016 and annualized by category.
- An annual percent change by category is used to calculate annual receipts and expenditures by year out to 2040 resulting in total receipts and expenditures by category.
- Local revenue for capital is estimated by deducting debt service, preservation and maintenance and traffic policing from total receipts. Available dollars are allocated between regional and local system based on the balance of costs between the regional and local RTP system, to determine revenue for the regional system.

Local revenue available for capital = total receipts – debt service, preservation and maintenance, and policing. Allocate available dollars for capital between regional and local systems to determine revenue for the regional system.

Transit Revenue and Costs

This section addresses both revenue and costs for transit that were derived from C-TRAN's 2016 update to the 2030 Plan.

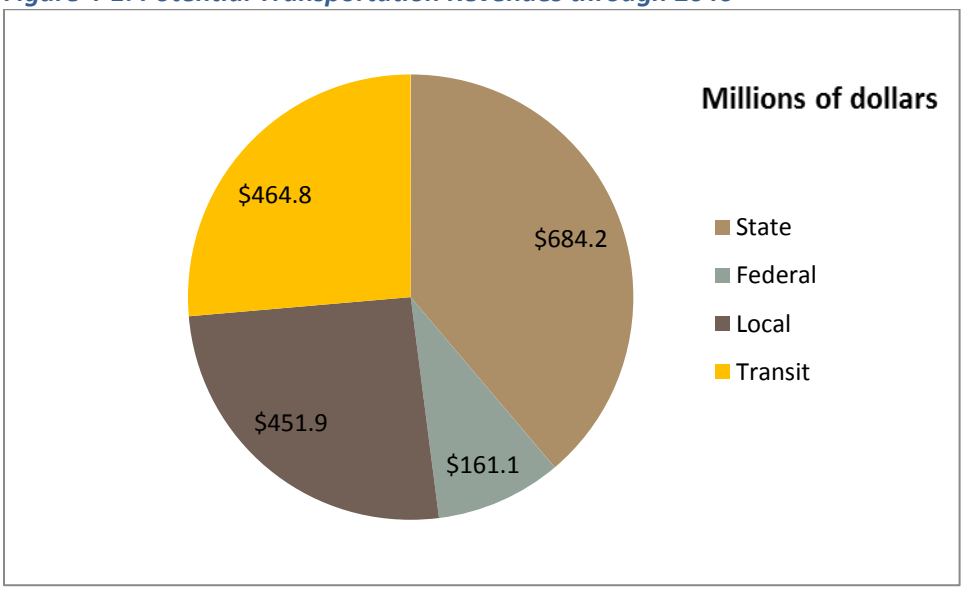
Transit revenue and cost estimates were based on C-TRAN's 2016 update to the Plan. Costs and revenues were expanded to 2040 to reflect ten more years of revenue and additional bus replacement, capital maintenance and other capital repair and replacement costs. Transit capital costs include all C-TRAN capital projects except for the potential transit element of the I-5 Bridge Replacement project. The key capital projects in the transit element of the RTP include: Mill Plain BRT, Highway 99 BRT, 219th Park and Ride, East Vancouver/Camas Park and Ride and system-wide fleet replacement and expansion..

- As required by the 2016 update to the 2030 plan, transit capital revenues have been matched to capital expenditures.
- Total revenue available for capital expenditures is $464,800,000.
- The updated 2030 Plan calls for an additional two-tenths of one percent over current levels or nine-tenths of one percent.

RTP Revenue Estimate

Based on the assumptions described above, the following chart presents a summary of potential transportation revenues that could be available for projects on the designated regional system through 2040.

Figure 4-1: Potential Transportation Revenues through 2040



A total of $1.762 billion is projected from federal, state, local and transit revenue sources over the next 21 years.

As noted earlier, not all the revenue generated in Clark County is returned to the County. Revenue generated compared to revenue received is referred to as return on contribution (ROC). This forecast assumed an ROC of 80% for both federal and state revenue.

Cost Assumptions for the RTP

The costs of improvements on the designated regional transportation system are the focus of this section. Capacity and roadway improvement costs and capital costs for the transit system are addressed in the Finance Plan. Costs for pedestrian and bicycle projects as well as costs for Intelligent Transportation System, Transportation System Management improvements and Transportation Demand Management are also included. Costs for other modes, e.g. freight rail system improvements and inter-city passenger rail, are assumed to be met at the statewide or national level or by private interests.

- RTP project cost estimates were taken from WSDOT's and local agencies' and jurisdictions' Comprehensive Growth Management Capital Facilities Plans and from Transportation Improvement Programs and development plans for Clark County and the cities in the County.

- A variety of adopted reports were used to compile the costs for the following modal elements: Bicycle and Pedestrian, *Clark County Bicycle and Pedestrian Master Plan*; Transportation Demand Management, *Clark County Commute Trip Reduction Plan*; and Transportation Systems Management and Operations (TSMO), 2016 Update of the *Regional TSMO Plan for Southwest Washington*.

Full RTP System Cost

The full project list for the RTP includes the projects that are on the designated regional transportation system as well as local arterial projects that are not on the designated system. Table 4-1 below provides a cost estimate for all of the modal elements of the RTP system (both regionally-designated and local). The subtotal line of the table sums the total capital costs for the RTP's regional system while the total cost line adds in local roadway projects that are not already accounted for on the designated regional system. These local roadway projects make up more than 48% of total costs for all roadway projects and just over 37% if all modes are considered. (The full list of projects for both designated regional transportation system projects and local projects is shown in Appendix B.)

Table 4-1: Full RTP system costs

Roadways	**$1,136,902,647**
Transit	$464,800,000
Bike/Ped	$92,400,000
TDM	$48,000,000
TSMO	$50,800,000
Subtotal Designated RTP System)	**$1,792,902,647**
Local Roads	$1,049,631,153
Total	**$2,842,533,800**

The RTP includes more than $2.8 billion in improvements for all transportation modes and facilities. $1.049 billion dollars of that cost is for local roadways.

RTP Designated System Costs

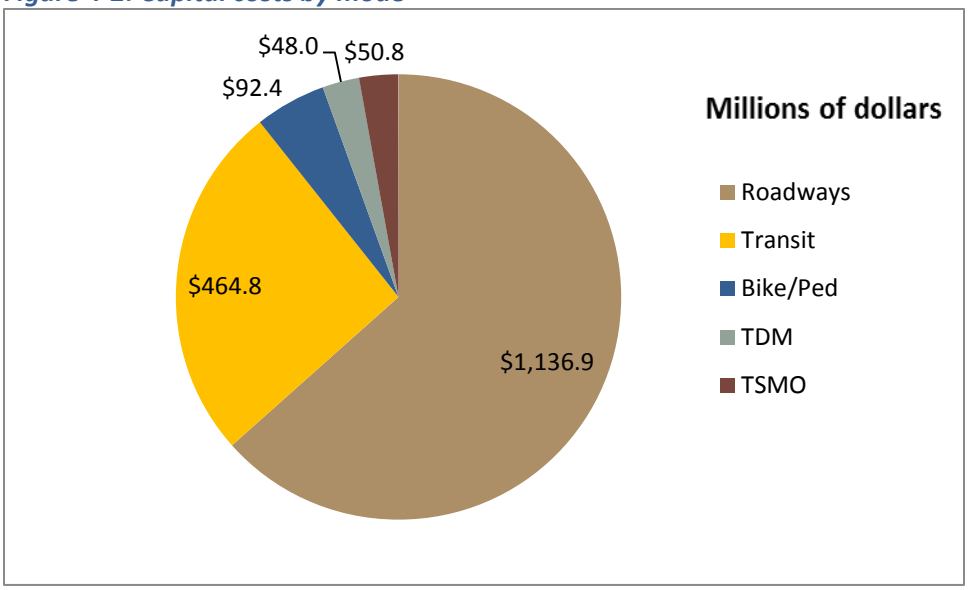
While the previous table shows the total cost of all the projects in the RTP, the "fiscal constraint" requirement focuses only on those projects on the regionally designated transportation system. "Fiscally constrained" test means that there should be a reasonable expectation revenues will be available to provide for the list of projects.

Capital costs of proposed improvements to the designated regional transportation system are addressed in this section. In a rapidly growing region such as Clark County, there is large demand for system expansion. The total cost of projects on the designated regional system is $1.79 billion over a 21-year period. This cost includes highway system expansion, transit capital and other modal elements. It does not include $288 million in funding already secured for committed projects in the RTP. The RTP Financial Plan needs to assure that $1.79 billion in revenue can be

reasonably assumed to be available to implement these projects and strategies on the regionally designated transportation system.

The following chart summarizes, by mode, capital cost for the regionally designated system.

Figure 4-2: Capital costs by mode

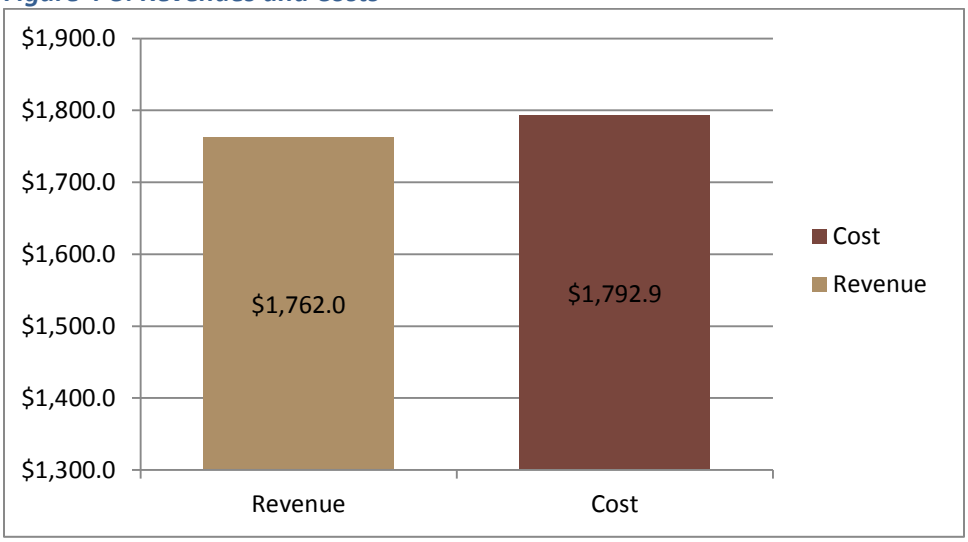


Project costs for all transportation improvement categories are $1.793 billion out to 2040, including transportation demand management and transportation system management and operations.

Balancing Revenues and Costs

The financial forecast focuses on assuring that there is a reasonable expectation revenues will be available to provide for the list of projects identified on the designated regional transportation system. Regional projects include all state transportation facilities, principal arterials and some minor arterials. Based on the revenue assumptions described in this chapter, the RTP revenue forecast is slightly less than project costs identified on the designed system as indicated in Table 4-3 shows current law revenue compared to RTP capital costs.

Figure 4-3: Revenues and Costs

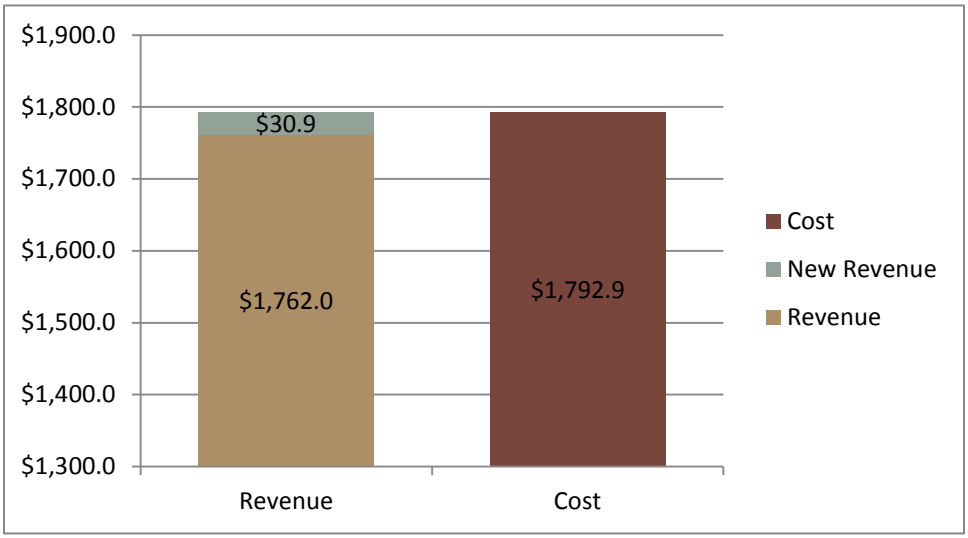


A summary comparing potential transportation revenues and capital costs for the regional transportation system over the next 21 years

Figure 4-4 shows current law and new revenue balanced with RTP capital costs. In comparing revenues available to Clark County to the estimated cost of regional transportation system improvements, it appears that the RTP is fiscally constrained. There are sufficient funds to fulfill the identified regional transportation system elements.

This forecast recognizes the need for $30.9 million in new transportation revenue to fund projects in the RTP and is equivalent to a 1.1 cent gas tax which could begin in 2021. This is consistent with historical trends for the state, which has increased the gas tax five times since 1984. The new revenue equivalent could also be manifested through several different funding strategies.

Figure 4-4: Fiscally Constrained RTP



Projected transportation revenues over the next 21 years showing both current and new revenue needed to fund the regionally designated transportation system.

The revenue need of $30.9 million to fund the RTP capital projects is relatively small compared to the 2014 revenue need of almost $148 million. It is important to emphasize that the 2018 capital cost RTP was $220 million lower compared to 2014. Agencies recognized that the future revenue picture was uncertain and responded accordingly. In fact, if the 2018 RTP cost was the same as 2014, the 2018 revenue forecast would have seen a shortfall of $250 million.

Local projects (the remainder of the minor arterial system, collectors and local roads) are not included in the RTP fiscal analysis. The Washington Growth Management requires an analysis of funding capability to judge needs against probable funding sources. The transportation financial analysis must include a multiyear financing plan based on the needs identified in the comprehensive plan. If probable funding for a local agency's Capital Facility Plan (CFP) falls short of meeting identified needs, the plan must include a discussion of how additional funding will be raised or how land use assumptions will be reassessed to ensure that adopted levels-of-service standards will be met or adjusted. Available funding options include the general fund, real estate excise taxes, impact fees, and grants and loans. Local agencies are maintaining the option of new local funding, including issuing construction bonds, if needed. In addition, the RTP revenue forecast allocated locally generated funds for capital between the regional and local system based on local agency project costs listed on the regional versus local system.

New Transportation Revenue

In addition to the motor vehicle fuel tax, the new revenue equivalent could also be manifested through several different funding strategies, including local funding options. If a future state funding package does not occur, additional revenue for the RTP would still be needed over the course of the planning horizon. Several regional funding tools are authorized under current law and can be made available to cities and counties or a newly created regional agency. The most notable local and regional funding options include formation of a local or regional transportation benefit district, which facilitates assessment of certain fees and taxes for dedicated transportation purposes. Existing funding programs and potential revenue sources are described in Appendix D.

In addition, the WSDOT Finance Division is analyzing a wide array of potential options being considered for new state transportation revenue including a new gas tax, linking the gas tax inflation, sales tax on gas, mileage based fees, and tolls.

Local Revenue Options

Local agencies also have options approved by the State Legislature that authorize jurisdictions to impose fees at the local level for specific transportation infrastructure categories with voter approval. A few of the key options are summarized below:

Transportation Benefit District: TBDs were established by the Washington State legislature in 2005, authorizes cities and counties to form TBDs for the purpose of 'constructing, improving, providing, and funding transportation improvements' and allows jurisdictions to pass new taxes and fees if approved by the electors of the District. New taxes and fees can include:

- A sales and use tax not to exceed 0.2% for a duration of up to 10 years and extendable, by vote of the electors, for an additional 10 years.
- A vehicle license fee up to $100 per vehicle. Battle Ground, Vancouver, Washougal and Ridgefield have established TBDs to utilize vehicle license fees. A $20 local registration fee for Battle Ground became effective on July 1, 2015. Vancouver adopted a $20 local registration fee effective in July 2016 with a scheduled increase to $40 on July 1, 2018. Washougal and Ridgefield have recently adopted $20 local registration fees, which go into effect in June 2019 and July 2019, respectively.
- Tolls for facilities approved by the TBD.

Local Option Vehicle License Fee: RCW 82.20.020 authorizes an additional motor vehicle license fee of $15 per passenger car for transportation purposes.

Motor Vehicle Fuel Tax (MVFT) Surcharge: With voter approval, a 10% surcharge can be imposed on state MVFT for fuel sales in the county. Revenue generated would be shared, based on population, between the county and the cities within the county.

These programs have not been instituted locally, except for Transportation Benefit Districts.

Major Project Funding

While local funding options can provide needed resources for local jurisdictions, major capital investments, such as the I-5 Bridge Replacement project, rely on a variety of funding tools including: federal and state gas taxes, regional levies, and roadway tolling. In addition, trends indicate that revenue available for capital projects from traditional funding sources via the gas tax will be somewhat flat due to increasing preservation and maintenance costs, better fuel efficiency, and greater movement to electric/hybrid vehicles.

New funding programs could include:

- Road usage charge programs, which are vehicle-miles-traveled based user fee systems

- Project specific tolling programs to re-build/construct major infrastructure to manage system performance and;
- Exploration of public-private-partnerships

While the revenue need is small for the 2018 finance plan, the region should begin discussion now to prepare for shifts in major transportation infrastructure funding programs and to formulate a strategy for the next RTP update that best responds to the growth in the region and the corresponding transportation infrastructure demands.

Future Costs and Expenditures

It should be pointed out that financial analysis for transportation needs over twenty-plus years into the future is challenging. Total transportation revenues for the region need to fund both the regional transportation system that is the focus of this chapter as well as fund the local transportation system. Another uncertainty is the inflation factor. The inflation factor has an impact on both the revenues and costs sides of the equation. On the revenues side, gas tax is a flat tax and does not keep pace with inflation. On the project costs side, the longer a project is deferred, the more expensive it will be.

RTC has the conducted required year of expenditure (YOE) analysis under *23 CFR 450.324 (f) (11) (iv*). The rationale for the YOE requirement is to have regional transportation plans account for reasonable inflation factors. This analysis accounts for cost escalation and consideration that, over time, the growth of revenues may not be proportional to costs as part of the fiscal constraint determination. Converting all revenues and costs to YOE dollars will theoretically present a more accurate picture of costs, revenues, and potential deficits associated with the long range transportation plan.

RTC selected a four percent annual inflation rate for the life of the RTP out to 2040. A flat four percent rate is the default inflationary rate recommended by the Federal Highway administration and is a conservative approach.

Year of expenditure costs and revenues are considered in the metropolitan transportation planning process and documented in Appendix E. Table 4-2 provides a summary of the YOE analysis for the 2018 RTP.

Table 4-2: YOE Analysis Summary

	YOE Revenue	YOE Cost
RTP Capital	$2,837,057,964	$2,845,797,630
Transit Operating	$2,263,141,076	$2,156,898,705
Preservation and Maintenance	$2,585,394,941	$2,663,155,928
	$7,685,593,981	$7,665,852,263

System Maintenance and Preservation

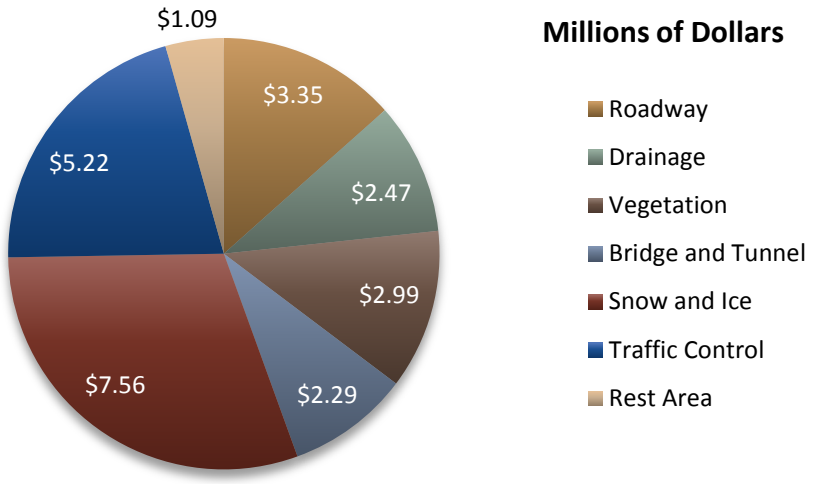
Maintenance and preservation costs for state and local agencies are being estimated based on historical data from the WSDOT Finance Division and the Southwest Region.

Before consideration can be given to system expansion, the region needs to ensure that sufficient money is available to adequately maintain, preserve and operate the transportation system already in existence. It costs, on average, $77.7 million annually to maintain and operate the roadway system in Clark County.

In 2007, WSDOT reported on maintenance costs for the state highway system. The WSDOT analysis showed that in 2007 State highway maintenance costs about $27.97 per registered vehicle per year.

The following chart shows the maintenance costs by category.

Figure 4-5: Maintenance costs by category



In 2007, the cost to maintain the state highway system was $24.97 per registered vehicle. More than half that cost (52%) was for traffic control and snow and ice removal.

Over the last 13 years, Clark County and the cities in the region have spent more than 39% of their local transportation revenue on preservation and maintenance. Much of the region's infrastructure was built many decades ago and will require

significant efforts in preservation, or will need to be replaced over the next three decades. As the transportation system ages and grows over the 21-year period, maintenance and preservation needs are expected to increase to 44% of transportation revenues in the future due to expanded road miles to maintain as well as the costs of deferred maintenance. Consequently, the proportion of transportation dollars needed to preserve and maintain infrastructure may increase and could require tradeoffs between making capital investment and preserving system integrity.

The estimated annual cost of operating C-TRAN's existing service for 2018 is about $60 million which is expected to rise as C-TRAN increases the size of bus fleet and expands its transit facilities in the future. The 2016 update to C-TRAN's 2030 Plan, first adopted by the C-TRAN Board of Directors in June 2010, preserves existing bus service and looks to future needs by: adding new bus routes; adding frequency on existing bus routes; constructing bus rapid transit in the Fourth Plain Corridor; and expanding paratransit service to meet growing demand. Fixed route service hours are projected to increase by 50% to 446,000 hours. Additionally, as the Clark County population ages, the demand for paratransit service will increase, resulting in a greater portion of available resources supporting this service. Paratransit service hours, for example, are projected to increase by 148% by 2030, from approximately 24 % today to 34 % of the operating budget in 2030.

The following table 4-3 summarizes preservation and maintenance costs for local and state facilities based on historical expenditures over the last 10 years. Annual transit information is from C-TRAN's 2018 Annual Financial Report. 21-year data is from the 2016 update to C-TRAN's 2030 Plan.

Table 4-3: Estimated Preservation and Maintenance Costs

Agency	Annual	RTP 21-years
WSDOT	$14,313,753	$322,258,417
Clark County and Cities	$63,447,234	$1,734,744,650
Total Roadway	$77,760,987	$2,057,003,067
Transit Operations	$60,075,620	$2,156,898,705

Source: WSDOT, C-TRAN

Cost of deferred maintenance

Maintenance can cost 4 to 8 times more when deferred.

Transportation agencies are responsible for keeping the street, road, and highway system in a state of good repair through regular maintenance. These activities include sealing cracks, repairing pavement, cleaning and repairing drains, fixing signals, and sweeping streets. Major repair, rehabilitation, and reconstruction activities include repaving, reconstructing subgrade and drainage.

Agencies monitor roadway conditions and identify roadway maintenance needs through their regular pavement management systems. The timely preservation of roadway infrastructure can help assure maximizing pavement life and minimizing preservation and maintenance costs. WSDOT has estimated the cost of deferred maintenance drives up long term cost, shortens the life cycle for rehabilitation, and can cost 4 to 8 times more if delayed until pavement is in poor condition.

The Sacramento Council of Governments (SACOG) has estimated that the cost of routine maintenance, if done on a regular basis, can cost up to $20,000 per mile. Regular heavy maintenance, such as a slurry or chip seal coat can range between $50,000 and $80,000 per mile if done on a regular seven year cycle.

Similarly, SACOG has also estimated that pavement rehabilitation for well-maintained roads can cost $300,000 to $400,000 per mile, while reconstruction of poorly-maintained roads can cost as much as $2 million per mile.

Consistency between RTP and State and Local Plans

All recommended projects contained within the RTP are consistent with State and local plans. The RTP financial plan is required by the federal government to be "fiscally constrained".

The analysis of transportation needs and revenues presented in local Growth Management Act (GMA) plans, including their Capital Facilities Plan element, and the state and local agency Transportation Improvement Programs for State and Local Transportation Improvement Programs (TIP) 2015-2018 are used as the basis for the RTP's financial plan. Both state and local transportation planning processes are required to exercise fiscal responsibility in preparing transportation finance plans. The state's Growth Management Act requires that local jurisdictions prepare a Capital Facilities Plan (CFP) element that includes transportation projects.

I-5 Corridor (Victory Blvd. to SR-500) Project Funding Assumptions

The proposed I-5 Corridor (Victory Blvd. to SR-500) improvement project would replace the I-5 Bridges across the Columbia River and increase regional high capacity transit services between Washington and Oregon. The prior Columbia River Crossing (CRC) project completed NEPA review and received a federal record of decision on a Locally Preferred Alternative. The CRC project development work was discontinued in 2013 in Washington and in 2014 in Oregon. Improvement needs in the I-5 corridor remain.

The prior CRC NEPA effort was led by the sponsoring agencies: Washington State Department of Transportation, Oregon Department of Transportation, the Southwest Washington Regional Transportation Council, Metro, C-TRAN and Tri-Met, as well as the cities of Vancouver and Portland. Each of these sponsoring agencies would be responsible for approving all or part of a future I-5 corridor and bridge replacement project.

The I-5 project scope included replacement bridges to the current I-5 bridges, with high capacity transit connecting into the C-TRAN bus system. Elements were identified in the CRC FEIS as the system which improves safety, travel reliability, freight mobility, and bridge structural stability and relieves congestion on Interstate 5 between Portland and Vancouver.

The project responded to six key problems identified in the project purpose and need: growing travel demand and congestion; impaired freight movement; limited public transportation operation, connectivity, and reliability; safety and vulnerability to incidents; substandard bicycle and pedestrian facilities; and seismic vulnerability.

The Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) would be the lead federal agencies for the oversight and delivery of the federal permit compliance and funding. Both agencies must ensure that the National Environmental Policy Act (NEPA) process is properly conducted and completed before they provide funding or approval to construct a project.

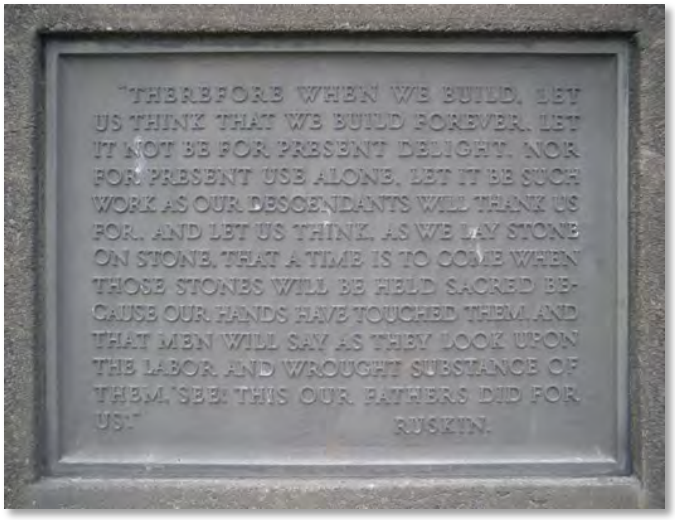
Major milestones were achieved as part of the CRC project including: National Marine Fisheries Service issuance of an Endangered Species Act Section 7 Biological Opinion (January 2011); publication of a Final Environmental Impact Statement (September 2011); FHWA/FTA issuance of a Record of Decision (December 2011); United States Coast Guard issuance of a Bridge Permit (Sept 2013); issuance of a Section 401 Water Quality Certification by the State of Washington Department of Ecology and Oregon Department of Environmental Quality (August 2013); and related consultation with regulatory and permitting agencies took place.

Cost assumptions are based on the improvements and cost estimating from prior studies. As a mega-project, it has been assumed to have its own financing plan. Funding for improvements is expected to require a combination of federal funds, tolling and state funds from Washington and Oregon.

Refinements to scope or costs will occur through a technical review and public process that includes relevant agency stakeholders in Washington and Oregon.

Table 4-4: I-5 Corridor improvements cost estimate

Project	Description	Cost Estimate
I-5: from SR-500 to Victory Boulevard - Improve Mobility	Replace I-5 Bridge over Columbia River	$3,300,000,000



Inscription on plaque at north end of original 1917 Columbia River (now Interstate) bridge.

Emerging Issues to Track

Implementation of projects contained in the 2018 RTP relies on maintaining historical revenue amounts and meeting the new revenue expectations of the financial strategy. Success on this front requires addressing an array of underlying issues facing future transportation finance. These emerging issues in transportation finance include the following:

- The RTP cost and revenue forecast indicates that the equivalent of a 1.1 cent/gallon gas tax is needed for the RTP to meet the federally-required fiscal constraint test. While it meets the "reasonable" test of federal fiscal constraint provisions to anticipate these additional revenues, needless to say there are many factors that make long range revenue forecast uncertain.

- The RTP's federal transportation revenue forecast is based on the current funding levels authorized under FAST Act being continued into the future. Te current debate in Congress is uncertain whether there is the potential for new revenue to reduced federal funding levels in the next 6-year federal Transportation Authorization Act.

- The amount of federal and state revenues available to Clark County is affected by the return on contribution of revenue generated. This revenue forecast assumes a return on contribution of 80%.

- Gas tax revenue has been, and is expected to be, the main revenue source for future transportation system improvements. However, there are a host of factors that affect the amount of gas tax revenues produced. For example, the gas tax is a flat tax that does not keep pace with inflation. More fuel efficient vehicles reduce the amount of gas tax revenues generated. In light of this, alternate approaches to collecting user fees merit consideration.

- The leveling out of motor vehicle fuel tax is also affected by the accelerated migration to electric/hybrid vehicles by major automakers. Volvo will sell only electric or hybrid vehicles beginning in 2019. Toyota will sell only electric vehicles by 2025. General Motors is planning for an all-electric future with at least 20 all electric models available in 2023. The 2017 *Bloomberg Electric Vehicle Outlook Report* forecasts that US sales of electric vehicles will make up about 10% of new car sales by 2025, increasing to more than 50% by 2035.

- In addition to the regular per gallon gas tax, other revenue concepts for examination include: gas tax linked to inflation, sales tax on gas, mileage based fees, and tolls. Technical advances have revolutionized road user fee collection approaches and may offer a future replacement alternative for fuel taxes. Washington State, for example, uses roadway tolling both improve system performance and as a means to construct major capital improvements including: SR-167 HOT Lanes; SR-520 Bridge; I-405 Express Lanes; and Tacoma Narrows Bridge.

- Capturing future value in order to make investments today is a significant issue in transportation planning and investment. Historically, transportation

systems in the U.S. have been financed on a pay-as-you-go basis, however, funding infrastructure with bonds, as in the nickel, partnership, and connecting Washington funds, also limits future flexibility to respond to changing conditions. All state gas tax packages since 2003 are dedicated to funded project or debt service and are not available for other capital projects.

- Project preservation and maintenance costs are based on historical data however, transportation agencies anticipate that maintenance and preservation needs will require a greater share of transportation revenues in the future due to expanded road miles to maintain and deferred maintenance.

Chapter 5: Regional Programs and Projects

Development of a Balanced Regional Transportation System

The transportation solutions include both projects and programs that will collectively support the land use goals established in local Comprehensive Growth Management Plans.

After setting a vision for this region's transportation future and assessing forecast future travel demands and transportation system performance, this chapter summarizes the range of transportation programs and transportation projects needed to meet the transportation needs of people and freight in the twenty-plus year future.

Integration of land use and transportation is recognized. The transportation solutions include both projects and programs that will collectively support the land use goals established in local Comprehensive Growth Management Plans in this Clark County region. The mix of transportation programs and projects are also identified to reflect the RTP's transportation goals; Economy, Safety and Security, Accessibility and Mobility, Management and Operations, Environment, Vision and Values, Finance and Preservation (refer to Chapter 1).

There are transportation strategy solutions to address the travel demand side as well as transportation system supply side; strategies to increase the efficiency of the existing regional transportation system as well as strategies to provide for capacity expansion to accommodate growth. There are solutions requiring construction of capital projects and solutions requiring planning applications with consideration for multiple transportation modes. In this RTP update, more attention is being paid to emerging transportation technologies though there is currently no consensus on how these will truly impact transportation systems and trip making.

In developing a balanced regional transportation system it is not only capacity deficiencies that must be addressed but also preservation and maintenance of the existing regional transportation system, plans to make for a safer regional transportation system for mobility of people and freight. All transportation modes are to be addressed with transportation options and choices made available to our diverse community's residents and businesses.

This Chapter considers project and programs as well as the decision-making processes that combine to achieve the RTP's vision.

Maintenance of the Existing Regional Transportation System

Maintenance and Preservation is important to protect the heavy investments already made in the transportation system.

Of prime importance in the planning for the regional transportation system is the need to maintain the existing system. Maintenance addresses 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 incident response, filling potholes, repairing bridges, drainage ditches, guardrails, 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 maintenance being given high priority in the programming of transportation funds and reports on funding of these needs in the RTP's Financial Plan chapter 4. The *RTP* supports the routine, regularly-scheduled and necessary maintenance work identified by local jurisdictions. At the statewide level, maintenance, preservation and safety are primary policy and financing considerations in the Washington Transportation Plan, WTP 2035 (Washington State Transportation Commission, January 2015) and the draft WTP: 2040 and Beyond (WSTC, August 2018). The issues of maintenance and preservation are also addressed in WSDOT's Highway System Plan.

Preservation of the Existing Regional Transportation System

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, seismic retrofit and rock fall protection. Preservation needs are identified through the Pavement Management System (PMS) and local needs analysis and the RTP is highly supportive of giving prime consideration to such project needs. System maintenance and preservation is addressed in Chapter 4 of this Plan; the Finance Plan chapter.

Bridges

With the many rivers and streams in the region, bridge crossings are a vital part of the transportation infrastructure. Bridge maintenance and preservation needs are identified through the Washington State Bridge Inventory System (WSBIS) kept current by WSDOT's Bridge and Structures Office. WSDOT's Highway System Plan, 2007-2026, address bridges and structure and has a specific chapter on Bridge Preservation. Bridges on the Clark County highway system include: I-5 bridge crossings of the Columbia River, Salmon Creek, NE 129th Street, NE 134th Street, East Fork Lewis River and North Fork of the Lewis River; SR-14 crossings at West Camas Slough and Lawton Creek; SR-501 crossing of the rail lines in Vancouver, SR-503 crossings of Cedar Creek, Salmon Creek, Chelatchie Creek and the Lewis River at Yale; the La Center Bridge and Heisson Bridge. Bridge needs can include deck

preservation, steel bridge painting, seismic retrofits, movable bridge repair, and scour protection. The I-5 bridge crossing the East Fork of the Lewis River is currently identified as in poor condition and is funded for bridge replacement. This bridge has a weight restriction that affects heavy trucks. ODOT takes the lead in identifying and administering the preservation and maintenance needs on the I-5 Interstate Bridge which crosses the Columbia river. There are plans to replace the movable span trunnion on the northbound I-5 Interstate bridge in 2020. Clark County maintains a list of bridges with height and weight restrictions in the County and publishes these in the County's Bridge Report.

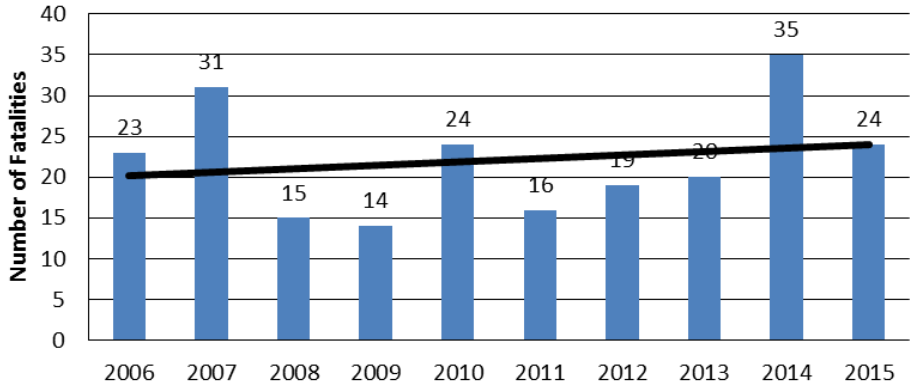
Safety

Accidents, their number, location, and type, are monitored by WSDOT and local jurisdictions and if there is deemed to be a safety deficiency then remedial measures are considered and corrective action taken. The RTP supports regional system safety projects identified through Safety Management System (SMS) planning and local plans and programs to correct safety deficiencies on the regional transportation system. The Washington State "Strategic Highway Safety Plan: Target Zero" (SHSP; updated 2016) is 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 2016 plan includes new chapters on Improving the Traffic Safety Culture, New Technology and Traffic Safety; Evaluation, Analysis, and Diagnosis; and Legislation and Policy. Priority areas now include pedestrians and bicyclists and the older driver age threshold has been lowered from 75 to 70 years old, because data shows that risk factors for older drivers have a statistically significant break point at age 70.

Target Zero puts emphasis on the largest contributing factors to traffic crashes in setting traffic safety priorities. During the 2012 to 2014 period, the top three factors were: Impairment which contributed to 57% of all traffic fatalities, lane departure which contributed to 56% of all traffic fatalities and speeding which contributed to 38% of all traffic fatalities. Overall, 81% of traffic fatalities involved at least one of these top three traffic safety priorities, and 20% involved all three. Distracted driving is identified as a high risk behavior and was involved as a factor in 29.6% of fatalities and 22.9% of serious injury collisions.

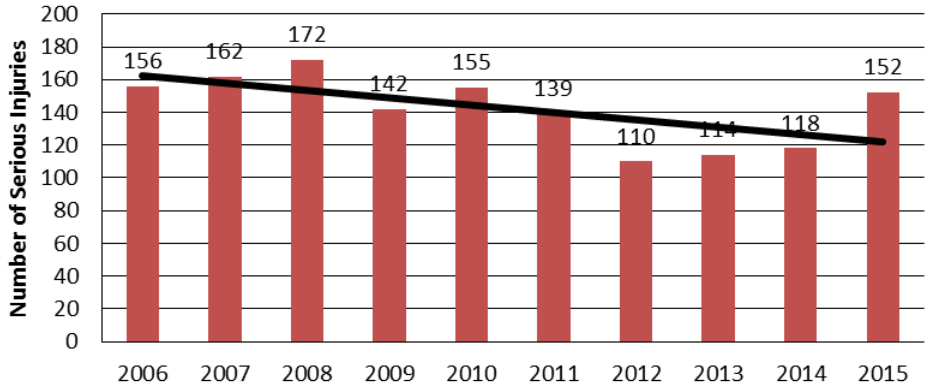
RTC first completed a Safety Management Assessment for Clark County in April 2011 as a tool to help identify the safety needs for the region. The report introduced the general purpose and requirements for safety planning, identifies priority factors involved in traffic fatalities, and identifies high collision intersection locations and planned improvements. An updated Safety Assessment for Clark County was published by RTC in April 2014 and in April 2017 RTC reported on recent trend data relating to Clark County collisions (see Figures 5-1 and 5-2).

Figure 5-1: Clark County Fatalities, 2006-2015



Source: WSDOT Collision Database

Figure 5-2: Clark County Serious Injuries, 2006-2015



Source: WSDOT Collision Database

In 2017 and 2018, RTC worked to review updated crash data for the region as part of the process to set safety targets for transportation performance measures as required under the federal transportation act, MAP-21 and continued with the FAST-Act. The RTC Board considered regional and state collision data on all public roads and decided to support WSDOT in trying to attain performance measure targets for PM1 safety transportation measures; number of fatalities, fatality rate, number of serious injuries and serious injury rate and non-motorist fatalities and serious injuries (see Chapter 6 for more information).

Measures to improve the safety and security of the transit system for transit passengers and employees will continue to be implemented by C-TRAN in keeping with guidance from the Federal Transit Administration

Economic Development and Freight Transportation

Economic development is linked to prevailing market conditions as well as policies that can spur economic development, such as provision of infrastructure to support new businesses and support existing business. Therefore, the prosperity of a region is somewhat dependent on the provision of transportation infrastructure to support its economic development. In RTC Board discussion, economic development emerged as a prime evaluation criterion for prioritizing RTP projects.

Economic development is a significant focus of the Comprehensive Growth Management Plan for Clark County (June 2016). In the GMA Plan's Economic Development element the provision of transportation infrastructure including good road infrastructure maintenance and network, two transcontinental railways, an international airport and deep water marine terminals available in the region provides comparative advantages for the Clark County region in promoting economic development and activity.

The Columbia River Economic Development Council (CREDC) adopted its Clark County Comprehensive Economic Development Plan in August 2017. The Plan includes goals to expand the existing base industry clusters in the region including computer and electronic, clean tech, software, metals and machinery and life sciences. Goal 2 includes support for the region's people by developing a resilient economy. Goal 3 relates to creating place including making employment areas shovel ready and determining regional transportation needs to support economic development. The RTP includes projects that will support economic development and access to employment lands.

The RTC Board continues its commitment to have transportation system development be supportive of economic development in the region.

Freight Transportation

According to the Bureau of Transportation Statistics, in 2015 the U.S. transportation system moved a daily average of about 49.3 million tons of freight valued at more than $52.5 billion. At the statewide level, freight transportation is recognized as a vital component for Washington's economic health.

In 2015, approximately 49.3 million tons of freight valued at over $52.5 billion moves on the U.S. transportation system on any given day.

The WSDOT Freight Systems Division supports Washington's freight systems by providing strategic planning for all state freight investments and directly managing the state's rail programs. The Washington State Freight System Plan was completed and certified by the Federal Highway Administration on December 1, 2017.

As the second most trade-dependent state per capita in the USA, Washington relies heavily on an efficient freight transportation network. The freight system supports 1.41 million jobs in freight-dependent industries in Washington with a gross business income of $550.5 billion. Freight and goods are shipped into, out of, and around Washington by truck, rail, air, pipeline, and water.

The Freight Plan addresses multimodal freight transportation and speaks of three components of the freight transportation system:

1. Global Gateways which provide freight access to international markets,
2. Made in Washington providing transportation for freight that is manufactured or produced in Washington, and
3. Delivering Goods To You representing local freight delivery for businesses and residents.

Freight transportation underpins our national and state economies, supports national defense, directly sustains hundreds of thousands of jobs, and distributes the necessities of life to every resident of the state every day. Washington is a gateway state, connecting:

1. Asian trade flows to the U.S. economy,
2. Alaska to the Lower 48, and
3. Canada to the U.S. West Coast.

About 70 percent of international goods entering Washington gateways continue on to the larger U.S. market. 30 percent become part of Washington's manufactured output or are distributed in our retail system. Washington state's manufacturers and farmers rely on the freight system and Washington producers generate wealth and jobs in every region of the state. Washington's distribution system is also a fundamental local utility, since without it citizens would have nothing to eat, wear, or read, no spare parts, no fuel for cars, and no heat for homes. Without freight transportation, the economy of the region would no longer function. What is known is that the value and volume of goods moving in these freight systems is huge and is growing (see Table 5-1).

Table 5-1: Freight Increase Forecast

Mode	National Freight Forecast – percent annual growth rate	State Freight Forecast – percent annual growth rate
Truck	1.2%	1.5%
Rail	0.7%	0.9%
Water	0.9%	0.8%
Air	4.0%	1.9%
Pipeline	1.4%	0.2%
Multiple Modes and Mail	2.6%	2.1%

Source: Washington State Freight System Plan

The federal transportation act, MAP-21 (2015), included requirement for designation of a National Highway Freight Network (NHFN) having the following components:

- Primary Highway Freight System (PHFS)
- Other portions of the Interstate Highway System not on the PHFS
- Critical Rural Freight Corridors (CRFCs)
- Critical Urban Freight Corridors (CUFCs)

In Clark County, the PFHS includes:

- I-5
- I-205
- an intermodal connector on SR-501 to the Port of Vancouver.

Designated Critical Urban Freight Corridors in Clark County are:

- SR-14, I-205 to SE 164th Avenue, 2.45 miles, T-1 corridor
- SR-14, Port Streets to 32nd Street in Washougal, 2.04 miles, T-2
- SR-501, I-5 (Vancouver) to Fourth Plain Boulevard, 1.94 miles, T-1
- SR-501 Couplet, from Franklin Street to the I-5 onramp, 0.55 miles, T-1

WSDOT adopted a Statewide Freight and Goods Transportation System (FGTS) in 1995 that categorizes highways and local roads according to the tonnage of freight they carry. The FGTS was last updated in 2017. 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 in order to enhance trade opportunities. The Board is also charged with finding solutions that lessen the impact of the movement of freight on local communities. The Board proposes

policies, projects, corridors and funding to the legislature to promote strategic investments in a statewide freight mobility transportation system.

At the local level, the Clark County Freight Mobility Study was carried out in 2009/2010. The Clark County Freight Mobility Study was initiated to provide an understanding of the key elements of freight movement and to explain why freight and goods movement is important to Clark County's economy and employment. The Study was viewed as a first effort to describe and define the regional freight transportation system with significance for supporting industrial lands and jobs in the County. Information and data was collected, inventoried and analyzed and a good foundation laid for continuing our consideration of freight transportation as part of the metropolitan transportation planning process required of RTC as part of the local comprehensive planning process and as part of planning efforts of local Port districts. Work included preparation of a series of task reports to evaluate freight traffic movement, identify transportation system deficiencies related to freight and to point the way to identify future infrastructure needs as well as policy issues to support freight mobility in Clark County. The Clark County Freight Mobility Study resulted in a series of task reports:

- Global Trade and Transportation Trends
- Current and Expected Economic Conditions and Economic Impact of Freight Delay
- Outreach to Shippers and Documentation of Representative Supply Chains: Interview Summary
- Existing and Future Truck Movements
- Existing and Future Rail Movements
- Vehicle Classification Counts – Best Practices
- Characteristics of Truck Movements
- Summary of Existing Design Guidelines Relating to Truck Mobility
- Basic Principles of Truck Mobility
- Future Actions Items and Priority Freight Projects
- Clark County Freight Mobility Study Summary Report

The Clark County Freight Mobility Study Summary Report provided an overview of the work conducted for the Study and its key recommendations as outlined in Table 5-2.

RTC coordinated with WSDOT to host a July 2016 stakeholder meeting on truck parking issues. Information from the meeting helped inform WSDOT's Truck Parking Study (Dec. 2016).

Table 5-2: Summary of Clark County Freight Mobility Study Strategies and Action Items

Process	Strategies to Support Freight Transportation
Regional Freight System and Economic Development	Invest in freight mobility to support industrial development goals and job creation
Identify Needs and Projects	Support road improvements that benefit freight mobility Support rail improvements
Design	Develop model design guidelines for complete streets and freight Plan and design for local truck access to Clark County business sectors
Land Use and Transportation Integration	Land use and transportation coordination: protect viability of industrial lands and livability of residents Manage access to industrial areas
Funding	Position projects for funding

Figures 5-3 through 5-8 provide a snapshot of truck traffic in the Clark County region using truck classification counts on I-5 just south of SR-500, on -5 just south of Woodland and on I-205 just south of SR-500. By month, there are more trucks moving in the summer months (Figure 5-3), by day of week, volumes are much lower at weekends (Figure 54), by time of day, northbound truck movements peak around noon and southbound truck movements peak in early afternoon (Figure 5-5). Figure 5-6 shows that overall truck percentage of total traffic remains fairly consistent during the day, but significantly falls off during the evening peak period to avoid the most congested periods. Figures 5-7 and 5-8 show the average weekday truck traffic on I-5, south of SR-500, and on I-205 north of Mill Plain and south of SR-500. Volumes show the effects of the Great Recession on truck traffic volumes but also show how volumes have grown in the post-recessionary years.

Figure 5-3: Truck Volumes by Month

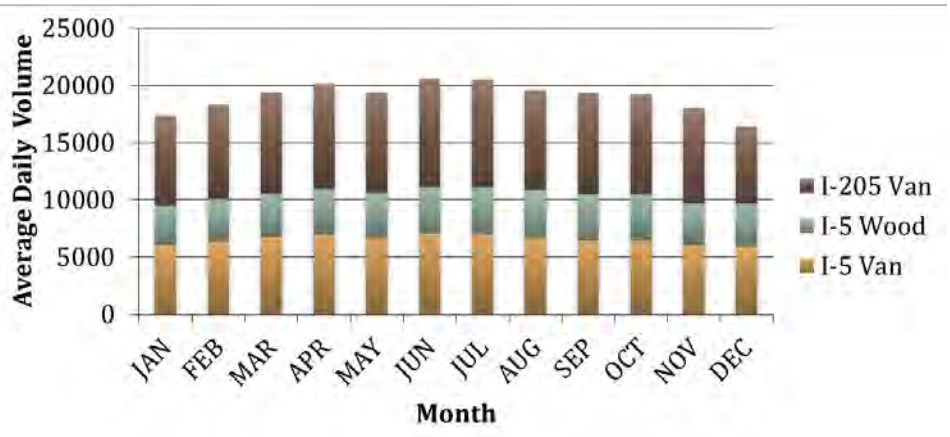


Figure 5-4: Truck Volumes by Day of Week

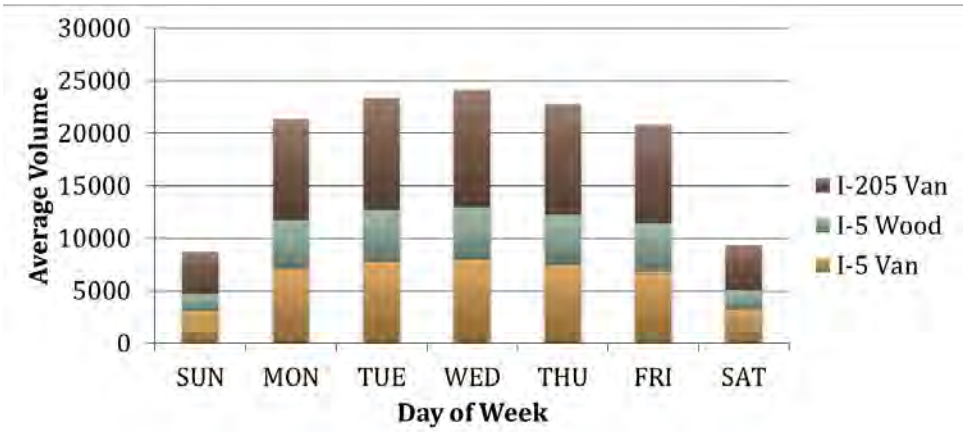


Figure 5-5: Truck Volumes by Time of Day

Figure 5-6: Truck Percentages

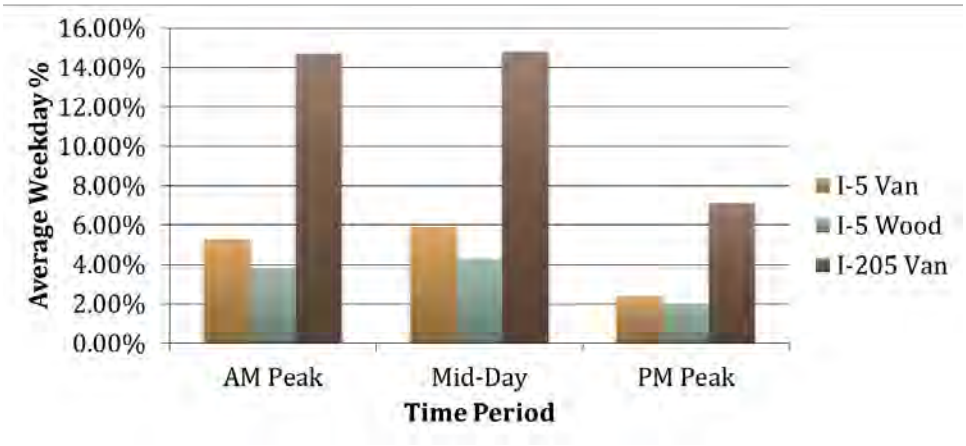


Figure 5-7: Average Weekday Truck Traffic Counts on I-5, South of SR-500

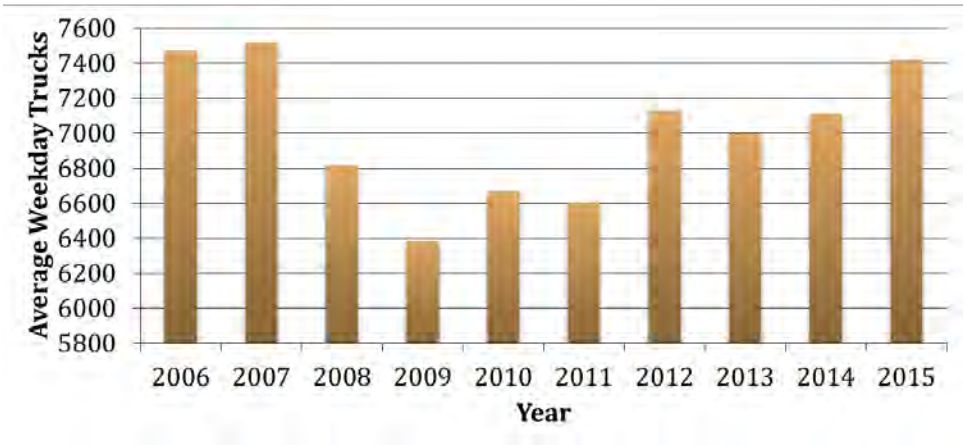
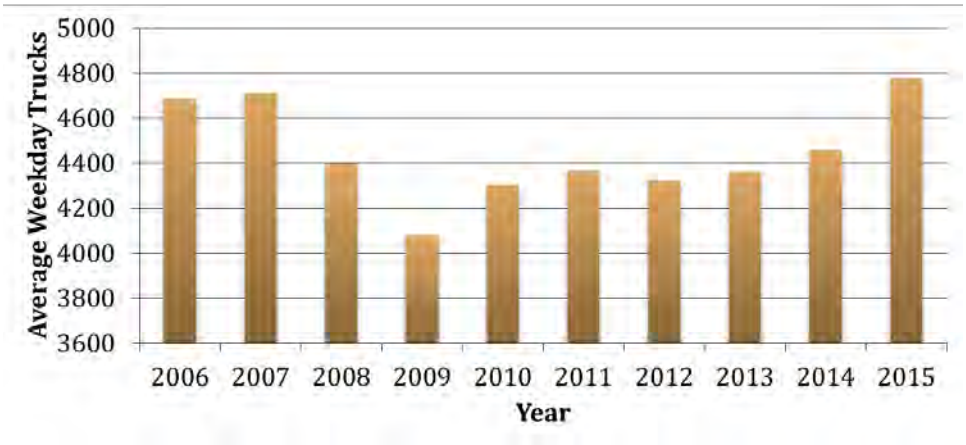


Figure 5-8: Average Weekday Truck Traffic Counts on I-205, North of Mill Plain, south of SR-500



Figures 5-9 and 5-10 are maps showing industrial and commercial lands in Clark County and the transportation system that connects these lands to their markets. Figure 5-9 shows the RTP's Designated Regional Transportation System with Comprehensive Plan designated industrial and commercial lands in the County. These are lands which need to be served by freight transportation. Figure 5-10 shows WSDOT's Freight and Goods Transportation System (FGTS) with the Clark County designated industrial and commercial lands.

Freight data will continue to be addressed as part of RTC's Transportation System Management and Operations and Congestion Management Processes as well as through local traffic management efforts.

Clark County's economy is integrally linked with that of the larger Vancouver/Portland metropolitan area. The Vancouver/Portland metro region is connected by two bridges over the Columbia River on I-5 and I-205. Metro has updated its Regional Transportation Plan in 2018 with a public comment draft released in June 2018. Recognizing the importance of freight transportation to this region's economy, RTC, the City of Vancouver and the Port of Vancouver participate in Bi-state regional freight transportation planning efforts such as the Freight Strategy Work Group convened to update a Regional Freight Plan adopted in 2010. The 2018 RTP Regional Freight Strategy was released by Metro in June 2018 to provide a coordinated vision and approach for enhancing freight and goods movement and prioritizing freight investments.

The "Portland and Vancouver International and Domestic Trade Capacity Analysis" (Port of Portland et al) was published in 2006 to determine the impact of increased international and domestic trade on the region's supply of and demand for trade support infrastructure, including surface transportation. Significantly, the report forecast a doubling of trade volume in the region by 2035. The report addresses:

1. The overall growth rate for the region's freight volumes to 2035,
2. Assesses global market dynamics that may affect trade volumes through Portland/Vancouver gateways, and
3. Identifies challenges and opportunities trade volume growth presents to the region.

As reported in Chapter 3 of this RTP, there are three Port districts in Clark County; the Port of Vancouver, Port of Ridgefield and Port of Camas/Washougal. The Ports help the region to achieve jobs' growth and have a significant interest in freight transportation.

Freight Rail

In Washington State, freight rail needs are addressed in Washington State Department of Transportation's (WSDOT's) Washington State Rail Plan, Integrated Freight and Passenger Rail Plan, 2013-2035 (WSDOT, March 2014). The Plan serves as a blueprint for public investment in the state's rail transportation system. The Plan notes that Washington State requires a robust rail system that will provide

effective and efficient transportation critical to maintaining our economy, environment and quality of life. The Plan is designed to support Washington's economic competitiveness and economic viability, preserve the ability of the state's freight rail system to efficiently serve the needs of its customers, facilitate freight system capacity increases to improve mobility and reduce congestion and take advantage of freight rail's modal energy efficiency to reduce the negative environmental impact of freight movement in Washington. In 2007, rail handled approximately 41 percent and 83 million tons of all interstate tonnage where Washington was either an origin or a destination. (FHWA FAF 3.3). The freight forecasts in the State Rail Plan project that freight rail tonnage on the state's system will double by 2035. A draft Rail Plan update is anticipated in early 2019.

The "Portland and Vancouver International and Domestic Trade Capacity Analysis" (Port of Portland et al; 2006) also provides an assessment of the outlook for rail. The Study concluded that while the tonnage of goods will double between 2006 and 2035, the rail's share of total tonnage is forecast to drop because of the continuing structural shift in the economy toward industries and trade that generate lighter, higher-value, freight shipments. Nevertheless, rail tonnage will increase. The Pacific Northwest (Washington and Oregon) will grow faster than the national average. Therefore, the region will see a doubling or more of freight demand. In the Portland/Vancouver region, total freight tonnage is expected to grow from about 300 million tons today to 600 million tons in 2035. Demand for rail will grow more slowly than truck, but rail will carry about 50% more tonnage than it does today. The Portland/Vancouver region generates about 35 million tons for rail today and this will grow to over 56 million tons by 2035.

Figure 5-9: RTP's Designation Transportation System and Clark County Commercial and Industrial Lands

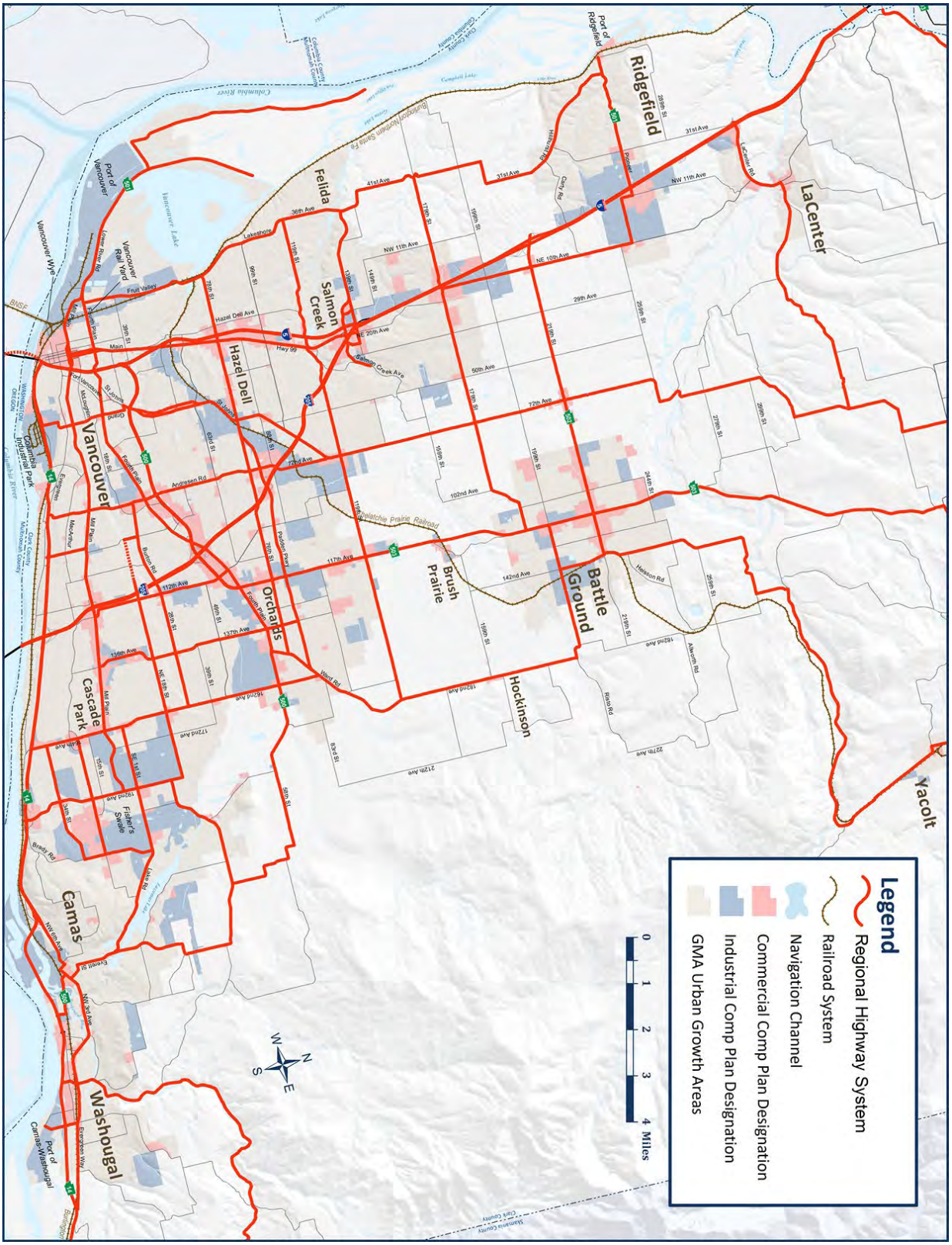
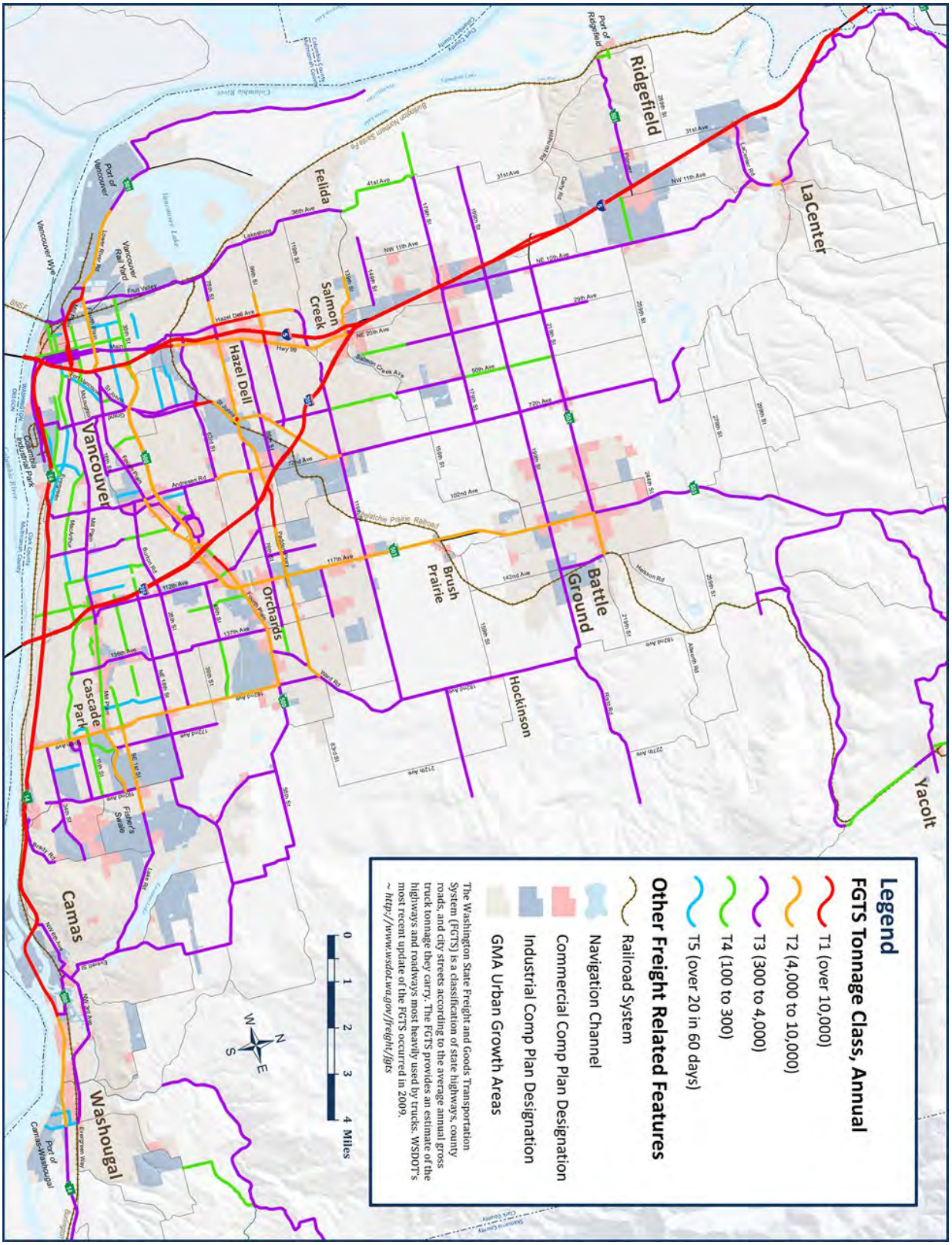

Legend
Regional Highway System
Railroad System
Navigation Channel
Commercial Comp Plan Designation
Industrial Comp Plan Designation
GMA Urban Growth Areas
0 1 2 3 4 Miles
N
E
S
W
Ridgefield
LaCenter
Felida
Salmon Creek
Hazel Dell
Vancouver
Orchards
Brush Prairie
Battle Ground
Hockinson
Cascade Park
Camas
Washougal
Yacolt
Port of Ridgefield
Port of Vancouver
Port of Camas-Washougal
Vancouver Rail Yard
Vancouver Wye
Columbia Industrial Park
Vancouver Lake
Columbia River
Lake River
Burlington Northern Santa Fe
Portland Vancouver Junction Railroad
Spokane Portland & Seattle Railway
Pacific Northwest Regional Commercial Airport
Pacific Highway
Fruit Valley
Fisher's Swale
Clark County
Cowlitz County
Skamania County
Multnomah County
Washington
Oregon
Hwy 99
Main
Mill Plain
Andresen Rd
Fourth Plain
Ward Rd
Salmon Creek Ave
Lakeshore
Hazel Dell Ave
Brady Rd
Everett St
Evergreen Way
Lake Rd
Burton Rd
Helsson Rd
Rasmussen Rd
Aldercrest Rd
Rentz Rd
Pacific Hwy
Port Vancouver
McLoughlin
Grand
St Johns
Mcarthur
Esplanade
Lower River Rd
Pacific Blvd
Mt Vista
Ft Vancouver
Lincoln
Columbia
Main St
Mill Plain
Andresen
Fourth Plain
Ward
Salmon Creek Ave
Lakeshore
Hazel Dell Ave
Hwy 99
Pacific Hwy
Burton Rd
Brady Rd
Everett St
Evergreen Way
Lake Rd
Helsson Rd
Rasmussen Rd
Aldercrest Rd
Rentz Rd

Figure 5-10: WSDOT Freight & Goods Transportation System and Clark County Commercial and Industrial Lands



Freight rail needs in the Portland-Vancouver region were addressed as part of the I-5 Transportation and Trade Partnership. The Partnership concluded that several low-to-medium cost solutions would significantly improve existing rail capacity. One such "incremental improvement" is the two-main track bypass around BNSF's Vancouver Yard. These "incremental improvements" are sufficient to address capacity needs for the mid-term up to 10 years assuming a growth rate of 1.625% to 3.25% per year. Additional improvements will require further study. The Vancouver Rail Project, adding new Vancouver Yard rail bypass tracks, was completed in 2016. The 39th Street Bridge over the rail tracks was completed in November 2010. The Vancouver Rail Project was constructed to increase safety, reduce rail congestion, and improve the on-time performance of Amtrak's passenger rail service. The Port of Vancouver's West Vancouver Freight Access Project supports the Port's development, improves freight rail access to the Port and opens up the Port's Gateway area. A project to provide a grade-separated crossing of the main BNSF north/south rail-line to improve access to the Port of Ridgefield is expected to be under construction in 2019.

Marine Freight

Freight also travels to and from our region via the Columbia River. As noted in Chapter 3, the primary marine port in Clark County is the Port of Vancouver, located on the Columbia River. The Port emphasizes the importance of channel depth to its activities so that sizeable ocean-going vessels are not precluded from use of the Port. In November 2010, the final portion of the 110 mile lower Columbia River navigation channel from the Port of Vancouver to the mouth of the Columbia River was deepened to 43 feet. This deeper channel allows larger ships to import and export cargo more efficiently that benefits trade in the region. The Ports of Portland, Vancouver, Woodland, Kalama and Longview have been working with the Corps of Engineers on an update to the current 20-year Lower Columbia River Channel Maintenance Plan to plan for continuation of dredging to maintain the Columbia channel. Nearly 40 percent of the nation's wheat is exported down the Columbia River so this transportation corridor impacts both farmers in the region and across the nation. Vancouver is also the home to Tidewater Transportation and Terminals. Tidewater handles grain, petroleum products, wood products, liquid and dry fertilizers, and all types of containerized freight. Tidewater operates boats and specialty barges that provide marine freight movement over the full length of the Columbia-Snake River System.

Air Freight

As noted in Chapter 3, the Clark County region relies on access to the Portland International Airport in Oregon for air freight needs.

Active Transportation: Non-Motorized Modes

The Regional Transportation Plan supports the development of pedestrian and bikeway facilities to both access the transit system and for use as healthy, alternative transportation modes. Local jurisdictions program projects to provide for better connectivity in the pedestrian and bicycling facilities throughout Clark County. Local transportation elements of the Comprehensive Plans for the County and each of the cities include recommendations for active transportation modes.

Reduced reliance on automobiles is dependent on this region developing adequate sidewalks and bikeways to access activity centers and to allow people to safely and easily get to the C-TRAN transit system. The development of non-motorized transportation modes is a strategy that can maximize the capacity of the existing transportation system. Notable existing pedestrian and bicycle trails in Clark County include the Columbia River Waterfront Trail, the Discovery Trail, the Columbia River/Evergreen Highway Trail, the Burnt Bridge Creek Trail as well as bike lanes on priority arterials.

Sidewalk and bicycle path/lane projects are most appropriately identified at the local level. Pedestrian and bicycling needs are identified through state and local planning programs including recommendations from the Clark Communities Bicycle and Pedestrian Advisory Committee, the local and Clark County Comprehensive Growth Management Plans, capital facilities plan elements, local transportation corridor plans and the Regional Trail and Bikeway System Plan. Local jurisdictions within Clark County are focusing on non-motorized projects to provide a balanced transportation system that safely accommodates all users.

In 2005, the Washington State legislature enacted amendments to the Growth Management Act to require new elements in local comprehensive plans. The requirements are designed to promote an increase in the physical activity of the citizens of Washington State. The legislature found that regular physical activity is essential to maintaining good health and reducing the rates of chronic disease. The legislation says that, "providing opportunities for walking, biking, horseback riding, and other regular forms of exercise is best accomplished through collaboration between the private sector and local, state, and institutional policymakers. This collaboration can build communities where people find it easy and safe to be physically active. It is the intent of the legislature to promote policy and planning efforts that increase access to inexpensive or free opportunities for regular exercise in all communities around the state." The transportation elements of local comprehensive plans must now include a pedestrian and bicycle component to identify planned improvements for pedestrian and bicycle facilities. There is also a requirement that, wherever possible, the land use element should consider utilizing urban planning approaches that promote physical activity.

Walking and cycling are healthy transportation modes.

Washington State Department of Transportation addresses state interest in bicycle and pedestrian walkways in Washington's Bicycle and Pedestrian Plan (WSDOT, 2007) which is currently being updated. The State's goal is to increase bicycling and walking while increasing safety for cyclists and pedestrians. RTC leads the competitive process to allocate federal Transportation Alternatives (TA) funds to appropriate transportation projects in the region. TA funded projects can include pedestrian and bicycle projects. A call for projects for TA funds is issued every two years with the next TA funding decisions to be made in 2019.

Clark County Bicycle and Pedestrian Master Plan

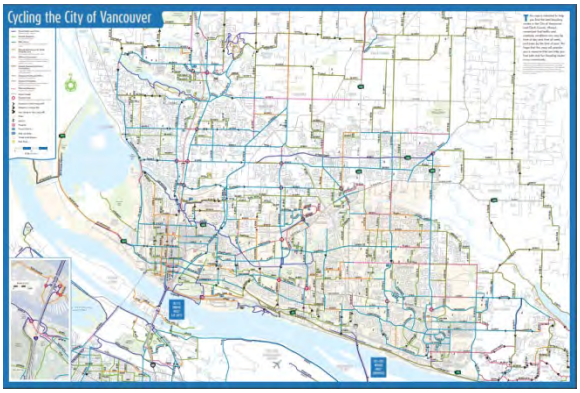
In November 2010, the Board of Clark County Commissioners approved the Clark County Bicycle and Pedestrian Master Plan to make it safer and more convenient for people to get to major destinations in our region on foot or by bicycle. The plan identifies ways to improve the transportation network by integrating existing sidewalks, bike lanes and trails. The Plan points out this will require design standards that work well with Clark County's transportation network for motor vehicles. The Plan's Executive Summary outlines this 20-year vision and implementation strategy that seeks to increase the number of people walking and bicycling while improving safety throughout the County. The Plan points out that:

- Bicycling and walking are good for the economy
- Walkable, bike able neighborhoods are more livable and attractive
- Walking and bicycling increase spending on local goods and services
- Walking and bicycling are good for public health
- More people walking and bicycling increases safety for others

However, there are challenges in implementing the Bicycle and Pedestrian Master Plan because of interstate freeway barriers, discontinuous networks, topography and funding. A list of priority pedestrian and cycling infrastructure projects are identified in the Bicycle and Pedestrian Master Plan.

Clark Communities Bicycle and Pedestrian Advisory Committee

The Clark Communities Bicycle and Pedestrian Advisory Committee was formed to continue planning for bicycle and pedestrian system improvements.



Regional Trail and Bikeway System Plan

The Clark County Regional Trail & Bikeway Systems Plan was approved in 2006 intended to guide development and design of an interconnected trail and bikeway system within Cark County. The Plan provided recommended improvement to the existing and proposed regional trail corridors. The 2006 Plan encompasses 16 regional trails. The Plan envisions a

trail network of nearly 240 miles of regional trails and bikeways in Clark County and is the next step toward providing citizens and visitors transportation alternatives to daily vehicle trips and safer, more accessible opportunities for a healthier lifestyle. The Plan notes it has "one foot in the transportation system and one foot in the parks system and it needs both feet to work". Trails outlined in the Plan are: Lewis & Clark Discovery Greenway, Chelatchie Prairie Railroad, Lake to Lake, Salmon Creek Greenway, Padden Parkway, I-5 Corridor, I-205 Corridor, East Fork of the Lewis River, Battle Ground/Fisher's Landing, Washougal River Corridor, North Fork of the Lewis River Greenway, Whipple Creek Greenway, North/South Powerline, East Powerline, Livingston Mountain Dole Valley, Camp Bonneville and Lower Columbia River Water Trail. The Plan seeks to develop a seamless trail and bikeway system throughout the region. As such, the developed and planned trail and bikeway facilities were reviewed to complete a gap analysis of the existing system. The Plan also contains design guidelines and notes the cultural and historic resources this region possesses that can be enjoyed through trails development.

The Intertwine works on bi-state planning for regional trails. Intertwine publishes the Portland-Vancouver Bi-State Regional Trails System Plan.

Access to Transit by Walking and Bicycling

Also of regional significance is improvement of pedestrian and bicycle facilities to improve access to transit facilities. There are many areas where coordinated efforts to improve pedestrian facilities will improve access to C-TRAN's fixed-route transit service. Bike racks are already provided on C-TRAN fixed-route buses and bike lockers are provided at C-TRAN Transit Centers and Park and Rides.

Bicycle and Pedestrian System Design Standards

Local jurisdictions have adopted design standards for arterials that include sidewalks and bicycle facilities. Both bicycle and pedestrian facilities are integral design elements in road projects, where appropriate. As roads are upgraded throughout the County then bicycle and sidewalks are added.

Walking or cycling to school is an option when the route is safe.

Safe Routes to School

Local jurisdictions work in partnership with School Districts on a Safe Routes to Schools Program to identify transportation improvements that can improve safe access to schools. These improvements include signage, curb cuts, sidewalks, crosswalks, bike lanes and bike paths. Projects should include engineering, education, enforcement of traffic rules to ensure a safe journey to school, encouragement of bike and walk modes for school students and evaluation of completed projects.

Bicycle and Pedestrian System: Information

Links to bicycling maps are available through the City of Vancouver's website. The Clark County Geographic Information System (GIS) section includes an information layer for bicycling on its Clark County Maps Online.

State, Regional and Local Commitment Toward Pedestrian and Cycling Transportation Modes

The Cities of Vancouver and Battle Ground have adopted Complete Streets ordinances making the jurisdictions eligible to apply for Transportation Improvement Board (TIB) Complete Streets funding. Clark County Council also held a hearing to consider Complete Streets at its November 6, 2018 meeting. Jurisdictions in Clark County are working to comply with ADA requirements. The City of Vancouver has raised revenues through its Transportation Benefit District to help fund its sidewalk maintenance and preservation program and hired a sidewalk inspector in 2017. RTC participates in the Accessible Transportation Coalition Initiative whose members include individuals with disabilities and stakeholders who meet to identify barriers and to strategize on how to improve transportation accessibility. RTC staff also attends meetings of the Clark County Commission on Aging which in 2018 focused on transportation issues for an aging population.

To improve the opportunities for funding transportation projects that may allow individuals with disabilities to more easily use and access transportation options, RTC's Transportation Improvement Program project selection criteria includes points awarded for ADA accessibility, for enhanced pedestrian access as well as for bike, pedestrian and transit enhancement to Environmental Justice (EJ) block groups.

RTC, WSDOT, C-TRAN, local jurisdictions including Clark County Public Health Department, the Human Services Council and Safe Routes to School Partnership representatives have committed to work together in 2019 to complete a Regional Active Transportation Plan which will be a component of RTC's Regional Transportation Plan. RTC has identified funds to complete this work.

WSDOT is currently working on an update to the state's Active Transportation Plan scheduled for completion in 2019. The update Plan will provide vision, policy direction, and actionable prioritized tactics for WSDOT and its partners.

Transportation Demand Management (TDM)

TDM is about reducing auto trips, shortening some, eliminating others and making our transportation system more efficient. The RTP supports TDM as a strategy to maximize the efficiency of the existing transportation system. Transportation demand management strategies to reduce vehicle trips on the regional transportation system can include use of transit, carpooling, vanpooling, working of flexi-hours and/or compressed work week, and working from home with use of communications technology, known as telecommuting. There are numerous TDM strategies that can be put into place to increase transportation system efficiencies. These strategies include:

- Education to ensure transport agencies, professionals and the public consider and understand TDM
- Marketing to provide public information and encouragement programs
- Employee commute trip reduction programs, such as Commute Trip Reduction
- Transportation Management Associations (TMAs) to provide trip reduction services in commercial or employment centers
- Special transport services for efficient transportation to special events
- Financial planning to recognize TDM competes with capacity expansion in terms of cost-effectiveness
- Transportation allowance for commuters rather than free parking
- Maximize efficiency and effectiveness of transit services
- Park and Rides at urban-fringe transit stops
- Vanpool programs
- Rideshare marketing and rideshare matching
- High Occupancy Vehicle lane preference for transit and rideshare vehicles
- Free transit zones in commercial centers
- Bicycle improvements, both planning and facilities
- Bike lockers at transit stops, bike racks on transit vehicles
- Telecommuting from home to avoid commute trips
- Alternative work hours either through flex time or alternative work weeks (such as 4, 10-hour days)
- Guaranteed ride home programs to provide a limited number of free rides home for transit and rideshare commuters

- Address security concerns of rideshare, transit, cycle and pedestrian commuters
- Parking pricing for users
- Pricing reforms, such as full cost pricing, to encourage efficient transport
- Road pricing such as road tolls and congestion pricing
- Mileage fees per mile, such as charges for road use and/or distance-based vehicle insurance and registration fees
- Fuel tax increase
- Vehicle restrictions in specific areas
- Cash out parking, the cash equivalent of parking subsidies, provided to employees who do not drive
- Reduce parking requirements in zoning laws
- Preferential parking for rideshare vehicles
- Vehicle rentals to encourage car-share cooperatives and neighborhood vehicle rentals
- Land use reforms such as higher densities, mixed use, and growth management
- Neotraditional neighborhoods that encourage walking, bicycling and transit use
- Traffic calming to reduce vehicle traffic speeds when appropriate
- Monitor TDM program effectiveness by performing surveys

Such TDM strategies will become increasingly important as travel demand in the region continues to grow and transportation investments do not keep pace. TDM strategies can help to preserve transportation system capacity.

Commute Trip Reduction

The overall goals of the CTR program are to improve transportation system efficiency, conserve energy, and improve air quality by decreasing the number of commute trips made by people driving alone.

In 2006, the Commute Trip Reduction Efficiency Act (RCW 70.94.527) was passed by the Washington legislature. The 2006 law took the place of the Commute Trip Reduction law passed by the Washington State legislature in 1991. The 1991 law required that local jurisdictions with major employers adopt a Commute Trip Reduction Ordinance and that employers who have 100 or more employees arriving at work between 6 a.m. and 9 a.m., year-round, should establish a commute trip reduction program for their employees. Under the 1991 law, all affected Clark County jurisdictions adopted CTR ordinances. Following the 2006 law, the CTR program is now designed to ensure that CTR plans and employer goals are coordinated with transportation and growth plans. The CTR program now focuses on Urban Growth Areas (UGAs) within the most congested state highways. These Urban Growth Areas are the areas with greatest need and potential benefit to be derived from CTR programs. Within Clark County, these Urban Growth Areas are Vancouver, Camas and Washougal as well as the unincorporated Clark County portion of the Vancouver UGA. The overall goals of the CTR program are to improve transportation system efficiency, conserve energy, and improve air quality by decreasing the number of commute trips made by people driving alone.

The Washington State CTR program requires that local jurisdictions, Regional Transportation Planning Organizations (RTPOs), major employers, transit agencies, WSDOT, and the CTR Board work collaboratively. During 2007, Commute Trip Reduction Plans were developed for jurisdictions and the region. Guidance on implementation and update of the Plans is provided through Washington Administrative Chapter 468-63. In early October 2007, the RTC Board of Directors adopted the Southwest Washington Regional Transportation Council, Regional Commute Trip Reduction Plan, endorsed the local CTR Plans for the City of Vancouver, Unincorporated Clark County, City of Camas and City of Washougal, and certified the Downtown Vancouver Growth and Transportation Efficiency Center voluntarily developed by the City of Vancouver. (RTC Board Resolution 10-07-21)

The Clark County Commute website provides access to information for people interested in CTR, in finding alternative transportation solutions and in ride matching solutions. Also, within the Portland/Vancouver Metropolitan area, Drive Less Connect provides additional information.

Local CTR Plans

The local CTR plans developed by the City of Vancouver, Unincorporated Clark County, City of Camas and City of Washougal analyze local conditions, establish goals and suggest a funding plan and program recommendations to achieve compliance with performance goals in the Act. RTC is responsible for

ensuring that local CTR plans are consistent with the CTR rules (Washington Administrative Code 468-63) and the regional CTR plan. RTC found the four local plans to be in compliance with the CTR rules, consistent with the Regional CTR Plan and the Plans were submitted to the state CTR Board. All local CTR Plans in the Clark County region set the goals of a 10% reduction in trips, the equivalent of a 13% reduction in vehicle miles traveled. Local jurisdictions must update ordinances to reflect their CTR plans and local comprehensive Plan updates are expected to reflect the requirements of the CTR program and to support its successful implementation.

Regional CTR Plan

The CTR Efficiency Act expanded the role of Regional Transportation Planning Organizations (RTPOs), such as RTC, in CTR planning. Under the CTR Efficiency Act, the MPO/RTPO is required to develop a regional CTR plan. The purposes of the Regional CTR plan are to:

1. Describe Regional Land Use and Transportation Conditions,
2. Establish Minimum Criteria for Growth and Transportation Efficiency Centers,
3. Establish Regional Program Goals and Targets,
4. Describe how Progress will be Measured,
5. Describe Planned Local Services and Strategies for Achieving Goals and Targets and
6. Provides a Sustainable Financial Plan.

RTPOs with a regional CTR plan have to submit periodic progress reports to the CTR Board. The reports include description of progress toward achieving the regional CTR goals and targets.

Currently, there are thirty-nine CTR affected employers in Clark County at fifty-five worksites with existing CTR programs in place. Some worksites participate voluntarily in the CTR program.

Transportation System Management and Operations (TSMO)

Transportation System Management and Operations are also strategies to maximize the efficiency of the existing transportation system. In June 2011, the RTC Board adopted RTC's first Transportation System Management and Operations Plan, updated in 2016 as the VAST TSMO Plan: 2016 TSMO Plan Update and Implementation Plan.

The long range Transportation System Management and Operations plan formulates a set of transportation system management goals and objectives, strategies, and performance measures for the Clark County region. The TSMO Plan builds upon the long and successful track record of the Vancouver Area Smart Trek program by

updating the VAST Intelligent Transportation System Strategic Plan, and the ITS architecture. The adopted plan establishes a set of system operation strategies to promote an efficient and cost-effective use of existing transportation facilities. The plan seeks to increase the coordination of investment decisions across transportation system investments such as: capacity expansion, transportation demand management, and access management. The plan also emphasizes the need for continued transportation data archiving to make transportation data easily accessible and provide information to support performance measurement, monitoring of system operations, and analysis of improvement strategies.

The purpose of the TSMO Plan is to enhance the active management and operations of the existing regional transportation system. TSMO goals include the following: improve travel time reliability, reduce crashes, and improve transit on-time performance. By reducing travel delay, fuel consumption and air pollution are also improved. TSMO strategies focus on lower cost operational and multimodal projects that are regionally coordinated and which better utilize existing transportation facilities. These strategies can include a wide range of projects such as: traveler information, freeway management, arterial management, coordinated incident management, and transit signal priority.

The Plan identifies a set of TSMO corridors where the application of operational strategies can be effective tools to improve reliability and performance. An important part of the TSMO Plan is to monitor the effectiveness of TSMO strategies and other improvements through the use of performance measures. A Clark County transportation data warehouse is established to provide the transportation data needed to monitor TSMO improvements and system performance.

In summary, the Regional Transportation System Management and Operations Plan for Southwest Washington addresses the following:

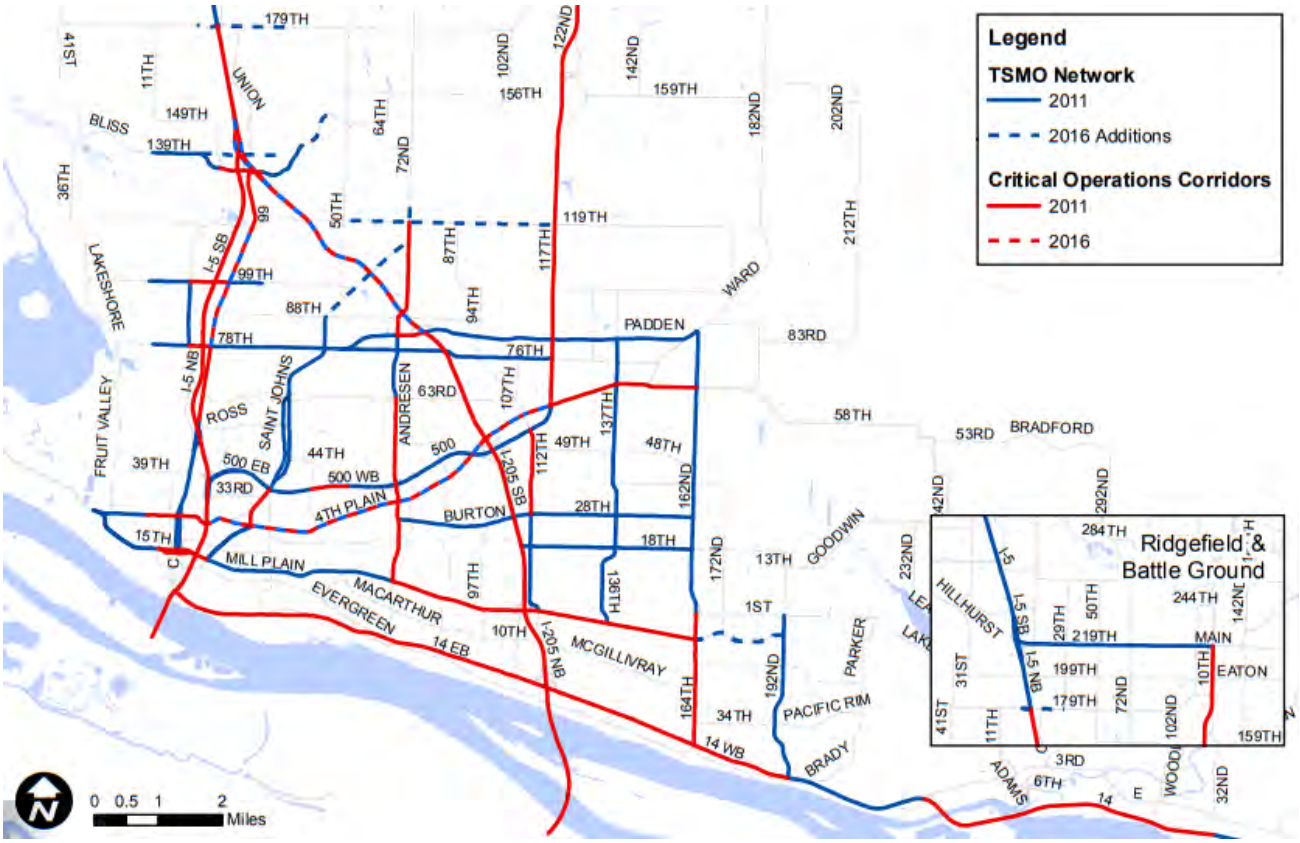
- TSMO as it applies to southwest Washington
- Assesses current and future operational needs
- Identifies TSMO strategies for the region
- Defines performance measures and data needs
- Describes how TSMO fits into the planning process

10-Year TSMO Implementation Plan

The original Regional TSMO Plan was developed with a horizon of ten years; while this is shorter than the planning horizon of most regional plans, it is indicative of both the nature of TSMO strategies as viable near-term solutions to operational deficiencies, as well as the rapid evolution of ITS technologies and operations practices. The original Plan addressed TSMO implementation and provided the connecting bridge in the TSMO planning process between plan and project implementation.

In the 2016 TSMO Plan update, the progress made since the 2011 Plan was adopted is documented. In the 2016 update, the TSMO corridors have been reviewed and are shown in Figure 5-11. The TSMO corridors and associated operational strategies are identified to achieve the TSMO Vision. The Implementation Plan is linked to the TSMO corridors and strategies by identifying the technology and equipment needed to implement the operational strategies, and therefore, guides the deployment of projects necessary to carry out the region's TSMO vision. The map also shows "corridor readiness" which indicates how much infrastructure is already in place or programmed and how much additional is needed to implement the 10-year Plan.

Figure 5-11: 2016 Updated TSMO Network and Priority Corridors



The Regional Transportation Plan has, in the past, primarily focused on system capacity improvements. Now, with WSDOT using a Practical Solutions concept and with the TSMO Plan adding a regional management and operations element to the RTP, the approach to identifying transportation solutions is changed. The TSMO Plan identifies a set of transportation corridors where the application of operational strategies can be effective tools to improve reliability and performance. Incorporated into the TSMO Plan is a data collection and monitoring element to measure the effectiveness of TSMO improvements.

Intelligent Transportation System (ITS)

Like TSMO, ITS is a part of the transportation tool kit to better manage the transportation system. The key difference is that ITS uses real time information to integrate and manage conventional transportation system components such as roads, transit, ramp meters, traffic signals, and managing incidents for more efficient operations and performance. ITS uses advanced technology and information to improve mobility and productivity and enhance safety on the transportation system. ITS includes:

1. Communications infrastructure,
2. Traveler information such as websites, variable message signs, kiosks, television, radio, phone, and highway advisory radio using both static and real-time information,
3. Incident management with early incident detection and a coordinated effort to respond to and clear roadway incidents able to greatly reduce their impact on congestion and delay,
4. Transportation management including the operation of all functions, devices and systems installed or developed for managing freeways and arterials such as transportation management centers for the freeway and arterial network for the coordinated management of the transportation system,
5. Transit Priority providing priority for buses at traffic signals under certain conditions to make transit more efficient and attractive to travelers,
6. Transit Operation and Management including transit traveler information systems delivering real-time bus arrival information to transit patrons using changeable message signs, the internet and other communication devices and transit agency operations and management.

C-TRAN's VAST projects include automatic vehicle locators, automatic passenger counters, and automated ADA call-outs, real time next bus information at transit centers, and computer aided dispatch.

Emerging Transportation Technologies

Transportation services are poised for profound changes over the 20-year planning horizon with the emergence of new technologies that brings automation to transportation with growth in transportation services being provided by autonomous vehicles. At this juncture, it is not yet certain how this will truly impact the transportation sector but VAST planning partners took a step to understand these changes hosting a December 2017 workshop on using technology to improve traffic operations.

The RTC Board of Directors considered policies for addition to the RTP on emerging transportation technologies recognizing that regional transportation system development is at an evolutionary point, where emerging transportation technologies that can impact transportation networks and performance are developing rapidly. The Board acknowledged that we must keep our view on the transportation outcomes we wish to see for our region and be proactive rather than reactive in using the emerging technologies to provide for transportation mobility, access and equity for passenger, freight and goods movement. With these principles in mind the following policies are set as the basis for an emerging transportation technologies policy:

- Regional flexible funds are used to encourage equipment and technology investments which promote equitable urban mobility solutions and accommodate open-architecture technologies which may spur public and private sector innovations
- Regional partners strive to be innovative in testing and deploying transformative technology applications to promote safer and more accessible urban transportation systems
- Regional partners are open to partner with providers of urban transportation technology innovations which serve the public interest and promote enhanced urban mobility outcomes

Transit

Transit system improvements are supported in the RTP. The transit transportation mode supports the land use goals established in local Comprehensive Plans developed under the Growth Management Act; plans that envision denser, transit-oriented developments in growth centers and in primary transportation corridors. Transit service expands transportation corridor capacity by providing more person throughput, helping the transportation system operate more effectively along transit corridors. Transit is also important in meeting the mobility needs of those unable to drive automobiles because of age, infirmity, disability, or low income. In addition, transit provides a viable option for those who have automobiles but choose the convenience and cost savings of using transit for their commute and other local trips.

C-TRAN adopted a 20-Year Transit Development Plan, C-TRAN 2030, in June 2010 with an update adopted in December 2016. C-TRAN 2030 provides the framework on which to build public transportation to support the future transportation needs of Clark County. It sets in place a plan to preserve existing service levels with improvements that include new bus routes, increased frequencies on some existing bus routes, meeting the growing demand for paratransit service for people with disabilities (C-VAN), the possibility of new park and rides (possibly between Padden and 18th Street in the I-205 corridor and possibly in the I-5/219th Street vicinity) with increased commuter service to downtown Vancouver and Portland. C-TRAN already operate a first bus rapid transit line with service along Fourth Plain Boulevard and is now planning for a second BRT line on Mill Plain. The 20-Year TDP includes transit routes, platform hours, and assumed capital and operating costs. Assumed transit improvements are incorporated into the RTP's regional transportation system map and into the Regional Travel Forecasting Model. C-TRAN service improvements are described in RTP Chapter 4, Financial Plan.

Adoption of C-TRAN's long range plan concluded a multi-year planning process and extensive public outreach that considered several alternatives before arriving at a preferred plan. C-TRAN riders, citizens, neighborhood associations and community organizations all helped to shape the Plan.

High Capacity Transit (HCT)

Prior to adoption of C-TRAN 2030, the RTC Board adopted the Clark County High Capacity Transit System Study in December 2008 following a two-year planning process. The HCT Plan provided a blueprint for C-TRAN and the Clark County region to move High Capacity Transit improvements forward in identified HCT corridors. The HCT System Study is based on the assumption that traffic volumes will increase over time as planned growth and economic development continue in the Clark County region. The constrained ability to expand highway capacity in a number of key regional transportation corridors is expected to cause traffic congestion to worsen thus increasing the need to develop a transportation alternative. The HCT System Study's Executive Summary was incorporated into C-TRAN 2030 as outlined in the Transit section above and was available as part of the C-TRAN 2030 Plan and is made available as part of the C-TRAN 2030 update (December 2016).

C-TRAN provides mobility options to connect people to jobs, education, healthcare, shopping and entertainment.

"Public Transit Takes Us There!"

The HCT System includes a set of the most promising HCT corridors now included in the RTP's Regional Transportation System map as a framework element. One of the study's underlying findings is that while design of a good HCT system is critical, it is not enough to ensure successful HCT project implementation. A well designed set of HCT facilities needs to be complemented by policies that address:

1. Transit supportive land use strategies,
2. Collaboration among public agencies,

3. Commitment to the project at both political and staff levels,
4. Continued public engagement and support, and
5. Actions by public agencies to amend and implement HCT policies.

Listed below are overall HCT policies that apply across the HCT system:

Overall HCT Policies

- HCT needs to maximize ridership by serving both intra-county and bi-state transit trips
- HCT system needs to move transit vehicles through corridors faster than conventional bus
- Maximize access to the HCT system by locating stations within walking distance of major activity centers and park and rides
- Balance the trade-offs between ridership and cost

HCT Land Use Policies

- Transit supportive densities
- A mix of land use
- Transit-oriented pedestrian environment
- Parking management strategies
- Transit-oriented urban design

The HCT System Plan provides a long-term framework for C-TRAN and the Clark County region to move forward to implement transportation improvements in identified HCT Corridors. Before an HCT project can move forward, final mode and alignment issues would be determined through the defined Federal Transit Administration's process.

Coordinated Human Services Transportation Plan (HSTP)

SAFETEA-LU-required that a Human Services Transportation Plan be developed to address the special transportation needs of the aged, youth, people with disabilities, low income workers and rural residents who are not able to drive themselves. By identifying the transportation needs of these people, the HSTP provides a framework for project identification and development to meet these transportation needs. Development of an HSTP is a condition for receiving certain federal and state funding such as:

- FTA Section 5310 Enhanced Mobility of Seniors and Individuals with Disabilities
- FTA Section 5311 Rural Transit
- FTA 5339 Capital Funding for Bus and Bus Facilities
- State Rural Mobility Competitive
- State Paratransit/Special Needs Competitive for non-profit agencies

FTA Section 5310 program funds are to be used for transportation services to provide enhanced mobility for seniors and those with disabilities beyond those required by the Americans with Disabilities Act. The RTC Board adopted the first HSTP for the region in January 2007 (RTC Board Resolution 01-07-02), updated the Plan in 2010 and in 2014. The current Human Services Transportation Plan for Clark, Skamania and Klickitat Counties was adopted in November 2018 (RTC Board Resolution 11-18-20). Under MAP-21, the FTA's Job Access and Reverse Commute (JARC) program was repealed and JARC activities are now eligible under the FTA Section 5307 program, Urbanized Area Formula Grants.

The intent of the Human Services Transportation Plan is to identify transportation needs and solutions and thereby improve transportation services for people with disabilities, seniors and, generally, those unable to drive themselves. Development of a Human Service Transportation Plan ensures that communities coordinate transportation resources provided through multiple federal programs. A Coordinated plan can help to enhance transportation access, minimize duplication of services, and encourage the most cost-effective transportation possible. Development of the Human Services Transportation Plan brings together service providers, agencies that distribute funds, riders, and the community at-large to improve special needs transportation throughout the region. Having a Human Services Transportation Plan in place and implementation of identified strategies can help the region cope with a growing aged population (see Chapter 2).

Elements of the Human Services Transportation Plan, as recommended by WSDOT to meet both state and federal requirements include the convening of a stakeholder group, data and information collection and gathering, addressing emergency management, identification of unmet transportation needs, and development of transportation alternatives. The diverse group of stakeholders meeting to identify human service transportation needs in Clark County is documented in the HSTP.

The Human Services Transportation Plan provides a framework for identifying the transportation needs of the aged, people with disabilities and low income workers.

The human service transportation needs and strategies identified in Clark County include the need to maintain and preserve existing transportation services, such as the Human Service Council's transportation brokerage services. Fixed route transit cannot accommodate all individual needs and there is a growing need for curb to curb transportation for medical and seniors' transportation including transportation to life sustaining medical treatments and preventative medical appointments, rides for seniors to nutrition programs, to adult day care and extension of paratransit to rural areas because C-VAN is not available in rural areas of Clark County.

Jobs transportation needs includes appropriate fixed route transit service hours to accommodate work schedules, alternatives to fixed route transit for those whose needs are not accommodated, transportation to overcome the challenges of getting children to/from childcare on way to/from work, and transportation solutions in rural areas of Clark County which is outside C-TRAN's fixed route service area. Those with low incomes are often challenged by the inability to pay for transportation; this can be a problem for low income, elderly and people with disabilities.

Priority strategies to help special needs transportation in Clark County include maintaining the transportation brokerage program, continuation of the C-TRAN Connector service and C-TRAN's popular Travel Trainer and Travel Ambassadors programs. There is need for improved coordination of veterans' transportation service, need for homeless student transportation, need for mobility management, and use of evolving technology to increase efficiencies in dispatching and use of transportation services. There is also a need for recruitment, organization and training of volunteer drivers or transportation assistants as an efficient and cost effective way to help meet curb to curb transportation needs for elderly, people with disabilities and those needing medical transportation. Volunteers could also provide curb to curb transportation for those outside of the C-VAN service area. The Human Services Council's Reserve-a-Ride program could be expanded and Cowlitz Tribe Transit Service to medical appointments in Clark County accommodated as well as service to help workers get to jobs at the Ilani Casino. Monitoring and assessing emergency preparedness measures as they relate to special needs transportation is also a need in the community and among emergency service providers. An existing agreement between C-TRAN and Educational Service District 11s (ESD 112) would use C-TRAN drivers and ESD vehicles to evacuate those who use mobility devices in the event of emergency evacuation.

Other strategies include continued coordination with neighbors: Tri-Met (Portland), CAP (Cowlitz), Skamania Senior Services, changes to building codes for more efficient transportation, further exploring the shared use of vehicles, initiate a community vanpool program, initiate a community-based rather than employer-based carpooling program and use neighborhood-based solutions with neighbors helping neighbors. Obstacles to implementing strategies include liability and risk management, costs and lack of revenue sources. Meeting the funding needs for special transportation services and the costs to clients, especially those with low incomes, seniors and those with disabilities is challenging. Also, transportation eligibility is an issue for those ineligible for Medicaid to get to preventative medical appointments, and people needing transportation to mental health appointments.

Aging Readiness

With the growing numbers of population aged over 65 in Clark County, the County took a pro-active step to plan for a future with this changing demographic. Clark County is anticipating rapid growth in our aging residents. By 2040, 22.2% of Clark County residents will be 65+ growing from 16.4% in 2020 and people older than 85 will increase to 4.5% of residents by 2040 from 1.7% of the population in 2020.

Ideas gleaned from workshops, surveys, and best practices from other communities were used to develop an Aging Readiness Plan (Clark County, February 2012) which assesses the County's readiness to serve as home for an aging population and identifies necessary resources and services not in place at this time.

The Clark County Aging Readiness Task Force hosted five workshops, from September 2010 through May 2011, to assess the community's current situation and seek public ideas and professional expertise on future needs. The results of the workshops helped the task force develop the Aging Readiness Plan to prepare Clark County for the aging boom and keep our community livable for residents of all ages. The workshops focused on:

1. Housing (September 2010),
2. Transportation and Mobility (November 2010),
3. Healthy Communities (January 2011),
4. Supportive services (March 2011), and
5. Community engagement (May 2011).

During development of the Aging Readiness Plan, there was recognition that across the nation, people are working to create communities that are good places to live, work, grow up, and grow old. Affordable and appropriate housing, supportive community features and services, and transportation options help create places where everyone has the opportunity to live independently and participate in civic and social life as they age. The work of the Aging Readiness Task Force continues in Clark County with the work of the Clark County Commission on Aging whose focus was on planning for transportation during 2018.

Intercity Passenger Rail

WSDOT addresses both passenger and freight rail needs in its Washington State Rail Plan, Integrated Freight and Passenger Rail Plan, 2013-2035 (WSDOT, March 2014). The WSDOT Plan serves as a blueprint for public investment in the state's rail transportation system. An update to the Plan is anticipated for publication in 2019.

Intercity passenger rail is increasingly used by agencies, such as the Human Services Council, to transport patients from the Clark County region to specialized health care appointments and services in the Seattle region. In October 2014, the Human Services Council provided 225 trips to Seattle for health appointments.

Commuter Rail / Rail Capacity Issues

RTC completed a Commuter Rail Feasibility Study in May 1999. The purpose of the Study was to determine if commuter rail has the potential to serve as a low cost option to improve bi-state travel mobility by making more effective use of the existing Burlington Northern Santa Fe rail transportation corridor between Vancouver and Portland. Commuter rail provides passenger service by shared use of rail tracks with freight operators and other rail users. The Study examined

critical issues in the implementation of commuter rail and included: schedule reliability, operations, the impact of shared use with freight and inter-city passenger needs, capital and operating costs, and ridership.

The Study concluded that, in a five year horizon, moderate levels of commuter rail service could be implemented between Vancouver and Portland with minor rail capacity improvements. By 2013, however, any level of commuter rail service would require a dedicated passenger track to accommodate the commuter service and the expected increases in freight and intercity passenger trains. The findings of the feasibility study indicate that a commuter rail system should not be pursued unless a major rail investment necessary to support future intercity passenger and freight rail growth in the corridor is to be made. This rail corridor is severely constrained in terms of how much growth it can support without major capital investment. The commuter rail operations added a relatively small number of trips to the system but enough to trigger the requirement for a dedicated passenger alignment. The results of this Study have created the awareness of the need to initiate regional discussion about long-term rail capacity issues affecting freight and passenger needs. The capacity constraints in this corridor need to be discussed further, not only in the context of the commuter rail system concept, but also as they relate to the rapid growth of rail freight traffic in the corridor and plans for greatly increased intercity passenger service.

The question of commuter rail was again revisited in 2002 as part of the I-5 Partnership. Findings concluded that commuter rail service cannot operate effectively on the freight rail network over the next 10 to 20 years, even with the identified incremental and additional network improvements. Commuter rail service could be instituted only on a separated passenger rail-only network. A separate passenger rail-only high speed rail system would improve intercity passenger rail service and could drive the feasibility of commuter rail. The cost of separated passenger network could be of the order of magnitude of $1.5 to $1.7 billion.

Transportation Management Areas (TMAs)

The Clark County region was designated as a Transportation Management Area under the federal Transportation Act, ISTEA, in 1991. The region is designated as a TMA because it has a population greater than 200,000. In addition to meeting all the specified metropolitan transportation planning process requirements, MPOs representing Transportation Management Areas must meet additional requirements. In TMAs, the MPO must have a Congestion Management Process that provides for the effective management of new and existing facilities through the use of travel demand reduction and operational management strategies. In air-quality non-attainment TMAs, highway capacity expansion projects that result in a significant increase in single occupancy vehicles can only be programmed if consistent with the Congestion Management System. The Clark County region is currently in air quality attainment. The CMP serves as the process for identifying deficient regional travel corridors, for evaluating non-SOV alternatives to address congestion, and for managing the performance of the system.

Congestion Management Process (CMP)

SAFETEA-LU required development of a Congestion Management Process. RTC's Congestion Management Process was first adopted by the RTC Board in April 2000. The Congestion Management Process includes:

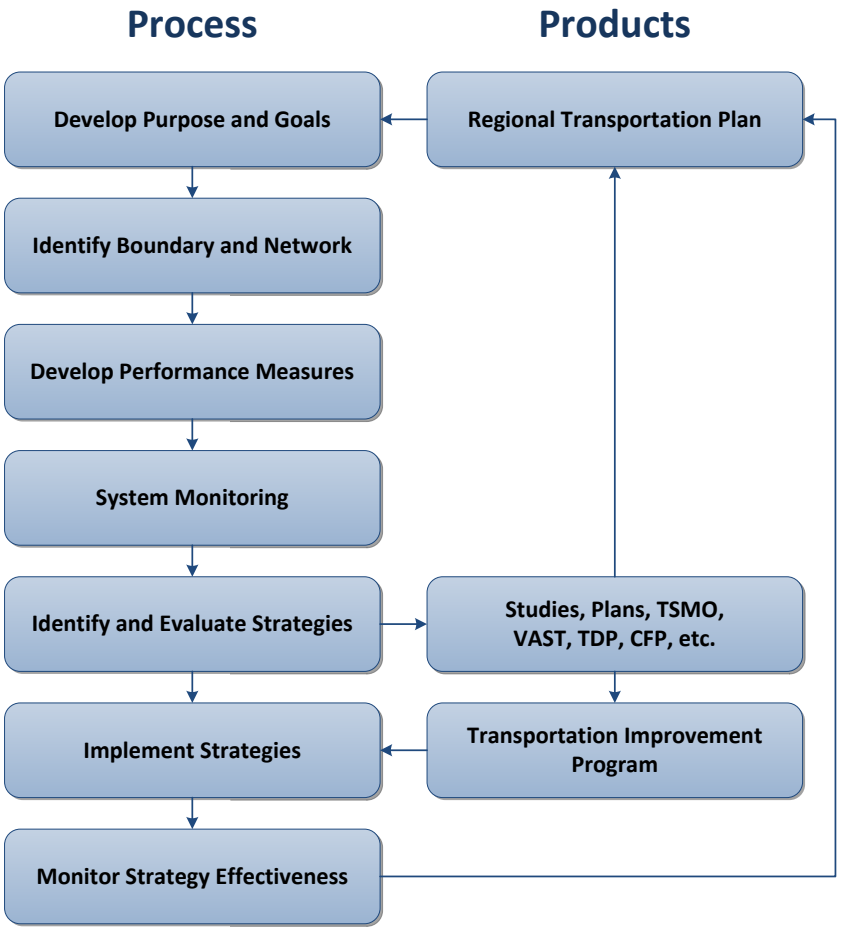
1. Identification of congestion management network,
2. Monitoring and analysis of system performance to identify needs, and
3. Implementation of identified needs.

In August 2018, the RTC Board adopted the *2017 Congestion Management Report*. RTC's annual CMP reports dating back to 2000 highlight data collection and transportation corridor analysis efforts over the years. RTC's Congestion Management Monitoring project focuses on delivering improved transportation system performance information to decision-makers who must identify the most cost-effective strategies for addressing transportation congestion and improving mobility. Prior to 2000, the transportation system performance reported in the Congestion Monitoring Report focused on a single corridor congestion index for each of the congestion management corridors. Over time, the report has been expanded to include travel time, speed, vehicle occupancy, transit ridership, bus capacity, intersection delay, areas of concern, and other transportation system related information. The 2013 Congestion Monitoring Report is the fourteenth year of publication and continues the collection and reporting of baseline data as well as transportation needs analysis.

In 2018, RTC issued its eighteenth annual Congestion Monitoring Report which continues the collection and reporting of baseline data and analysis of transportation needs to address congestion.

Figure 5-12 provides a graphic showing how the Congestion Management Process is linked to development of the Regional Transportation Plan and Transportation Improvement Program; with identifying transportation solutions in the RTP and programming of transportation projects in the TIP.

Figure 5-12: The Congestion Management Process and its Connectedness with the RTP



It is recognized that selecting project priorities involves the consideration of many factors, of which congestion relief is just one. See Chapter 6 of this RTP for more details of RTC's ongoing Congestion Management Process.

Transportation Planning and the Environment (including environmental mitigation)

The interrelationships between transportation planning, project development and both natural and human environments are acknowledged in federal, state, regional and local policies and practices. Regional RTP policies include a policy that specifically addresses the environment, "Protect environmental quality and natural resources and promote energy efficiency." Provision of a transportation system to meet travel needs should be balanced with the need to protect the environment and provide for a healthy community. Environmental considerations and stewardship include air quality, climate change, stormwater, noise, curbing urban sprawl, habitat, cultural resource protection, historic preservation, environmental justice, active living, and neighborhood structure.

Mobile emissions are a significant source of air pollution.

As transportation projects are developed, environmental analyses are carried out to ensure that identified environmental impacts can be avoided, minimized and/or mitigated. More detailed information on the laws and guidance that pertain to consideration of the environment and environmental mitigation in the metropolitan transportation planning process can be found in Appendix G of this document. Included in Appendix G is an overview of how environmental elements are addressed in the Clark County region as well as mapped data that can be used in the integration of environmental and transportation decision-making.

Air Quality: the Region's Air Quality Attainment Status

Required under the Federal Clean Air Act, the State Implementation Plan (SIP) provides a blueprint for how areas will attain and maintain the National Ambient Air Quality Standards (NAAQS). Demonstrating that the Regional Transportation Plan and the Transportation Improvement Program conform to the SIP is required by the Federal Clean Air Act, the Fixing America's Surface Transportation (FAST) Act, and the Clean Air Washington Act. Positive conformity findings allow the region to proceed with implementation of transportation projects in a timely manner.

Mobile emissions are a significant source of air pollution. Mobile source emissions can be minimized through increased use of non-motorized transportation modes, through increased transit use, through transportation systems management measures (such as inter-connecting traffic signals and enhanced timing of signals) and travel demand management techniques (such as flex-time work, parking charges, carpooling and vanpooling programs); all supported by the RTP. Mobile emissions can also be reduced through technology-based transportation command and control measures, such as enhanced emissions testing (I/M) programs, expansion of I/M and fuel requirements.

For Ozone, under both the 1997 and 2008 8-hour ozone NAAQS, the Vancouver/Portland Air Quality Maintenance Area (AQMA) is designated in "attainment." status As of the revocation of the 1-hour ozone NAAQS on June 15, 2005, regional emissions analyses for ozone precursors in the Plan (RTP) and Program (TIP) were not required.

For Carbon Monoxide, the Vancouver AQMA was redesignated to attainment for the CO NAAQS with an approved 10-year maintenance plan in 1996. In January 2007, the Southwest Clean Air Agency submitted a Limited Maintenance Plan (LMP) for CO to the Environmental Protection Agency for the second 10-year period. The EPA approved this LMP the following year. Based on the population growth assumptions contained in the Vancouver Limited Maintenance Plan (LMP) and the LMP's technical analysis of emissions from the on-road transportation sector, it was concluded that the area would continue to maintain CO standards. As of October 21, 2016, the Vancouver AQMA successfully completed the 20-year "maintenance" period and is no longer required to make a conformity determination.

Appendix C provides additional information on air quality in the region, connections with the State Implementation Plan (SIP) and a history of the region's air quality status. Although it is not mandatory, RTC will continue to coordinate and cooperate with air quality consultation agencies (Washington State Department of Ecology, EPA, FHWA, FTA, WSDOT, and SWCAA) when needed on any new regulatory and technical requirements that may affect the AQMA as well as emerging issues related to air quality and transportation. RTC will consult with the agencies, as requested, in the review, update, testing, and use of the Motor Vehicle Emissions Simulator emissions model to ensure accuracy and validity of model inputs for the Clark County region and consistency with state and federal guidance.

Water Quality

Transportation projects must address water quality impacts. Water quality is a significant issue in the Pacific Northwest. Transportation projects often include measures to mitigate for the construction of impervious surfaces. Bioswales and street trees are becoming part of the design for many transportation projects. Another issue that relates to water quality is the listing of certain species, such as the Pacific salmon species, under the Endangered Species Act.

The transportation system and environmental coordination is addressed in more detail in Appendix G to this RTP.

Greenhouse Gases (GHG) and Climate Change

Executive Order 09-05, Sections 2(a) and 2(b):

On May 21, 2009, Governor Gregoire signed Executive Order 09-05: Washington's Leadership on Climate Change. Sections 2(a) and 2(b) related to RTC as one of the four largest Regional Transportation Planning Organizations in the state. RTC was an active participant in both the process for developing the Section 2(a) report, 2010 Sustainable Transportation Report, (December 29, 2010), and in the Section 2(b) process which resulted in a completed report, "Governor's Executive Order 09-05, Washington's Leadership on Climate Change", Report on Section 2(b), Regional Greenhouse Gas and Vehicle Miles Traveled Reduction Strategies", delivered to the Governor on December 1, 2011.

WSDOT established an Executive Order Working Group to work collaboratively with the four largest RTPO's as well as the Departments of Ecology and Commerce. The working group was charged with the following:

1. Estimate current and future statewide levels of VMT,
2. Evaluate changes to the VMT benchmarks, RCW 47.01.440, as needed to address the emergence of low or no-emission vehicles, and
3. Develop additional strategies to reduce greenhouse gas emissions from the transportation sector.

Greenhouse gas reduction strategies from the transportation sector fit into four broad categories:

- Operating the system more efficiently
- Advancing vehicle technology
- Improving fuels
- Reducing VMT

WSDOT's analysis suggests that there is no silver bullet and major contributions from each of the strategies will be needed to reduce GHG emissions.

The Executive Order 09-05 Section 2(a) report, submitted on December 29, 2010, included the following recommendations.

- WSDOT estimated that the annual statewide vehicle miles traveled in 2009 was 56 billion or 8,400 VMT per capita. WSDOT developed a methodology using the Highway Performance Monitoring System and determined it was an appropriate tool to monitor statewide VMT but the HPMS data may not be the best tool for monitoring VMT at a regional and local level.
- The statutory VMT benchmarks (RCW 47.01.440) used a baseline of 75 billion VMT for 2020. The new WSDOT forecast developed in June of 2010 forecast a statewide VMT in 2020 to be 66 billion. WSDOT's recommendation was that the legislature should use historical, measured VMT (e.g. 2000, 2005, or 2010 levels) rather than forecasted VMT to set the VMT baseline.
- WSDOT recommended that because of reasonable slow market penetration, the VMT benchmarks should not be changed at this time to address low or no-emission vehicles.
- In terms of additional strategies to reduce emissions from the transportation sector, WSDOT recommends that the state consider ways to reduce GHG emissions across all sectors. Further, WSDOT should continue to work with the four largest RTPO's, as identified in Executive

Order Section 2(b), to develop additional approaches for reducing GHG emissions.

Throughout 2011 WSDOT collaborated with the four largest RTPO's to apply the information developed in the Executive Order Section 2(a) report to "cooperatively develop and adopt regional transportation plans that will, when implemented, provide people with additional transportation alternatives and choices, reduce GHG and achieve the statutory benchmarks to reduce annual per capita vehicle miles traveled in those counties with populations greater than 245,000." It is important to clarify that the Executive Order calls for a voluntary effort on the part of the RTPO's. The RCW's for both GHG emission reductions and VMT reduction benchmarks are charged to the state, not to any region. The report to the Governor is directed toward what strategies the regional transportation plans have and/or are developing regarding GHG reduction and which strategies have the greatest potential to help the state achieve the VMT benchmarks. RTC's RTP update does not nor is it required to include any specific GHG emissions or VMT reductions. However, consistent with local, regional, state and national transportation policies, the plan does include strategies and project recommendations that support GHG and VMT reductions. Examples of these strategies and projects in RTC's RTP update include the following:

- Transit expansion, both fixed bus and high capacity transit
- Transportation demand management strategies
- Commute trip reduction program
- Congestion management process
- Transportation system management/operations and intelligent transportation system strategies

In addition to the listing of GHG and VMT reduction strategies, the final report on EO Section 2(b) addressed which strategies appear to have the greatest potential to achieve the VMT benchmarks and which policy and funding issues need to be resolved before leading to possible implementation.

Executive Order 14-04

On April 29, 2014, Governor Inslee signed Executive Order 14-04: Washington Carbon Pollution Reduction and Clean Energy Action. The EO created the Governor's Carbon Emissions Reduction Task Force to recommend design and implementation of a carbon emission limits and market mechanisms program for Washington. The Task Force's advice and recommendations is to inform legislation to be requested by the Governor for consideration during the 2015 legislative session. The EO notes that Washington joined British Columbia, Oregon, and California through the Pacific Coast Collaborative, in calling for additional West Coast actions on climate leadership, clean transportation, and clean energy and infrastructure.

RTP Regional System Improvements

Figure 5-13 is a map showing identified capacity improvements on the regional transportation system. The map shows the location of transportation capital projects identified through the metropolitan transportation planning process to address safety and/or level of service issues. This map locates projects listed in Tables 5-3 and 5-4. Table 5-3 includes identified projects on the RTP's designated regional transportation system (described in RTP Chapter 3) that are already funded but are not yet constructed which amount to over $288 million. Table 5-4 includes projects on the RTP's Designated Regional Transportation System which do not yet have a funding source but for which funds are likely to be available before year 2040; in other words, the projects are "fiscally-constrained". These projects amount to $1.8 billion. Combined, RTP regional system projects listed in Tables 5-3 and 5-4 total to over $2.08 billion investment in regional transportation infrastructure needed within Clark County over the next 20-plus years.

In addition to projects on the RTP's designated regional transportation system, local transportation projects are also included in RTC's Regional Travel Forecasting Model so the model is reflective of the whole transportation system. Project lists provided in Appendix B correspond with the listings in Tables 5-3 and 5-4 and, in addition, include listings of identified local transportation project needs. The project lists focus on system capacity expansion projects because these are the most readily incorporated into the regional travel forecasting model's highway network.

RTP Appendix B also outlines the wide array of transportation system programs and improvements which will contribute to the development of a balanced regional transportation system. Even with the extensive list of transportation improvements, increased congestion can be expected on Clark County's transportation system by the year 2040. In many of the transportation corridors, further system expansion through widening of existing highways will not be feasible. Therefore, it is imperative that this region continue to develop a more balanced transportation system to create transportation options for its residents and to encourage use of alternative transportation modes.

Federal and state legislation, together with citizen input, has prompted the identification and implementation of alternative transportation solutions. Alternative solutions provide a way to avoid having to increase capacity of the highway system through road widening projects. The RTP provides for strategies and solutions to meet regional travel demand and to develop a balanced regional transportation system over the 20-plus-year planning period.

RTC is the forum for discussion and analysis of project priorities for federal and state funding program considerations. With limited funding availability for transportation projects it is prudent to reach regional consensus on the highest transportation priorities. A prioritization process can help the region to make most effective use of limited transportation funding to meet transportation system improvement needs.

The RTP identifies multi-modal capital projects to meet the region's 2040 transportation needs.

Transportation solutions identified in the Regional Transportation Plan (RTP) require programming for funding. It is in the regional Transportation Improvement Program (TIP) that federal funds are programmed. Decisions on funding and phasing of regional transportation projects are made during the development process for the Transportation Improvement Program (TIP) and projects that use local funding are programmed in the local Transportation Improvement Programs developed each year by individual local jurisdictions.

Figure 5-13: Map Showing Location of RTP Regional System Improvement

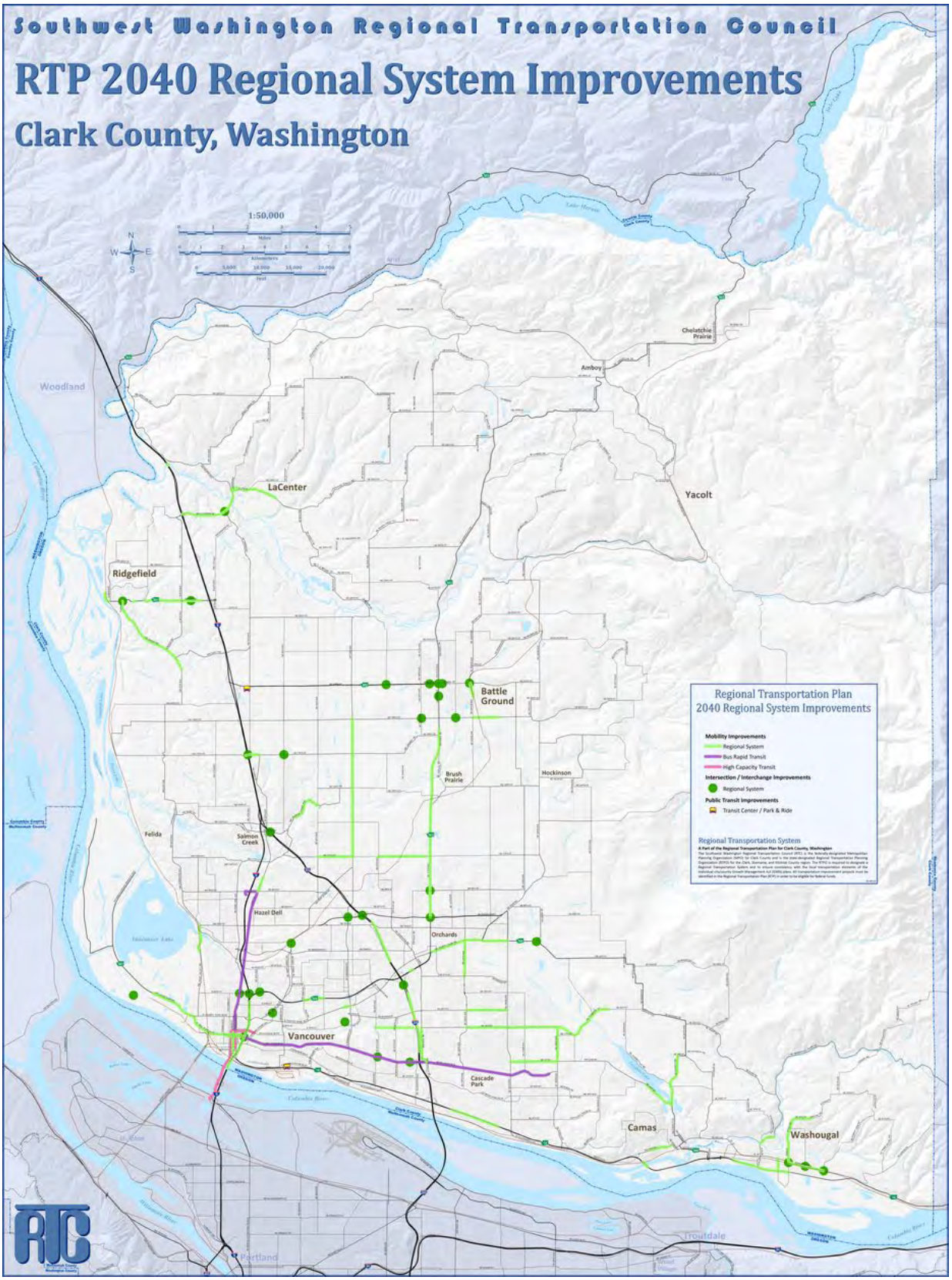


Figure 5-13 is a map showing RTP Regional Transportation System projects listed in Tables 5-3 and 5-4.

Table 5-3: Funded Projects, RTP Designated System

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
I-5/I-205/SR-14/SR-500	Urban Area	Urban corridor bottlenecks study		2018-2020	WSDOT/RTC	$650,000
I-5	179th Street	Interchange improvements	Interchange	2027	WSDOT	$50,000,000
I-5	E Fork Lewis River Bridge	Northbound bridge replacement	Functionally obsolete bridge	2020	WSDOT	$60,873,000
I-205	SR-14 to Padden Parkway	Planning study - interstate, interchanges and related local system		2018-2019	WSDOT	$300,000
SR-14	I-205 to 164th Ave.	Add auxiliary lanes, both directions	2 through lanes, both directions	2022	WSDOT	$25,000,000
SR-14	15th to 32nd, Washougal	Add roundabouts at 15th and 32nd and access options study in 27th vicinity	1 lane each direction with intersections	2021	WSDOT	$7,500,000
SR-500	42nd and 54th Avenue	Planning study	Intersections	2018-2019	WSDOT	$200,000
SR-500	Fourth Plain	Planning study	Intersection	2018-2019	WSDOT	$300,000
I-5/Mill Plain	at Mill Plain	Upgrades to the Mill Plain Interchange to add turn lanes, re-align ramp curves to allow oversize loads, add metered lanes to on-ramps for storage	Interchange	2025-2035	Vancouver (WSDOT)	$97,700,000
SR-501	Port of Vancouver to I-5	Intersection and profile improvements: operational, signal and geometric modifications to increase freight and vehicle capacity, and allow oversize loads	2 to 3 lane roadway with signals too low and geometric deficiencies	2025-2035	Vancouver (WSDOT)	$7,000,000
119th Street	87th Avenue to 112th Avenue	2 lanes ea. direction, w/turn lane	1 lane each direction	2019	Clark County	$14,890,000
Mill Plain Blvd	104th/105th Intersection	Intersection offset removal	offset intersection north/south of Mill Plain	2019	Vancouver	$5,500,000

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
NE 112th Avenue	Chkalov to 9th Street	Sidewalks on east side	None	2019-2020	Vancouver	$156,000
SR-503	SR-502	Add right turn channelization on east, west, and north legs	n/a	2019	Battle Ground	$2,100,000
SR-502	(N)W 15th Avenue	Add a second southbound left turn lane.	n/a	2021	Battle Ground	$850,000
Chelatchie Prairie Rails With Trails Trail	E Main Street to SE Rasmussen Boulevard	Construct new multimodal path with associated drainage.	does not exist	2019	Battle Ground	$921,000
SR-503 Multi-Use Path	NW Onsdorff Boulevard to W Main Street	Construct new multimodal path with associated drainage.	does not exist	2019	Battle Ground	$936,007
Extend Pioneer St (SR-501) to Port	Main Ave to Division St	Railroad Overcrossing, new road	N/A	2019	Ridgefield	$12,257,000
SR-501, Trail Segment 2	Port of Vancouver offices to Gateway Avenue	Extension of separated bike-ped path from the port offices out to the corner of Gateway Ave.	None	2019	Port of Vancouver	$1,058,173
Total						**$288,191,180**

Note: Table5-3 includes identified projects on the RTP's designated regional transportation system that are already funded but are not yet constructed.

Table 5-4: 2040 RTP Project List (for adoption in 2019), RTP Designated System

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
MEGA PROJECT						
I-5	I-5/Victory Blvd. to SR 500 - Improve Mobility	Replace I-5 Bridge over Columbia River	3 lanes each direction	2025-2035	WSDOT	$3,300,000,000
The above project is included in the constrained RTP and is based on needs as defined by prior corridor studies and inventories. Final project scope and design will be subject to review and concurrence by local, state and federal agencies. As a mega-project, these or other corridor improvements would have their own financing plan.						
REGIONAL PROJECTS						
I-5/I-205/SR14		Implement ramp meters and ATM		2020-2030	WSDOT	$20,000,000
I-5/I-205	Salmon Creek Interchange	Planning study		2020-2025	WSDOT	$300,000
I-5/I-205	Salmon Creek Interchange Phase II	Implement improved access to I-205, if needed, dependent on planning study outcomes		2035-2040	WSDOT/Clark County 50% each	up to $35,000,000
I-5/SR-500	SR-500	Implement improvements, if needed, up to direct connection dependent on urban corridor study outcomes	Partial Interchange	2035-2040	WSDOT	up to $140,000,000
I-205	Padden Parkway Interchange	Implement improvements to interchange and connectivity to N 72nd Ave, if needed, dependent on planning study outcomes	Interchange	2035-2040	WSDOT	up to $30,000,000
I-205	SR-500 to Padden Parkway	Implement improvements up to add lanes, if needed, dependent on planning study outcomes	2 lanes each direction	2030-2035	WSDOT	up to $30,000,000
I-205	Mill Plain to SR-500	Implement improvements up to add auxiliary lanes NB and SB, if needed, dependent on planning study outcomes		2035-2040	WSDOT	up to $25,000,000
SR-14	West Camas Slough Bridge	Rebuild Bridge	1 lane each direction	2035-2040	WSDOT	$35,000,000
SR-500	42nd and 54th Avenue	Implement cost effective safety improvements per planning study recommendations	Intersections	2021-2025	WSDOT	$6,000,000

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
SR-500	42nd and 54th Avenue	Implement additional improvements if needed to address additional needs	Intersection	2035-2040	WSDOT	up to $80,000,000
SR-500	Fourth Plain	Implement improvements up to grade separation dependent on planning study outcomes	Intersection	2030-2035	WSDOT	up to $60,000,000
SR-503	SR-503/Caples Rd to Battle Ground - Install Median Barrier	Install Median Barrier		2025 - 2035	WSDOT	$3,000,000
SR-503	SR-503/Padden Parkway to NE 144th Vic.	Install Median Curb		2018-2025	WSDOT	$2,000,000
SR-503	at Padden Parkway	Add Interchange	Intersection	2020-2030	WSDOT	$35,000,000
Transit Enhancements	System Wide	Improvements/amenities at bus stops, super stops, and transit centers - new and existing	Continuation of existing programs	Ongoing	C-TRAN	$50,400,000
Administration Operations, and Maintenance Facility	65th Street & 18th Street	Expansion/redevelopment	Current facility is 20 years old and over capacity	2019-2023	C-TRAN	$30,000,000
East Vancouver/ Camas Park & Rides	18th Street & I-205; Camas & SR-14	Relocation of existing Evergreen Park & Ride	Current park and ride lacks visibility and easy access to I-205. Relocation will support service improvements	2022-2027	C-TRAN	$20,000,000
219th Street Park & Ride	I-5 & SR-502	Park & Ride facility at new interchange	N/A	2025-2035	C-TRAN	$16,200,000
Fleet Replacement and Expansion	System Wide	Purchase replacement and expansion vehicles for fixed route, paratransit, and vanpool service	Continue ongoing program	Ongoing	C-TRAN	$161,000,000
ITS Deployment	System Wide	ITS deployment and upgrades		Ongoing	C-TRAN	$12,300,000
Facility Capital Maintenance				Ongoing	C-TRAN	$36,700,000
Miscellaneous Capital Repair & Replacement				Ongoing	C-TRAN	$18,600,000
Mill Plain BRT		BRT replace Rte 37	Route 37	2022-2023	C-TRAN	$50,000,000
Fisher's LTC TOD		TOD	P&R with rider amenities	2035	C-TRAN	$5,000,000

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
Columbia House P&R		Expand	Increase from 30 to 140 parking stalls	2020	C-TRAN	$2,600,000
Hwy 99 BRT	downtown Vancouver to 99 St Transit Center	BRT replace Rte 71	Route 71	2030	C-TRAN	$50,000,000
I-5 BOS	southbound, 99th St to bridge	Develop and construct BRT project	no transit or HOV	2020	C-TRAN	$5,000,000
I-205 BOS	18th St to Airport Way	Possible phases	no transit or HOV	2025	C-TRAN	$5,000,000
Shared Mobility	System Wide	dynamic demand response	using app based technology	2019	C-TRAN	$2,000,000
179th Street	Delfel Rd to NE 15th Avenue	2 lanes ea. direction, w/turn lane	1 lane each direction	2025	Clark County	$28,000,000
179th Street	NE 29th Avenue intersection	unimproved intersection	1 lane each direction	2030	Clark County	$3,000,000
179th Street	NE 50th Avenue intersection	unimproved intersection	1 lane each direction	2030	Clark County	$3,000,000
NE 119th St.	NE 132nd Ave.	unimproved intersection	Intersection	2025	Clark County	$3,000,000
Andresen	Padden Parkway	Interim upgrade	Intersection	2025-2040	Vancouver	$15,000,000
Highway 99	NE 99th Street to NE 107th Street	2 lanes ea. direction, w/turn lane	2 lanes each direction	2020	Clark County	$4,868,000
NE Ward Rd.	NE 88th Street to NE 172nd Ave	2 lanes ea. direction	1 lane each direction	2017-2035	Clark County	$9,700,000
NE 72nd Avenue	NE 122nd to NE 219th St	Spot capacity improvements	1 lane each direction	2017-2035	Clark County	$30,000,000
NE 117th St.	NE Stutz Rd.	Intersection improvement	Intersection	2020-2030	Clark County	$2,000,000
NW Lakeshore Ave.	NW 78th St. to NE 39th St.	1 lane ea. direction, w/turn lane	1 lane each direction	2020-2035	Clark County	$15,000,000
NW 36th Ave.	Bliss Rd.	Intersection improvement	Intersection	2020-2030	Clark County	$3,000,000
NE 182nd Ave.	SR-500	Intersection improvement	Intersection	2020-2035	Clark County	$5,000,000
112th Avenue	Mill Plain to 49th Street	2 lanes ea. direction, w/turn lane	2 lanes each direction	2020-2035	Vancouver	$7,000,000
137th Avenue	49th Street to Vancouver City Limits	2 lanes ea. direction, w/turn lane	1 lane each direction	2020-2035	Vancouver	$20,000,000
18th Street	162nd Avenue to 192nd Avenue	2 lanes ea. direction, w/turn lane	1 lane each direction	2020-2035	Vancouver	$20,000,000
18th Street	97th Avenue to NE 107th Avenue	2 lanes ea. direction, w/turn lane		2020-2035	Vancouver	$12,500,000
18th Street	138th Avenue to 162nd Avenue	2 lanes ea. direction, w/turn lane	1 lane each direction	2020-2035	Vancouver	$18,000,000
18th Street	87th Avenue to 97th Avenue	Extend existing street 1 lane ea. direction, w/turn lane	No street	2020-2035	Vancouver	$16,000,000

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
192nd Avenue	SE 1st Street to NE 18th Street	2 lanes ea. direction, w/turn pockets	1 lane each direction	2020-2035	Vancouver	$20,000,000
Fruit Valley Rd	Whitney to 78th Street	1 lane ea. direction, w/turn lane	1 lane each direction	2020-2035	Vancouver	$40,000,000
32nd Avenue	SR-501 to Fruit Valley Road	1 lane ea. direction, w/turn lane new minor industrial arterial	None	2025-2035	Vancouver	$20,000,000
Lieser Road/ NE 87th Avenue	Lieser to E 5th St	Intersection improvement	Offset intersection	2020-2035	Vancouver	$6,000,000
Main Street	5th Street to McLoughlin	Reconstruct from 5th to 16th	Two-way street	2020-2035	Vancouver	$11,000,000
Main Street	5th Street to Columbia Way	Re-connect to waterfront S. of rail berm	No street	2020-2035	Vancouver	$9,000,000
NE 28th Street	142nd Avenue to 162nd Avenue	1 lane ea. direction, w/turn lane	1 lane each direction	2020-2035	Vancouver	$12,000,000
SE 1st Street	164th Avenue to 177thd Ave.	2 lanes ea. direction, w/turn lane	1 lane each direction	2020-2035	Vancouver	$13,000,000
SE 1st Street	177th Avenue to 192nd Ave.	2 lanes ea. direction, w/turn lane	1 lane each direction	2020-2035	Vancouver	$7,500,000
Andresen Rd.	MacArthur Blvd Intersection	Intersection operational upgrade	4-way stop control	2020-2035	Vancouver	$2,500,000
Main Street	39th St. Intersection	Intersection capacity and operational upgrade	substandard lane width, inadequate storage, inadequate turn lanes	2020-2035	Vancouver	$3,500,000
NE 162nd Ave	SE 1st Street to NE 9th Street	3 lanes ea. direction, w/median	2 lane each direction	2020-2035	Vancouver	$11,000,000
NE Fourth Plain	NE 117th Ave to NE 162nd Ave	Intersection capacity and operational upgrade	substandard lane width, inadequate storage, inadequate turn lanes	2020-2035	Vancouver	$3,400,000
SE 20th St	SE 176th Ave	Intersection improvement	Substandard	2025-2035	Vancouver	$500,000
St. Johns	NE 65thSt	Signal	Substandard	2025-2035	Vancouver	$1,000,000
St. Johns	Ft. Vancouver Way	Signal	Substandard	2025-2035	Vancouver	$2,800,000
NE 13th/18th St	Goodwin to 192nd Av	2 lanes each direction w/ turn lane, bike and pedestrian	None	2022-2035	Camas	$8,235,000
NE 28th Street	Ingle to 232nd	1 lane each direction w/ turn lane, bike and pedestrian	1 lane each direction	2020	Camas	$7,750,000

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
NE Goodwin Rd	Friberg to Ingle	2 lanes each direction w/ turn lane, bike and pedestrian	1 lane each direction	2021	Camas	$13,123,000
SR-500/ Everett Rd	Lake Rd to NE 4th St	1 lane each direction w/ turn lane, bike and pedestrian	1 lane each direction	2022-2035	Camas	$12,710,000
NW 6th Av Corridor Improvements	Norwood to Adams	Add turn lanes, bike lanes & sidewalk (road diet?)	2 lanes each direction	2019	Camas	$1,200,000
Lake Rd	NW Lacamas Lane to NE Everett St/SR-500	Widening, sidewalks	1 lane each direction w/left turn lanes and bike lanes	2021	Camas	$3,345,000
Lake Rd and Everett St/SR-500 Roundabout	Lake Rd and Everett St/SR-500	Roundabout, improved pedestrian access	Signal, 1 lane each direction with bike lanes, no sidewalks	2020	Camas	$6,450,000
NE 6th Av Corridor Improvements	Adams to Garfield	Access and Multimodal upgrades	1 lane each direction, sidewalks	2020	Camas	$200,000
32nd Street	Evergreen Way to 34th Street	Widen to 3 lanes, plus bike lanes and sidewalk	1 lane each direction	2018-2024	Washougal	$5,476,000
Evergreen Way	32nd Street to Sunset View Rd	Widen to 3 lanes, plus bike lanes and sidewalk	1 lane in each direction	2018-2024	Washougal	$8,117,000
SR-14/27th Street Interchange Project	Washougal River Road to 32nd Street	Half diamond interchange at 27th Street, overpass along SR-14	at grade	2018-2024	Washougal, Port of Camas Washougal, WSDOT	$14,000,000
Washougal River Road	Shepherd Road, 18th/O, 25th	Intersection improvements, bike ped and trail crossing		2018-2024	Washougal	$2,482,000
Evergreen Way and Sunset View Road	Intersection Influence Area	Intersection improvement		2018-2024	Washougal	$1,963,000
Evergreen @ 39th intersection	Evergreen and 39th St.	Evergreen @ 39th St. Signaliztion and intersection improvements	no signal	2025-2030	Washougal	$1,200,000
Chelatchie Prairie Rails With Trails Trail	Northeast UGB Limits to E Main Street	Construct new multimodal path with associated drainage.	does not exist	2022	Battle Ground	$1,200,000
Chelatchie Prairie Rails With Trails Trail	SE Rasmussen Boulevard to SE Eaton Boulevard	Construct new multimodal path with associated drainage.	does not exist	2026-2035	Battle Ground	$1,766,205
Chelatchie Prairie Rails With Trails Trail	SE Eaton Boulevard to NE Cedar Drive	Construct new multimodal path with associated drainage.	does not exist	2026-2035	Battle Ground	$1,512,379
Chelatchie Prairie Rails With Trails Trail	NE Cedar Drive to NE 181st Street	Construct new multimodal path with associated drainage.	does not exist	2026-2035	Battle Ground	$1,210,961

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
Chelatchie Prairie Rails With Trails Trail	NE 181st Street to South UGB Limits	Construct new multimodal path with associated drainage.	does not exist	2026-2035	Battle Ground	$1,591,700
E Main Street	NE/SE Grace Avenue	Realign SE Grace Avenue with NE Grace Avenue and signalize.	unsignalized	2015-2020	Battle Ground	$2,000,000
E Main Street	NE Grace Avenue to east UGB limits	Reconstruct roadway, add sidewalks where missing, add storm drainage, lighting, striping, signing, landscaping, and bike lanes.	1 lane each direction	2026-2035	Battle Ground	$7,865,344
NE 179th Street	SR-503 to S Parkway Avenue	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$4,290,857
NE 179th Street	NE 112th Avenue to western terminus	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$4,027,708
NE 179th Street	S Parkway Avenue to SE Grace Avenue	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$4,347,857
NE 179th Street	western terminus to SR-503	Reconstruct roadway, add sidewalks where missing, storm drainage, lighting, striping, signing, landscaping, and bike lanes.	1 lane each direction	2026-2035	Battle Ground	$318,517
N Onsdorff Boulevard	N Parkway Avenue	Install modern roundabout.	2-way stop	2026-2035	Battle Ground	$600,000
SE Eaton Boulevard	SE Grace Avenue to east city limits	Reconstruct roadway, add sidewalks, storm drainage, lighting, striping, signing, landscaping, and bike lanes.	1 lane each direction	2021-2025	Battle Ground	$5,568,760
SE Eaton Boulevard	NE 92nd Avenue to SW 20th Avenue	Reconstruct roadway, add sidewalks, storm drainage, lighting, striping, signing, landscaping, and bike lanes.	1 lane each direction	2026-2035	Battle Ground	$6,816,764

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
NE Grace Avenue	NE 10th Street	Add northbound right turn lane and convert intersection to all-way stop.	2-way stop	2021-2025	Battle Ground	$105,000
Grace Avenue	Grace Av/East Main St	Align S Grace and N Grace	Unaligned intersections	2015-2020	Battle Ground	$2,000,000
NE Grace Avenue	NE 249th Street to NE 25th Street	Reconstruct roadway, add sidewalks where missing, add storm drainage, lighting, striping, signing, landscaping, and bike lanes.	1 lane each direction	2026-2035	Battle Ground	$1,727,582
NE Grace Avenue	NE 25th Street to NE Onsdorff Boulevard	Reconstruct roadway, add sidewalks where missing, add storm drainage, lighting, striping, signing, landscaping, and bike lanes.	1 lane each direction	2026-2035	Battle Ground	$343,726
NE Grace Avenue	NE Onsdorff Boulevard to NE 10th Street	Reconstruct roadway, add sidewalks where missing, add storm drainage, lighting, striping, signing, landscaping, and bike lanes.	1 lane each direction	2026-2035	Battle Ground	$1,837,691
NE Grace Avenue	NE 10th Street to E Main Street	Reconstruct roadway, add sidewalks where missing, add storm drainage, lighting, striping, signing, landscaping, and bike lanes.	1 lane each direction	2026-2035	Battle Ground	$3,871,051
SE Grace Avenue	SE Eaton Boulevard to NE 189th Street	Reconstruct roadway, add sidewalks where missing, add storm drainage, lighting, striping, signing, and landscaping.	1 lane each direction	2026-2035	Battle Ground	$3,042,561
SE Grace Avenue	NE 189th Street to NE 179th Street	Reconstruct roadway, add sidewalks, storm drainage, lighting, striping, signing, and landscaping.	1 lane each direction	2026-2035	Battle Ground	$2,775,302
SE Grace Avenue	NE 179th Street to south city limits	Reconstruct roadway, add sidewalks, storm drainage, lighting, striping, signing, and landscaping.	1 lane each direction	2026-2035	Battle Ground	$1,706,380

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
SE Grace Avenue	E Main St to SE Rasmussen Blvd	1 lane ea. direction, w/turn lane, bicycle and pedestrian facilities	1 lane each direction	2015-2020	Battle Ground	$4,318,267
SE Grace Avenue	SE Eaton Boulevard	Replace signal controller and related equipment for improved intersection operations. Install northbound and southbound left turn signals.	n/a	2021-2025	Battle Ground	$65,000
SR-502	W 15th Avenue	Upgrade intersection to provide an additional 100' of storage for the eastbound left turn lane.	n/a	2026-2035	Battle Ground	$102,500
SR-502	W 29th Avenue	Add south leg of intersection and signalize.	unsignalized	2021-2025	Battle Ground	$350,000
SR-502	NE 92nd Avenue	Add southerly leg of intersection, modify signal, and add westbound left turn lane.	unsignalized	2026-2035	Battle Ground	$225,000
SR-503	SR-502	Add dual left turn lanes	n/a	2026-2035	Battle Ground	$605,415
SR-503	NE 184th Street	Add east-west right-in/right-out on east side of SR-503.	does not exist	2026-2035	Battle Ground	$250,000
SR-503	NE 194th Street	Add east-west right-in/right-out on both sides of SR-503.	does not exist	2026-2035	Battle Ground	$250,000
SR-503	NW 5th Way	Add east-west right-in/right-out on both sides of SR-503.	does not exist	2026-2035	Battle Ground	$250,000
SR-503	NE 239th Street	Add east-west right-in/right-out on west side of SR-503.	does not exist	2026-2035	Battle Ground	$250,000
SR-503	NW Onsdorff Boulevard	Extend southbound leg of SR-503, 500-feet north and south of intersection, add necessary tapers, and revise existing traffic signals.	n/a	2021-2025	Battle Ground	$1,020,500
SR-503	NE 179th Street	Add northbound right turn lane.	n/a	2026-2035	Battle Ground	$150,000
SR-503	SW Rasmussen Boulevard	Add east-west right-in/right-out on east side of SR-503.	does not exist	2015-2020	Battle Ground	$275,000

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
SR-503	NE 189th Street	Extend westbound left turn lane as necessary.	n/a	2026-2035	Battle Ground	$100,000
SW Eaton Boulevard	SW 20th Avenue to SR-503	Reconstruct roadway, add sidewalks, storm drainage, lighting, striping, signing, and landscaping. Add second westbound left turn lane and add 100' long eastbound right turn lane at SR-503 signal. At 20th signalize and add left turn lanes on north, south, and east legs.	1 lane each direction	2022	Battle Ground	$4,476,093
Hillhurst Road	Sevier Rd to 229th extension	Upgrade to 3 lane principal arterial	1 lane each direction	2021	Ridgefield	$17,230,870
Hillhurst Road	SR-501 to Sevier Rd	1 lane each direction w/ turn lane	1 lane each direction	2023	Ridgefield	$6,348,920
I-5	219th St. to SR-501	NB auxiliary lane along I-5	None	2028	Ridgefield/WSDOT	$8,600,000
I-5	SR-501 to 219th St.	SB auxiliary lane along I-5	None	2028	Ridgefield/WSDOT	$7,900,000
Pioneer Street Bridge	over Gee Creek	Bridge Replacement	2 lane bridge	2030	Ridgefield/WSDOT	$3,042,000
Pioneer St (SR-501) at 9th Ave/Hillhurst Rd	N/A	Signalized Intersection improvement	Unsignalized Intersection	2020	Ridgefield	$404,790
Pioneer St (SR-501)	Rieman Road to 35th Ave Roundabout	Add Pedestrian Facilities	1 lane each direction	2020	Ridgefield	$669,500
Pioneer St (SR-501)	35th Ave to 45th Ave	Widen, 2 lane each direction w/ turn lane	1 lane each direction	2022	Ridgefield	$4,139,570
Pioneer St (SR-501) at 51st Ave	N/A	2-lane Roundabout	N/A	2023	Ridgefield	$1,444,000
Pioneer St (SR-501)	45th Ave to 51st Ave	Widen, 2 lane each direction w/ turn lane	1 lane each direction	2025	Ridgefield	$1,801,058
Pioneer St (SR-501)	51st Ave to 56th Ave	Widen, 2 lane each direction w/ turn lane	1 lane each direction	2027	Ridgefield	$1,801,058
NW 219th St Extension	Hillhurst Road to I-5	1-lane each direction w/ turn lane	N/A	2027	Ridgefield	$18,276,000
E 4th Street	Highland to E. City Limits	Urban upgrade	Unimproved road segment	2016-2021	La Center	$1,635,000
La Center Road	at Timmen Road	Construct left turn lanes	Unimproved intersection	Partly complete in 2012. Rest in 2016-2021.	La Center	$1,450,000

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
E 4th Street	Stonecreek Drive	"Street widening from Cedar Ave to Highland including Brezee Creek box culvert crossing	Old Culvert, with bike lanes, 1 sidewalk	2018-2024	La Center	$4,500,000
County-wide	County Wide	Pedestrian & Bicycle Projects and Programs		Continuing	County-wide	$92,400,000
County-wide	County Wide	Demand Management		Continuing	County-wide	$48,000,000
Various	System Wide	Transportation System Management and Operations		Continuing	County-wide	$45,800,000
Mill Plain Corridor Technology Improvements	Downtown Vancouver to 192nd Ave	new fiber, dynamic information signs, TSP upgrades and expansion	aging infrastructure	2022-2023	VAST	$5,000,000
Columbia Street	Access Road 5 and Columbia Way	Extension of separated bike-ped path connecting the City Waterfront Park through the Port of Vancouver Terminal 1 property connecting with the Renaissance Trail on Columbia Way	None	2022	Port of Vancouver	$4,500,000
Terminal 5 Industrial Access	Gateway Avenue and rail loop	Rail overpass	None	2022-2025	Port of Vancouver	$8,545,761
Total of Regional Projects						**$1,792,902,647**
Total with I-5 Bridge						**$5,092,902,647**

Note: Table 5-4 includes projects on the RTP's Designated Regional Transportation System which do not yet have a funding source but for which funds are likely to be available during the twenty-plus year term of the RTP (to year 2035). These projects are the RTP's "fiscally-constrained" projects.

Bi-State Transportation

Bi-State Coordination Committee

The Bi-State Transportation Committee was established in 1999 to ensure that bi-state transportation issues are addressed. This Committee was reconstituted in 2004 to expand its scope to include both transportation and land use according to the Bi-State Coordination Charter. The Committee is now known as the Bi-State Coordination Committee. The Committee's discussions and recommendations continue to be advisory to the Southwest Washington Regional Transportation Council (RTC), and Metro's Joint Policy Advisory Committee on Transportation (JPACT) and Metro Council on issues of bi-state transportation significance. On

issues of bi-state land use and economic significance, the Committee advises the appropriate local and regional governments.

In December 2018, the Oregon Transportation Commission agreed to the submittal to the Federal Highway Administration of a proposed tolling plan for sections of I-5 and I-205 in the Portland region. If the tolling plan is carried through, there will be consequences for bi-state travel.

Emerging Issues to Track

The following issues should continue to be addressed following completion of the 2018 RTP update:

- Continue the transportation performance and plan monitoring as first required by MAP-21 and continued with the FAST Act.
- Coordinate with WSDOT as the agency works to implement an updated approach to project planning and delivery including Least Cost Planning and practical solutions concepts. WSDOT will be studying planning solutions for travel corridors in Clark County over the next few years and recommended solutions will be incorporated into future Regional Transportation Plans.
- Continue to work with planning partners to identify and update the 10-year transportation project priorities for the region to reflect changing financial and budgetary conditions.
- Work with planning partner on modal elements of the plan, for example, freight transportation, transit plan elements and pedestrian and bicycle modes.
- Continue to track Oregon's application to federal agencies to pursue value pricing or tolling of sections of the I-5 and I-205 freeways in the Portland region.
- Monitor research on the impacts of emerging technologies on the transportation sector and incorporate into future RTPs.

Chapter 6: System Performance Monitoring, Plan Development and Implementation

Transportation system performance based planning and programming requires ongoing monitoring.

System Performance Monitoring

The planning process requires that monitoring of transportation system performance is carried out. The elements of transportation system monitoring include the new federally-required Performance Management System, monitoring of congestion under the Congestion Management Process, monitoring of transportation system performance now and into the future using the regional travel forecast model, surveying of travel behavior and household activities, monitoring for concurrency under Washington State's Growth Management Act, surveying of trip reduction under the state's Commute Trip Reduction program and air quality monitoring.

Performance Based Planning and Programming

The federal transportation act, MAP-21 (2012), created a streamlined and performance-based surface transportation program that emphasizes making performance-managed transportation system investments. The current federal transportation act, Fixing America's Surface Transportation Act (FAST Act, 2015), continues the requirement to transition to performance based transportation planning and programming as codified in 23 USC 150. With federal rulemaking complete for this new performance monitoring program, WSDOT, RTC and other Washington MPO's have worked in close coordination to establish targets for the federally-established transportation performance measures.

Performance management is a strategic approach that uses performance data to inform decision-making and outcomes. When implemented effectively, performance management can improve project and program delivery, inform investment decisions, focus on leadership priorities, and provide greater transparency and accountability.

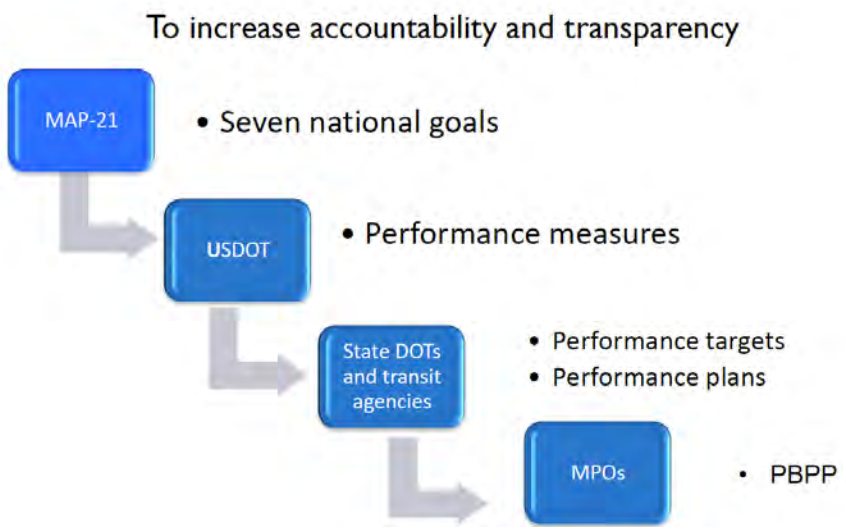
Figure 6-1 shows the federal Performance Management Framework. In MAP-21, Congress set 7 national goals and charged the USDOT to use those goals to establish performance measures. The national goals are: 1) safety, 2) infrastructure

condition, 3) congestion reduction, 4) system reliability, 5) freight mobility and economic vitality, 6) environmental sustainability and 7) reduced project delivery delays. State DOTs and transit agencies responsible for the relevant performance measures and goals have to set performance targets and develop performance plans for those targets. The new rules require reporting performance on the following areas: Safety; Pavement and Bridge; System Performance/Congestion; Freight, and Congestion Mitigation and Air Quality (CMAQ).

RTC, as MPO for the region, has a role in the process. Once the DOT and transit agency establish performance targets, then the MPO needs to review the targets, certify them and also track projects over time to make sure projects are consistent with Plans and help to make progress toward the targets.

23 USC 150 describes performance management as providing a means to the most efficient investment of federal transportation funds by focusing on national transportation goals and improving project decision making through performance-based planning and programming. Metropolitan Planning Organizations (MPOs) are required to reference the performance targets and performance based plans in their TIPs and Metropolitan Transportation Plans.

Figure 6-1: Federal Performance Management Framework



The RTC Board has taken action to review and adopt performance measure targets as outlined below:

Transit Asset Management Performance Measures and Target Setting

Transit Asset Management (TAM) uses transit asset condition to guide how to manage capital assets and prioritize funding to improve or maintain a state of good repair. C-TRAN is required to develop a Transit Asset Management Plan, and report annually on progress towards helping to meet these targets. In September 2018, C-TRAN adopted a four-year Transit Asset Management Plan, which included the following targets:

Table 6-1: C-TRAN, Transit State of Good Repair (SGR) Performance Targets

Category	Target
Rolling Stock	80% of Each Vehicle Class within Useful Life Benchmark (ULB)
Facilities	70% of Each Facility Class greater than 2.5 on Transit Economic Requirements Model (TERM) Scale
Equipment	70% of Each Equipment Class at or below the ULB

Source: C-TRAN, September 2018

Table 6-1 above refers to Useful Life Benchmarks (ULB). The ULB is defined as the expected life-cycle of an asset for a particular transit provider's operating environment or the timeframe when an asset is likely to deteriorate beyond the efficient cost to maintain. Table 6-1a below shows C-TRAN's ULB compared with the Federal Transit Administration's nationwide ULB.

Table 6-1a: Useful Life Benchmarks

ULB: Comparison of Replacement Schedules (in years)

	Vehicle Types		
	Cutaway	**Van/Car**	**Bus**
C-TRAN ULB	10	7	14
FTA ULB	7	5	12

Source: C-TRAN, September 2018

C-TRAN conducts an investment prioritization analysis on an annual basis as part of ongoing TAM activities to maintain a State of Good Repair (SGR) for each asset. The TAM Plan determines the required capital investment in what order and magnitude (amount) to maintain service levels. The Plan also provides ranking of SGR programs to inform the logical repair/refurbish/replace decisions associated with assets or asset classes. Based on this ranking, C-TRAN will program projects in the Transportation Improvement Program.

The RTC Board, adopted initial C-TRAN system Transit Asset Management State of Good Repair targets on June 6, 2017 (Resolution 06-17-09). On October 2, 2018 the RTC Board adopted Resolution 10-18-23 concurring with Transit Asset Management SGR targets adopted by the C-TRAN Board as part of C-TRAN's Transit Asset Management Plan (C-TRAN Board action, September 11, 2018).

Safety Performance Measures and Target Setting

The stated goal for Safety is to achieve a significant reduction in traffic fatalities and serious injuries on all public roads. Pursuant to these national goals, State Departments of Transportation (DOTs) are required by the federal Highway Safety Improvement Program regulations under 23 CFR 924 to set five performance targets. These five performance targets use five year rolling averages for number of fatalities, rate of fatalities per 100 million VMT, number of serious injuries, rate of serious injuries per 100 million VMT, and number of non-motorized fatalities and non-motorized serious injuries. These targets are required for all public roads regardless of ownership or functional class.

MPOs are also required to establish the same five target areas with the state Department of Transportation for all public roads within 180 days of submittal of the state established targets. In January 2018, RTC agreed to plan and program projects so that they contribute to the WSDOT safety targets as reported to the Federal Highway Administration as part of WSDOT's Highway Safety Improvement Program annual submittal (RTC Resolution 01-18-02). Summarized in the table below are the 2018 safety targets for Washington State. RTC will report annually to WSDOT on progress towards helping to meet these targets. Within RTC's regional grant evaluation process, additional points are given to projects that address safety deficiencies through effective countermeasures or enhance safety through proven strategies.

Table 6-2: PM1, 2018 Safety Performance Targets, Washington State

Fatalities	Fatality Rate	Serious Injuries	Serious Injury Rate	Non-Motorist Fatalities and Serious Injuries
All public roads				
415.5	0.709	1,788	3.058	431.5

Source: WSDOT,

Pavement and Bridge Condition, Transportation System Performance, Freight and Air Quality Performance Measures and Target Setting

On October 2, 2018, the RTC Board adopted Resolution 10-18-23 relating to performance measure targets. The Board's decision was to support WSDOT in attaining the pavement and bridge condition (PM2) and transportation system performance, freight and air quality (PM3) targets set by Washington state in May 2018, rather than adopt separate regional targets. Targets established by Washington State are documented below in Tables 6-3 through 6-6.

Table 6-3: PM2, Washington State Pavement Condition Targets

Performance Measures	State Current Data (Baseline)	2-yr. Target	4-yr. Target
Pavement Condition: NHS System, lane miles			
% of Interstate pavement in good condition	32.5%	N/A	30%
% of Interstate pavement in poor condition	3.6%	N/A	4%
% of Non-Interstate pavement in good condition	18%	45%*	18%**
% of Non-Interstate pavement in poor condition	5%	21%*	5%**

** IRI only*
*** IRI, cracking, rutting and faulting*

Bridge Condition, Measures and Target Setting

Table 6-4: PM2, Washington State Bridge Condition Targets

Performance Measures	State Current Data (Baseline)	2-yr. Target	4-yr. Target
Pavement Condition: NHS System, lane miles			
% of NHS bridges in good condition	32.8%	30%	30%
% of NHS bridges in poor condition	7.8%	10%	10%

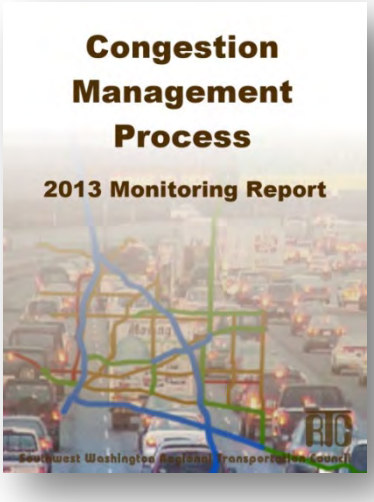
Table 6-5: PM3, System Performance and Freight, Highway System Performance Targets

Performance Measures	State Current Data (Baseline)	2-yr. Target	4-yr. Target
Highway System Performance (congestion)			
% of person miles traveled on the interstate system that are reliable	73%	70%	68%
% of person miles traveled on the non-interstate NHS system that are reliable	77%	N/A	61%

Table 6-6: PM3, System Performance and Freight: Freight Movement Targets

Performance Measures	State Current Data (Baseline)	2-yr. Target	4-yr. Target
National Freight Movement Program on the Interstate System			
Truck Travel Time Reliability (TTTR)	1.63	1.70	1.75

RTC will continue to coordinate with WSDOT and other MPOs in the state to monitor performance measures and targets over time. WSDOT provides information on the performance management on its web page.



Congestion Management Process

The federal Intermodal Surface Transportation Efficiency Act (ISTEA), passed in 1991, required the development of a Congestion Management System (CMS) to be used as a tool for monitoring traffic congestion and for identifying improvement strategies to alleviate the congestion. The *Southwest Washington ISTEA Transportation Management Systems, Phase II Final Report* (May 1995), which contains the CMS, was adopted by the RTC Board on May 2, 1995 (RTC Board Resolution 05-95-14). The CMS network is a sub-set of the regional transportation highway network. The CMS network is now comprised of 30 transportation corridors to be monitored and evaluated on an ongoing basis as part of the Congestion Management

Process required by the federal transportation act, SAFETEA-LU (2005) and which is still an integral part of the metropolitan transportation planning process under the FAST Act.

The Congestion Management Process includes:

- Identification of congestion management network,
- Monitoring and analysis of system performance to identify needs, and
- Implementation of identified needs.

In July 2018, the RTC Board adopted the 2017 Congestion Management Report. RTC's annual CMP reports, dating back to 2000, highlight data collection and transportation corridor analysis efforts over the years. The Congestion Management Process focuses on delivering improved transportation system performance information to decision-makers who must identify the most cost-effective strategies for addressing transportation congestion and improving mobility. Prior to 2000, transportation system performance reported in the Congestion Monitoring Report focused on a single corridor congestion index for each of the congestion management corridors. Over time, the report has been expanded to include travel time, speed, vehicle occupancy, transit ridership, bus capacity, intersection delay, areas of concern, and other transportation system related information.

Regional Travel Forecasting Model

RTC uses a regional travel forecast model to forecast future transportation needs. Performance measures, in terms of speed, vehicle miles traveled, lane miles of congestion and vehicle hours of delay are calculated within the model.

Travel Behavior and Household Activity Survey

Results from travel behavior and household activity surveys provide valuable information that can be used to refine and update the regional travel forecast model. In the Portland-Vancouver region, surveys were fielded in 1977, 1985, 1994 and a phased survey in year 2009 to 2011. The Clark County household travel survey was fielded between August and November 2009 and the Portland, Oregon part of the region was surveyed beginning in 2010 and continuing in 2011. RTC is currently working with Clark County jurisdictions and Oregon planning partners to address the possibility of fielding another household survey in 2020 and the format for the survey. Travel behavior and household activity surveys conducted in other regions can also provide useful information. The American Community Survey (U.S. Census Bureau) now provides annual update to questions on journey to work including travel time and transportation mode used.

GMA and Concurrency Management

Monitoring of the regional transportation system's performance is an ongoing activity for RTC and local jurisdictions. The GMA-required Concurrency Management System requires monitoring of transportation system performance to measure its performance against established Level of Service standards. Requests for future development have to be considered in light of the established Levels of Service for transportation facilities.

Commute Trip Reduction Law: Implementation

Monitoring of the success of the Commute Trip Reduction (CTR) program is carried out to ensure that the 10% trip reduction goal is being met or being actively worked toward. CTR-affected worksite surveys are conducted periodically with data analysis carried out by WSDOT. Within the Clark County region, Urban Growth Areas that must have CTR plans under the 2006 CTR Efficiency Act (RCW 70.94.527) are Vancouver, Camas and Washougal as well as the unincorporated Clark County portion of the Vancouver UGA.

The public participation process is directed toward ensuring that the public's values and interests are reflected in regional transportation decisions.

Air Quality Monitoring

Air quality has a direct relationship to the transportation system and its performance because mobile source emissions are a significant source of air pollution. This region is designated as "attainment" status for both ozone and carbon monoxide (see Appendix C for more details). Although it is not mandatory, RTC will continue to coordinate and cooperate with air quality consultation agencies (Washington State Department of Ecology, EPA, FHWA, FTA, WSDOT, and SWCAA) when needed on any new regulatory and technical requirements that may affect the AQMA as well as emerging issues related to air quality and transportation.

Plan Development and Implementation

Public participation is an important part of the regional transportation decision-making process carried out by RTC.

Public Participation in Regional Transportation Planning Process

RTC's Public Participation Process outlines a broad range of opportunities for the public and stakeholders to participate in the region's transportation planning process. In the Plan, RTC continues its commitment to publish, or make available for public view, transportation plans and Transportation Improvement Programs (TIPs), and to hold meetings at convenient and accessible times and locations. RTC also commits to use maps, charts, graphics and website information in order to help explain the metropolitan transportation planning process and to make metropolitan transportation planning information available to the public.

Mobile source emissions are a significant source of air pollution

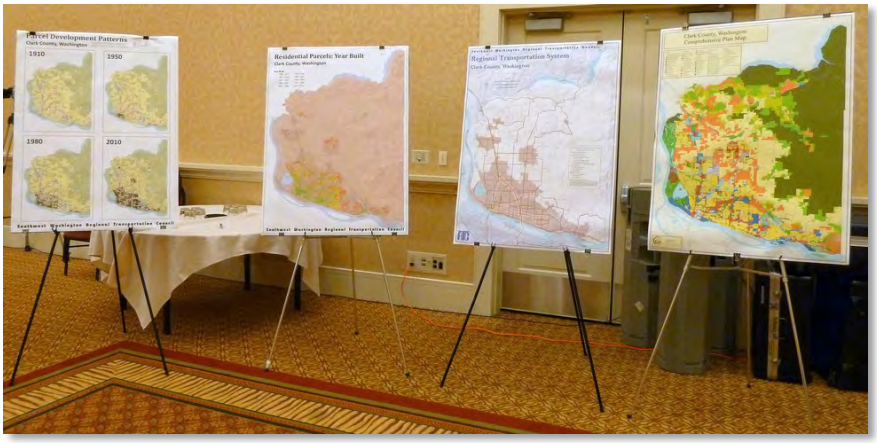
The latest update to RTC's Public Participation Plan was adopted by the RTC Board in 2016 (RTC Board Resolution 01-16-28). The current Plan meets federal requirements for metropolitan transportation planning. The Plan was adopted following release of a draft Plan for public comment. The draft Plan was then circulated to interested parties. Notice of its release for public comment was published in selected local newspapers, including The Columbian, The Reflector (Battle Ground), the Camas-Washougal Post-Record, the El Hispanic News and The Skanner. The draft Plan was made available at branches of the Fort Vancouver Regional Library system and at Camas library. Notice of the Plan's draft release was also circulated to people on RTC's mailing list and to City and County neighborhood associations through the neighborhood online news and neighborhood liaisons. The draft Plan was also posted on RTC's website.

The Regional Transportation Plan and Transportation Improvement Program updates are considered at regular meetings of the RTC Board of Directors. All RTC Board meetings and technical committee meetings are open to the public. Meeting notices for the RTC Board of Directors are published in the local newspapers. At each month's meeting of the RTC Board, there is time set aside for public comment on regional transportation planning issues including RTP and Transportation Improvement Program (TIP) development.

Public Participation in updating the 2018 Regional Transportation Plan

Public involvement efforts build from those carried out at the local level in development of local plans and programming of transportation projects. Since the last RTP update in December 2014 public meetings have been held regarding regional transportation issues. These public meetings, hosted by RTC member agencies and jurisdictions, include regularly scheduled C-TRAN Board meetings,

Public involvement efforts build from those carried out at the local level.



meetings hosted by C-TRAN regarding changes to transit service and fares and long range planning, Clark County Commission on Aging meetings, Fourth Plain Transit Improvement Project open houses on significant regional transportation projects and Washington State Transportation Commission outreach events focused on update to the Washington Transportation Plan. RTC is sometimes asked to participate on the annual Columbian newspaper's Economic Forecast panel. full listing of public outreach efforts related to the regional transportation planning program is included in the Unified Planning Work Program's Annual Report published by RTC in late summer/early fall of each year.

Throughout the RTP update process, which began in early 2017, the public has been encouraged to participate. RTP information and RTC Board materials on the RTP update were made available on RTC's website both in RTC Board agenda packets and on the RTP update web page. The public has been able to provide RTP comments via the RTC website, e-mail, phone or mail.

RTC sent notices of the RTP's development and public outreach opportunities to Clark County and Vancouver neighborhood coordinators and keeps small cities informed through the respective Regional Transportation Advisory Committee representatives. RTC staff has also been providing outreach to community groups with presentations and/or RTP materials provided to groups such as Vancouver's Neighborhood Transportation Safety Alliance, the League of Women Voters, Southwest Washington Healthy Living Collaborative, Clark Communities Bicycle and Pedestrian Advisory Committee, the Columbia River Economic Development Council and Accessible Transportation Coalition Initiative.

In 2018, RTC and the Washington State Transportation Commission co-hosted a September 10 Open House on transportation issues at the Downtown Vancouver Public Library joined by planning partners including WSDOT, C-TRAN, Clark County, City of Vancouver, City of Battle Ground and the Human Services Council.

The draft RTP update will be released for public comment following the December 4, 2018 RTC Board meeting to allow at least a thirty day comment period prior to the March 5, 2019 RTC Board meeting when the RTP update is scheduled for adoption. During this period, an information and public opinion survey will be fielded through use of the MetroQuest software tool and RTC staff will report on public comments, to date, at the February 5, 2019 RTC Board meeting.

RTC has received a number of public comments on the RTP and component projects during the development phase of the RTP. Comments from the public will continue to be received until close of the public comment period. Public comments will be addressed in Appendix M at the conclusion of the comment period.

As the metropolitan transportation planning process moves forward to RTP implementation, transportation issues, studies, plans and programs are outlined and reported on at RTC's web site. The adopted RTP will be available for reference on the web site. Also, as the next RTP update is developed, draft update elements of the Plan are posted to the web site and public comments are invited. The public continues to be given opportunity to make formal comments on both the TIP and

Public involvement efforts build from those carried out at the local level.

the RTP at monthly RTC Board meetings which are advertised in the local media and which are open to the public. Board meeting agenda and minutes are posted to RTC's web site. Updates and amendments to the RTP are presented to the RTC Board for consideration and adoption.

Regional Transportation Planning Program: Implementation of Required Planning Factors

Under the provisions of the Federal Transportation Act, currently the FAST Act, Metropolitan Planning Organizations (MPOs) are required to consider planning factors in the development of transportation plans and programs.

RTC's Implementation of Federally-Required Planning Factors, Status Report

RTC's implementation of the federal planning factors are outlined below:

Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity and efficiency

Competitiveness, Productivity, Efficiency

- Regional Transportation Plan (RTP) Project Priorities: economic development is a primary policy criterion for prioritizing RTP transportation projects. Project and transportation strategy priorities are reevaluated regularly.
- Interstate Travel: RTC tracks interstate travel in its Congestion Management Process. The 2015 CMP Report focused on the I-5 corridor and the 2016 report focused on the I-205 corridor. RTC is currently launching a Urban Freeway Corridors Operations Study to look at operational improvements that could be made.
- Access to Ports/Industry: The Mill Plain Extension which enhanced access to West Vancouver industrial lands and to the Port of Vancouver was completed in 2000. Fruit Valley Road was also improved in the early 2000's. The Port of Vancouver has implemented the West Vancouver Freight Access Project as part of the Port of Vancouver's Economic Development & Conservation Plan to support the Port's development and opening up of the Port's Gateway area. There are two Connecting Washington projects to improve the I-5/Mill Plain vicinity and improve SR-501 from I-5 to the Port of Vancouver. The Port of Vancouver is now working with the City of Vancouver and other transportation partners to explore the feasibility of a 32nd Avenue Extension. Access to Port of Ridgefield's lands was enhanced with completion of the I-5/Ridgefield/Pioneer Street interchange in 2011 and the Pioneer Street

Rail Overpass is set to improve access to its property west of the BNSF mainline railroad tracks. The SR-14/Grand interchange project (completed 1996) provided improved access to Columbia Shores Business Park. SR-14 projects in the Camas area have improved access to the Port of Camas/Washougal and further improvements to SR-14 are planned.

- Airports: Clark County is served by Portland International Airport. In the late 1980's, efforts to locate a new airport resulted in Pioneer II site selection but public criticism halted any project development. Clark County Airports Advisory Task Force convened in 1997 to further address the need for airfields in Clark County. The small, general aviation airfields in the County are being encroached upon by urban development. Evergreen Airport (off Mill Plain) closed in the mid-2000s to make way for commercial development. Facility and business planning for Grove Field (Port of Camas/Washougal) and Pearson Field (City of Vancouver) could address future recreational and commercial needs and activity.

- Intermodal transportation facilities: there are freight intermodal facilities, transit centers, and park & rides in the Clark County region.

- Freight distribution: The Clark County Freight Mobility Study (RTC, December 2010) documented the status of freight movement in Clark County and made recommendations for future freight planning. The Congestion Management Process monitors truck percentages on regionally significant corridors in Clark County. The Regional Freight Committee (Portland-Vancouver region) meets, as needed, to address freight issues including assessing regional freight data collection and study. The Port of Portland includes significant regional freight studies on its website. These include the "Portland and Vancouver International and Domestic Trade Capacity Analysis" (Port of Portland et al) and the Regional Commodity Movement Forecast.

- Rail: BNSF lines run through Clark County (north to Seattle, south to Portland, and east to Spokane) to serve increasing rail freight movement. RTC worked with BNSF on Amtrak rail station planning and on a Commuter Rail Feasibility Study (May 1999). The Vancouver Rail Project, to improve rail through the Vancouver Yard and to cross the Yard by highway bridge at 39th Street, was funded by the 2002 Washington Legislature's "Nickel Package". The 39th Street Bridge was completed in 2010 and Vancouver rail yard by-pass was completed in 2016.

- River use: Ships and barges provide transport on the Columbia -Snake river system. Barges are used to transport grains and oil as well as Clark County's garbage to a landfill in eastern Oregon.

- Pedestrian and Bicycle: The Clark County Bicycle and Pedestrian Master Plan was approved by the Board of County Commissioners in **November 2010**. Clark County has a Regional Trail and Bikeway System Plan (1992,

updated 2006). The Intertwine works on bi-state planning for regional trails. Intertwine publishes the Portland-Vancouver Bi-State Regional Trails System Plan. RTC hosted four Walkable Community Workshops in 2004 emphasizing the contribution a quality pedestrian and bicycle environment can make to the area's economy, quality of life and health. Safe Routes to School projects are also moving forward. Recognizing that the transportation system and built environment can contribute to the physical health of a community, RTC participates in the statewide Active Community Environments program and works closely with Clark County Public Health and the Southwest Washington Healthy Living Collaborative to encourage development of a healthy community through programs such as Complete Streets.

- RTC coordinates closely with Columbia River Economic Development Council (CREDC) to help support economic vitality and regional competitiveness.

Increase the safety of the transportation system for motorized and non-motorized users

- Safety is called out as a priority issue in the RTP. Washington State publishes and updates the "Strategic Highway Safety Plan: Target Zero" (SHSP; updated 2016) and RTC periodically updates a regional Safety Assessment for Clark County and reports to the RTC Board on updated safety data. Assessment of highway system safety needs is carried out by WSDOT for interstate and state facilities and by local jurisdictions for local arterials. RTC uses the information to help determine funding priorities as part of project programming. Washington State Department of Transportation (WSDOT) uses safety as a significant factor in benefit/cost analysis to determine funding priorities. Most recently, the RTC Board considered regional and state collision data on all public roads and decided to support WSDOT in trying to attain performance measure targets for PM1 safety transportation measures; number of fatalities, fatality rate, number of serious injuries and serious injury rate and non-motorist fatalities and serious injuries (RTC Board Resolution 01-18-02, Jan. 2, 2018). RTC will continue to coordinate with WSDOT on updates to safety performance measure targets required under federal law.

Increase the security of the transportation system

- RTC developed a Technical Paper on "Transportation Security in the Vancouver/Clark County Region" (see RTP Appendix F).
- C-TRAN devotes a portion of its budget to transit security measures including surveillance cameras on buses and contract security personnel. C-TRAN addresses how the agency supports the safety and security of its riders on its website.

Increase the accessibility and mobility of people and freight;

- Vehicle Miles Traveled, Vehicle Hours of Delay and other performance measures including access to jobs and transit are analyzed with each update to the RTP (see RTP Chapter 3 for more details).
- The Transportation Improvement Program (TIP) contains a listing of all regionally significant transportation projects to be undertaken in local jurisdictions in the shorter term.

Congestion Management

- Congestion is addressed in the adopted Congestion Management Process (CMP) with annual Congestion Management Monitoring reports for the Clark County region. Monitoring of system performance and CMP strategies are incorporated into the RTP. Evaluation of CMP corridors is conducted annually using updated traffic counts and analysis of transportation system use.

Intelligent Transportation System (ITS) and Transportation System Management and Operations (TSMO)

- Vancouver Area Smart Trek (VAST) deployment plan. Implementation of ITS solutions, Transportation System Management and Operations (TSMO) and Advanced Traveler Information System (ATIS) strategies to effect better management and more efficient use of the existing transportation system.

Transit Service

- C-TRAN publishes an annual *Transit Development Plan;* an outline for the transit system within the next six years which is made available on C-TRAN's website.
- C-TRAN adopted a 20-Year Transit Development Plan consistent with its 50-Year Vision (2006). The 20-Year Transit Development Plan is known as C-TRAN 2030 (C-TRAN June 2010, updated Dec. 2016).
- RTC coordinates with C-TRAN on ridership surveys, travel forecasting and implementation of Intelligent Transportation System and innovative transit solutions, such as Bus on Shoulder, to improve transit efficiencies.

Transportation Alternatives

- Prioritization of federal Transportation Alternatives (TA) projects is a collaborative process by Regional Transportation Advisory Committee (RTAC) representatives and citizens.
- TA projects are incorporated into the RTP and TIP.

- For bike and pedestrian projects, guidance for system development is provided by the Clark County Bicycle and Pedestrian Plan (**2010), the** Clark County Regional Trail and Bikeway System Plan (1992, updated 2006) and by the transportation elements of local Comprehensive Growth Management plans.
- The cities of Vancouver and Battle Ground and Clark County have now adopted Complete Streets ordinances making the jurisdictions eligible for TIB Complete Streets funding. Walkable Community Workshops were hosted by RTC in 2004.

Movement of Freight

- The Clark County Freight Mobility Study was completed in 2010.
- WSDOT Freight and Goods Transportation System (FGTS).
- Port access improvements are highlighted in the Competitiveness, Productivity, Efficiency section above.
- Chelatchie Prairie Railroad. The line is owned by Clark County government and operated by the Portland Vancouver Junction Railroad Company, a private operator.

Protect and enhance the environment, promote energy conservation, and improve quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns

Environment

- RTC developed a Technical Paper on "Consideration of the Environment and Environmental Mitigation in the metropolitan transportation planning process" (see Appendix G).
- The natural, built and human environments are considered at the earliest opportunity in the transportation planning process. RTC relies on the inventory of resource lands and critical areas carried out by Clark County as part of the Comprehensive Plan. RTC addresses air quality planning though the region is now in attainment for ozone and CO.

Energy Conservation

- Commute Trip Reduction program.
- Analysis of Vehicle Miles Traveled.
- Jobs/housing balance.
- Planning and construction of facilities for non-motorized modes.

Quality of Life (Land Use and Transportation Linkage)

- The 50-year Community Framework Plan for Clark County (March 1993) and the 20-year Comprehensive Growth Management Plan for Clark County (June 2016) specifically link policies and planning for land use and transportation.
- The RTP and Comprehensive plans are consistent.

Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight

- Hierarchical functional classification system for Clark County roads. Clark County maintains an "Arterial Road Atlas" that shows desired classifications and design standards for arterials within the County.
- SR-14 to east: RTC's planning area includes Skamania and Klickitat counties to the east.
- I-5 to north: information and formal coordination with Southwest Washington RTPO to north.
- I-5 south: includes coordination with Metro, ODOT, TriMet and Oregon local jurisdictions on bi-state issues.

Promote efficient system management and operation

- RTC's Congestion Management Process with annual reports including Annual Congestion Management Monitoring report process.
- RTC's Transportation System Management and Operations (TSMO) and Vancouver Area Smart Trek (VAST) includes intelligent transportation system implementation, fiber network for communications, signal timing and signal coordination projects, ramp metering, coordination with Oregon on a Regional Advanced Traveler Information System.
- RTC is working with planning partners to conduct an O/D study and Urban Freeway Corridors Operations Study in 2019.

Emphasize the preservation of the existing transportation system

- Preservation receives high priority in policies and programming of projects through the Washington Transportation Plan (WTP), WSDOT Highway Systems Plan, local Comprehensive Growth Management Plans, and the Regional Transportation Plan (RTP).
- As road improvements occur, sidewalks and bike lanes are added.

- Costs to maintain pavement and bridges is addressed in the RTP's financial plan chapter.

Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation

- The region needs to prepare for transportation system resiliency and reliability when faced with extreme weather events and plan for reducing or mitigating stormwater impacts these events may have on surface transportation. There is concern that disruptive weather events may occur with increasing frequency as climate and weather patterns change. In addition to flooding, the region could also face transportation system impacts caused by earthquakes. RTC works with local, state and federal planning partners to prepare for potential effects that climate change, extreme weather events, and natural disasters will have on transportation infrastructure and the best ways to increase system resiliency. State planning partners have highlighted the need for such planning and preparations in the draft WTP 2040 and Beyond.

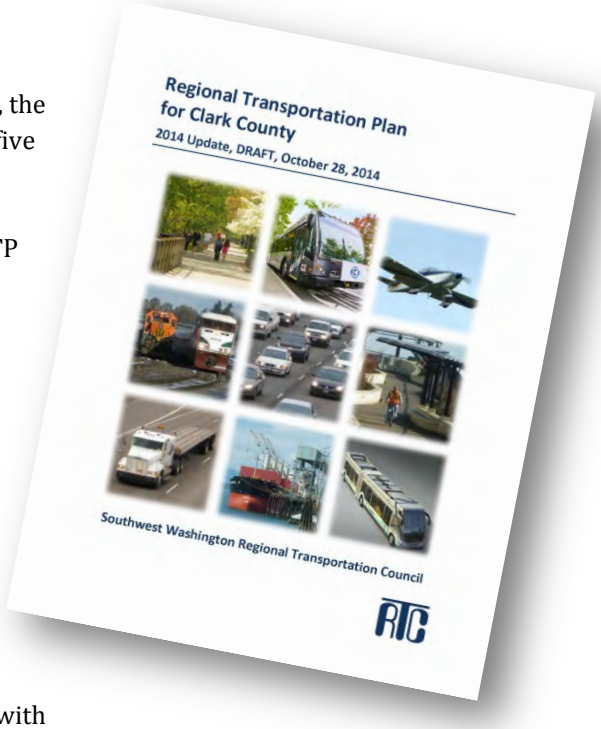
Enhance travel and tourism

- The Fort Vancouver National Historic Site, Officers' Row and Pearson Airfield are prime tourist sites near downtown Vancouver. Clark County is also the gateway to the Columbia River Gorge via SR-14. SR-503 provides access to the Mount St Helens National Scenic Area. Transportation investments have enabled access to the new Vancouver Waterfront development. RTC coordinates with Visit Vancouver USA.

RTP Implementation

Implementation of regional transportation goals, policies and actions established by the RTP are carried forward through the regional metropolitan transportation planning process through annual review of the Congestion Management Process, through MAP-21's required performance monitoring and reports and with development of the regional Transportation Improvement Program (TIP). It is in the TIP that transportation needs identified in the RTP can be programmed for receipt of federal funding.

RTP Update Process



Under the federal transportation act, the RTP must be updated at least every five years in air quality attainment areas such as the Vancouver region. In air quality non-attainment areas, the RTP must be updated every four years. The state's Growth Management Act requires that the RTP be reviewed for currency every two years. The RTP must be developed to comply with all applicable federal and state laws. The Plan is required to have at least a twenty-year horizon. There are requirements related to consultation; discussion of potential environmental mitigation activities developed in consultation with Federal, State and Tribal wildlife, land management and regulatory agencies.

Should changing policies, financial conditions or growth patterns warrant, then Plan amendments can take place subject to meeting the public participation requirements and fiscal constraint being met. A summary of Clark County Regional Transportation Plan adoption, update and amendment actions is provided in RTP Appendix J.

The RTP is updated in 2018/2019 to meet federal requirements and to maintain consistency between federal, state, regional and local plans. Future results and recommendations from transportation studies currently underway will be incorporated into future RTP updates or amendments.

Emerging Issues to Track

When considering emerging system performance monitoring, plan development and implementation issues, the following issues and trends should be tracked:

- Full implementation of FAST Act including performance-based planning and transportation system investment.
- Continue to work with planning partners in local jurisdictions, U.S. and state Departments of Transportation, and transit agencies as plans for future transportation system developments are developed.

- Continue to monitor system performance through RTC's Congestion Management Process (CMP).
- Continue to develop and analyze Regional Travel Forecasting Model to support the identifying of transportation system needs.
- Whenever possible, update the RTP in synch with Clark County's Comprehensive Growth Management Plan update.

Appendix A: RTP Statutory Requirements

Introduction

Federal legislation (23 USC 134(d) and 49 USC 5303) requires the designation of a Metropolitan Planning Organization (MPO) for each urbanized area with a population of more than 50,000. Southwest Washington Regional Transportation Council is the designated Metropolitan Planning Organization for the Clark County portion of the Portland-Vancouver metropolitan area. As such, RTC has certain statutory requirements; both federal and state.

Federal

The metropolitan transportation planning process must meet, or substantially meet, the requirements of 23 U.S. Code §134.

All Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) projects in the MPO urbanized area funded under Title 23, U.S.C. (Highways) or Chapter 53 of Title 49 U.S.C. (Transportation) must be selected from the Statewide Transportation Improvement Program (STIP) produced by the Washington Department of Transportation (WSDOT). In order for projects located within the metropolitan area to be included in the STIP, they must be consistent with the MPO's Regional Transportation Plan (RTP) and be included in the MPO's Transportation Improvement Program (TIP). The majority of projects within the metropolitan area are selected by the MPO in consultation with the State and transit operator. In all cases, FHWA and FTA must jointly certify that the transportation planning process in a TMA meets or substantially meets Federal planning regulations before recognizing the RTP and TIP.

State

Regional Transportation Planning Organizations (RTPOs) were authorized as part of the 1990 Growth Management Act to ensure local and regional coordination of transportation plans. Southwest Washington Regional Transportation Council is the RTPO for the Clark, Skamania and Klickitat county region of southwest Washington. In 1994 further state legislation clarified the duties of the RTPO outlined in the GMA and further defined RTPO planning standards.

The Regional Transportation Planning Program created a formal mechanism for local governments and the state to coordinate transportation planning for regional

transportation facilities. RTPO planning must involve cities, counties, WSDOT, transit agencies, ports, and private employers. RTPOs are required to:

- Prepare a Regional Transportation Plan
- Certify that countywide planning policies and the transportation element of local comprehensive plans are consistent with the Regional Transportation Plan
- Develop and maintain a six-year Regional Transportation Improvement Program.

Appendix B: RTP Solutions, Projects, Strategies and Programs

Transportation System Solutions Assumed in RTP Network

Assignment of forecast future year trips onto the RTP transportation network in the regional travel forecasting model process shows where there are likely to be transportation system deficiencies over the longer term. Locations where future traffic volumes exceed RTP system capacity require analysis and identification of remedial projects or strategies to help solve these forecast deficiencies. Along with technical analysis, the projects can only be identified in the RTP if they also meet the test of "fiscal constraint"; there must be a reasonable expectation that revenues will be available to complete the identified project or strategy.

Between now and 2040, Clark County jurisdictions have planned for transportation solutions in locations with existing or forecast future capacity problems. The RTP transportation system is the existing transportation network with project solutions on those links where projects are programmed in the Transportation Improvement Program. In addition, transportation projects are included where regional need has been identified in the RTP development process and for which there is strong regional commitment. Projects included in the RTP transportation system may eventually be programmed using funding from federal, state, Transportation Improvement Account (TIA), local sources and/or private sources.

Potential transportation solutions which have been included in the 2040 RTP transportation network for Clark County are listed in Tables B-1 through B-6. These projects are identified through state, regional and local needs analysis working in coordination with RTC to use transportation data and regional travel forecast model output to determine transportation demand and solutions. Projects programmed for funding in the Transportation Improvement Program (TIP) for Clark County should be identified in the RTP before they can be programmed for funding in the TIP.

RTP Capital Project Solutions

Projects Completed Since the last RTP Update

Projects listed in tables B-1 and B-2 are projects that have been completed since the last major RTP update in December 2014. Projects on the Designated Regional Transportation System completed since 2014 amount to over $330 million (see Table B-1) and those on the local system amount to over $35 million (see Table B-2).

Projects Identified in the 2018/19 RTP Update

Projects listed in Tables B-3 through B-6 are transportation capital solutions identified through the regional and local transportation planning process as needed to support this region's development through 2040. These projects are assumed in RTC's Regional Travel Forecasting Model.

For regional and local projects listed in tables B-3 through B-6, the test for fiscal constraint has been proven through RTC's regional transportation planning process and the comprehensive Growth Management planning process required of local jurisdictions in Washington State.

Projects on the RTP's Designated Regional Transportation System are listed in Tables B-3 and B-5. Table B-3 lists projects that are funded but not yet constructed and amount to $288 million. Table B-5 lists RTP Designated System regional transportation projects needed through 2040. The projects amount to $1.8 billion in regional transportation needs within Clark County with an additional amount needed for the I-5 corridor, Victory Boulevard in Oregon to SR-500 in Washington, project. Tables B-3 and B-5 together amount to close to $2.1 billion needed in regional transportation infrastructure investment over the next 20-plus years.

Local projects, Tables B-4 and B-6, are identified through the Growth Management planning process conducted by local jurisdictions. Local projects are included in local Capital Facilities Plans and/or local Transportation Improvement Programs and are included in RTC's Regional Travel Forecasting Model. Table B-4 lists local projects that are funded but not yet constructed and amount to $62 million in infrastructure investment. Table B-6 lists local projects identified as needed through 2040. They amount to just over $1 billion in transportation infrastructure needs. Tables B-4 and B-6 together amount to $1.1 billion needed for local transportation infrastructure investment over the next 20-plus years.

Table B-1: Completed Projects Since 2011, RTP Designated

Facility	Cross Streets	Project Description	Pre-Project Condition	Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
I-5	Cowlitz Way/La Center Road	Interchange improvements	Rural interchange	2017	Cowlitz Tribe	$32,000,000
I-205	I-205/Mill Plain Interchange to NE 18th St - Build Interchange - Stage 2	18th St. Ramps/Frontage Road between Mill Plain and 18th Streets	No interchange at 18th/28th	2018	WSDOT	$30,712,000
SR-502	NE 10th Avenue to Battle Ground	2 lanes each direction	1 lane each direction	2018	WSDOT	$82,547,000
Bus Stop Replacement	System Wide	Replace and upgrade signage	Follow replacement schedule, add vehicles as needed to provide service	2016	C-TRAN	$771,000
Fisher's Landing Transit Center Expansion	164th Avenue & SR-14	Expansion of park & ride facility on property already owned by C-TRAN	Existing park and ride approaching capacity	2017	C-TRAN	$7,500,000
Bus Rapid Transit Improvements	Fourth Plain	Develop and construct BRT project	Regular fixed route transit	2017	C-TRAN	$53,000,000
119th Street	72nd Avenue to 87th Av.	2 lanes ea. Direction	1 lane each direction	2017	Clark County	$23,877,000
119th Street	50th Av. to 72nd Avenue	1 lane ea. direction, w/turn lane	1 lane each direction	2017	Clark County	$10,000,000
18th Street	Four Seasons Ln to 138th Avenue	2 lanes ea. Direction, w/median/turn lane	1 lane each direction	2018	Vancouver	$14,500,000
SE 20th Street	192nd Ave. to Camas City Limits	New urban minor arterial roadway	No Street	2015	Vancouver	$1,750,000
Main Street	6th Street to 45th Street	Fiber optic	None	2017	Vancouver	$1,200,000
St. James/42nd Avenue	Intersection	Signal Upgrade	Substandard	2018	Vancouver	$400,000
162nd Avenue	Poplar to Fourth Plain	Fiber optic	None	2017	Vancouver	$230,000
Fourth Plain Blvd	Caples and Wintler	ADA curb ramps, APS, sidewalk repairs	Substandard	2018	Vancouver	$268,000
Fourth Plain/Norris	Intersection	Signal Upgrade	Substandard	2018	Vancouver	$450,000
Evergreen @ 32nd Street	Intersection Influence Area	Intersection reconstruct including radius and turn lanes		2016	Washougal	$1,728,000
SR-502 and W 12th Avenue	Reconfigure roadway system and signal removal	1 lane ea. direction, w bicycle and pedestrian facilities	Signalized intersection	2018	Battle Ground	$220,000

Facility	Cross Streets	Project Description	Pre-Project Condition	Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
SR-503 and NW 5th Way		Add right-in/right-out intersection	None	2018	Battle Ground	$250,000
W Main Street	SR-503 to W 8th Avenue	Close midblock westbound left turn lane and reconstruct median for extended left turn lanes at SR-503 and W 8th Avenue.	2 lanes each direction	2018	Battle Ground	$50,000
W Main Street	W 8th Avenue	Add flashing yellow left turns in the east-west direction.	n/a	2018	Battle Ground	$10,000
Pioneer St (SR-501) at 35th Ave.	N/A	2-lane Roundabout	2-way stop-controlled intersection	2018	Ridgefield	$2,100,000
Hillhurst Road at S. Royle Road	N/A	Signalized Intersection improvement	N/A	2018	Ridgefield	$1,098,000
Pacific Highway	at 4th Street	Construct roundabout	Intersection	2018	La Center	$1,587,000
E 4th Street	Cedar Avenue	Create downtown couplet.	urban road with sidewalks.	2014-2017	La Center	$101,500
Small Cities ATMS	Various	Connect signals to County's ATMS server.	n/a	2018	Battle Ground, Camas, Washougal	$372,000
West Vancouver Freight Access	Southwest Vancouver	Construct new freight rail entrance to the Port from the BNSF Railway mainline, a grade separated entrance to T-5 and improved internal rail storage to accommodate unit trains	Hill track access from BNSF mainline, internal rail system. No service to Columbia Gateway	Phased, 2011-2018, part of a $275 million project	Port of Vancouver	$64,000,000
Total						**$330,721,500**

Note: Table B-1 includes RTP Designated Regional Transportation System projects constructed since the last major RTP update in December 2014.

Table B-2: Completed Projects Since 2014, Local System

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
NE 47th Av	at NE 78th Street	Intersection align and improve	Intersection	2016	Clark County	$2,650,000
NE 94th Avenue	Padden Parkway to NE 99th Street	1 lane ea. direction, w/turn lane	1 lane/none	2017	Clark County	$8,998,000
Carty Road	10th to Hillhurst	Improvements including striping, guardrail, drainage etc	1 lane ea. direction	2016	Clark County	$2,353,000
Columbia Way	Columbia St to Grant St.	2 lanes narrowing to 1 lane each direction	New road extension to serve waterfront development	2016	Vancouver	$5,500,000
82nd Av./ Thurston Way	Van Mall Drive to NE 54th Street	Urban upgrade to standard	Substandard	2016	Vancouver	$1,000,000
54th Street Extension	72nd to 77th Av	Gap completion, urban collector	Unconnected street system	2015	Vancouver	$1,000,000
Vancouver Mall Dr. Extension	Andresen Road to 66th Avenue	1 lane ea. direction, w/turn lane	None	2016	Vancouver	$2,200,000
St. James/42nd Avenue	Intersection	Signal Upgrade	Substandard	2018	Vancouver	$400,000
Vancouver Waterfront Trail		Trail along waterfront	None	2018	Vancouver	$3,000,413
Evergreen and Washington	Intersection	APS, curb ramps	Substandard	2017	Vancouver	$125,000
Evergreen Highway Pathway	100th Ct to Ellsworth	Install pedestrian pathway on one side	None	2015	Vancouver	$1,200,000
NE 147th Ave	Fourth Plain Blvd to NE 59th St	New connector access	No street	2016	Vancouver	$7,000,000
Total						**$35,426,413**

Note: Table B-2 includes local transportation system projects constructed since the last major RTP update in December 2014.

Table B-3: Funded Projects, RTP Designated System

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
I-5/I-205/SR-14/SR-500	Urban Area	Urban corridor bottlenecks study		2018-2020	WSDOT/RTC	$650,000
I-5	179th Street	Interchange improvements	Interchange	2027	WSDOT	$50,000,000
I-5	E Fork Lewis River Bridge	Northbound bridge replacement	Functionally obsolete bridge	2020	WSDOT	$60,873,000
I-205	SR-14 to Padden Parkway	Planning study - interstate, interchanges and related local system		2018-2019	WSDOT	$300,000
SR-14	I-205 to 164th Ave.	Add auxiliary lanes, both directions	2 through lanes, both directions	2022	WSDOT	$25,000,000
SR-14	15th to 32nd, Washougal	Add roundabouts at 15th and 32nd and access options study in 27th vicinity	1 lane each direction with intersections	2021	WSDOT	$7,500,000
SR-500	42nd and 54th Avenue	Planning study	Intersections	2018-2019	WSDOT	$200,000
SR-500	Fourth Plain	Planning study	Intersection	2018-2019	WSDOT	$300,000
I-5/Mill Plain	at Mill Plain	Upgrades to the Mill Plain Interchange to add turn lanes, re-align ramp curves to allow oversize loads, add metered lanes to on-ramps for storage	Interchange	2025-2035	Vancouver (WSDOT)	$97,700,000
SR-501	Port of Vancouver to I-5	Intersection and profile improvements: operational, signal and geometric modifications to increase freight and vehicle capacity, and allow oversize loads	2 to 3 lane roadway with signals too low and geometric deficiencies	2025-2035	Vancouver (WSDOT)	$7,000,000
119th Street	87th Avenue to 112th Avenue	2 lanes ea. direction, w/turn lane	1 lane each direction	2019	Clark County	$14,890,000
Mill Plain Blvd	104th/105th Intersection	Intersection offset removal	offset intersection north/south of Mill Plain	2019	Vancouver	$5,500,000
NE 112th Avenue	Chkalov to 9th Street	Sidewalks on east side	None	2019-2020	Vancouver	$156,000

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
SR-503	SR-502	Add right turn channelization on east, west, and north legs	n/a	2019	Battle Ground	$2,100,000
SR-502	(N)W 15th Avenue	Add a second southbound left turn lane.	n/a	2021	Battle Ground	$850,000
Chelatchie Prairie Rails With Trails Trail	E Main Street to SE Rasmussen Boulevard	Construct new multimodal path with associated drainage.	does not exist	2019	Battle Ground	$921,000
SR-503 Multi-Use Path	NW Onsdorff Boulevard to W Main Street	Construct new multimodal path with associated drainage.	does not exist	2019	Battle Ground	$936,007
Extend Pioneer St (SR-501) to Port	Main Ave to Division St	Railroad Overcrossing, new road	N/A	2019	Ridgefield	$12,257,000
SR-501, Trail Segment 2	Port of Vancouver offices to Gateway Avenue	Extension of separated bike-ped path from the port offices out to the corner of Gateway Ave.	None	2019	Port of Vancouver	$1,058,173
Total						**$288,191,180**

Note: Table B-3 (same as Table 5-3 in chapter 5) includes identified projects on the RTP's designated regional transportation system that are funded but not yet constructed.

Table B-4: Funded Projects, Local System

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
NE 10th Avenue	154th to 164th Street	1 lane ea. direction, w/ turn lane at intersections; bridge	1 lane each direction	2019	Clark County	$23,231,000
Fort Vancouver Way/ McLoughlin	McLoughlin to Plain Blvd	Sidewalks on east side	None	2018-2019	Vancouver	$1,151,000
LED Street Light Retrofit	Intersection	Street Light Upgrades	Substandard	2018-2019	Vancouver	$4,815,000
NW Camas Meadows Dr	Payne to Lake Road	1 lane each direction w/ turn lane, bike and pedestrian	Partially 1 lane each direction, partially none	2019	Camas	$6,563,000
NW Brady Rd	16th to 25th	1 lane ea. direction, w/turn lane, bike and pedestrian improvements	1 lane each direction	2020	Camas	$8,435,000
NW 5th Street	SR-503 to N Parkway Avenue	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2021	Battle Ground	$1,380,000
NW 12th Avenue	NW 1st Street	Add southbound right turn lane.	n/a	2020	Battle Ground	$500,000
SW 1st Way	SW 15th Avenue to SW 12th Avenue	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, landscaping, and bike lanes.	does not exist	2019	Battle Ground	$1,200,000
Main Ave	Depot St to City Limits	Construct new multi-modal bicycle and pedestrian facility from end of existing sidewalk north to Ridgefield National Wildlife Refuge Headquarters, including new bridge over Gee Creek	1-lane each direction	2018	Ridgefield	$3,763,751
Boschma Collector	65th to 85th and S 5th St	New Collector	N/A	2023	Ridgefield	$7,595,000
S. 6th Way	S 45th Avenue to S 51st Ave	New Industrial Collector	N/A	2025	Ridgefield	$3,612,000
Total						**$62,245,751**

Note: Table B-4 includes local transportation system projects that are funded but not yet constructed.

Table B-5: 2040 RTP Project List (for adoption in 2019), RTP Designated System

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
MEGA PROJECT						
I-5	I-5/Victory Blvd. to SR 500 - Improve Mobility	Replace I-5 Bridge over Columbia River	3 lanes each direction	2025-2035	WSDOT	$3,300,000,000
The above project is included in the constrained RTP and is based on needs as defined by prior corridor studies and inventories. Final project scope and design will be subject to review and concurrence by local, state and federal agencies. As a mega-project, these or other corridor improvements would have their own financing plan.						
REGIONAL PROJECTS						
I-5/I-205/SR14		Implement ramp meters and ATM		2020-2030	WSDOT	$20,000,000
I-5/I-205	Salmon Creek Interchange	Planning study		2020-2025	WSDOT	$300,000
I-5/I-205	Salmon Creek Interchange Phase II	Implement improved access to I-205, if needed, dependent on planning study outcomes		2035-2040	WSDOT/Clark County 50% each	up to $35,000,000
I-5/SR-500	SR-500	Implement improvements, if needed, up to direct connection dependent on urban corridor study outcomes	Partial Interchange	2035-2040	WSDOT	up to $140,000,000
I-205	Padden Parkway Interchange	Implement improvements to interchange and connectivity to N 72nd Ave, if needed, dependent on planning study outcomes	Interchange	2035-2040	WSDOT	up to $30,000,000
I-205	SR-500 to Padden Parkway	Implement improvements up to add lanes, if needed, dependent on planning study outcomes	2 lanes each direction	2030-2035	WSDOT	up to $30,000,000
I-205	Mill Plain to SR-500	Implement improvements up to add auxiliary lanes NB and SB, if needed, dependent on planning study outcomes		2035-2040	WSDOT	up to $25,000,000
SR-14	West Camas Slough Bridge	Rebuild Bridge	1 lane each direction	2035-2040	WSDOT	$35,000,000
SR-500	42nd and 54th Avenue	Implement cost effective safety improvements per planning study recommendations	Intersections	2021-2025	WSDOT	$6,000,000
SR-500	42nd and 54th	Implement	Intersection	2035-2040	WSDOT	up to

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
	Avenue	additional improvements if needed to address additional needs				$80,000,000
SR-500	Fourth Plain	Implement improvements up to grade separation dependent on planning study outcomes	Intersection	2030-2035	WSDOT	up to $60,000,000
SR-503	SR-503/Caples Rd to Battle Ground - Install Median Barrier	Install Median Barrier		2025 - 2035	WSDOT	$3,000,000
SR-503	SR-503/Padden Parkway to NE 144th Vic.	Install Median Curb		2018-2025	WSDOT	$2,000,000
SR-503	at Padden Parkway	Add Interchange	Intersection	2020-2030	WSDOT	$35,000,000
Transit Enhancements	System Wide	Improvements/amenities at bus stops, super stops, and transit centers - new and existing	Continuation of existing programs	Ongoing	C-TRAN	$50,400,000
Administration Operations, and Maintenance Facility	65th Street & 18th Street	Expansion/redevelopment	Current facility is 20 years old and over capacity	2019-2023	C-TRAN	$30,000,000
East Vancouver/ Camas Park & Rides	18th Street & I-205; Camas & SR-14	Relocation of existing Evergreen Park & Ride	Current park and ride lacks visibility and easy access to I-205. Relocation will support service improvements	2022-2027	C-TRAN	$20,000,000
219th Street Park & Ride	I-5 & SR-502	Park & Ride facility at new interchange	N/A	2025-2035	C-TRAN	$16,200,000
Fleet Replacement and Expansion	System Wide	Purchase replacement and expansion vehicles for fixed route, paratransit, and vanpool service	Continue ongoing program	Ongoing	C-TRAN	$161,000,000
ITS Deployment	System Wide	ITS deployment and upgrades		Ongoing	C-TRAN	$12,300,000
Facility Capital Maintenance				Ongoing	C-TRAN	$36,700,000
Miscellaneous Capital Repair & Replacement				Ongoing	C-TRAN	$18,600,000
Mill Plain BRT		BRT replace Rte 37	Route 37	2022-2023	C-TRAN	$50,000,000
Fisher's LTC TOD		TOD	P&R with rider amenities	2035	C-TRAN	$5,000,000
Columbia House P&R		Expand	Increase from 30 to 140 parking stalls	2020	C-TRAN	$2,600,000

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
Hwy 99 BRT	downtown Vancouver to 99 St Transit Center	BRT replace Rte 71	Route 71	2030	C-TRAN	$50,000,000
I-5 BOS	southbound, 99th St to bridge	Develop and construct BRT project	no transit or HOV	2020	C-TRAN	$5,000,000
I-205 BOS	18th St to Airport Way	Possible phases	no transit or HOV	2025	C-TRAN	$5,000,000
Shared Mobility	System Wide	dynamic demand response	using app based technology	2019	C-TRAN	$2,000,000
179th Street	Delfel Rd to NE 15th Avenue	2 lanes ea. direction, w/turn lane	1 lane each direction	2025	Clark County	$28,000,000
179th Street	NE 29th Avenue intersection	unimproved intersection	1 lane each direction	2030	Clark County	$3,000,000
179th Street	NE 50th Avenue intersection	unimproved intersection	1 lane each direction	2030	Clark County	$3,000,000
NE 119th St.	NE 132nd Ave.	unimproved intersection	Intersection	2025	Clark County	$3,000,000
Andresen	Padden Parkway	Interim upgrade	Intersection	2025-2040	Vancouver	$15,000,000
Highway 99	NE 99th Street to NE 107th Street	2 lanes ea. direction, w/turn lane	2 lanes each direction	2020	Clark County	$4,868,000
NE Ward Rd.	NE 88th Street to NE 172nd Ave	2 lanes ea. direction	1 lane each direction	2017-2035	Clark County	$9,700,000
NE 72nd Avenue	NE 122nd to NE 219th St	Spot capacity improvements	1 lane each direction	2017-2035	Clark County	$30,000,000
NE 117th St.	NE Stutz Rd.	Intersection improvement	Intersection	2020-2030	Clark County	$2,000,000
NW Lakeshore Ave.	NW 78th St. to NE 39th St.	1 lane ea. direction, w/turn lane	1 lane each direction	2020-2035	Clark County	$15,000,000
NW 36th Ave.	Bliss Rd.	Intersection improvement	Intersection	2020-2030	Clark County	$3,000,000
NE 182nd Ave.	SR-500	Intersection improvement	Intersection	2020-2035	Clark County	$5,000,000
112th Avenue	Mill Plain to 49th Street	2 lanes ea. direction, w/turn lane	2 lanes each direction	2020-2035	Vancouver	$7,000,000
137th Avenue	49th Street to Vancouver City Limits	2 lanes ea. direction, w/turn lane	1 lane each direction	2020-2035	Vancouver	$20,000,000
18th Street	162nd Avenue to 192nd Avenue	2 lanes ea. direction, w/turn lane	1 lane each direction	2020-2035	Vancouver	$20,000,000
18th Street	97th Avenue to NE 107th Avenue	2 lanes ea. direction, w/turn lane		2020-2035	Vancouver	$12,500,000
18th Street	138th Avenue to 162nd Avenue	2 lanes ea. direction, w/turn lane	1 lane each direction	2020-2035	Vancouver	$18,000,000
18th Street	87th Avenue to 97th Avenue	Extend existing street 1 lane ea. direction, w/turn lane	No street	2020-2035	Vancouver	$16,000,000
192nd Avenue	SE 1st Street to NE 18th Street	2 lanes ea. direction, w/turn pockets	1 lane each direction	2020-2035	Vancouver	$20,000,000

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
Fruit Valley Rd	Whitney to 78th Street	1 lane ea. direction, w/turn lane	1 lane each direction	2020-2035	Vancouver	$40,000,000
32nd Avenue	SR-501 to Fruit Valley Road	1 lane ea. direction, w/turn lane new minor industrial arterial	None	2025-2035	Vancouver	$20,000,000
Lieser Road/ NE 87th Avenue	Lieser to E 5th St	Intersection improvement	Offset intersection	2020-2035	Vancouver	$6,000,000
Main Street	5th Street to McLoughlin	Reconstruct from 5th to 16th	Two-way street	2020-2035	Vancouver	$11,000,000
Main Street	5th Street to Columbia Way	Re-connect to waterfront S. of rail berm	No street	2020-2035	Vancouver	$9,000,000
NE 28th Street	142nd Avenue to 162nd Avenue	1 lane ea. direction, w/turn lane	1 lane each direction	2020-2035	Vancouver	$12,000,000
SE 1st Street	164th Avenue to 177thd Ave.	2 lanes ea. direction, w/turn lane	1 lane each direction	2020-2035	Vancouver	$13,000,000
SE 1st Street	177th Avenue to 192nd Ave.	2 lanes ea. direction, w/turn lane	1 lane each direction	2020-2035	Vancouver	$7,500,000
Andresen Rd.	MacArthur Blvd Intersection	Intersection operational upgrade	4-way stop control	2020-2035	Vancouver	$2,500,000
Main Street	39th St. Intersection	Intersection capacity and operational upgrade	substandard lane width, inadequate storage, inadequate turn lanes	2020-2035	Vancouver	$3,500,000
NE 162nd Ave	SE 1st Street to NE 9th Street	3 lanes ea. direction, w/median	2 lane each direction	2020-2035	Vancouver	$11,000,000
NE Fourth Plain	NE 117th Ave to NE 162nd Ave	Intersection capacity and operational upgrade	substandard lane width, inadequate storage, inadequate turn lanes	2020-2035	Vancouver	$3,400,000
SE 20th St	SE 176th Ave	Intersection improvement	Substandard	2025-2035	Vancouver	$500,000
St. Johns	NE 65thSt	Signal	Substandard	2025-2035	Vancouver	$1,000,000
St. Johns	Ft. Vancouver Way	Signal	Substandard	2025-2035	Vancouver	$2,800,000
NE 13th/18th St	Goodwin to 192nd Av	2 lanes each direction w/ turn lane, bike and pedestrian	None	2022-2035	Camas	$8,235,000
NE 28th Street	Ingle to 232nd	1 lane each direction w/ turn lane, bike and pedestrian	1 lane each direction	2020	Camas	$7,750,000
NE Goodwin Rd	Friberg to Ingle	2 lanes each direction w/ turn lane, bike and pedestrian	1 lane each direction	2021	Camas	$13,123,000

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
SR-500/ Everett Rd	Lake Rd to NE 4th St	1 lane each direction w/ turn lane, bike and pedestrian	1 lane each direction	2022-2035	Camas	$12,710,000
NW 6th Av Corridor Improvements	Norwood to Adams	Add turn lanes, bike lanes & sidewalk (road diet?)	2 lanes each direction	2019	Camas	$1,200,000
Lake Rd	NW Lacamas Lane to NE Everett St/SR-500	Widening, sidewalks	1 lane each direction w/left turn lanes and bike lanes	2021	Camas	$3,345,000
Lake Rd and Everett St/SR-500 Roundabout	Lake Rd and Everett St/SR-500	Roundabout, improved pedestrian access	Signal, 1 lane each direction with bike lanes, no sidewalks	2020	Camas	$6,450,000
NE 6th Av Corridor Improvements	Adams to Garfield	Access and Multimodal upgrades	1 lane each direction, sidewalks	2020	Camas	$200,000
32nd Street	Evergreen Way to 34th Street	Widen to 3 lanes, plus bike lanes and sidewalk	1 lane each direction	2018-2024	Washougal	$5,476,000
Evergreen Way	32nd Street to Sunset View Rd	Widen to 3 lanes, plus bike lanes and sidewalk	1 lane in each direction	2018-2024	Washougal	$8,117,000
SR-14/27th Street Interchange Project	Washougal River Road to 32nd Street	Half diamond interchange at 27th Street, overpass along SR-14	at grade	2018-2024	Washougal, Port of Camas Washougal, WSDOT	$14,000,000
Washougal River Road	Shepherd Road, 18th/O, 25th	Intersection improvements, bike ped and trail crossing		2018-2024	Washougal	$2,482,000
Evergreen Way and Sunset View Road	Intersection Influence Area	Intersection improvement		2018-2024	Washougal	$1,963,000
Evergreen @ 39th intersection	Evergreen and 39th St.	Evergreen @ 39th St. Signaliztion and intersection improvements	no signal	2025-2030	Washougal	$1,200,000
Chelatchie Prairie Rails With Trails Trail	Northeast UGB Limits to E Main Street	Construct new multimodal path with associated drainage.	does not exist	2022	Battle Ground	$1,200,000
Chelatchie Prairie Rails With Trails Trail	SE Rasmussen Boulevard to SE Eaton Boulevard	Construct new multimodal path with associated drainage.	does not exist	2026-2035	Battle Ground	$1,766,205
Chelatchie Prairie Rails With Trails Trail	SE Eaton Boulevard to NE Cedar Drive	Construct new multimodal path with associated drainage.	does not exist	2026-2035	Battle Ground	$1,512,379
Chelatchie Prairie Rails With Trails Trail	NE Cedar Drive to NE 181st Street	Construct new multimodal path with associated drainage.	does not exist	2026-2035	Battle Ground	$1,210,961
Chelatchie Prairie Rails With Trails Trail	NE 181st Street to South UGB Limits	Construct new multimodal path with associated drainage.	does not exist	2026-2035	Battle Ground	$1,591,700

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
E Main Street	NE/SE Grace Avenue	Realign SE Grace Avenue with NE Grace Avenue and signalize.	unsignalized	2015-2020	Battle Ground	$2,000,000
E Main Street	NE Grace Avenue to east UGB limits	Reconstruct roadway, add sidewalks where missing, add storm drainage, lighting, striping, signing, landscaping, and bike lanes.	1 lane each direction	2026-2035	Battle Ground	$7,865,344
NE 179th Street	SR-503 to S Parkway Avenue	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$4,290,857
NE 179th Street	NE 112th Avenue to western terminus	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$4,027,708
NE 179th Street	S Parkway Avenue to SE Grace Avenue	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$4,347,857
NE 179th Street	western terminus to SR-503	Reconstruct roadway, add sidewalks where missing, storm drainage, lighting, striping, signing, landscaping, and bike lanes.	1 lane each direction	2026-2035	Battle Ground	$318,517
N Onsdorff Boulevard	N Parkway Avenue	Install modern roundabout.	2-way stop	2026-2035	Battle Ground	$600,000
SE Eaton Boulevard	SE Grace Avenue to east city limits	Reconstruct roadway, add sidewalks, storm drainage, lighting, striping, signing, landscaping, and bike lanes.	1 lane each direction	2021-2025	Battle Ground	$5,568,760
SE Eaton Boulevard	NE 92nd Avenue to SW 20th Avenue	Reconstruct roadway, add sidewalks, storm drainage, lighting, striping, signing, landscaping, and bike lanes.	1 lane each direction	2026-2035	Battle Ground	$6,816,764
NE Grace Avenue	NE 10th Street	Add northbound right turn lane and convert intersection to all-way stop.	2-way stop	2021-2025	Battle Ground	$105,000

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
Grace Avenue	Grace Av/East Main St	Align S Grace and N Grace	Unaligned intersections	2015-2020	Battle Ground	$2,000,000
NE Grace Avenue	NE 249th Street to NE 25th Street	Reconstruct roadway, add sidewalks where missing, add storm drainage, lighting, striping, signing, landscaping, and bike lanes.	1 lane each direction	2026-2035	Battle Ground	$1,727,582
NE Grace Avenue	NE 25th Street to NE Onsdorff Boulevard	Reconstruct roadway, add sidewalks where missing, add storm drainage, lighting, striping, signing, landscaping, and bike lanes.	1 lane each direction	2026-2035	Battle Ground	$343,726
NE Grace Avenue	NE Onsdorff Boulevard to NE 10th Street	Reconstruct roadway, add sidewalks where missing, add storm drainage, lighting, striping, signing, landscaping, and bike lanes.	1 lane each direction	2026-2035	Battle Ground	$1,837,691
NE Grace Avenue	NE 10th Street to E Main Street	Reconstruct roadway, add sidewalks where missing, add storm drainage, lighting, striping, signing, landscaping, and bike lanes.	1 lane each direction	2026-2035	Battle Ground	$3,871,051
SE Grace Avenue	SE Eaton Boulevard to NE 189th Street	Reconstruct roadway, add sidewalks where missing, add storm drainage, lighting, striping, signing, and landscaping.	1 lane each direction	2026-2035	Battle Ground	$3,042,561
SE Grace Avenue	NE 189th Street to NE 179th Street	Reconstruct roadway, add sidewalks, storm drainage, lighting, striping, signing, and landscaping.	1 lane each direction	2026-2035	Battle Ground	$2,775,302
SE Grace Avenue	NE 179th Street to south city limits	Reconstruct roadway, add sidewalks, storm drainage, lighting, striping, signing, and landscaping.	1 lane each direction	2026-2035	Battle Ground	$1,706,380
SE Grace Avenue	E Main St to SE Rasmussen Blvd	1 lane ea. direction, w/turn lane, bicycle and pedestrian facilities	1 lane each direction	2015-2020	Battle Ground	$4,318,267

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
SE Grace Avenue	SE Eaton Boulevard	Replace signal controller and related equipment for improved intersection operations. Install northbound and southbound left turn signals.	n/a	2021-2025	Battle Ground	$65,000
SR-502	W 15th Avenue	Upgrade intersection to provide an additional 100' of storage for the eastbound left turn lane.	n/a	2026-2035	Battle Ground	$102,500
SR-502	W 29th Avenue	Add south leg of intersection and signalize.	unsignalized	2021-2025	Battle Ground	$350,000
SR-502	NE 92nd Avenue	Add southerly leg of intersection, modify signal, and add westbound left turn lane.	unsignalized	2026-2035	Battle Ground	$225,000
SR-503	SR-502	Add dual left turn lanes	n/a	2026-2035	Battle Ground	$605,415
SR-503	NE 184th Street	Add east-west right-in/right-out on east side of SR-503.	does not exist	2026-2035	Battle Ground	$250,000
SR-503	NE 194th Street	Add east-west right-in/right-out on both sides of SR-503.	does not exist	2026-2035	Battle Ground	$250,000
SR-503	NW 5th Way	Add east-west right-in/right-out on both sides of SR-503.	does not exist	2026-2035	Battle Ground	$250,000
SR-503	NE 239th Street	Add east-west right-in/right-out on west side of SR-503.	does not exist	2026-2035	Battle Ground	$250,000
SR-503	NW Onsdorff Boulevard	Extend southbound leg of SR-503, 500-feet north and south of intersection, add necessary tapers, and revise existing traffic signals.	n/a	2021-2025	Battle Ground	$1,020,500
SR-503	NE 179th Street	Add northbound right turn lane.	n/a	2026-2035	Battle Ground	$150,000
SR-503	SW Rasmussen Boulevard	Add east-west right-in/right-out on east side of SR-503.	does not exist	2015-2020	Battle Ground	$275,000
SR-503	NE 189th Street	Extend westbound left turn lane as necessary.	n/a	2026-2035	Battle Ground	$100,000

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
SW Eaton Boulevard	SW 20th Avenue to SR-503	Reconstruct roadway, add sidewalks, storm drainage, lighting, striping, signing, and landscaping. Add second westbound left turn lane and add 100' long eastbound right turn lane at SR-503 signal. At 20th signalize and add left turn lanes on north, south, and east legs.	1 lane each direction	2022	Battle Ground	$4,476,093
Hillhurst Road	Sevier Rd to 229th extension	Upgrade to 3 lane principal arterial	1 lane each direction	2021	Ridgefield	$17,230,870
Hillhurst Road	SR-501 to Sevier Rd	1 lane each direction w/ turn lane	1 lane each direction	2023	Ridgefield	$6,348,920
I-5	219th St. to SR-501	NB auxiliary lane along I-5	None	2028	Ridgefield/WSDOT	$8,600,000
I-5	SR-501 to 219th St.	SB auxiliary lane along I-5	None	2028	Ridgefield/WSDOT	$7,900,000
Pioneer Street Bridge	over Gee Creek	Bridge Replacement	2 lane bridge	2030	Ridgefield/WSDOT	$3,042,000
Pioneer St (SR-501) at 9th Ave/Hillhurst Rd	N/A	Signalized Intersection improvement	Unsignalized Intersection	2020	Ridgefield	$404,790
Pioneer St (SR-501)	Rieman Road to 35th Ave Roundabout	Add Pedestrian Facilities	1 lane each direction	2020	Ridgefield	$669,500
Pioneer St (SR-501)	35th Ave to 45th Ave	Widen, 2 lane each direction w/ turn lane	1 lane each direction	2022	Ridgefield	$4,139,570
Pioneer St (SR-501) at 51st Ave	N/A	2-lane Roundabout	N/A	2023	Ridgefield	$1,444,000
Pioneer St (SR-501)	45th Ave to 51st Ave	Widen, 2 lane each direction w/ turn lane	1 lane each direction	2025	Ridgefield	$1,801,058
Pioneer St (SR-501)	51st Ave to 56th Ave	Widen, 2 lane each direction w/ turn lane	1 lane each direction	2027	Ridgefield	$1,801,058
NW 219th St Extension	Hillhurst Road to I-5	1-lane each direction w/ turn lane	N/A	2027	Ridgefield	$18,276,000
E 4th Street	Highland to E. City Limits	Urban upgrade	Unimproved road segment	2016-2021	La Center	$1,635,000
La Center Road	at Timmen Road	Construct left turn lanes	Unimproved intersection	Partly complete in 2012. Rest in 2016-2021.	La Center	$1,450,000

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
E 4th Street	Stonecreek Drive	"Street widening from Cedar Ave to Highland including Brezee Creek box culvert crossing	Old Culvert, with bike lanes, 1 sidewalk	2018-2024	La Center	$4,500,000
County-wide	County Wide	Pedestrian & Bicycle Projects and Programs		Continuing	County-wide	$92,400,000
County-wide	County Wide	Demand Management		Continuing	County-wide	$48,000,000
Various	System Wide	Transportation System Management and Operations		Continuing	County-wide	$45,800,000
Mill Plain Corridor Technology Improvements	Downtown Vancouver to 192nd Ave	new fiber, dynamic information signs, TSP upgrades and expansion	aging infrastructure	2022-2023	VAST	$5,000,000
Columbia Street	Access Road 5 and Columbia Way	Extension of separated bike-ped path connecting the City Waterfront Park through the Port of Vancouver Terminal 1 property connecting with the Renaissance Trail on Columbia Way	None	2022	Port of Vancouver	$4,500,000
Terminal 5 Industrial Access	Gateway Avenue and rail loop	Rail overpass	None	2022-2025	Port of Vancouver	$8,545,761
Total of Regional Projects						**$1,792,902,647**
Total with I-5 Bridge						**$5,092,902,647**

Note: Table B-5 (same as Table 5-4 in chapter 5) includes projects on the RTP's Designated Regional Transportation System which do not yet have a funding source but for which funds are likely to be available during the twenty-plus year term of the RTP (to year 2040). These projects are the RTP's "fiscally-constrained" projects.

Table B-6: 2035 RTP Project List (for adoption in 2014), Local System

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
Bridges and Misc. Projects	Various locations			2015-2035	Clark County	$50,000,000
Intersection Improvements	Various locations			2015-2035	Clark County	$15,000,000
Misc. Road Improvements w/ regional benefit	Various locations			2012-2035	Clark County	$25,000,000
Minnehaha St	NE 17th Avenue	Intersection improvement	Intersection	2020-2030	Clark County	$2,000,000
NE 87th Avenue	NE 63rd Street	Intersection improvement	Intersection	2020-2030	Clark County	$3,000,000
NE 239th Street	NE 92nd Avenue	Intersection improvement	Intersection	2020-2030	Clark County	$2,000,000
NE 172nd Ave.	Ward Rd. to NE 119th St	1 lane ea. direction, w/turn lane	1 lane each direction	2020-2035	Clark County	$6,000,000
NE 172nd Ave.	NE 18th St. to NE 39th St.	1 lane ea. direction, w/turn lane	1 lane each direction	2020-2035	Clark County	$4,000,000
NE 99th St.	NE 72nd Ave. to NE 94th Ave.	1 lane ea. direction, w/turn lane	1 lane each direction	2020-2030	Clark County	$10,000,000
NE 10th Avenue	149th to 154th Street	1 lane each direction, 3R upgrade	1 lane each direction	2022	Clark County	$11,535,000
NE 15th Avenue	179th Street to NE 10th Avenue	1 lane ea. direction, w/turn lane	None	2015-2035	Clark County	$15,000,000
NE 99th Street	94th to 117th Av.	1 lane ea. direction, w/turn lane	None/1 lane	2018-2020	Clark County	$16,000,000
NE 152nd Avenue	Padden Parkway to NE 99th Street	1 lane ea. direction, w/turn lane	1 lane each direction	2016-2035	Clark County	$8,100,000
NE Salmon Creek Avenue	WSU Entrance to west of NE 50th Avenue	3 lanes ea. direction, w/turn lane	2 lane each direction	2017-2036	Clark County	$17,900,000
SE 5th Street	Blandford to East Reserve	Upgrade to 3-lane Modified Collector	1 lane each direction	2020-2035	Vancouver	$2,000,000
131st Avenue	Fourth Plain to 59th Street	1 lane ea. direction, w/turn lane	Intermittent roadway	2025-2035	Vancouver	$3,000,000
136th Ave.	SE 7th St. Intersection	Intersection improvement	Substandard	2020-2035	Vancouver	$750,000
152nd Avenue	Fourth Plain Blvd. to 59th Street	New arterial street	No street	2025-2035	Vancouver	$3,400,000
157th Avenue	Fourth Plain Blvd. to 59th Street	1 lane ea. direction, w/turn lane	Intermittent roadway	2025-2035	Vancouver	$3,400,000
164th Avenue	SR-14 to Evergreen	Upgrade to urban standard	1 lane each direction	2025-2035	Vancouver	$4,500,000
49th Street	122nd to 137th Avenue	1 lane ea. direction, w/turn lane	1 lane each direction	2025-2035	Vancouver	$10,000,000
54th Street	15th Avenue to St Johns	Reconstruct, widen and upgrade to urban standards	1 lane each direction	2025-2035	Vancouver	$15,000,000
59th/56th Street	137th Avenue to 121st Avenue	upgrade to urban minor arterial	Intermittent roadway	2025-2035	Vancouver	$11,200,000

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
94th Avenue	Van Mall Drive to NE 54th Street	Urban upgrade	1 lane each direction	2025-2035	Vancouver	$2,500,000
9th Street/11th Street	NE 152nd to 162nd Av	Close gaps and complete corridor to 2 lane urban collector	Unconnected street system	2025-2035	Vancouver	$3,000,000
Brady Road West Extension	192nd Ave. interchange to 171st Ave.	New arterial roadway from 192nd interchange, west to existing neighborhoods	None	2025-2035	Vancouver	$20,500,000
Columbia Shores	S. of SR-14	Rail Trestle, Widen Portal	Under-Pass	2025-2035	Vancouver	$20,000,000
Ellsworth	SE 2nd to SE 10th St	Upgrade to minor arterial standard	Substandard	2020-2035	Vancouver	$4,000,000
Evergreen Highway Pathway	Image to 100th Ct	Install pedestrian pathway on one side	None	2025-2035	Vancouver	$1,300,000
Evergreen Highway Pathway	Image to Chelsea	Install pedestrian pathway on one side	None	2013-2025	Vancouver	$1,700,000
Evergreen Highway Pathway	Columbia Springs to 164th Ave	Install pedestrian pathway on one side	None	2013-2025	Vancouver	$5,000,000
Evergreen Highway Pathway	164th Ave to City Limits	Install pedestrian pathway on one side	None	2013-2025	Vancouver	$7,000,000
Jefferson/ Kauffman St.	Mill Plain to Evergreen	Realign offset @ 13th & reconstruct to 3-lane standard	Substandard	2025-2035	Vancouver	$10,000,000
MacArthur Blvd.	Lieser Rd. Intersection	Intersection improvement	Substandard	2025-2035	Vancouver	$2,800,000
NE 11th/NE 13th	172nd Avenue to 192nd Avenue	1 lane ea. direction, w/turn lane	none	2020-2035	Vancouver	$4,000,000
NE 127th Avenue	Fourth Plain to Burnt Bridge Creek	Upgrade to urban standard	partial built	2025-2035	Vancouver	$2,300,000
NE 15th/18th Av	SR-500 to 54th St	New 2 lane urban collector	No street	2017-2035	Vancouver	$2,000,000
NE 59th Street	137th to 162nd Avenue	Construct new minor arterial 1 lane each direction with turn lane	No street	2025-2035	Vancouver	$23,100,000
SE 10th Street	Ellsworth to Chkalov	Upgrade to minor arterial	1 lane each direction	2025-2035	Vancouver	$4,000,000
SE 188th Ave	E Mill Plain to SE 1st St	New connector access	No street	2025-2035	Vancouver	$3,000,000
SE 5th Street	SE 120th Ave to SE 121st Ave	New connector access	No street	2025-2035	Vancouver	$550,000
Section 30: Collector Arterial		New connector access	No street	2025-2035	Vancouver	$14,400,000
Hearthwood Blvd	SE 1st St	Intersection improvement	Substandard	2025-2035	Vancouver	$500,000
NE 104th Avenue	Mill Plain to NE 14th St	Urban upgrade	Substandard	2025-2035	Vancouver	$10,000,000

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
NE 104th Avenue	18th St to 14th St	Urban upgrade	Substandard	2025-2035	Vancouver	$10,000,000
Leadbetter Drive	Lake Road to Fremont Street	Add shared use path	1 lane each direction	2019	Camas	$100,000
NW 38th Av	Parker to Grass Valley Park	1 lane each direction w/ turn lane, bike and pedestrian	1 lane each direction	2022-2035	Camas	$3,512,000
NE 43rd Av	SR-500 to Camas HS	1 lane each direction w/ turn lane, bike and pedestrian	1 lane each direction	2022-2035	Camas	$5,000,000
SE 15th St/Nourse Rd	Camas HS to 283rd	1 lane each direction w/ turn lane, bike and pedestrian	1 lane each direction	2022-2035	Camas	$5,700,000
NE Ingle Rd	Goodwin to North City Limits	1 lane each direction w/ turn lane, bike and pedestrian	1 lane each direction	2022-2035	Camas	$6,110,000
NE 28th St	232nd Av to 242nd Av	2 lanes each direction w/ turn lane, bike and pedestrian	1 lane each direction	2022-2035	Camas	$3,875,000
Woodburn Dr	SE 15th St to SE 283rd Av	1 lane each direction w/ bike and pedestrian	Partially 1lane each direction w/bike & ped, partially none	2022-2035	Camas	$2,425,000
SE 23rd St	Crown Rd & 283rd Av	Realign offset intersection	Offset intersection	2022-2035	Camas	$750,000
SE Crown Rd	SE 23rd St to NE 3rd Av	1 lane each direction w/ turn lane, bike and pedestrian	1 lane each direction	2022-2035	Camas	$10,040,000
NE 232nd Av/ 9th St	28th St to 242nd Av	1 lane each direction w/ turn lane, bike and pedestrian	1 lane each direction	2022-2035	Camas	$14,540,000
NE 242nd Av	28th St to 9th St	1 lane each direction w/ turn lane, bike and pedestrian	None	2022-2035	Camas	$11,505,000
New East/West Arterial	NE 242nd & 9th to Everett	1 lane each direction w/ turn lane, bike and pedestrian	None	2022-2035	Camas	$13,925,000
North Dwyer Creek Master Plan: Street "A"	NW Lake Rd to Camas Meadows Dr	1 lane each direction	None	2022-2035	Camas	$4,100,000
North Dwyer Creek Master Plan: Street "B"	#NW Friberg to NW Larkspur	1 lane each direction	None	2022-2035	Camas	$7,300,000
NW 16th/Hood/18th	Klickitat to Astor	1 lane ea. direction, w/turn lane	1 lane each direction	2022-2035	Camas	$3,600,000
NW 18th Av	Whitman to Brady	Shared Use Pathway	None	2022-2035	Camas	$125,000
NW 18th Av/SE Payne Rd	Tidland St to NW Pac Rim Blvd.	1 lane ea. direction, w/turn lane	1 lane each direction	2022-2035	Camas	$3,525,000
NW 43rd Av/ Astor St	Utah to 38th	1 lane ea. direction, w/turn lane	1 lane each direction	2022-2035	Camas	$2,575,000
NW Astor St/ NW 11th Av	Forest Home Rd to McIntosh Rd	1 lane ea. direction, w/turn lane	1 lane each direction	2022-2035	Camas	$2,214,000
NW McIntosh Rd	Brady to 11th	1 lane ea. direction, w/turn lane	1 lane each direction	2022-2035	Camas	$5,000,000

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
NW Payne St	NW Lake Rd to Camas Meadows Dr	1 lane each direction, bike and pedestrian improvements	1 lane each direction	2016-2022	Camas	$2,000,000
NW 23rd Ave	Astor to Sierra	Safety Improvements: 1 lane each direction, improve ped and bike routes	1 lane each direction	2019	Camas	$300,000
Bybee Rd Realignment East	SE 15th St to NW 38th Av	Move Roadway east, provide bike and ped improvements	1 lane each direction	2019	Camas	$1,450,000
Brady Road	NW McIntosh Rd to West City Limits	Add bike and ped facilities	1lane each direction, no pedestrian or bike facilities	2025	Camas	$550,000
Ingle Extension East	Goodwin to 232nd	1 lane ea. direction, w/turn lane	None	2022-2035	Camas	$8,965,000
Lehr Road	34th to UGA	Widen to collector standard with sidewalks	1 lane each direction	2018-2024	Washougal	$2,955,000
6th Street	C Street to E Street	striping to 3 lanes, plus bike lanes and sidewalk		2011-2017	Washougal	$2,900,000
A Street/Addy Street Connection	20th to 27th Street	Street connection, traffic calming and bike/ped improvements		2018-2024	Washougal	$5,500,000
Addy Street	27th to 45th Street	Widen for turn lane, bike lanes and sidewalk		2018-2024	Washougal	$6,426,000
Ford Street Extension	27th Street to 32nd Street	RoW acquisition, new curb and gutter and sidewalk	Paved/graveled section of road		Washougal	$6,146,163
Miscellaneous west city collectors				2018-2024	Washougal	$4,375,000
Sunset View Road	Evergreen Way to UGA	2 lane collector with shoulders for bike and pedestrians	1 lane each direction	2018-2024	Washougal	$8,759,000
W Street	32nd to 49th St.	2 lane collector and extension across creek	No street	2018-2024	Washougal	$13,052,000
F Street	25th Street to 34th Street	Traffic calming/sidewalk and bike ped facilities		2018-2024	Washougal	$825,000
39th Street	W street to Evergreen Way	bike & ped sidewalks/traffic calming		2025-2030	Washougal	$2,628,000
34th Street	J Street to Evergreen Way	Ped improvements	nosidewalk	2011-2017	Washougal	$444,000
Shepherd Road	3rd Avenue to Washougal River Road	bike & ped facilities	partial sidewalk no bike lane	2018-2024	Washougal	$3,055,000
C Street & Main Street	Washougal River Road to 34th Street	bike lanes & sidewalks	no bike lane partial sidewalk	2025-2030	Washougal	$2,546,000

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
C Street	6th Street to Washougal River Road	bike lanes & sidewalks	no bike lane partial sidewalk	2025-2030	Washougal	$2,036,000
49th Street and J Street	32nd Street to W Street	bike ped sidewalks/traffic calming		2025-2030	Washougal	$4,279,000
9th Street	Shepherd Road to K Street	Washougal River bike/ped trail and crossing		2031-2035	Washougal	$1,527,000
North T Street	Crown Road/283rd Avenue to Woodburn Hill	Street connection, bike & ped facilities	private road	2025-2030	Washougal	$4,073,000
Heisson Rd/NE 10th St	NE Grace Avenue to East City Limits	1 lane ea. direction, w/turn lane, bicycle and pedestrian facilities	1 lane each direction	2024-2033	Battle Ground	$781,000
N Parkway Avenue	N 25th Street to N Onsdorff Boulevard	Reconstruct roadway, add sidewalks, storm drainage, lighting, striping, signing, landscaping, and bike lanes.	1 lane each direction	2021-2025	Battle Ground	$3,455,163
N Parkway Avenue	NE 249th Street to N 25th Street	Reconstruct roadway, add sidewalks, storm drainage, lighting, striping, signing, landscaping, and bike lanes.	1 lane each direction	2026-2035	Battle Ground	$1,650,191
NE 10th Street	NE Grace Avenue to northern UGB limits	Reconstruct roadway, add sidewalks where missing, add storm drainage, lighting, striping, signing, landscaping, and bike lanes.	varies	2026-2035	Battle Ground	$3,325,621
NE 112th Avenue	NW 25th Street to NE 239th Street	Reconstruct roadway, add sidewalks, storm drainage, lighting, striping, signing, and landscaping.	1 lane each direction	2026-2035	Battle Ground	$1,326,429
NE 112th Avenue	NE 183rd Street to SW 40th Street	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$1,663,822
NE 113th Avenue	NE 189th Street to NE 183rd Street	Reconstruct roadway, add sidewalks, storm drainage, lighting, striping, signing, and landscaping.	1 lane each direction	2026-2035	Battle Ground	$2,408,422
NE 152nd Avenue	SE Eaton Boulevard to SE 24th Street	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2021-2025	Battle Ground	$1,112,834

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
NE 152nd Avenue	NE 181st Street to south city limits	Reconstruct roadway, add sidewalks, storm drainage, lighting, striping, signing, and landscaping.	1 lane each direction	2026-2035	Battle Ground	$1,887,516
NE 157th Avenue	SE Eaton Boulevard to southern terminus	Reconstruct roadway, add sidewalks, storm drainage, lighting, striping, signing, and landscaping.	1 lane each direction	2021-2025	Battle Ground	$1,029,992
NE 157th Avenue	southern terminus to SE 28th Street	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2015-2020	Battle Ground	$1,197,965
NE 183rd Street	eastern terminus to NE 167th Avenue	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$1,470,623
NE 184th Street	SR-503 to NE 132nd Avenue	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$3,579,496
NE 184th Street	S Parkway Avenue to SE Grace Avenue	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$3,569,496
NE 189th Street	SR-503 to northern terminus	Reconstruct roadway, add sidewalks, storm drainage, lighting, striping, signing, and landscaping.	1 lane each direction	2026-2035	Battle Ground	$904,383
NE 189th Street	northern terminus to NE 132nd Avenue	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$3,253,692
NE 189th Street	NE 112th Avenue to SR-503	Reconstruct roadway, add sidewalks, storm drainage, lighting, striping, signing, and landscaping.	1 lane each direction	2026-2035	Battle Ground	$3,133,882
NE 189th Street	S Parkway Avenue to SE Grace Avenue	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$4,431,857

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
NE 194th Street	S Parkway Avenue to SE Grace Avenue	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2021-2025	Battle Ground	$3,519,007
NE 194th Street	SW 11th Avenue to SR-503	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$271,051
NE 194th Street	SR-503 to S Parkway Avenue	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2021-2025	Battle Ground	$3,519,007
NE 19th Street	N Parkway Avenue to NE Grace Avenue	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2021-2025	Battle Ground	$3,402,729
NE 1st Street	N Parkway Avenue to NE Grace Avenue	Reconstruct roadway, add sidewalks, storm drainage, lighting, striping, signing, and landscaping.	1 lane each direction	2021-2025	Battle Ground	$2,475,960
NE 224th Street	NE 87th Avenue to NE 92nd Avenue	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$1,802,248
NE 229th Street	NE 87th Avenue to NE 92nd Avenue	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$2,271,429
NE 239th Street	NW Onsdorff Boulevard to NE 112th Avenue	Reconstruct roadway, add sidewalks, storm drainage, lighting, striping, signing, and landscaping.	1 lane each direction	2026-2035	Battle Ground	$1,324,276
NE 239th Street	NE 92nd Avenue to NW Onsdorff Boulevard	Reconstruct roadway, add sidewalks, storm drainage, lighting, striping, signing, and landscaping.	1 lane each direction	2026-2035	Battle Ground	$3,069,672
NE 239th Street	NW 20th Avenue to SR-503	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$3,364,496

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
NE 249th Street	N Parkway Avenue to NE Grace Avenue	Reconstruct roadway, add sidewalks, storm drainage, lighting, striping, signing, and landscaping.	1 lane each direction	2026-2035	Battle Ground	$2,176,496
NE 25th Street	N Parkway Avenue to NE Grace Avenue	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$4,285,003
NE 3rd Avenue	NE 9th Street to E Main Street	Reconstruct roadway, add sidewalks, storm drainage, lighting, striping, signing, and landscaping.	1 lane each direction	2026-2035	Battle Ground	$2,200,270
NE 5th Avenue	NE 25th Street to NE Onsdorff Boulevard	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2021-2025	Battle Ground	$3,261,949
NE 5th Street	N Parkway Avenue to NE 3rd Avenue	Reconstruct roadway, add sidewalks, storm drainage, lighting, striping, signing, and landscaping.	1 lane each direction	2026-2035	Battle Ground	$647,101
NE 6th Street	NE 3rd Avenue to NE Grace Avenue	Reconstruct roadway, add sidewalks, storm drainage, lighting, striping, signing, and landscaping.	1 lane each direction	2026-2035	Battle Ground	$1,554,020
NE 87th Avenue	NE 229th Street to W Main Street	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$3,464,496
NE 92nd Avenue	SR-502 to SE Eaton Boulevard	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$8,734,714
NE 92nd Avenue	NE 239th Street to SR-502	Reconstruct roadway, add sidewalks, storm drainage, lighting, striping, signing, and landscaping.	1 lane each direction	2026-2035	Battle Ground	$5,599,714
NE 92nd Avenue	SW Eaton Boulevard to NE 189th Street	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$4,148,052
NE 9th Street	N Parkway Avenue to eastern terminus	Reconstruct roadway, add sidewalks, storm drainage, lighting, striping, signing, and landscaping.	1 lane each direction	2026-2035	Battle Ground	$539,636

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
NE 9th/10th Street	eastern terminus to NE Grace Avenue	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$2,522,637
NE Onsdorff Boulevard	N Parkway Avenue to NE Grace Avenue	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	varies	2021-2025	Battle Ground	$3,547,503
NW 15th Avenue	NW 9th Street to NW 4th Street	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2015-2020	Battle Ground	$665,880
NW 15th Street	NE 92nd Avenue to NW 31st Avenue	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$3,058,632
NW 15th/16th Avenue	NW 25th Street to NW Onsdorff Boulevard	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$3,517,427
NW 1st Street	NW 15th Avenue to NW 12th Avenue	Complete sidewalk and planter strip on north side. Stripe road.	1 lane each direction	2015-2020	Battle Ground	$87,675
NW 20th Avenue	SR-502 to NW Onsdorff Boulevard	Complete roadway, add sidewalks where missing, add storm drainage, lighting, striping, signing, and landscaping.	varies	2021-2025	Battle Ground	$468,543
NW 20th Avenue	NE 239th Street to NW Onsdorff Boulevard	Complete roadway, add sidewalks where missing, add storm drainage, lighting, striping, signing, and landscaping.	varies	2021-2025	Battle Ground	$502,435
NW 25th Avenue	NW Onsdorff Boulevard to northern terminus	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2021-2025	Battle Ground	$739,170
NW 25th Street	NE 112th Avenue to SR-503	Reconstruct roadway, add sidewalks, storm drainage, lighting, striping, signing, and landscaping.	1 lane each direction	2026-2035	Battle Ground	$2,545,932

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
NW 25th Street	SR-503 to N Parkway Avenue	Reconstruct roadway, add sidewalks where missing, add storm drainage, lighting, striping, signing, and landscaping.	1 lane each direction	2021-2025	Battle Ground	$1,482,599
NW 2nd Street	NW 18th Avenue to NW 15th Avenue	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping. Complete missing sidewalk on existing portion.	1 lane each direction	2026-2035	Battle Ground	$329,967
NW 2nd Street	NW 15th Avenue to NW 12th Avenue	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$1,118,134
NW 31st Avenue	NE 239th Street to SR-502	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2021-2025	Battle Ground	$8,918,458
NW 35th Avenue	NE 239th Street to SR-502	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$7,060,457
NW 3rd Street	NE 92nd Avenue to NW 31st Avenue	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$3,072,769
NW 5th Avenue	northern terminus to W Main Street	Reconstruct roadway, add sidewalks, storm drainage, lighting, striping, signing, and landscaping.	1 lane each direction	2021-2025	Battle Ground	$491,380
NW 5th Avenue	NW 5th Street to northern terminus	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2021-2025	Battle Ground	$1,585,522
NW 5th Avenue	NW 9th Street to NW 5th Street	Reconstruct roadway, add sidewalks, storm drainage, lighting, striping, signing, and landscaping.	1 lane each direction	2021-2025	Battle Ground	$656,430
NW 9th Street	NE 92nd Avenue to NW 31st Avenue	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$3,346,132

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
NW Onsdorff Boulevard	NW 239th Street to western terminus	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2021-2025	Battle Ground	$3,530,714
NW Onsdorff Boulevard	NW 20th Avenue to SR-503	Complete roadway, add sidewalks where missing, add storm drainage, lighting, striping, signing, and landscaping.	varies	2021-2025	Battle Ground	$1,324,444
Parkway Avenue	Main Street	Replace signal controller and related equipment for improved intersection operations.	n/a	2021-2025	Battle Ground	$50,000
S Parkway Avenue	S Eaton Boulevard to NE 179th Street	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	1 lane each direction	2021-2025	Battle Ground	$7,750,714
S Parkway Avenue	S Eaton Boulevard	Replace signal controller and related equipment for improved intersection operations. Install northbound and southbound left turn signals.	n/a	2021-2025	Battle Ground	$65,000
SE 13th Street	SE Commerce Avenue to SE 20th Avenue	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, landscaping, and bike lanes.	does not exist	2026-2035	Battle Ground	$2,145,317
SE 1st Street	S Parkway Avenue to SE Grace Avenue	Reconstruct roadway, add sidewalks where missing, add storm drainage, lighting, striping, signing, and landscaping.	1 lane each direction	2021-2025	Battle Ground	$2,547,718
SE 20th Avenue	E Main Street to SE Rasmussen Boulevard	Reconstruct roadway, add sidewalks, storm drainage, lighting, striping, signing, and landscaping.	1 lane each direction	2026-2035	Battle Ground	$2,180,474
SE 20th Avenue	SE Rasmussen Boulevard to SE Eaton Boulevard	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$5,881,828

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
SE 24th Street	SE Commerce Avenue to NE 157th Avenue	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2021-2025	Battle Ground	$3,288,991
SE 28th Street	SE Grace Avenue to NE 157th Avenue	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2021-2025	Battle Ground	$5,296,988
SE 5th Avenue	SE Eaton Boulevard to NE 194th Street	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2021-2025	Battle Ground	$1,707,248
SE 5th Avenue	NE 194th Street to NE 189th Street	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$1,682,248
SE 5th Avenue	NE 189th Street to NE 179th Street	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$3,384,496
SE Commerce Avenue	SE 24th Street to SE 28th Street	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2021-2025	Battle Ground	$1,856,759
SE Commerce Avenue	SE Eaton Boulevard to SE 24th Street	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2021-2025	Battle Ground	$975,636
SE Rasmussen Boulevard	SE Commerce Avenue to eastern UGB limits	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2021-2025	Battle Ground	$6,451,578
SR-503 Multi-Use Path	NW 25th Street to NW Onsdorff Boulevard	Construct new multimodal path with associated drainage.	does not exist	2026-2035	Battle Ground	$795,000
SW 11th Avenue	northern terminus to NE 189th Street	Reconstruct roadway, add sidewalks, storm drainage, lighting, striping, signing, and landscaping.	1 lane each direction	2026-2035	Battle Ground	$1,924,390

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
SW 11th Street	NE 92nd Avenue to western terminus	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$3,586,450
SW 11th/15th Avenue	SW Eaton Boulevard to northern terminus	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$2,475,432
SW 13th Avenue	SW Rasmussen Boulevard to SW Scotton Way	Construct remaining portion of road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	varies	2026-2035	Battle Ground	$1,029,595
SW 15th Avenue	SW 1st Way to SW Rasmussen Boulevard	Complete roadway, add sidewalks where missing, add storm drainage, lighting, striping, signing, and landscaping.	varies	2021-2025	Battle Ground	$907,168
SW 15th Avenue	SW Scotton Way to SW Eaton Boulevard	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	varies	2021-2025	Battle Ground	$1,774,786
SW 1st Street	NE 92nd Avenue to SW 29th Avenue	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$4,483,225
SW 20th Avenue	SW 6th Street to SW Scotton Way	Reconstruct roadway, add sidewalks where missing, add storm drainage, lighting, striping, signing, landscaping, and bike lanes.	1 lane each direction	2015-2020	Battle Ground	$2,911,740
SW 20th Avenue	SW Scotton Way to SW Eaton Boulevard	Reconstruct roadway, add sidewalks where missing, add storm drainage, lighting, striping, signing, landscaping, and bike lanes.	1 lane each direction	2015-2020	Battle Ground	$2,145,489
SW 20th Avenue	SE Eaton Boulevard to NE 189th Street	Reconstruct roadway, add sidewalks, storm drainage, lighting, striping, signing, and landscaping.	1 lane each direction	2026-2035	Battle Ground	$3,145,882

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
SW 20th Avenue	NE 179th Street to south UGB limits	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, landscaping, and bike lanes.	does not exist	2026-2035	Battle Ground	$1,735,471
SW 25th Avenue	southern terminus to SE Eaton Boulevard	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$2,712,826
SW 25th Avenue	SE Eaton Boulevard to NE 189th Street	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$3,364,496
SW 29th/34th Avenue	SR-502 to SE Eaton Boulevard	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$10,794,982
SW 35th Avenue	SR-502 to SW 1st Street	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$756,382
SW 6th Avenue	SW Scotton Way to SW Eaton Boulevard	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2021-2025	Battle Ground	$1,921,283
SW 6th Avenue	SW Eaton Boulevard to NE 189th Street	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2021-2025	Battle Ground	$3,531,749
SW 6th Avenue	NE 189th Street to NE 179th Street	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	1 lane each direction	2026-2035	Battle Ground	$3,504,496
SW 6th/7th Avenue	SW Rasmussen Boulevard to SW Scotton Way	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2021-2025	Battle Ground	$2,695,611
SW 7th Avenue	south terminus to SW Rasmussen Boulevard	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2021-2025	Battle Ground	$1,837,808

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
SW Rasmussen Boulevard	SW 20th Avenue to SW 13th Avenue	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$2,486,766
SW Rasmussen Boulevard	SR-503 to western terminus	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2015-2020	Battle Ground	$2,154,897
SW Scotton Way	S Parkway Avenue to SE Grace Avenue	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, landscaping, and bike lanes.	varies	2026-2035	Battle Ground	$3,042,250
SW Scotton Way	SW 25th Avenue to SW 20th Avenue	Construct new road with associated sidewalks, storm drainage, lighting, striping, signing, and landscaping.	does not exist	2026-2035	Battle Ground	$1,796,947
W 5th Avenue	W Main Street	Replace signal controller and related equipment for improved intersection operations.	n/a	2021-2025	Battle Ground	$50,000
N. 20th Street (289th Street)	I-5 to 65th Ave/NW 11th	Upgrade to minor arterial	1 lane each direction	2030	Ridgefield	$2,860,000
N. 20th Street (289th Street)	I-5 Overcrossing	Upgrade to minor arterial	1 lane each direction	2035	Ridgefield	$12,180,000
Carty Road	Hillhurst to I-5	Upgrade to minor arterial (3 lanes)	1 lane each direction	2035	Ridgefield	$15,270,000
N 10th Street	Royle Road (45th Ave.) to west side of I-5	Widen N 10th St to industrial/commercial collector. 1 lane each direction w/ turn lane	Not continuous	2025	Ridgefield	$4,000,000
N 10th Street	E side of I-5 to N 65th Avenue	Widen N 10th Street to collector. 1 lane each direction	1 lane each direction	2030	Ridgefield	$1,460,000
N 35th Avenue	N Pioneer Canyon Drive to N 14th Street	Extend N 35th Ave. as a collector. 1 lane each direction		2023	Ridgefield	$3,300,000
Royle Road	S. 15th St. to Pioneer St. (SR-501)	Widen Royle Rd. (45th St) to minor arterial. 1 lane each direction w/ turn lane	1 lane each direction	2025	Ridgefield	$4,200,000
Royle Road	Pioneer St. (SR-501) to N 10th St.	Widen Royle Rd. (45th St) to minor arterial. 1 lane each direction w/ turn lane	1 lane each direction	2025	Ridgefield	$3,300,000

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
N 51st Avenue	Pioneer to N 5th Street	Build as industrial/commercial collector. 1 lane each direction w/ turn lane	Not continuous	2027	Ridgefield	$2,000,000
N 56th Avenue	Pioneer St. (SR-501) to N 5th Street	1 lane each direction w/ turn lane	Not continuous	2025	Ridgefield	$1,590,000
N 5th Street	Royle Rd. (45th Ave.) to N 56th Place	1 lane each direction w/ turn lane	Not continuous	2025	Ridgefield	$3,700,000
N 65th Avenue	Pioneer (SR-501) to N 20th St/NW 289th Street	1 lane each direction w/ turn lane	1 lane each direction	2024	Ridgefield	$3,130,000
85th Ave/NE 10th Avenue	S 5th to N 10th St/NE 279th Street	1 lane each direction w/ turn lane	1 lane each direction	2035	Ridgefield	$4,230,000
105th Ave/NE 29th Ave.	N 10th St/NE 279th to S 10th St/NE 259th St	Upgrade to collector arterial	1 lane each direction	2040	Ridgefield	$7,050,000
S. 10th St/NE 259th St	85th Ave/NE 10th to 105th Ave/NE 20th Av.	Upgrade to collector arterial	1 lane each direction	2035	Ridgefield	$4,700,000
N.10th St/NE 279th Street	85th Ave/NE 10th to 105th Ave/NE 20th Av.	Upgrade to collector arterial	1 lane each direction	2030	Ridgefield	$4,700,000
S. 65th Ave	Pioneer St. (SR-501) to S 5th Street	1 lane each direction w/ turn lane	1 lane each direction	2020	Ridgefield	$2,350,000
N 10th St/NW 279th Street Extension	65th Ave/NW 11th Avenue to 85th Ave/NE 10th Avenue	1 lane each direction w/ turn lane	1 lane each direction	2030	Ridgefield	$4,930,000
S 10th Way	S 35th Place to S 25th Place	Rebuild road, 1 lane each direction	1 lane each direction	2025	Ridgefield	$3,610,000
S 15th Street	Royle (S 45th Ave.) to S 35th Place	Rebuild road, 1 lane each direction	1 lane each direction	2020	Ridgefield	$4,830,000
S 15th Street	S Royle Road (45th Ave.) to S 11th St.	Minor arterial, 1 lane each direction w/ turn lane	None	2025	Ridgefield	$4,570,000
S. 35th Ave.	Pioneer (SR-501) to S 15th St	New collector. 1 lane each direction w/ turn lane	None	2025	Ridgefield	$7,420,000
S 20th Way	Timm Road to S 51st Avenue	Widen to industrial/commercial collector. 1 lane each direction w/ turn lane	1 lane each direction	2035	Ridgefield	$2,980,000
S 25th Place	S 10th to S 4th Way	Rebuild road	1 lane each direction		Ridgefield	$1,020,000
S 51st Avenue	Pioneer Street/NW 20th St	New Minor Arterial	none	2028	Ridgefield	$5,152,060
S 51st Avenue	S 20th Way to NW 219th St	Minor Arterial. 1 lane each direction w/ turn lane	Not continuous	2030	Ridgefield	$4,000,000

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
S 5th Street	Union Ridge Parkway to 85th Ave/NE 10th Avenue	Collector. 1 lane each direction w/ turn lane	1 lane each direction	2030	Ridgefield	$3,080,000
Timm Road	S 11th St to S 20th Way	Widen Timm to industrial/commercial collector. 1 lane each direction	1 lane each direction	2030	Ridgefield	$2,330,000
Pioneer Street Extension	65th Avenue Roundabout to S 5th Street	Extend Pioneer Street (SR 501) to Union Ridge Parkway (2 lanes each direction)	None	2020	Ridgefield	$9,000,000
Unnamed	Hillhurst Road to new rural minor collector roadway	Build new east-west collector (2 lanes)	NA	2022	Ridgefield	$4,300,000
Unnamed	N 35th Avenue to Royle Road (45th Avenue)	Build N 14th Street as a collector (2 lanes)	NA	2023	Ridgefield	$8,240,000
S 6th Way	Royle Road (45th Avenue) to 35th Avenue	Extend S 6th Way as collector (2 lanes)	NA	2028	Ridgefield	$6,500,000
Royle Road	Hillhurst Road to S 15th Street	Widen S Royle Road to minor arterial (3 lanes)	1 lane each direction	2022	Ridgefield	$3,500,000
Royle Road	S 15th Street	Build a roundabout at Royle Road (45th Avenue) and S 15th Street	NA	2022	Ridgefield	$2,250,000
Royle Road	S 3rd Way	Build roundabout at Royle Road (45th Avenue) and new collector south of Pioneer Street (SR 501)	NA	2022	Ridgefield	$2,250,000
Royle Road	N 10th Street	Build a signal or roundabout at N 10th Street and Royle Road (45th Avenue)	NA	2028	Ridgefield	$2,250,000
Royle Road	N 20th Street	Construct signal or roundabout at N 20th Street (NW 289th Street) and N Royle Road (45th Avenue)/NW 31st Avenue	NA	2032	Ridgefield	$2,250,000
Unnamed	Royle Road (45th Avenue) to 56th Avenue	Build new east-west collector roadway south of Pioneer Street (SR 501) (2 lanes)	NA	2028	Ridgefield	$5,250,000
S 51st Ave	S 11th Street	Construct roundabout at S 11th Street and S 51st Avenue extension	NA	2030	Ridgefield	$1,030,000

Facility	Cross Streets	Project Description	Existing Condition	Est. Year of Completion	Jurisdiction/ Agency	Project Cost Estimate
Union Ridge Parkway	74th Place	Build a signal or roundabout at Union Ridge Parkway extension and 74th Place extension		2030	Ridgefield	$2,500,000
Union Ridge Parkway	S 5th Street to NE 279th Street	Build a signal or roundabout at Union Ridge Parkway and S 5th Street		2030	Ridgefield	$2,500,000
Unnamed	N 10th Street to new collector extending 74th Place	Build new north-south collector roadway (2 lanes)		2030	Ridgefield	$4,000,000
Unnamed	N 85th Avenue to new local roadway	Build new east-west collector roadway (2 lanes)		2028	Ridgefield	$4,100,000
Union Ridge Parkway	S 85th Avenue	Build a signal or roundabout at Union Ridge Parkway and 85th Avenue		2025	Ridgefield	$250,000
Collector roadway	NE 339th St. to E. 4th Street	New eastside collector roadway	None	2018-2038	La Center	$2,005,264
Highland Street	High School to E City Limits	Urban upgrade	Unimproved road segment	2018-2038	La Center	
La Center Road	4th Street and Timmen Road	Improve La Center Road to Principal Arterial and widen bridge including Pedestrian and sidewalk	2 lanes	2018-2038	La Center	$16,300,000
5th Street	Aspen Avenue	Realignment of E. 5th Street, Bicycle and ped improvements.	Urban roads with misaligned intersection.	2018-2024	La Center	$850,000
Total						**$1,049,631,153**

Transportation Strategies and Programs

In addition to the listed capital projects (see Tables B-1 to B-6), the RTP is supportive of any other project or transportation strategy for which a need has been demonstrated through the regional transportation planning process that will serve to enhance the efficiency and operation of the regional transportation system. These projects or strategies include maintenance, preservation, safety, pedestrian, bicycle, enhancement, transit, environmental, Transportation System Management and Operations (TSMO), and Transportation Demand Management (TDM).

Maintenance

Maintenance work ensures a safe, reliable and efficient transportation system on a day to day basis with such activities as pothole filling, repair of damaged bridges, incident response, maximizing operational efficiency by signal timing, snow clearing, vegetation planting and clearing, drainage and fence maintenance and litter removal. The RTP supports regional system maintenance work identified by WSDOT and local agencies.

Preservation

Preservation projects ensure that investment in the regional transportation system is protected. Specific projects include repaving of highways, refurbishing rest areas and bridge rehabilitation. Needs and projects are identified by local agencies and WSDOT through such programs as the Highway Performance Monitoring System (HPMS), Washington State Pavement Management System (WSPMS) and Bridge Management System (BMS).

Safety

Transportation safety needs which this 2018/19 RTP update supports are identified through the State's Strategic Highway Safety Plan: Target Zero (SHSP; updated 2016), the WSDOT Highway System Plan, regional and local analyses. RTC has published safety assessments for the region, see Safety Assessment for Clark County (2014), updates the RTC Board on a regular basis regarding transportation safety issues, identifies and programs regional and local safety projects and strategies and in January 2018 the RTC Board adopted a resolution to support WSDOT in meeting safety performance measure targets set by the state to comply with the federal performance based program requirements (see RTP Chapter 6).

Pedestrian and Bicycle Modes

Pedestrian and bicycle modes are addressed in Chapter 5 of the RTP. Needs are identified through state, regional and local planning programs including the Clark County Bicycle and Pedestrian Master Plan (Clark County, November 2010), Clark County's Regional Trails and Bikeway System Plan (2006), work of the Clark Communities Bicycle and Pedestrian Advisory Committee, the City of Vancouver's

Comprehensive Growth Management Plan Transportation System Plan, and other local plans.

Local jurisdictions have adopted design standards for arterials that include sidewalks for most facilities and bike lanes for some of the arterial segments.

Local jurisdictions work in partnership with School Districts on the Safe Routes to Schools Program to identify transportation improvements that can improve safe access to schools. These improvements can include signage, curb cuts, sidewalks, crosswalks and bike lanes and bike paths. Many of the schools within the region could benefit from improved walk and bike access including projects at Walnut Grove Elementary and Summit View School. In past years projects to improve access to Sarah J. Anderson Elementary School, Harmony Elementary and Pacific Middle Schools have benefited the schools. Planners work in close coordination with school districts and the Safe Routes to School National Partnership's regional representatives to identify and implement Safe Routes projects.

Pedestrian and bicycle modes are promoted through the Washington State Department of Health and WSDOT Active Community Environments program.

Regional trails are described on Vancouver and Clark County websites. Trails of regional significance within Clark County include Bells Mountain Trail, Burnt Bridge Creek Trail, Captain William Clark Park Trail at Cottonwood Beach, Chelatchie Prairie Rail with Trail, Cougar Creek Trail, the Discovery Historic Loop, Ellen Davis Trail, Evergreen Highway Trail, Jason Lee Park Trail, Lacamas Park Trail, Lacamas Heritage Trail, La Center Bottoms Trail, Lewisville Park Trail, Lucia Falls and Moulton Falls Trails, Orchards Park Trail, Salmon Creek Greenway Trail, Steigerwald Trail, Vancouver Lake and Frenchman's Bar Trails, Waterfront Renaissance Trail, Whipple Creek Park Trail and Wy-East Park Trail.

Trails identified in the Regional Trails and Bikeway System Plan (2007) are:

1. Lewis & Clark Discovery Greenway,
2. Chelatchie Prairie Railroad,
3. Lake to Lake,
4. Salmon Creek Greenway,
5. Padden Parkway,
6. I-5 Corridor,
7. I-205 Corridor,
8. East Fork of the Lewis River,
9. Battle Ground/Fisher's Landing,
10. Washougal River Corridor,
11. North Fork of the Lewis River Greenway,

12. Whipple Creek Greenway,
13. North/South Powerline,
14. East Powerline,
15. Livingston Mountain Dole Valley,
16. Camp Bonneville, and
17. Lower Columbia River Water Trail.

Some of the trails can accommodate equestrians.

Also of regional significance is improvement of pedestrian and bicycle facilities that will improve access to transit facilities. Bike racks are provided on C-TRAN fixed-route buses and bike lockers are provided at C-TRAN Transit Centers and Park and Rides.

Transit

Transit transportation solutions supported in the RTP are consistent with C-TRAN's service and financial planning process, including plans for future service outlined in C-TRAN's 20-Year Transportation Development Plan, C-TRAN 2030 Plan (C-TRAN, June 2010, updated in 2016). C-TRAN 2030 assumes an additional 0.5 percent sales tax to maintain service levels commensurate with population growth.

Capital equipment needs includes bus purchases to support service hours and replace older fleet.

High Capacity Transit Corridors

Potential High Capacity Transportation Corridors were studied in the Clark County High Capacity Transit System Study (RTC, December 2008). C-TRAN is implementing HCT in Clark County with plans described in C-TRAN's 20 Year Transit Development Plan, C-TRAN 2030 Plan (June 2010, updated December 2016).

Frequent bi-state bus service is part of C-TRAN's service plans as well as connection to Portland's MAX light rail and other transit services.

Environmental Strategies and Projects

The RTP for Clark County is supportive of transportation projects and strategies to help keep the environment, including waterways, healthy. For example, transportation facilities that can impede fish migration cross many streams and rivers in the region. Transportation agencies and jurisdictions may work to improve fish passage and reconnect streams as part of a transportation project.

Transportation System Management and Operations

Potential System Management and Operations solutions are identified in RTC's updated Transportation System Management and Operations Plan (RTC, September 2016). System management strategies are also outlined in Washington State's Washington Transportation Plan and local Growth Management plans. A key strategy of transportation system management is the implementation of an intelligent transportation system (ITS) for the Clark County region.

The Vancouver Area Smart Trek Program (VAST) is the ITS initiative for the region developed as a cooperative effort by jurisdictions and transportation agencies in Clark County. It is made up of several initiatives to improve the management and operation of the system. These initiatives include:

18. Communications infrastructure,
19. Traveler information,
20. Incident management,
21. Transportation management,
22. Advanced traffic control,
23. Transit priority, and
24. Transit operation and management.

C-TRAN's VAST projects include automatic vehicle locators, computer aided dispatch, automatic passenger counting, transit signal priority (TSP), transit speed and reliability and regional transit fare integration.

Transportation Demand Management (TDM)

Demand management activities are determined through the Commute Trip Reduction program in the Clark County region.

Recommended Regional CTR Plan implementation strategies include:

- Building upon existing and successful CTR programs, expand programs to unaffected CTR employers and integrate CTR into the region's strategy for managing its transportation system.
- Policies and Regulations:
  - Allow a reduction in the minimum/maximum number of required parking spaces if a development provides ride-share programs.
  - Encourage new development to incorporate supporting elements that will encourage the use of transit and ridesharing activities.
- Services and Facilities

- Increase transit services as population in Clark County grows.
- Expand the vanpool market and encourage employer participation.
- Expand ridematching services through on-line programs.
- Improve bicycle and pedestrian connections

- Marketing and Incentives
  - Encourage employers to offer alternative work schedules and telework programs to their employees.
  - Conduct area-wide promotional campaigns.
  - Offer transit pass discounts and incentive programs.
  - Implement parking management programs.
  - Encourage employers to offer carpool subsidies for carpool commuters
  - Encourage employers to allow employees to work from home or a closer work site.

When projects in the categories listed above require state or federal funding, they are brought forward to RTC as the region's MPO to carry out a coordinated decision-making process whereby projects are prioritized and selected for funding.

Transportation Planning Studies

Transportation solutions are periodically being evaluated through state, regional and local transportation studies and will be reflected in future RTP updates.

Appendix C: Regional Air Quality Status, Consistency with State Implementation Plan (SIP)

Introduction

Required under the Federal Clean Air Act, the State Implementation Plan (SIP) provides a blueprint for how areas will attain and maintain the National Ambient Air Quality Standards (NAAQS). Demonstrating that the Regional Transportation Plan and the Transportation Improvement Program conform to the SIP is required by the Federal Clean Air Act, the Fixing America's Surface Transportation (FAST) Act, and the Clean Air Washington Act. Positive conformity findings allow the region to proceed with implementation of transportation projects in a timely manner.

For regions that are designated as nonattainment or maintenance areas, transportation conformity is a mechanism for ensuring that transportation activities, plans, programs and projects are reviewed and evaluated for their impacts on air quality prior to funding or approval. The intent of transportation conformity is to ensure that new projects, programs, and plans do not impede an area from meeting and maintaining air quality standards. Specifically, regional transportation plans, improvement programs, and projects may not cause or contribute to new violations, exacerbate existing violations, or interfere with the timely attainment of air quality standards.

The Region's Air Quality Attainment Status

Ozone: Under both the 1997 and 2008 8-hour ozone NAAQS, the Vancouver/Portland Air Quality Maintenance Area (AQMA) is designated in "attainment." status As of the revocation of the 1-hour ozone NAAQS on June 15, 2005, regional emissions analyses for ozone precursors in the Plan (RTP) and Program (TIP) were not required.

Carbon Monoxide: The Vancouver AQMA was redesignated to attainment for the CO NAAQS with an approved 10-year maintenance plan in 1996. In January 2007, the Southwest Clean Air Agency submitted a Limited Maintenance Plan (LMP) for CO to the Environmental Protection Agency for the second 10-year period. The EPA approved this LMP the following year. Based on the population growth assumptions

contained in the Vancouver Limited Maintenance Plan (LMP) and the LMP's technical analysis of emissions from the on-road transportation sector, it was concluded that the area would continue to maintain CO standards. As of October 21, 2016, the Vancouver AQMA successfully completed the 20-year "maintenance" period and is no longer required to make a conformity determination.

History of the Region's Air Quality Status

On March 15, 1991, the U.S. Environmental Protection Agency designated the urban area of the Vancouver portion of the Portland- Vancouver Interstate Air Quality Maintenance Area as a Marginal non-attainment area for the 1-hour ozone (O3) NAAQS and a Moderate carbon monoxide (CO) non-attainment area. This action was taken in accordance with Section 107 of the Federal Clean Air Act as amended in 1990.

The Southwest Clean Air Agency (SWCAA) developed, as supplements to the State Implementation Plan, two Maintenance Plans; one for Carbon Monoxide (CO) and another for Ozone (O3). In October 1996, the Carbon Monoxide Maintenance Plan and in April 1997, the Ozone Maintenance Plan were approved by the Environmental Protection Agency (EPA). Mobile source strategies contained in the Maintenance Plans were endorsed for implementation by the RTC Board of Directors (Resolution 02-96-04).

Applicable State Implementation Plan

The latest approved SIP for the Vancouver Air Quality Maintenance Area is the second 10-Year Limited Maintenance Plan for Carbon Monoxide approved by the EPA (73 FR 36439; June 27, 2008). On November 19, 2007, EPA published a Federal Register notice of the adequacy of the CO Limited Maintenance Plan for conformity purposes. Despite successful conclusion of the 20-year maintenance period, the control measures in the approved SIP remain in place.

Air Quality Coordination

Although it is not mandatory, RTC will continue to coordinate and cooperate with air quality consultation agencies (Washington State Department of Ecology, EPA, FHWA, FTA, WSDOT, and SWCAA) when needed on any new regulatory and technical requirements that may affect the AQMA as well as emerging issues related to air quality and transportation. RTC will consult with the agencies, as requested, in the review, update, testing, and use of the Motor Vehicle Emissions Simulator emissions model to ensure accuracy and validity of model inputs for the Clark County region and consistency with state and federal guidance.

On-Road Emission Reduction Strategies

The State Implementation Plan (SIP) for Washington State includes an enhanced I/M vehicle emissions testing program for the Vancouver portion of the Portland-

Vancouver Air Quality Maintenance Area. Washington's vehicle emission inspection program was added to the Vancouver urban area in 1993 and expanded to Brush Prairie, Battle Ground, Ridgefield and La Center in 1997. The emissions testing program will end in the region as of December 31, 2019.

Although not required as TCM's, there are plans for improved public transit and transit facilities. Additional efforts that contribute to emissions reductions include the 2006 Commute Trip Reduction (CTR) Efficiency Act that replaced the 1991 CTR Act. The CTR program calls for reduction of single occupant vehicle travel by major employers in the affected Urban Growth Areas of Clark County. As required by the CTR Efficiency Act, the RTC Board of Directors updated RTC's Regional CTR Plan and local CTR Plans for Vancouver, Camas, Washougal and unincorporated Clark County in May 2015 (Resolution 05-15-10). Vancouver is also voluntarily implementing a variety of local programs and promotions to encourage commute trip reduction for non-CTR employers.

Appendix D: Funding Programs

Introduction

This appendix documents the current and potential revenue sources and funding programs available for transportation uses. It includes description of programs available for highway and transit funding from federal, state, and local sources.

Current Revenue Sources

Revenues for transportation system development are currently available from federal, state, local and private sources. In the RTP's financial plan Chapter 4, funding sources that have been historically available are projected into the future to provide an estimate of revenue resources reasonably expected to be available. It is assumed that funding types that have traditionally been available for transportation will continue to be available.

Federal Funding

The federal gas tax and other transportation fees and taxes are the major federal revenue sources for transportation funding. On December 4, 2015, President Obama signed into law the federal transportation act, Fixing America's Surface Transportation (FAST) Act. The FAST Act is the first federal law in over a decade to provide long-term funding certainty for surface transportation infrastructure planning and investment. The FAST Act authorizes $305 billion over fiscal years 2016 through 2020 for highway, highway and motor vehicle safety, public transportation, motor carrier safety, hazardous materials safety, rail, and research, technology, and statistics programs. In addition, the FAST Act includes a number of provisions designed to improve freight movement in support of national goals.

It is anticipated that the current and subsequent federal transportation acts will continue to be funded through revenues from the Highway Trust Fund and General Fund and that authorization of federal transportation funds will continue through the life of the RTP.

The FAST Act authorizes a single amount each year for all the apportioned highway programs combined. That amount is apportioned among the States, and then each State's apportionment is divided among the individual apportioned programs. Part of the States apportionment is then allocated to Southwest Washington Regional

Transportation Council (RTC), who selects local transportation projects for funding under the Surface Transportation Block Grant (STBG), Congestion Mitigation and Air Quality (CMAQ), and Transportation Alternatives (TA) programs. The following sections include a brief description of major FAST Act funding programs.

Federal Funding: Multimodal

BUILD Discretionary Grants

Better Utilizing Investments to Leverage Development (BUILD) transportation discretionary grants replace the pre-existing Transportation Investment Generating Economic Recovery (TIGER) grant program. BUILD Transportation grants are for investments in surface transportation infrastructure and are awarded on a competitive basis for projects that will have a significant local or regional impact. The Consolidated Appropriations Act of 2018 made available through September 30, 2020, $1.5 billion in discretionary grant funding to support roads, bridges, transit, rail, ports or intermodal transportation to enhance America's infrastructure,

Projects for BUILD will be evaluated based on merit criteria that include safety, economic competitiveness, quality of life, environmental protection, state of good repair, innovation, partnership, and additional non-Federal revenue for future transportation infrastructure investments. For this round of BUILD Transportation grants, the maximum award is $25 million, and no more than $150 million can be awarded to a single State. At least 30 percent of funds must be awarded to projects located in rural areas.

Infrastructure for Rebuilding America (INFRA)

The FAST Act establishes the Nationally Significant Freight and Highway Projects (NSFHP) program to provide financial assistance and competitive grants, known as INFRA grants to nationally and regionally significant freight and highway projects. The Federal Highway Administration selects projects through a national competitive grant program.

National Highway Performance Program (NHPP)

The FAST Act continues the National Highway Performance Program established under MAP-21. The National Highway Performance Program (NHPP) has three purposes: 1) provide support for the condition and performance of the National Highway System (NHS); 2) provide support for the construction of new facilities on the NHS; and 3) ensure that investments of federal-aid funds in highway construction are directed to support progress toward the achievement of performance targets established in a state's asset management plan for the NHS. The State selects projects for funding.

Highway Safety Improvement Program (HSIP)

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

National Highway Freight Program (NHFP)

The FAST Act establishes a new National Highway Freight Program to improve the efficient movement of freight on the National Highway Freight Network (NHFN) and support freight goals. The State selects projects for funding.

Congestion Mitigation and Air Quality (CMAQ)

The FAST Act continues the CMAQ program to provide a flexible funding source to State and local governments for transportation projects and programs to help meet the requirements of the Clean Air Act. Funding is available to reduce congestion and improve air quality for areas that do not meet the National Ambient Air Quality Standards for ozone, carbon monoxide, or particulate matter (nonattainment areas) and for former nonattainment areas that are now in compliance (maintenance areas). RTC selects projects for funding.

Surface Transportation Block Grant (STPG)

The FAST Act converts the long-standing Surface Transportation Program into the Surface Transportation Block Grant Program acknowledging that this program has the most flexible eligibilities among all Federal-aid highway programs and aligning the program's name with how FHWA has historically administered it. The STBG promotes flexibility in State and local transportation decisions and provides flexible funding to best address State and local transportation needs.

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

- STPG-Urban Large (STP-UL): Formula allocation to the Clark County Transportation Management Area based on the population of the Vancouver Urban boundary, which includes the urban area of Vancouver, Battle Ground, Camas, and Washougal. RTC (MPO) selects projects for funding.
- STPG-Rural (STP-R): Formula allocation for projects outside the Urban Area boundary. RTC (MPO) selects projects for funding.

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

Transportation Alternatives (TA)

The FAST Act replaced the Transportation Alternatives Program (TAP) with a set-aside of the Surface Transportation Block Grant (STBG) program, called Transportation Alternatives (TA). These set-aside funds include all projects and activities that were previously eligible under TAP including transportation projects such as pedestrian and bicycle facilities. RTC selects project for funding.

Highway Infrastructure Program (HIP)

The 2018 Omnibus bill contained a one-time allocation of funds under the Highway Infrastructure Program (HIP). The HIP funds may be used for restoration, repair, construction and other activities eligible under the Surface Transportation Program (STP). Funds must be obligated by September 30, 2021 or funds lapse.

Federal Funding: Transit

Capital Investment Grants

Also known as "New Starts / Small Starts," the Capital Investment Grants Program is a discretionary grant program to fund transit capital investments, including heavy rail, commuter rail, light rail, streetcars, and bus rapid transit.

FTA Section 5307

This program provides formula funding to public transit systems in Urbanized Areas (UZAs) for public transportation capital, planning, job access and reverse commute projects, as well as operating expenses in certain circumstances. Funds are allocated to the Portland/Vancouver region. The regional transit providers have agreed to the division of these funds, with a portion allocated to C-TRAN.

FTA Section 5309

FTA's primary grant program for funding major transit capital investments, including heavy rail, commuter rail, light rail, streetcars, and bus rapid transit. These are discretionary funds.

FTA Section 5310

This program is intended to enhance mobility for seniors and persons with disabilities by providing funds for programs to serve the special needs of transit-dependent populations beyond traditional public transportation services and

Americans with Disabilities Act (ADA) complementary paratransit services. In large urban areas, such as the Vancouver urban area, a designated recipient is chosen by the governor. C-TRAN is the designated recipient of the formula funds in this region. C-TRAN passes these funds to eligible subrecipients which include private nonprofit organizations.

FTA Section 5337

Provides capital assistance for maintenance, replacement, and rehabilitation projects for existing high-intensity fixed guideway and high-intensity motorbus systems to maintain a state of good repair. Additionally, state of good repair grants are eligible for developing and implementing Transit Asset Management plans.

FTA Section 5339

Provides funding to states and transit agencies through a statutory formula to replace, rehabilitate and purchase buses and related equipment and to construct bus-related facilities. In addition to the formula allocation, this program includes two discretionary components: The Bus and Bus Facilities Discretionary Program and the Low or No Emissions Bus Discretionary Program.

State Funding: Multimodal

On the State level, the Motor Vehicle Fuel Tax is the primary funding source for highway maintenance and arterial construction. The State gas tax is the major state revenue source for highway maintenance and arterial construction funding. In addition, the state has other taxes and fees that support the funding of transportation improvements. These include licenses, permits, and fees as well as a vehicle sales tax. Some of the programs funded by these revenues are described below:

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.

Connecting Washington

In 2015, the state passed a transportation investment package known as Connecting Washington (CWA). This package spends $8.8 billion on state and local road projects, $1.4 billion on maintenance and preservation, about $1 billion will go to non-highway projects, and a portion is allocated to local jurisdictions.

WSDOT Grant Programs

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

Transportation Improvement Board (TIB) Programs

The Washington State Legislature 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 urban counties for funding transportation projects. The TIB identifies and funds the highest ranking transportation projects based on criteria established by the Board for each program.

- Urban Arterial Program (UAP): Funding provided to improve safety and mobility along arterial streets in urban areas.
- Sidewalk Program (SP): Funding provided for pedestrian projects that enhance and promote pedestrian safety and mobility. There is both an urban and small city sidewalk program.
- Urban Preservation Program (APP): Funding provided for overlay of federally classified arterial streets in cities with a population greater than 5,000 and assessed valuation less than $2 billion.
- Relight Washington (LED): The main goal of the Relight Washington Program is to lower city's street light costs by helping cities convert to more energy efficient LED streetlights. Eligible cities include all small towns (population less than 5,000) and urban cities with a total assessed value of less than $2 billion.
- Small City Arterial Program (SCAP): Funding provided to preserve and improve the arterial roadway system for cities under 5,000 population.
- Small City Pavement Preservation Program (SCPPP): Provides funding for rehabilitation and maintenance of the small city roadway system.
- Federal Match: Funding provided to meet the local match of some federally funded projects in small cities (population under 5,000). The program provides match for federal Bridge, TEA-21, and FEMA projects. The match varies by program between 12.5% and 20%. The Transportation Improvement Board funds are made available following approval of federal funds.
- Complete Streets Award: The Complete Streets Award is a new funding opportunity for local governments. The legislature provided funding in 2015 and the first awards were given in January of 2017 with open call for awards every two years. The Complete Streets Award is flexible money given to any city or county in Washington state who has an

adopted complete streets ordinance and shows an ethic of planning and building streets that use context sensitive solutions to accommodate all users, including pedestrians, transit users, cyclists, and motorists.

County Road Administration Board (CRAB)

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

- Rural Arterial Program (RAP): This is a state fund for financing arterial road improvements in rural areas. RAP funds cannot be used for right-of-way. Projects are rated by five criteria: (1) structural ability to carry loads; (2) capacity to move traffic at reasonable speeds; (3) adequacy of alignment and related geometrics; (4) accident experience; and (5) fatal accident experience. Projects are selected by the County Road Administration Board. The costs are shared 90% State and 10% local match.
- County Arterial Preservation Program (CAPP): Funding is provided for the preservation of existing paved county arterials. Funding is provided to counties as direct allocation based on paved arterial lane miles by the County Road Administration Board.

Washington State Recreation and Conservation Office (RCO)

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

Community Economic Revitalization Board (CERB)

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

Public Works Trust Fund (PWTF)

The Public Works Board was created by the Washington state legislature to assist local governments in addressing local infrastructure needs through a dedicated local funding pool, existing as a revolving loan program, to be managed by a citizens' board comprised of local infrastructure representatives. The Public Works Trust Fund provides low interest loans to local governments for infrastructure

improvements and is funded by utility taxes. The program is dependent on the Washington State Legislature funding the program.

State Funding: Transit

Competitive grant funding is available from WSDOT's Public Transportation Division. Grant funding programs include: the New Revenue Grant Program, the Consolidate Grant Program, the Formula Grant Program, the Regional Mobility Grant Program, and the Vanpool Investment Program.

Local Funding: Multimodal

Local revenue comes from a variety of sources such as property tax and impact fees for highway projects and sales tax for transit projects. Other revenues include moneys from permits, fees, and taxes.

Property Tax

Clark County allocates a portion of their property taxes to the County Road Fund (Approximately $2.25 per $1,000 of assessed value). Cities also receive transportation dollars from the city's general funds, of which property taxes are a major revenue source.

Arterial Street Fund (ASF)

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

Transportation Impact Fees (TIF)

Transportation impact fees were authorized by the 1990 Legislature to address the impact of development activity on transportation facilities. Jurisdictions within Clark County have established Transportation Impact Fee programs. Generally, new developments and redevelopments are assessed a Traffic Impact Fee, based on their impact to the transportation system.

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 road improvement district.

Frontage Improvement Agreements

Most developments are required to construct frontage improvements. In cases where the development abuts a proposed road improvement project, it is often

beneficial for the developer to pay local government for their share of the road improvement and for local government to construct the improvements as part of the overall capital project.

Latecomers Fees

According to State law, new developments and re-developments may be charged "Latecomer Fees" by the County for improvements that would have been required for their development, but have been constructed by the County.

Local Funding: Transit

Sales and Use Tax

C-TRAN's major revenue source is a 0.7% sales and use tax. A 0.3% sales tax was approved in 1980, an additional 0.2% was approved by voters in 2005, and an additional 0.2% approved by voters in 2011. The sales and use tax is a portion of the sales and use tax charged within Clark County. The tax rate can be raised to as much as 0.9% with voter approval.

Transit-Fares

This is the amount of revenue generated by transit fare, ticket, and pass sales. One of the key sources of operating revenue for C-TRAN are charges to customers in the form of bus fares. The total amount of funding received through passenger fares in 2017 was $6.9 million. C-TRAN's policy is to evaluate fares annually, making incremental changes as needed.

RCW 81.104 (High Capacity Transit Legislation)

RCW 81.104 authorizes local jurisdictions to plan for and finance high capacity transportation systems through voter-approved tax options. Funding options include an employer tax, special motor vehicle excise tax, and sales and use tax.

Potential Transportation Revenues

The revenue sources described in this section are programs approved by the State Legislature that authorize jurisdictions to impose fees at the local level for specific transportation infrastructure categories with voter approval.

Property Tax Road Levy

Every county in Washington collects a property tax road levy for construction, preservation, and maintenance of county roads, bridges, and wharves.

Transportation Benefit Districts

2005 legislation (Senate Bill 5177), codified primarily to RCW 36.73, allows jurisdictions to form a transportation benefit district. Funds generated can be used to finance construction of, and operate, improvements to roadways, high capacity transportation systems, public transit systems, and other transportation management programs. The District, if formed, could impose new taxes and fees if approved by the electors of the District. New taxes and fees can include 1) a sales and use tax not to exceed 0.2% for a duration of up to 10 years and extendable, by vote of the electors, for an additional 10 years, 2) a vehicle license fee up to $100 per vehicle, 3) excess property tax levies with a super-majority public vote, 4) tolls on state routes, city streets and county roads as authorized by the Legislature for state routes and tolls on any roads must be approved by the Transportation Commission, and 5) impact fees on commercial development only.

Commercial Parking Tax

RCW 82.80.030 authorizes a tax on commercial parking which can include paid parking lots as well as parking spaces that accompany the lease of nonresidential space. The proceeds may be used for general transportation purposes. The tax could be based on gross proceeds or fee per vehicle.

Motor Vehicle Fuel Tax (MVFT)

With voter approval, a 10% surcharge can be imposed on state Motor Vehicle Fuel Tax (MVFT) for fuel sales in the county. Revenue generated would be shared, based on population, between the county and the cities within the county.

Appendix E: Year of Expenditure Methodology and Fiscal Constraint Determination

Introduction

The Fixing America's Surface Transportation Act (FAST Act, 2015) continues many provisions related to transportation planning from prior laws for the preparation of Regional Transportation Plans (RTPs). One of the requirements is that the RTP must be financially constrained and that there must be a reasonable expectation that revenues will be available to provide for the list of projects identified in the Plan. Another key requirement is that the RTP must consider the effects of inflation in developing revenue and cost estimates. Under these rules, revenue and cost estimates for the Regional Transportation Plan must use inflation rates to reflect "year of expenditure" dollars. The requirements regarding YOE are described in the next section.

YOE Requirements

YOE requirements are described in the Code of Federal Regulations, *23 CFR 450.324 (f) (11) (iv)*. The wording of the Code is provided below:

> *(iv) In developing the financial plan, the MPO shall take into account all projects and strategies proposed for funding under title 23 U.S.C., title 49 U.S.C. Chapter 53 or with other Federal funds; State assistance; local sources; and private participation. Revenue and cost estimates that support the metropolitan transportation plan must use an inflation rate(s) to reflect "year of expenditure dollars," based on reasonable financial principles and information, developed cooperatively by the MPO, State(s), and public transportation operator(s).*

Why is YOE Required?

The rationale for the YOE requirement is to have regional transportation plans account for reasonable inflation factors. Use of YOE requires MPOs to account for cost escalation and consideration that, over time, the growth of revenues may not be proportional to costs as part of the fiscal constraint determination. Converting all

revenues and costs to YOE dollars will theoretically present a more accurate picture of costs, revenues, and potential deficits associated with the long range transportation plan.

Revenues: Assumptions

RTC selected a four percent annual inflation rate for the life of the RTP out to 2040. A flat four percent rate is the default inflationary rate recommended by the Federal Highway administration. Revenue sources for transportation uses are fully described in Chapter 4, the RTP finance plan, and includes new state revenue needed to meet the financial constraint test. All revenue forecasts contained in Chapter 4 are in current year (2018) dollars and are inflated 4 percent per year out to 2040 to calculate year of expenditure revenue. Table E-1 provides assumptions for each revenue source, by year, with total assumed revenues of $2,837,057,964 for federal, state, local projects and for transit projects and equipment from 2019 to 2040.

Table E-1: Revenue Assumptions (in Year of Expenditure)

Year	*State**	*Federal*	*Local*	*Transit*
2019	$32,579,303	$7,671,785	$21,519,561	$22,133,333
2020	$33,882,475	$7,978,656	$22,380,343	$23,018,667
2021	$36,830,251	$8,297,802	$23,275,557	$23,939,413
2022	$38,303,462	$8,629,715	$24,206,579	$24,896,990
2023	$39,835,600	$8,974,903	$25,174,842	$25,892,869
2024	$41,429,024	$9,333,899	$26,181,836	$26,928,584
2025	$43,086,185	$9,707,255	$27,229,109	$28,005,728
2026	$44,809,632	$10,095,545	$28,318,274	$29,125,957
2027	$46,602,018	$10,499,367	$29,451,005	$30,290,995
2028	$48,466,098	$10,919,342	$30,629,045	$31,502,635
2029	$50,404,742	$11,356,116	$31,854,206	$32,762,740
2030	$52,420,932	$11,810,360	$33,128,375	$34,073,250
2031	$54,517,769	$12,282,775	$34,453,510	$35,436,180
2032	$56,698,480	$12,774,086	$35,831,650	$36,853,627
2033	$58,966,419	$13,285,049	$37,264,916	$38,327,772
2034	$61,325,076	$13,816,451	$38,755,513	$39,860,883
2035	$63,778,079	$14,369,109	$40,305,733	$41,455,318
2036	$66,329,202	$14,943,873	$41,917,963	$43,113,531
2037	$68,982,370	$15,541,628	$43,594,681	$44,838,072
2038	$71,741,665	$16,163,294	$45,338,468	$46,631,595
2039	$74,611,332	$16,809,825	$47,152,007	$48,496,859
2040	$77,595,785	$17,482,218	$49,038,087	$50,436,733
Subtotal	$1,130,616,598	$255,071,270	$715,481,698	$735,888,398
YOE Revenue				$2,837,057,964

**Assumes 1.1 cent gas tax beginning in 2021*

As reported in Chapter 4, C-TRAN has provided 2019 to 2040 (YOE) operating revenue assumptions for sales tax, fare box recovery, interest, operating grants and other for public transportation purposes. C-TRAN assumes revenues of $2,263,141,076 between 2019 and 2040.

Cost Assumptions

Following FHWA guidance, the future annual average growth rate of 4% per year is also assumed for RTP costs. Transportation system component costs include highway and transit capital costs, transportation demand management, transportation system management, and pedestrian and bicycle projects. Table E-2 provides a detailed look at inflation of cost estimates for transit and highway capital projects as well as inflated costs for other transportation system components including: demand management, system management, pedestrian and bicycle projects. Combined YOE totals for these categories of costs total $2.67 billion in costs for the RTP years 2019 to 2040.

Projects scheduled for construction in years 2019 are already in YOE. There is a lot of uncertainty as to the timing of projects in outer years of the RTP. Every project in the RTP has either a construction year or a range of years for project construction. When a project construction date is expressed in a range of years, the mid-point within the range is assumed and the appropriate inflation factor is applied for that mid-point year, otherwise the year of construction was assumed for the inflation rate. For comparison, total capital project cost estimates for all modes in 2018 $ totals $1,792,902,647 whereas YOE cost estimates for the same list amounts to $2,845,797,630, a 58.7% increase. The RTP project list and capital costs, including year of construction, is in Appendix B.

Table E-2: Cost Assumptions (in Year of Expenditure)

Year	RTP Hwy/Transit Cost by Year (2018 $)	RTP Highway and Transit (YOE)	TSMO	TDM	Bike/Ped	Ongoing Transit Capital
2019	$14,878,267	$14,878,267	$2,419,048	$2,285,714	$4,400,000	$13,285,714
2020	$33,523,290	$34,864,222	$2,515,810	$2,377,143	$4,576,000	$13,817,143
2021	$86,236,870	$93,273,799	$2,616,442	$2,472,229	$4,759,040	$14,369,829
2022	$16,315,663	$18,352,902	$2,721,100	$2,571,118	$4,949,402	$14,944,622
2023	$71,202,180	$83,296,480	$2,829,944	$2,673,962	$5,147,378	$15,542,407
2024	$8,545,761	$10,397,225	$2,943,141	$2,780,921	$5,353,273	$16,164,103
2025	$117,801,058	$149,055,919	$3,060,867	$2,892,158	$5,567,404	$16,810,667
2026	$39,700,000	$52,242,492	$3,183,302	$3,007,844	$5,790,100	$17,483,094
2027	$20,077,058	$27,476,840	$3,310,634	$3,128,158	$6,021,704	$18,182,417
2028	$270,100,000	$384,436,521	$3,443,059	$3,253,284	$6,262,572	$18,909,714
2029	$20,945,000	$31,003,717	$3,580,781	$3,383,416	$6,513,075	$19,666,103

Year	RTP Hwy/Transit Cost by Year (2018 $)	RTP Highway and Transit (YOE)	TSMO	TDM	Bike/Ped	Ongoing Transit Capital
2030	$102,542,000	$157,858,698	$3,724,013	$3,518,752	$6,773,598	$20,452,747
2031	$51,835,500	$82,990,306	$3,872,973	$3,659,502	$7,044,542	$21,270,857
2032		$0	$4,027,892	$3,805,882	$7,326,323	$22,121,691
2033	$105,000,000	$181,826,027	$4,189,008	$3,958,118	$7,619,376	$23,006,559
2034	$0	$0	$4,356,568	$4,116,442	$7,924,151	$23,926,821
2035	$5,000,000	$9,364,906	$4,530,831	$4,281,100	$8,241,117	$24,883,894
2036	$14,000,000	$27,270,607	$4,712,064	$4,452,344	$8,570,762	$25,879,249
2037	$80,000,000	$162,065,321	$4,900,547	$4,630,438	$8,913,593	$26,914,419
2038	$265,000,000	$558,315,032	$5,096,568	$4,815,655	$9,270,136	$27,990,996
2039	$0	$0	$5,300,431	$5,008,281	$9,640,942	$29,110,636
2040	$0	$0	$5,512,448	$5,208,613	$10,026,580	$30,275,061
	$1,322,702,647	$2,078,969,278	$82,847,470	$78,281,074	$150,691,067	$455,008,741
					Total Cost	**$2,845,797,630**

Transit system YOE cost estimates for operations are calculated by C-TRAN to be $2,156,898,705 over the 2019 to 2040 RTP years.

RTP Fiscal Constraint: YOE

Given the YOE calculations for RTP assumed revenues and cost estimates provided above, it appears the 2018 RTP meets the test for fiscal constraint. Table E-3 provides a summary of the revenue and cost estimates in YOE. At the next RTP update, revenue projections and cost estimates will be updated to reflect new information and updated estimates for projects.

Table E-3: RTP System Summary Revenue Assumptions and Cost Estimates

	YOE Revenue Assumptions 2019-2040	YOE Cost Assumptions 2019-2040
RTP Capital	$2,837,057,964	$2,845,797,630
Transit Operating	$2,263,141,076	$2,156,898,705
Preservation and Maintenance	$2,585,394,941	$2,663,155,928
Totals	**$7,685,593,981**	**$7,665,852,263**

Appendix F: Transportation Security in the Vancouver/Clark County Region

Introduction

The purpose of this Appendix is to fulfill the requirement of the federal Transportation Act to include transportation security as a separate factor in the transportation planning process. This provision was first required in the Safe, Accountable, Flexible, Efficient Transportation Equity Act - A Legacy for Users (SAFETEA-LU) of 2005 and continues with the current Federal Transportation Act, Moving Ahead for Progress in the 21st Century (MAP-21). The US Department of Transportation defines transportation security as "the freedom from intentional harm and tampering that affects both motorized and nonmotorized travelers, and may also include natural disasters. Security goes beyond safety and includes the planning to prevent, manage, or respond to threats of a region and its transportation system and users."

This document provides background information regarding transportation security in the Vancouver and bi-state metropolitan region. It includes a description of the federal legislation relevant to transportation security, ongoing security planning initiatives in Clark County and the bi-state region, and existing programs and projects in the Vancouver urban area that support transportation security.

Federal Legislation, Programs, and Projects Related to Transportation Security

SAFETEA-LU outlined federal planning requirements for federally designated Metropolitan Planning Organizations (MPOs) and included eight planning factors that must be addressed as part of the metropolitan transportation planning process. These provisions continue with the current Federal Transportation Act, Moving Ahead for Progress in the 21st Century (MAP-21). Planning factors include economic vitality, safety, security, accessibility and mobility, environment and energy conservation, transportation system connectivity, transportation system management and operation, and preservation of the existing transportation system.

Federal Transportation Act: Transportation Security Requirements

The Federal Transportation Act, beginning with SAFETEA-LU in 2005, directs MPOs to specifically consider transportation security as a stand-alone planning factor, separating it from its attachment to safety in the prior Federal Transportation Act, TEA-21. The security factor states that the metropolitan transportation planning process shall "increase the security of the transportation system for motorized and non-motorized users." The Federal Highway Administration and Federal Transit Administration are currently developing specific guidance on ways in which MPOs are to implement this provision, but much of the substance is left to the discretion of the individual agencies. According to Michael Meyer from the Georgia Institute of Technology, MPOs can play a critical role in transportation security planning. The potential role of the MPO may be to serve as a forum for cooperative decision-making about security on a regional level, and that an MPO can serve a range of possible roles in this effort depending on the characteristics of the region and the MPO capabilities. The MPO could function in the following roles:

- Traditional - Incorporate transportation system management and operations, including security, in ongoing transportation planning activities.
- Convener - Act as a forum for plans to be discussed and coordinated with other plans.
- Champion - Work aggressively to develop a regional consensus on transportation systems security in operations planning.
- Developer - Develop operations plans in addition to incorporating security operations into transportation plans.
- Operator - Responsible for implementing operations strategies for transportation system security.

  Meyer suggests that the MPO would be most effective in the role of convener or champion, and that reasonable actions for an MPO would include conducting vulnerability analyses on regional transportation facilities and services, analyzing the transportation network for alternate routes in moving large numbers of people, and strategies for dealing with choke points.

RTC has traditionally addressed transportation system management and operations, including system security, with ongoing planning activities. Through the management and coordination of the regional Vancouver Area Smart Trek (VAST) Program, RTC has worked cooperatively with other agencies to act as a convener and champion to facilitate improved management and operations of the transportation system as it relates to Intelligent Transportation System initiatives in the region. These activities are described in Section IV.

Federal Security Initiatives

Several major pieces of legislation have passed into law following the events of September 11, 2001. These include provisions for all modes of transportation, and have emphasized security for both passengers and operators of the transportation system. The Transportation Security Administration (TSA) was created in 2001 within the U.S. Department of Transportation, under the Aviation and Transportation Security Act of 2001, and now oversees transportation security across all modes of transportation nationwide. The TSA was incorporated into the Department of Homeland Security in 2003.

Department of Homeland Security

The Department of Homeland Security (DHS) has conceived a set of plans that define the national security initiative. The National Response Plan lays out a comprehensive all hazards approach to emergency situations, including transportation related incidents. It offers best practices for first responders and the public/private sector players. This document is used as the core operational base plan for domestic incident management. A follow up plan dealing with the physical nature of disasters and how to mitigate accordingly is the National Infrastructure Protection Plan. Included in this document is the Critical Infrastructure Identification component that focuses on rating and inventorying susceptible infrastructure. This is accomplished by using a formula that assesses the function of consequences, vulnerability, and threat of a particular object.

Aviation and Transportation Security Act of 2001

This act created the TSA and established the Transportation Security Oversight Board. It also established the position of Under Secretary of Transportation for Security, an appointment made by the President. Among other improvements, it required the deployment of federal air marshals and improved airport perimeter access security. Other important sections of this legislation include increased penalties for interference with security personnel, chemical and biological weapon detection, airport improvement programs, flight deck security, mail and freight waivers, land acquisition costs, and air transportation safety and system stabilization. TSA administers several layers of security procedures including air cargo screening, canine detection teams, and security training for crewmembers and flight deck officers. Other programs from TSA include the Hazmat Threat Assessment Program, requiring commercial drivers to pass additional screening to be allowed to transport hazardous materials. TSA also has a Port Security Training Exercise Program (PortSTEP) to help port facilities train employees for best practices during emergency situations. The Transportation Worker Identification Credential Program (TWIC) is an identification system that will be used to identify employees in all modes of transportation.

National Maritime Transportation Security Act of 2002

This act was passed to implement measures that would protect ports and waterways from a terrorist attack. It requires area maritime security committees

and security plans for facilities and vessels that may be involved in a transportation security incident. It required the TSA to create a National Maritime Security Plan as well as Security Incident Response Plans.

Urban Areas Security Initiative

The Urban Areas Security Initiative (UASI) is a program of the DHS that provides funding to enhance domestic preparedness throughout 34 designated urban areas within the United States. The purpose of the UASI Program is to enhance the ability of urban areas to prevent, deter, respond to, and recover from threats and incidents of terrorism. It encourages urban areas to employ regional approaches to overall preparedness and to adopt regional response structures where appropriate.

This program was initiated in 2003 and has provided millions of dollars in funding to the Portland/Vancouver Urban Area. The Portland Urban Area is comprised of the City of Portland, counties of Columbia, Clackamas, Washington and Multnomah in Oregon and Clark County, Washington. Each of the county emergency managers and director from the City of Portland participate on the Urban Area Point of Contact (UAPOC) Committee which meets twice monthly to govern the activities of Portland/Vancouver Urban Area.

The UAPOC Committee has created and updated recently the local Homeland Security Strategy which identifies goals and objectives towards enhancing preparedness throughout the region. The funding received from the federal government is allocated towards accomplishing specific goals and objectives of the Homeland Security Strategy.

The Portland/Vancouver Urban Area grant funding and activities are described in Section III.

National Response Plan

The DHS has developed a manual of best practices in the National Response Plan (NRP). It establishes a comprehensive all-hazards approach to enhance the ability of the United States to manage domestic incidents. The plan incorporates best practices and procedures from incident management disciplines - homeland security, emergency management, law enforcement, firefighting, public works, public health, responder and recovery worker health and safety, emergency medical services, and the private sector - and integrates them into a unified structure. It forms the basis of how the federal government coordinates with state, local, and tribal governments and the private sector during incidents. The NRP format is used by both Washington State and within Clark County for their Comprehensive Emergency Management Plans (CEMPs). The CEMPs include a description of Emergency Support Functions (ESFs) that define and designate mitigation, preparedness, response, and recovery activities for specific emergency management functions, such as transportation, communications and warning, and evacuation.

Existing Plans, Procedures, Policies, and Coordination Related to Washington Transportation Security

State of Washington

The State of Washington has designated the Emergency Management Division (EMD) of the Washington Military Department as the lead state agency for emergency management activities defined by RCW 38.52.020. The mission of Washington EMD is to coordinate and facilitate resources to minimize the impacts of disasters and emergencies on people, property, the environment, and the economy. Advising the EMD and the Governor is the Washington Emergency Management Council (EMC). The seventeen members on the EMC are appointed by the Governor and represent emergency management stakeholders in the areas of state and local government, emergency services, industry, and the environment. The operation and responsibility of the EMC, the Governor's powers and local organization responsibilities are set out in the Revised Code of Washington (RCW), Chapter 38.52.040 through 38.52.070. The EMC has the responsibility to advise the Governor and the Director (Adjutant General) of the Washington Military Department on all matters pertaining to state and local emergency management. The EMC meets bi-monthly to review the State of Washington's emergency preparedness, response, mitigation and recovery programs and issues. The EMC provides the governor with an annual report on statewide preparedness including hazard mitigation, seismic safety improvements, flood hazards reduction, and hazardous materials planning and response activities. In addition, the EMC has appointed several subcommittees with specific areas of responsibility.

Urban Area Work Group Activities

Urban Area Security Initiative activities in the Portland/Vancouver region are governed by the Urban Area Points of Contact (UAPOC) group and a number of discipline-specific working groups. Presently, there are 11 discipline-specific working groups organized by the following categories: Fire/Emergency Medical Services, Law Enforcement, 9-1-1 Communications, Public Works, Emergency Management, Public Health, Citizen Corps, Public Information Officers, Cyber Security, Ports/Marine, and Transit.

Each of the five counties in the Portland/Vancouver region of UASI provides representation on each of these discipline subcommittees. The role of these discipline-based working groups is to complete each of the implementation steps for the goals and objectives of the UASI Homeland Security Strategy. These activities may include participation in planning activities, the procurement of equipment, regional training and exercise activities. The discipline work groups propose projects to the UAPOC Committee for UASI Grant funding (Section II.B.4) and work cooperatively to complete awarded projects.

Between 2003 and 2006, agencies in Clark County received $2.5 million in direct UASI funding in addition to significant benefits from regional projects which are not considered "direct funding." Transit-specific projects include a cooperative project between C-TRAN and Tri-Met cameras to enhance video surveillance on buses, key transit centers and at park and ride facilities. Additionally, transportation agencies have been involved in the Regional Critical Infrastructure Project which is intended to define and recommend standard security guidelines for critical infrastructure sites throughout the Urban Area. UASI funding also provided Clark County with enhanced communications interoperability for emergency responders, development of a redundant communications connection between CRESA and Washington State Patrol that will provide a backup dispatch center to CRESA at the WSP, remodeled Emergency Operations Center, training for first responders, support for Urban Search and Rescue teams in the area and better communications tools for fire and law enforcement agencies.

Region IV Homeland Security

In addition to Clark County's participation in the Portland Urban Area, Clark County is also assigned to a Homeland Security Region within Washington State. Washington State has developed a Homeland Security Strategic Plan and segmented the state into nine Homeland Security Regions. Clark, Cowlitz, Skamania and Wahkiakum counties make up Region IV. Region IV governs and oversees State Homeland Security Program (SHSP) funds, Law Enforcement Terrorism Prevention Program (LETPP) funds and Citizen Corp Program (CCP) funds. The Regional Coordinating Council, made up of chief officers from a variety of emergency response disciplines, provides the governance for these funds. A multi-disciplinary Technical Committee carries out the projects, goals, and objectives for the local homeland security strategy. The Technical Committee represents Law, Fire, Health, Emergency Management, Public Works, and Transportation disciplines.

Region IV has focused a large percentage of their funding towards interoperable communications throughout the region. While the UASI funds have centered along the I-5 corridor, Region IV funding has supported east-west expansion of interoperability. Other projects have included enhancing emergency management coordination throughout the region, the development of WebEOC (an information management system for Emergency Operations Centers) and a community-wide notification system for earlier warning on disasters.

Regional Emergency Management Group (REMG)

The Regional Emergency Management Group (REMG) is an association of bi-state emergency management professionals and elected officials within the Vancouver/Portland metropolitan region. Clark County members of REMG include CRESA, Clark County, City of Vancouver, and City of Camas. The group has two sub-committees: REMTEC (technical group) and REMPAC (policy advisory group composed of elected officials). Both subcommittees have the same agency membership as the REMG. Since its inception in 1993, REMG has created

Emergency Transportation Routes (Table F-1) for the region and a Regional Emergency Management Plan.

Table F-1: Emergency Transportation Route Chart Sample

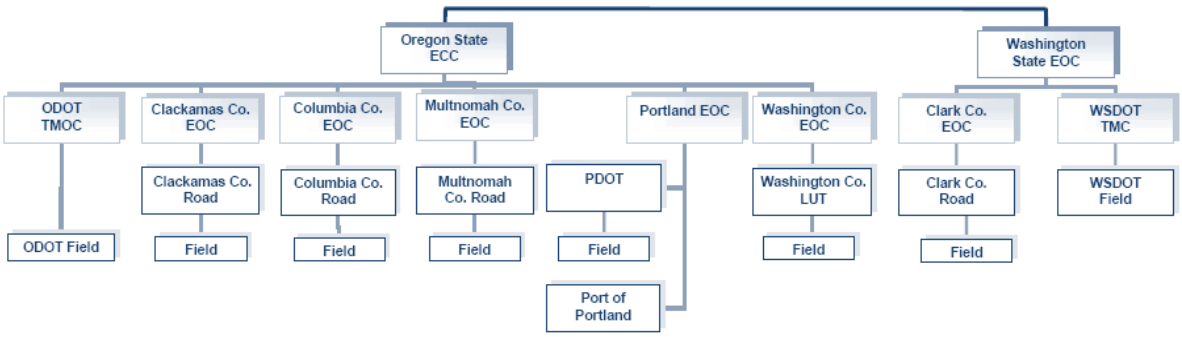
Route Name	From	To	Road Owner	Jurisdiction Responding
NE 78th St./ Padden Pkwy.	I-5	Ward Rd.	Clark County/ WSDOT	Clark County/ WSDOT
NW/NE Hayes Rd./ NE Cedar Creek Rd.	I-5	SR 503	Clark County	Clark County
SE/NE 164th/ 162nd Ave.	SR-14	Ward Rd.	Clark County/ City of Vancouver	Clark County/ City of Vancouver
SR 501/ Mill Plain Blvd	Port of Vancouver	I-5 Interchange	City of Vancouver	City of Vancouver/ WSDOT
Mill Plain (Vancouver)	I-5 Interchange	SE 164th Ave.	City of Vancouver	City of Vancouver
I-5	Marion Co.	Cowlitz Co.	ODOT/WSDOT	ODOT/WSDOT
NE Airport Way	I-205	NE 181st Ave	ODOT/PDOT	PDOT/ODOT
NE Airport Way	PDX	I-205	ODOT/ Port of Portland	ODOT/ Port of Portland
NE 82nd Ave.	NE Alderwood	NE Airport Way	Port of Portland	Port of Portland
I-5	Marion Co.	Cowlitz Co.	WSDOT/ODOT	ODOT/WSDOT
SR 14	I-5	Skamania Co. line	WSDOT	WSDOT
SR 500	I-5	SR 14	WSDOT	WSDOT
SR 502	I-5	SR 503	WSDOT	WSDOT
SR 503	SR 500	Cowlitz Co. line	WSDOT	WSDOT

The Emergency Transportation Routes (ETRs) were created as a part of their earthquake emergency procedure, but can be used for other unforeseen disaster events that require evacuation scenarios as well. Their focus is on moving people and goods into and out of the region as efficiently as possible given potential gaps in the existing system. Another purpose of the routes is to move response resources to heavily damaged areas in a disaster situation. The emergency roads are not presented on a map, but are detailed through the chart provided by Table F-1. REMG is also currently undertaking a Critical Infrastructure Analysis of the bi-state region, which assesses the ability of the region's infrastructure (including, but not limited to, transportation) to withstand several possible emergency scenarios. The full study is scheduled for completion in 2007, however, as part of this effort, a preliminary analysis of the Interstate and Glenn Jackson Bridges between Washington and Oregon has been completed. The first part of the analysis was development of a buffer zone protection plan for each bridge, which consists of comprehensive emergency response deployment plans based on the severity of a potential event. The plans define roles of the first responders, the location of incident command and control centers, tactical approaches, and public access. Each bridge also underwent a CARVER assessment made up of six factors: criticality, accessibility, recuperability, vulnerability recuperability, and effect. Both bridges scored as high risk based partly on their regional importance and effect of their loss.

Other elements affecting the score included easy access to the bridge structure and lack of video surveillance at key locations. The CARVER analysis resulted in a set of projects for each bridge to improve security.

Since one of the most important keys to any emergency agency is interoperability, REMG has put together a communications flow chart, depicted in Figure F-1. This shows who is responsible for initiating utilization of the ETR system and sequence of information and notification distribution.

Figure F-1: Emergency Transportation Routes Information



Clark County Comprehensive Emergency Management Plan

The Clark County CEMP contains a section on ESF-1, Transportation. The purpose of the transportation section is to coordinate the use of the transportation infrastructure and resources in order to meet the transportation needs of the citizens and to assist in the transportation needs of other ESFs to perform their emergency response, and recovery missions. The Vancouver CEMP contains a similar section on ESF-1, Transportation.

Marine/Port Security Plans

Since 2004, the Port of Vancouver, USA (Port) has performed facility security in accordance with 33 CFR, Subchapter H, Part 105 (Maritime Security: Facilities). The Port operates under an approved facility security plan monitored by the US Coast Guard. The Plan outlines procedures governing access control, monitoring, training, and response to security incidents. The Port receives annual audits to ensure policies and procedures are followed.

The Port also participates with area security organizations including the US Coast Guard Area Maritime Security Committees and the Urban Area Committees focused on regional security and emergency response.

Clark Regional Emergency Services Agency (CRESA)

Clark Regional Emergency Services Agency (CRESA) is a regional public safety service agency and provides 911 Public Safety Dispatching, Emergency Management, ambulance contract oversight for Emergency Medical Service District #2, and regional governmental radio system operation and maintenance. Their service area is made up of the seven cities within Clark County - Battle Ground, Camas, La Center, Ridgefield, Vancouver, Washougal, and Yacolt - as well as the unincorporated areas of the county. As noted is Section C, CRESA also serves as the host agency for Region IV Homeland Security Council, which carries out joint Homeland Security efforts in southwest Washington for Clark, Cowlitz, Skamania, and Wahkiakum counties.

CRESA's emergency management model, unique compared to many regions, has simplified the emergency services process by consolidating the emergency management office to serve at all levels within the county, including both cities and unincorporated areas. CRESA's emergency management objectives are: preparedness, mitigation, response, and recovery. CRESA also places prominence on an educated public. They make an effort to inform the public of all types of disasters, including rare and infrequent types and offer extensive training for government employees and other agencies. In addition to the traditional emergency alert system and radio notification of events, CRESA is implementing a unique Emergency Community Notification System (ECNS) and is the latest technical system added to CRESA's warning and notification capabilities. Referred to as "Reverse 9-1-1", the system uses a confidential phone database that includes unlisted numbers and quickly delivers an automated emergency phone message. It can make up to 6000 calls per minute. By law, it can only be used when other warning methods would be ineffective, dangerous, or too slow in telling the public to take emergency protective actions.

C-TRAN

C-TRAN coordinates emergency response with the police department, fire department, and ambulance services through CRESA. C-TRAN is a member of the Urban Area Working Group, and coordinates the Regional Transit Security Working Group and the Regional Transit Security Strategy. The agency has used its UASI funds to install surveillance security cameras at park and ride and transit facilities, upgrade their radio dispatch and communications system, and develop a communications system plan. These efforts have been coordinated with Tri-Met to insure integrated interagency communication. Other projects implemented by C-TRAN with non-UASI funds include: computer aided dispatch and mapping and automatic vehicle locators on their buses that are linked to their dispatch system.

C-TRAN is also defined as providing a support function in the transportation section of the Clark County and Vancouver CEMPs. C-TRAN responsibilities in the CEMP consist of assisting in emergency evacuation activities by providing buses and vans as well as drivers for this purpose in coordination with Clark County Public Works and the Sheriff's Office.

C-TRAN has documented Safety and Security programs and advice to travelers on its website as copied below:

Safewatch

Every C-TRAN bus, van and vehicle is also a SafeWatch vehicle with instant access to emergency help. For you, that means a safe-house on wheels; just flag down a C-TRAN vehicle if you need help. Since SafeWatch has been in effect, C-TRAN employees have reported accidents and burglaries, provided information on runaways and helped with lost children.

See Something/Say Something

As part of a national campaign that promotes security on transit, C-TRAN has produced the See Something/Say Something brochure in cooperation with The City of Vancouver, The Vancouver Police Department, and The Esther Short Neighborhood Association. It has been widely distributed to local Vancouver neighborhoods, and enlists the help of all citizens to make their communities safer. If you would like copies of this brochure, please call (360) 696-4494.

SafeStop

After 8:00 p.m., passengers who are traveling alone can request that their driver stop anywhere along their bus route, where safety allows. This program is extended into daylight hours during adverse weather situations such as snow and ice, or other emergency situations.

Surveillance Cameras

Most C-TRAN buses and transit centers have surveillance cameras for your added safety and security. Your picture and voice may be recorded while you are riding a C-TRAN vehicle.

Roaming Supervisors and Security Officers

C-TRAN's supervisors and security officers roam our transit service area to provide an additional security presence and to help if needed.

Radio Communication

All C-TRAN coach operators and supervisors have direct access to the C-TRAN dispatch center. C-TRAN dispatchers will immediately contact the 911 emergency call center if police, fire, or EMS assistance is needed.

Get there safely when using C-TRAN

Don't chase after a bus. Never run after a bus, or alongside a bus. They may not be able to see you, and you could be putting yourself and others at serious risk by

distracting the driver. Drivers turn their attention to the road and traffic once the bus is moving and are not permitted to stop and pick you up outside a bus stop.

Look up for safety. Be aware of what's going on around you, especially when you are crossing the street. Make sure drivers see you.

More safety tips when riding C-TRAN

- Do not cross in front of a C-TRAN bus at a bus stop. Wait until the bus leaves the stop, and then cross carefully.
- Please allow passengers to exit the bus before you board.
- If you are standing in the bus, hang onto the handrails provided in the event the bus makes a quick stop.
- On crowded buses, please move to the back of the bus to make room for others.
- Electronic devices can make you a greater target for theft or assault, so be watchful.

Other Emergency Management Initiatives

Washington, Multnomah, and Clackamas Counties, which comprise the Portland metropolitan area, also have emergency management efforts. Their common elements consist of a countywide program of disaster and emergency mitigation, preparedness, response, and recovery for governments, local residents, and businesses. Included in emergency management systems are: cities, service districts, volunteer agencies, schools, and other organizations with emergency responsibilities. The respective plans lay out the roles and responsibilities of the county-level agencies, communications network, function of the emergency operations center, and its emergency support system.

Other Existing Programs and Projects in Clark County

There are a wide range of other activities to improve management and operation of the regional transportation system and to improve the transportation communications network within Clark County and between state transportation agencies in the Portland/Vancouver region. The key avenue for ongoing coordination in this area is the Vancouver Area Smart Trek (VAST) Program. The VAST Program is the Intelligent Transportation System initiative for the Clark County region. It is a cooperative effort by transportation agencies in Clark County (the Cities of Vancouver and Camas, Clark County, the Washington State Department of Transportation Southwest Region, C-TRAN, and the Southwest Washington Regional Transportation Council). These agencies work together to develop, fund,

and deploy ITS projects contained in the 20-year plan. The VAST Steering Committee and the Communications Infrastructure Committee, made up of the VAST agency partners, work together to improve operations and management of the transportation systems and also to improve security. Several activities and projects are underway and support transportation security.

Web Based Travel and Event Alerts

The WSDOT, in cooperation with recommendations and development of the VAST agencies, has a traveler information page. This change added regional city streets and county roads to state facilities already on the WSDOT "travel alerts" web page. The alerts page displays state and local information such as road construction and road/lane closures. The site has been further enhanced to provide real-time alerts affecting the roadway, such as special events and emergency information.

Integrated Bi-state Traffic Camera and Congestion Notification

Additional traveler information improvements consist of an integrated bi-state camera and congestion map on the WSDOT traveler information page. There is now a full Vancouver-Portland metro area display of bi-state camera images, and arterial video images from city and county closed circuit television cameras. Congestion flow information is available for the entire Vancouver-Portland metro area.

Shared Transportation Communications Asset Database and Mapping

The VAST agency partners have procured asset management software that uses a GIS platform for the Clark County region. It is being used for a common database shared between agencies of transportation fiber and communications infrastructure. With this tool, the VAST agencies easily identify items such as fiber routes, fiber types and attributes, including who owns it, who is using it, and what is not being used. The shared database is the basis for identifying opportunities for sharing assets between VAST agencies and improved management and maintenance of communication assets.

Interagency Agreement to Facilitate the Sharing of Communications Assets

The VAST agency partners have executed the Vancouver Area Smart Trek Communications and Interoperability Agreement to facilitate sharing of fiber communication assets among the VAST members. It identifies specific communication assets for potential shared use, establishes authority to enter into written asset sharing permits between VAST members, and sets general maintenance and operations responsibilities for shared assets. Under the

agreement Clark County and WSDOT can act on behalf of CRESA and WSP, respectively.

Executed Fiber Permits to Connect Emergency Services and Public Safety

There are currently two individual permits for fiber sharing, executed under the authority of the Communications Agreement, that permit shared fiber use between City of Vancouver, Clark County, and WSDOT and includes specific rules on the number, use, operation, time period, and maintenance conditions for a fiber route that connects CRESA and WSP. This connection allows WSP to operate a backup center in the event that CRESA is unable to operate.

Expanded WSDOT Surveillance and Detection Cameras

WSDOT has expanded camera and detection coverage on the state highway system including: I-5, I-205, SR-500, and SR-14. The camera coverage results in broader surveillance of transportation infrastructure and more effective incident detection and response.

Co-located Centers for WSDOT and the Washington State Patrol

The WSDOT transportation management center and the Washington State Patrol dispatch center are co-located at the Southwest WSDOT regional office in Vancouver. This structure improves coordination and response of events between the transportation and public safety agencies.

Integrated Transportation Operations Center for WSDOT and ODOT

The WSDOT and ODOT Traffic Management Centers (TMC) now have integrated traffic operations management software. Because of the integrated software, each TMC has access to the other's freeway cameras, traffic detectors and variable message signs. The net effect of the common software is improved bi-state freeway management with expanded incident detection and response capabilities, notification to the public of traffic conditions and alternate routes, and the deployment of a comprehensive congestion map of real time traffic information.

Enhanced Data Network Project for Transportation and Public Safety Agencies

The purpose of the project is to establish an integrated regional ITS network in Clark County. The key objective of the project is to establish a regional ITS network for data sharing of existing monitoring devices (traffic cameras, detection, and variable message signs) between participating agencies. It will provide better

sharing of traveler information and transportation system operations information between local transportation agencies, and will support coordinated emergency and incident management between the state and local agencies.

I-5/Highway 99 Incident Management Plan and Operations Manual

This project included two key elements. The first is assessment of deficiencies and needs in the I-5/Hwy 99/Main Street corridor to improve incident response and management in the corridor. It includes identification and prioritization of improvements in the corridor as well as the implementation of the high priority recommendations. The second is development of an I-5/Hwy 99 Incident Management Operations Plan and User's Manual for the corridor. The purpose of the plan and user's manual is to reduce the amount of time that freeway operations are disrupted on I-5 due to incidents and to identify specific roles and responsibilities in responding to various levels of incidents in invoking timing plans, rerouting traffic, and managing response.

Conclusions and Implications for Transportation Security

Many agencies throughout the Vancouver/Portland metropolitan region are concerned with and are planning for transportation security. The Regional Emergency Management Group REMG has done the most work in coordinating agencies to prepare for emergencies, but left the focus on specific security elements to agencies that have a better foundation in transportation activities. CRESA, C-TRAN, the Port of Vancouver, and WSDOT each have security measures that implement roles and responsibilities for their respective facilities and transportation infrastructure. At a minimum, the RTP process will update current policies to address security issues. The RTP could further consider system management and operations elements during transportation planning activities. Several coordinated management and operations activities have been initiated in the VAST program. RTC could be expanded in the future to be a convener or champion for the existing regional stakeholders to discuss and facilitate decisions regarding transportation security in the Clark County region. Currently, RTC continues to engage security and emergency management stakeholders to document their current practices as they relate to transportation security and will continue to work to incorporate security components into transportation planning.

Appendix G: The Environment and Mitigation in the Metropolitan Transportation Planning Process

Introduction

Linking transportation planning and environmental analysis requires an integrated and collaborative approach to transportation decision-making. This approach can provide the opportunity to address environmental, community and economic issues and challenges early in the planning process, as well as avoid and minimize impacts on natural and human resources. These considerations can then be carried through project development, design, construction, and maintenance.

The Federal Transportation Act, Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU, 2005), established requirements for the preparation of Regional Transportation Plans (RTPs). One of these requirements is that the RTP include discussion of potential environmental mitigation activities. Included in this Appendix G to the RTP is a description of the law and its requirements and examples of how the environment and environmental mitigation is considered in the Clark County region's metropolitan transportation planning process and in development of the Regional Transportation Plan (RTP) for Clark County. Web links to significant information used by RTC in development of the RTP is also included. Related to environmental mitigation requirements is the Federal Transportation Act requirement that RTC, as Metropolitan Planning Organization for the Clark County region, consult with other federal, state, and tribal resource agencies, and have the public actively participate in the RTP's development.

Laws Relating to Environmental Mitigation in the Metropolitan Transportation Planning Process

Excerpts from Public Law (109-59, 8-10-05, Section 6001, i2(B)) and Regulations (23 CFR 450, Federal Register dated 2-14-07, Section 7):

§ 450.104 Definitions

Environmental mitigation activities means strategies, policies, programs, actions, and activities that, over time, will serve to avoid, minimize, or compensate for (by replacing or providing substitute resources) the impacts to or disruption of elements of the human and natural environment associated with the implementation of a long-range statewide transportation plan or Regional transportation plan. The human and natural environment includes, for example, neighborhoods and communities, homes and businesses, cultural resources, parks and recreation areas, wetlands and water sources, forested and other natural areas, agricultural areas, endangered and threatened species, and the ambient air. The environmental mitigation strategies and activities are intended to be regional in scope, and may not necessarily address potential project-level impacts.

§ 450.324 Development and content of the metropolitan transportation plan

(f) The metropolitan transportation plan shall, at a minimum, include: …..

(10) A discussion of types of potential environmental mitigation activities and potential areas to carry out these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the metropolitan transportation plan. The discussion may focus on policies, programs, or strategies, rather than at the project level. The discussion shall be developed in consultation with Federal, State, and Tribal land management, wildlife, and regulatory agencies. The MPO may establish reasonable timeframes for performing this consultation;

§ 450.212 Transportation planning studies and project development

(a) Pursuant to section 1308 of the Transportation Equity Act for the 21st Century, TEA–21 (Pub. L. 105–178), an MPO(s), State(s), or public transportation operator(s) may undertake a multimodal, systems-level corridor or subarea planning study as part of the metropolitan transportation planning process. To the extent practicable, development of these transportation planning studies shall involve consultation with, or joint efforts among, the MPO(s), State(s), and/ or public transportation operator(s). The results or decisions of these transportation planning studies may be used as part of the overall project development process consistent with the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4321 et seq.) and associated implementing regulations (23 CFR part 771 and 40 CFR parts 1500–1508). Specifically, these corridor or subarea studies may result in producing any of the following for a proposed transportation project:

(1) Purpose and need or goals and objective statement(s);

(2) General travel corridor and/or general mode(s) definition (e.g., highway, transit, or a highway/transit combination);

(3) Preliminary screening of alternatives and elimination of unreasonable alternatives;

(4) Basic description of the environmental setting; and/or

(5) Preliminary identification of environmental impacts and environmental mitigation.

Consultation – the (environmental mitigation) discussion shall be developed in consultation with Federal, State, and tribal wildlife, land management and regulatory agencies."

The Federal Transportation Act, from SAFETEA-LU on ward, requires Regional Transportation Plans to discuss potential environmental mitigation activities and Plans must be developed in consultation with federal, state, and tribal wildlife, land management, and regulatory agencies (resource agencies). Details on these "discussions of types of potential environmental mitigation activities" are outlined in amended 23 U.S. C. 134. Identical provisions for statewide plans and for transit appear in the amended 23 U.S. C. 135, 49 U.S. C. 5303 and 49 U.S. C. 5304, respectively. The environmental mitigation requirements must be in place before the Metropolitan Planning Organization (MPO), in this case RTC, can adopt or approve its transportation plan to address SAFETEA-LU provisions.

Why Should Environmental Mitigation be Addressed in the RTP?

Environmental mitigation needs to be addressed in the RTP because of efforts to build better linkages between transportation planning and the National Environmental Policy Act (NEPA) process.

Congressional intent is that statewide and metropolitan transportation planning should be the foundation for highway and transit project decisions. None of the changes effected in SAFETEA-LU altered how the National Environmental Policy Act relates to an RTP. Typically, RTPs or other regional long-range plans do not involve specific federal approvals or actions that are likely to cause a significant environmental impact. Therefore, RTPs do not need a NEPA Environmental Impact Statement (EIS) to meet the requirements of SAFETEA-LU.

The intent of having the RTP address environmental mitigation requirements is to provide a more consistent consideration of environmental issues from transportation planning through project development. In addition, agencies and jurisdictions should be able to use information, analysis, and products from the transportation planning process and incorporate them into and rely on them in NEPA documents.

Washington State has its own environmental policy act, the State Environmental Policy Act (SEPA), which provides for environmental consideration at the Plan level.

The Transportation System Development Process

The legal framework for developing transportation policies, plans, programs and projects with regard to the environment include the federal Transportation Act, now the FAST Act, the National Environmental Policy Act and the Washington State Growth Management Act (GMA) and State Environmental Policy Act (SEPA).

The transportation system development process includes transportation policy making, transportation plan development, programming of transportation projects and eventual engineering and construction of projects. At each step of the process there are environmental considerations to take into account.

- Transportation Policies
- Transportation Plans
- Transportation Programs
- Transportation Projects

Environmental Considerations:

According to § 450.104, environmental mitigation activities means strategies, policies, programs, actions, and activities that, over time, will serve to avoid, minimize, or compensate for (by replacing or providing substitute resources) the impacts to or disruption of elements of the human and natural environment associated with the implementation of a long-range statewide transportation plan or regional transportation plan. At the metropolitan transportation planning level, the environmental mitigation strategies and activities are intended to be regional in scope, and may not necessarily address potential project-level impacts that are addressed in more detail during project development.

The Physical Environment includes:

- Water (wetlands and water resources)
- Earth (forested, natural areas, agricultural areas)
- Air (ambient air quality)
- Fauna and Flora (endangered and threatened species)

The Human Environment includes:

- Historic (archeology, cultural resources, historic preservation, etc.)
- Neighborhoods, communities, homes and businesses
- Agricultural areas
- Parks and recreation areas

Federal Agencies: Support for Environmental Consideration and Mitigation

The U.S. Department of Transportation's, Federal Highway Administration and Federal Transit Administration, website offers a wealth of information on transportation and the environment developed and compiled by the FHWA and its partners to assist in strengthening planning and environment linkages.

State Agencies: Support for Environmental Consideration and Mitigation

Washington State Department of Transportation develops the Washington Transportation Plan and state Highway System Plan. WSDOT's Environmental Services section provides expertise in consideration of the environment and in environmental mitigation. WSDOT website references that assist consideration of environmental mitigation at the regional level include:

- WSDOT Environmental Services
- WSDOT Environmental Procedures Manual
- State Highway System Plan

Most recently, Washington State Department of Ecology has convened an East Fork Lewis River partnership to bring together planning partners to address water quality for the East Fork Lewis River which flows through Clark County. RTC is a participant in the partnership.

Consultation with Tribes

The Federal Transportation Act also requires consultation with tribal governments. Within the Clark County region, these tribal governments may include: the Chinook, Columbia River Inter-tribal Fish Commission, the Cowlitz, Nez Perce, Spokane and Yakama Nation. The Cowlitz receives regular RTC Board mailings and Regional

Transportation Advisory Committee mailings. RTC and Cowlitz representatives consult and coordinate in developing the Human Services Transportation Plan.

Local Jurisdictions: Support for Environmental Consideration and Mitigation

At the local level, planning work conducted in accordance with the state's Growth Management Act in support of the Comprehensive Plan for Clark County is of significance when considering environmental mitigation at the regional transportation planning level. Local jurisdictions and agencies have specific environmental programs and initiatives relevant to environmental mitigation. The Growth Management Act requires that all local jurisdictions develop a Comprehensive Plan with a required element that addresses the environment.

Website references are provided below for some of the local environmental programs.

Clark County

- Comprehensive Plan for Clark County (updated September 2007)
- Use of Clark County Geographic Information System (GIS) data for delineating topography, critical lands, resource lands, watersheds, etc. Information from Clark County's GIS Digital Atlas for Clark County has been used in planning for new transportation corridors in RTC's New Transportation Corridors Visioning study. The GIS Digital Atlas is a useful analysis tool that allows us to consider the environment in the early planning phases and at the regional Regional Transportation Plan level. The Atlas includes layer of data, including data on the natural and built environment, as outlined in the following Table 1.

Index of Maps within Clark County's Digital Atlas

Land Records – Assessor

- Basic Property Map: Property, roads, and municipal boundaries
- Property Mailings: Create address lists for mailing labels
- Recent Property Sales: Current residential and commercial sales history
- Planning - Community Development
- Site Plans and Permits: Building and development permits, site plan review

- Zoning and Comprehensive Plan: Comprehensive Plan and Zoning Designations

Environmental - Community Development

- Archaeological Predictability: Archaeological predictability, historic sites
- Elevation Contour Maps: Ten- and two-foot topographic contours
- Endangered Species Act: Fish distribution, watersheds, sub-watersheds
- Priority Habitat and Species: Priority habitat and species buffers
- Slopes and Geologic Hazards: Slope characteristics, landslide and erosion areas
- Soils and Wetlands Inventory: Soils, wetlands, aquifers, and floodplains

Transportation - Public Works

- Concurrency Studies: Vancouver concurrency studies
- Maintenance Management: Bridge, Signal and Park maintenance, sweeping routes
- Transportation Systems: Arterial atlas, truck and bike routes, 2006-2011 projects

Utilities - Public Works

- Clean Water Program: Program fee types and impervious areas
- Storm Sewer System: Lines, manholes, catchbasins, treatment facilities

Surveys and Subdivisions - Public Works

- Property Surveys: Recorded and un-recorded surveys
- Right-of-Way Data: Right-of-way and road establishment notes
- Subdivisions and Plats: Recorded subdivisions and short-plats
- Survey Control Data: GPS, benchmarks, land corners, quarter sections

Administrative Boundaries

- Administrative Boundaries: Census, neighborhoods, legislative, elections
- Points of Interest: Schools, transit centers, emergency services

- Service District Maps: Fire, school, water, sewer, and cemetery districts

Clark County

Clark County, Public Works

Clark County's Department of Public Works has programs for water resources and clean water, endangered species, garbage and recycling, sustainability, and vegetation management.

Water Resources and Clean Water Program

Clark County's Clean Water Commission publishes a Clean Water Program Summary Report, supplemented by other reports such as the Clark County Stormwater Management Plan last updated in 2014.

Clark County Watersheds

There are 18 major watersheds in Clark County. Clark County publishes a Clark County Streams Health Report that provides a comprehensive overview of the condition of Clark County streams, rivers and lakes. There are watershed protection programs in place for a number of the watersheds. Clark County and planning partners, such as the Washington State University Clark County Extension, coordinate watershed stewardship..

Endangered Species Act

Clark County addresses the Endangered Species Act. The Endangered Species Act (**ESA**) is a federal law designed to protect and recover fish, wildlife, and plants that are threatened with or are in danger of becoming extinct. It requires federal and state agencies to work in coordination with local jurisdictions to recover listed species. Under the ESA in Clark County, several species have been listed as threatened, including bull trout (fish), northern spotted owl (bird), and water howellia (flowering plant).

Clark County's Public Health Department

Clark County's Public Health, out of concern for the health of our community, partners with planning to assess how the physical environment impacts human health. The Department has published several reports including the 2016 Community Health Needs Assessment Report that has sections on environmental health with data on vehicle miles traveled per capita, single occupancy vehicle commute trips, water monitoring requirements, air quality, access to care, and physical activity and the 2016 Clark County Health Indicator Table.

A comprehensive health impact assessment (HIA) was published for Clark County's Bicycle and Pedestrian Master Plan (Clark County, 2010).

City of Vancouver

City of Vancouver Strategic Plan

The City's Strategic Plan addresses the sustainability and environment.

The City of Vancouver also has specific programs that relate to protecting our environment:

- The Water Resources Protection Program.
- Ground and surface water information.
- Urban Forestry, to preserves and enhance the urban forest through tree regulations and tree planting coordination.

Water Resources Protection Program

The Water Resources Protection Ordinance provides the tools Vancouver needs to protect the rivers, lakes, streams and groundwater, which are important to our community and high quality of life. The Ordinance requires everyone to follow minimum standards that help protect the "critical" aquifers underlying the entire city. It also establishes greater standards of compliance for businesses and industries that manage hazardous materials; creates Special Protection Areas around the City's water stations as an additional safeguard; and provides cooperative, cost-effective solutions through technical assistance, education and public outreach.

Stormwater Management Plan

The City of Vancouver annually publishes a Stormwater Management Plan (SWMP) detailing activities that the City of Vancouver intends to undertake each year to maintain compliance with the Western Washington Phase II Municipal Stormwater Permit.

Vancouver Lake Watershed Partnership

The City has joined with other government agencies and local citizens to explore issues and potential strategies for the future of the Vancouver Lake Watershed.

Burnt Bridge Creek Greenway Project

Through the Burnt Bridge Creek Greenway project, the City of Vancouver is improving water quality, managing surface water, enhancing natural habitat and making a large urban greenway available to the public and for stewardship. The

Project is designed to echo nature by re-establishing the natural flood plain and multiple layers of vegetative cover, which will not only provide wildlife feeding, resting and nesting habitat, but also slow and reduce peak runoff, reduce soil erosion and cool water temperatures.

Cities of Clark County:

Clark County and its cities plan under the state's Growth Management Act. As such, each city's Comprehensive Plan includes a required element that addresses the environment. In these elements, the local cities address such issues as protection and conservation of environmentally critical areas such as wetlands, aquifer recharge areas, and geologically hazardous areas. Plans also address protection and recovery of endangered species, protection, conservation of salmonids, fish and wildlife habitat, update addresses the environment.

RTC's Regional Transportation Plan (RTP): Environmental Process

When a significant RTP update is drafted, RTC conducts a review of the RTP following the prescribed SEPA process. With previous RTP updates, a SEPA checklist has been completed and the checklist distributed to resource agencies and other interested parties. This process can ensure consultation and information dissemination to both resource agencies and interested parties. RTC contacts resource agencies regarding RTP development through e-mail communication.

What Plan Products Could be Used in NEPA?

The following planning products are valuable inputs to the discussion of the affected environment and environmental consequences (both its current state and future state in the absence of the proposed action) in the project-level NEPA analysis and document:

- Regional development and growth analyses;
- Local land use, growth management, or development plans; and
- Population and employment projections.

The following are types of information, analysis, and other products from the transportation planning process that can be used in the discussion of the affected environment and environmental consequences in an Environmental Assessment (EA) or Environmental Impact Statement (EIS):

- Geographic information system (GIS) overlays showing the past, current, or predicted future conditions of the natural and built environments;
- Environmental scans that identify environmental resources and environmentally sensitive areas;

- Descriptions of airsheds and watersheds;
- Demographic trends and forecasts;
- Projections of future land use, natural resource conservation areas, and development; and
- The outputs of natural resource planning efforts, such as wildlife conservation plans, watershed plans, special area management plans, and multiple species habitat conservation plans.

In most cases, during specific transportation project design the assessment of the affected environment and environmental consequences conducted during the transportation planning process will be supplemented to meet NEPA standards with update to the inventory and evaluation of affected resources, alternatives analysis, and more refined analysis and site-specific details addressed during the NEPA process.

Resource Agency Consultation

Federal and State agencies that may be consulted are listed below.

Within Washington State there is a long history of collaboration. The original NEPA/404 Merger Agreement was adopted by its signatory agencies in 1995 and revised in 1996. Significant revisions to the 1996 Agreement were collaboratively developed by the Signatory Agency Committee (SAC) to improve the process and were formally adopted in 2002. In 2005, FHWA and FTA issued joint guidance following the passage of the SAFETEA-LU. Section 6002 of the bill, laid out a new process for involving the public and governmental agencies when developing an environmental impact statement (EIS).

The Regional Transportation Plan for Clark County and Environmental Mitigation

A summary overview of how the Regional Transportation Plan for Clark County addresses environmental mitigation at the programmatic level is provided below. Following this summary are examples of mapped information available to RTC during transportation plan development through the Clark County's Maps Online program. This information is used to provide base level data in the transportation decision-making process as it relates to consideration of the environment.

Basis for the Regional Transportation Plan for Clark County

- The Regional Transportation Plan (proposed 2018/19 update) continues to support the Clark County Comprehensive Growth Management Plan (Jun. 2016).

- The proposed RTP and Comprehensive Plan for Clark County, were developed in synch.

Environmental Analysis Tools Used

- Clark County's GIS Digital Atlas includes layers of data, including data on the natural and built environment, e.g. archaeological predictability, historic sites, slope (contours), fish distribution, watersheds, sub-watersheds, priority habitat and species buffers, storm sewer system details (see Clark County map examples at conclusion of Appendix G, Figures G-1 through G-6:
(1) Comprehensive Plan Land Use Designations, (2) Floodplains and Wetlands, (3) Watersheds, (4) Completed Mitigation Projects (wetland and habitat sites), (5) Slope, and (6) Historic Sites.
- Allows consideration of the environment in the early planning phases and with development of the Regional Transportation Plan at the programmatic, regional level.

Environmental Legislation and Documentation

- National Environmental Policy Act (NEPA),
- US DOT website e.g. Transportation Planning Capacity Building provides a central source of information.
- State Environmental Policy Act (SEPA),
- State guidance e.g. WSDOT Environmental Procedures Manual.
  - Clark County and its jurisdictions and transportation agencies follow federal and state laws and guidance when carrying out land use and transportation plans and projects.

Natural and Physical Environment:

Water: wetlands and water resources:

- Limit impervious surfaces.
- Minimize crossings through sensitive areas.
- Comply with local, state and federal laws for protecting water quality and managing stormwater.
- Collect and treat stormwater.

- Detailed information provided from links on Clark County's Public Works website.
- Clark County's Clean Water program
- Clark County Stormwater Manuals and Ordinances
- Wetland Mitigation Bank provides mitigation opportunities.
- Watershed plans. Clark County Stream Health Report (2004). Monitoring of Clark County watersheds e.g. Columbia Shore, Washougal River, Lacamas Creek, Vancouver Lake/Lake River, Burnt Bridge Creek, Salmon Creek, Whipple Creek, Gee Creek, Flume Creek, Allen Canyon Creek, East Fork Lewis River, Cedar Creek, Canyon Creek.

Air: (ambient air quality) and Energy

The Vancouver Air Quality Maintenance Area is now in attainment for both Ozone and CO.

Transportation Demand Management and System Management programs are in place to contribute to the air quality of the region. Strategies include:

- Congestion management to reduce idling.
- Encourage multimodal alternatives to single occupant automobile travel.
- Encourage mixed use development.
- Cleaner transportation fleets with reduced emissions.
  - RTC continues to monitor population growth and growth in Vehicle Miles Traveled (VMT).
  - RTC participated in the state's climate change team to address implementation of the Governor's Executive Order 09-05 on Climate Change.
  - Regional Commute Trip Reduction Plan (RTC) and CTR Plans for Vancouver, Camas, Washougal and Urban Growth Area portion of Unincorporated Clark County.
  - RTC's Congestion Management Process.
  - Transportation System Management and Operations (TSMO) plan (RTC update adopted, 2016)
  - The region has designated funds for cleaner, hybrid vehicles in use by C-TRAN, the regional transit agency.

Earth

Forested and natural areas, fauna and flora (endangered and threatened species, wildlife habitat, sensitive habitat and wetland habitat) may all be impacted by transportation projects.

- Endangered Species Act implementation.
- Mitigation measures are highly site specific.
- Minimize impacts to fish bearing streams.
  - Clark County is included in the Lower Columbia Salmon Recovery and Fish and Wildlife Sub-basin Plan, which outlines strategies for protecting and restoring endangered and threatened species. See: http://www.clark.wa.gov/esa/plan.html
  - Clark County Habitat restoration program.
  - Vancouver Urban Forestry Management Plan (2007)

Transportation

- Encourage use of alternative and efficient transportation modes, e.g. transit, pedestrian and bicycling.
- Employ demand and system management.
- Integrate transportation and land use planning.
- Reduce VMT per capita.
  - Washington State's Growth Management law encourages the integration of land use and transportation planning.
  - Clark County's Comprehensive Growth Management Plan and RTC's Regional Transportation Plan were developed in synch with each other.
  - RTC is working with other TMAs in Washington state to reduce VMT per capita per Governor's Executive Order 09-05 on Climate Change.

Human Environment

Historic:

Archeology, cultural resources, historic preservation, etc.

- The specific location and nature of the transportation project will determine impacts to historic and cultural resources with mitigation being highly project specific.

- Meet federal, state and local, requirements for historic preservation.
  - Clark County's GIS Digital Atlas includes layers of data including archaeological predictability and historic sites.
  - Clark County runs a Historic Preservation Program and has a Historic Preservation Commission.

Community:

Neighborhoods, communities, homes and businesses, parks and recreation areas

- Employ context sensitive design in transportation projects.
- Analyze projects through NEPA/SEPA, including 4f, processes.

Agriculture:

- Encourage protection of agricultural lands.
  - Clark County Agricultural Preservation Advisory Committee.

Environmental Consultation

SAFETEA-LU specified requirements for MPO consultation with other federal, state, and tribal resources agencies which continues with the current federal transportation act.

- The following resource agencies and tribes may be consulted to enhance the RTP development process:
  - Federal:
    - Advisory Council on Historic Preservation
    - Environmental Protection Agency
    - National Marine Fisheries Service (NOAA Fisheries)
    - National Park Service
    - U.S. Army Corp of Engineers
    - U.S. Fish and Wildlife Service
    - U.S. Forest Service
  - State:
    - State Department of Ecology
    - Department of Fish and Wildlife

- Department of Natural Resources
- Governor's Office
- Northwest Indian Fisheries Commission
- Office of Archeological and Historic Preservation
- Parks and Recreation Commission

- Tribal Consultation:
  - Chinook
  - Columbia River Inter-tribal Fish Commission
  - Cowlitz
  - Nez Perce
  - Spokane
  - Yakama Nation

Figure G-1: Clark County Maps Online, Clark County Comprehensive Plan

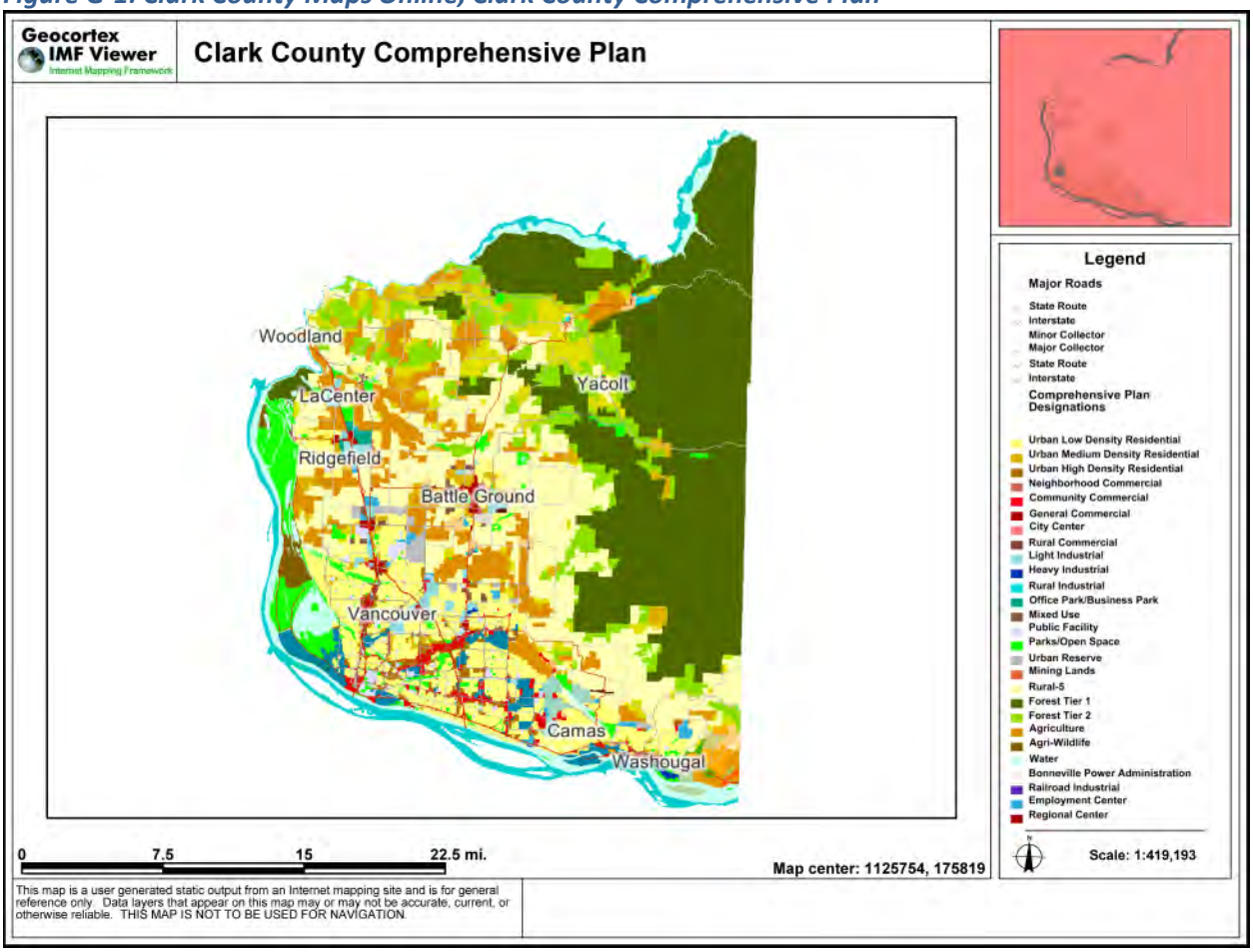


Figure G-2: Clark County Maps Online, Floodplains and Wetlands

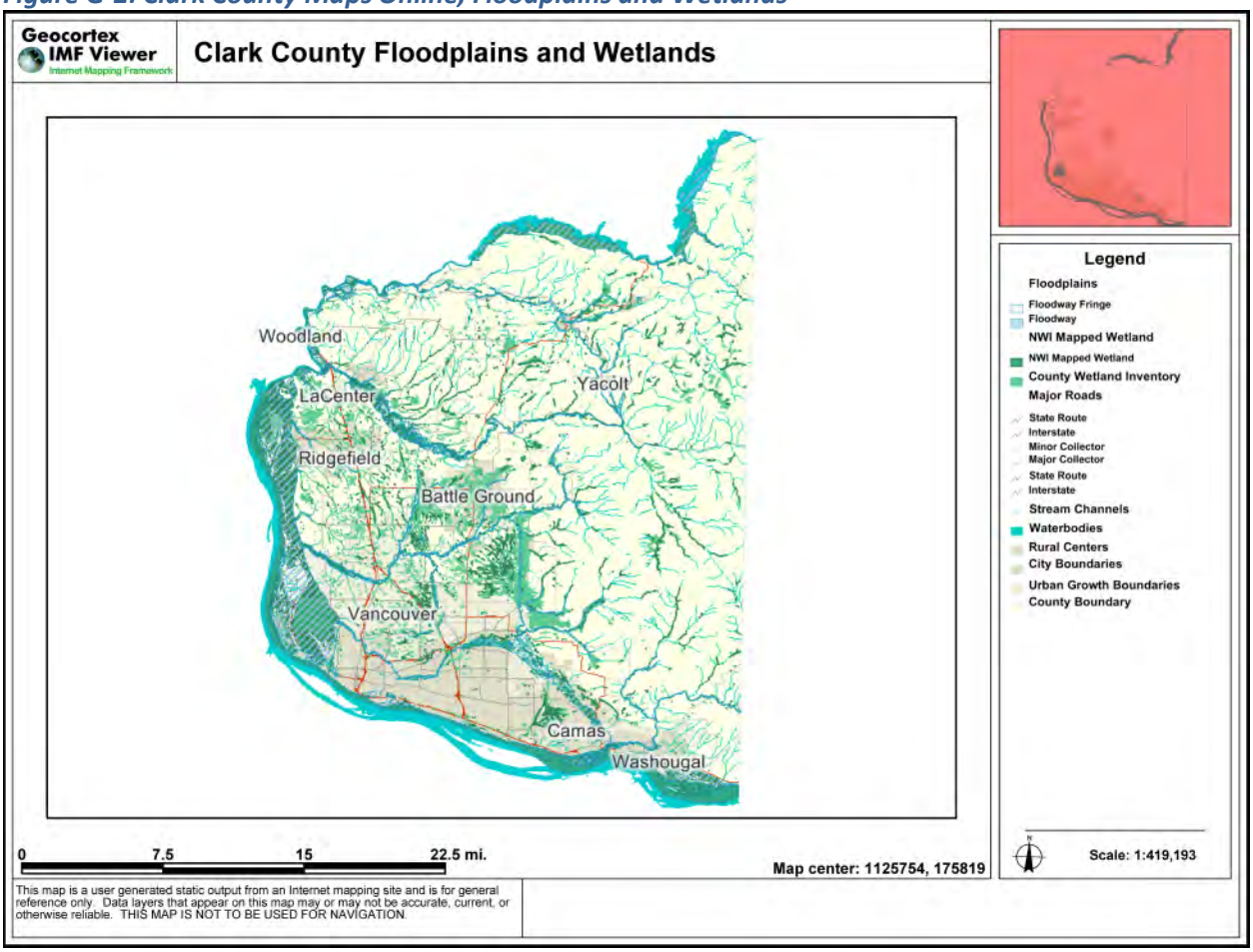


Figure G-3: Clark County Maps Online, Watersheds

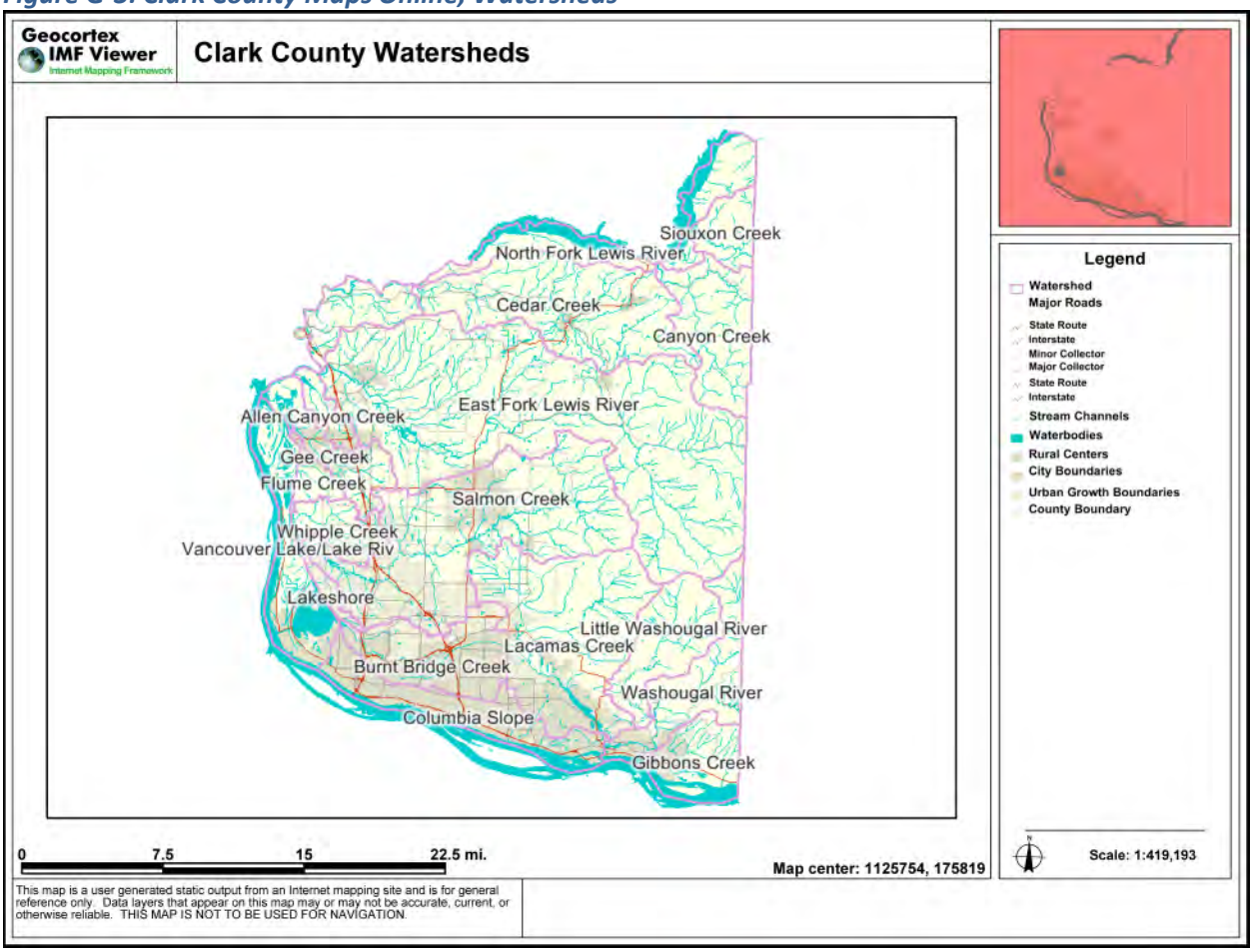


Figure G-4: Clark County Maps Online, Completed Mitigation Projects, wetland and habitat sites

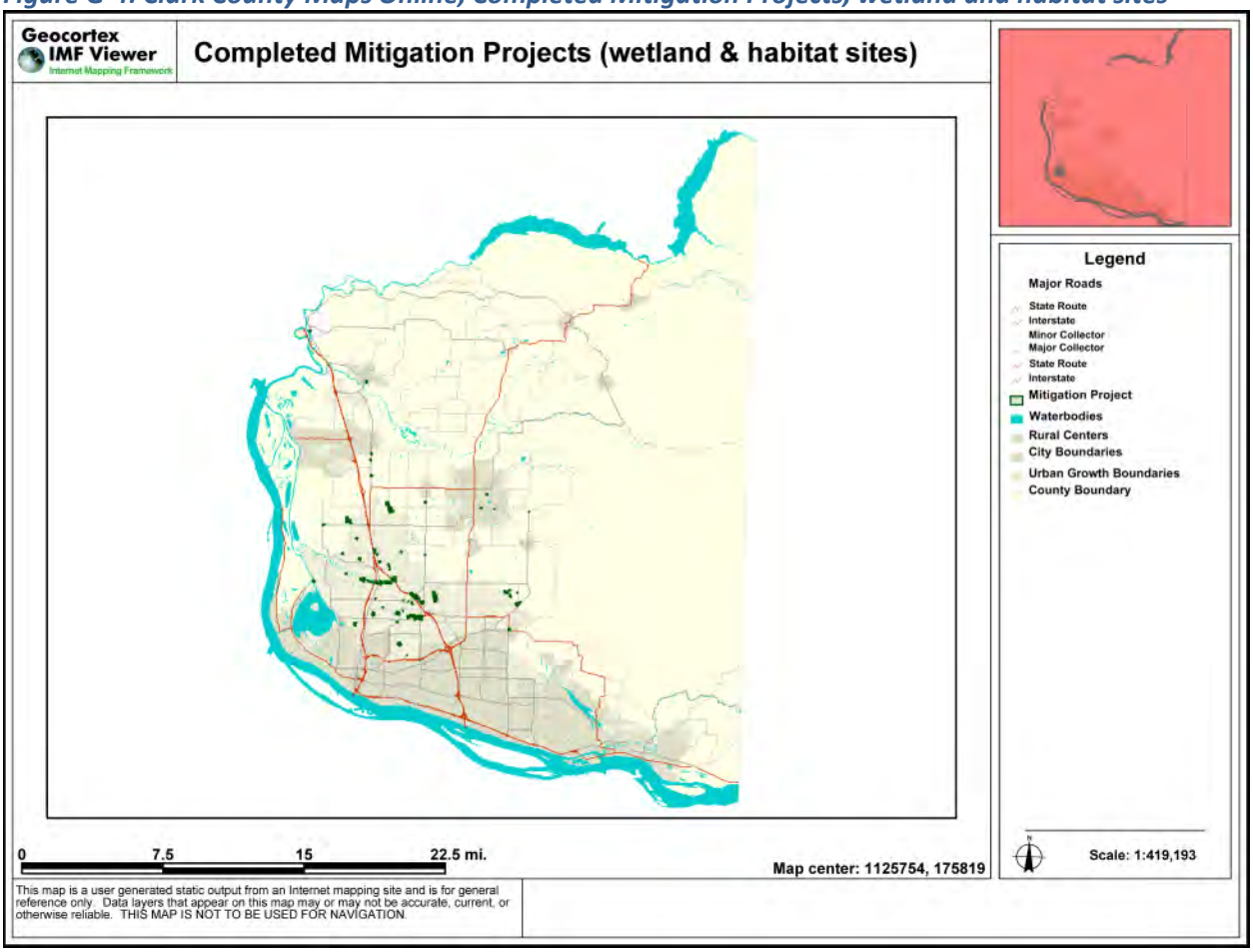


Figure G-5: Clark County Maps Online, Clark County Slope

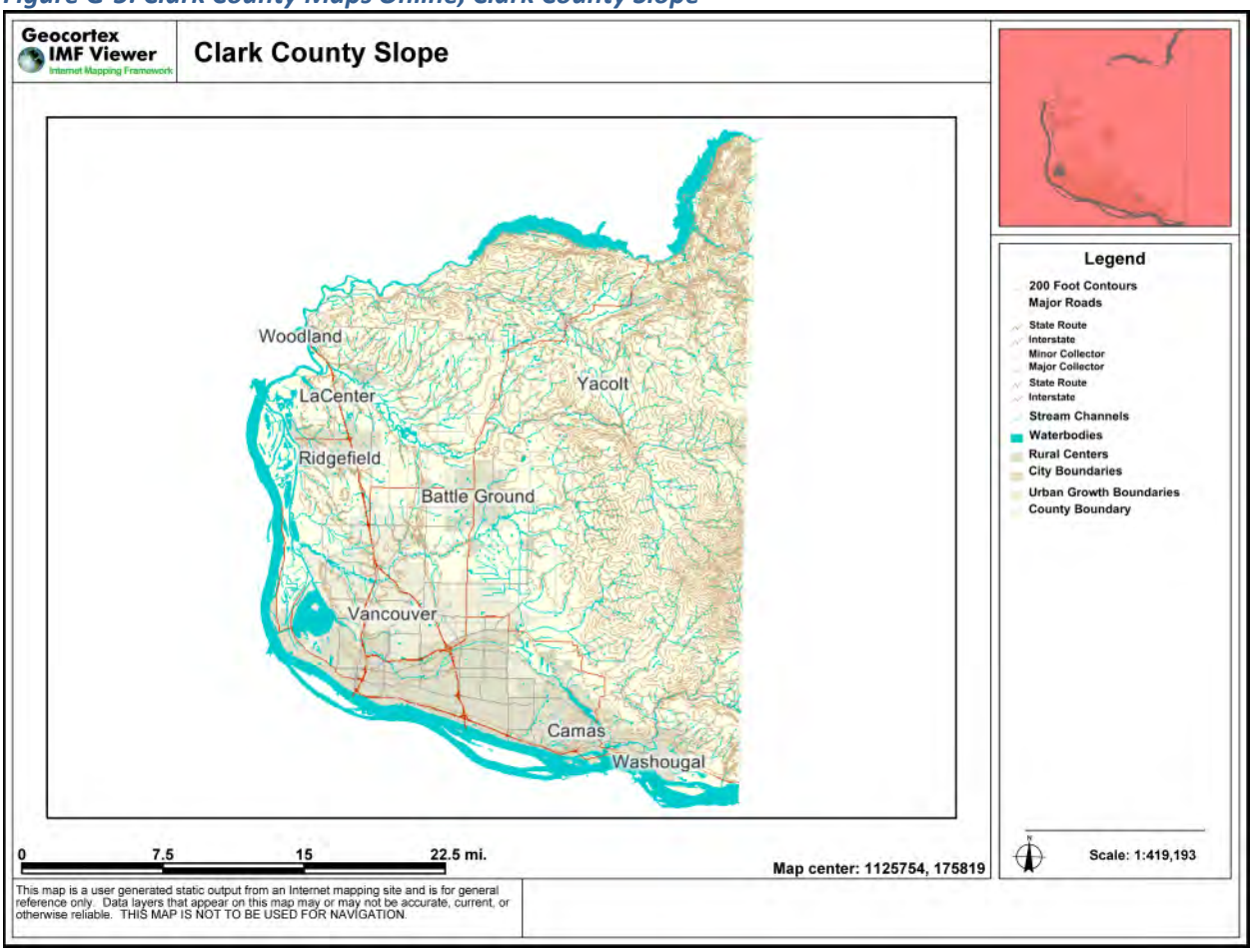
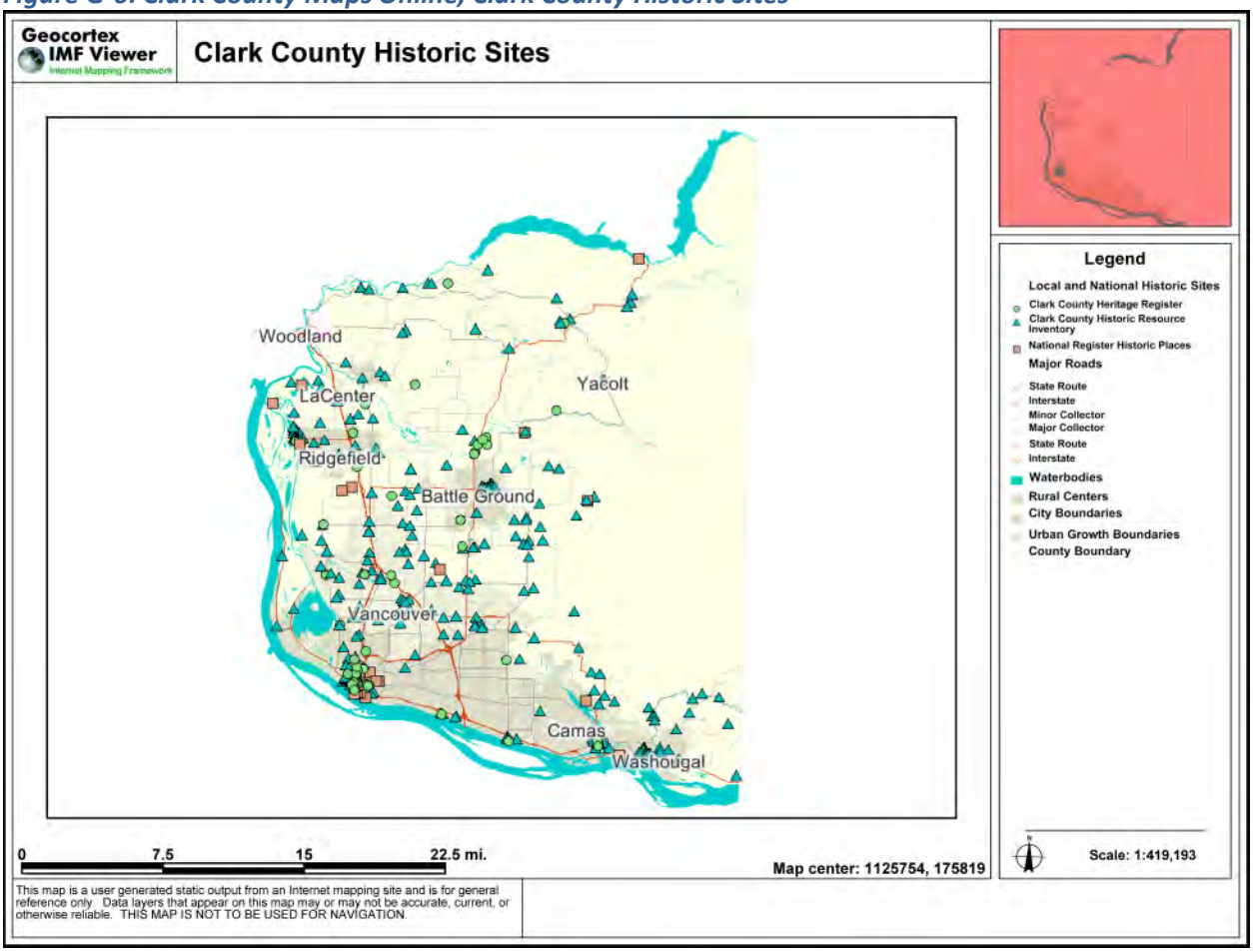


Figure G-6: Clark County Maps Online, Clark County Historic Sites



Appendix H: Clark County Comprehensive Plan - County-wide Transportation Planning Policies

The Clark County-wide Planning Policies relating to transportation are included in the transportation element of the *Comprehensive Growth Management Plan for Clark* County (update adopted in June 2016). These constitute the Principles and Guidelines with which the transportation elements of local comprehensive plans required under the Growth Management Act are reviewed for certification purposes. These County-wide transportation planning policies are documented below:

County-wide Planning Policies

5.0.1 Clark County, Metropolitan Planning Organization (MPO) and the Regional Transportation Planning Organization (RTPO), state, bi-state, municipalities, and C-TRAN shall work together to establish a truly regional transportation system which:

- reduces reliance on single occupancy vehicle transportation through development of a balanced transportation system which emphasizes transit, high capacity transit, bicycle and pedestrian improvements, and transportation demand management;
- encourages energy efficiency;
- recognizes financial constraints; and
- minimizes environmental impacts of the transportation systems development, operation and maintenance.

5.0.2 Regional and bi-state transportation facilities shall be planned for within the context of county-wide and bi-state air, land and water resources.

5.0.3 The State, MPO/RTPO, County and the municipalities shall adequately assess the impacts of regional transportation facilities to maximize the benefits to the region and local communities.

5.0.4 The State, MPO/RTPO, County and the municipalities shall strive, through transportation system management strategies, to optimize the use of and maintain existing roads to minimize the construction costs and impact associated with roadway facility expansion.

5.0.5 The County, local municipalities and MPO/RTPO shall, to the greatest extent possible, establish consistent roadway standards, level of service standards and methodologies, and functional classification schemes to ensure consistency throughout the region.

5.0.6 The County, local municipalities, C-TRAN and MPO/RTPO shall work together with the business community to develop a transportation demand management strategy to meet the goals of state and federal legislation relating to transportation.

5.0.7 The State, MPO/RTPO, County, local municipalities and C-TRAN shall work cooperatively to consider the development of transportation corridors for high capacity transit and adjacent land uses that support such facilities.

5.0.8 The State, County, MPO/RTPO and local municipalities shall work together to establish a regional transportation system which is planned, balanced and compatible with planned land use densities; these agencies and local municipalities will work together to ensure coordinated transportation and land use planning to achieve adequate mobility and movement of goods and people.

5.0.9 State or regional facilities that generate substantial travel demand should be sited along or near major transportation and/or public transit corridors.

Appendix I: The Strategic Regional Transportation Plan

Federal rules governing RTP development do allow for the RTP to include "illustrative projects" that the region recognizes may be needed as a part of the future regional transportation system. The purpose of including an RTP Strategic Plan is to recognize that there are a number of emerging, long-term regional transportation trends, studies and projects that require further monitoring, evaluation and policy decisions prior to inclusion in the RTP.

The RTP's Strategic Plan allows for the project planning and financing analysis to advance in concert with community need, without formally incorporating a project into the federally approved RTP at this time.

RTC Board approval is required for projects and concepts to be listed in the Strategic Plan.

The Strategic Plan projects and planning concepts may be identified through study recommendations outside of the RTP but must have been the result of a public planning process.

The Strategic Plan may also provide an outline of concepts that have emerged in the planning process that could have significant land use, economic development and transportation system impacts if they were developed further and implemented in the future. Both projects and concepts need further definition and feasibility assessment, declaration of a lead/sponsor agency, and incorporation in a local agency comprehensive plan prior to inclusion in a future RTP.

Description of the trends, studies and potential projects in the RTP's Strategic Plan also helps to raise awareness in the community regarding emerging needs which should foster subsequent public participation in the regional planning process.

The RTP Strategic Plan outlines these key regional planning issues and / or projects. They are:

1. Refined and Emerging Projects
2. New Technologies
3. Regional Funding Programs
4. Growth Management

Regional Transportation System: Refined and Emerging Projects

The 2040 travel demand analysis shows that future volumes could exceed capacities on several corridor segments and locations where transportation projects are not currently identified. Among these key planning issues, projects and concepts will be further developed and will undergo a regionally coordinated, analytically sound, transportation planning process to investigate their feasibility.

- Regional Corridor Practical Solutions Studies. As part of the 2018 RTP update process, several corridor studies are underway or planned which will further refine the investment needs within major regional system corridors. New projects and strategies may result from these studies and warrant future inclusion into the RTP.
  - I-5 and I-205 Urban Freeway Corridor Operations Study. A study is underway to define integrated traffic management and limited scope capital investments along the two interstate routes. The intent of the evaluation will be to define improvement projects that serve to enhance corridor safety, travel time reliability and performance.
  - Vancouver Eastside Highway Operations Study. Major system improvements have long been planned at system interchanges along I-205 and SR-500. Additional studies are underway to define the project scopes for projects at key locations including: I-205/SR-14 interchange; SR-500/SR-503/Fourth Plain Boulevard intersection; I-205 corridor from SR-14 to Padden Parkway.
  - SR-500 Safety Project Phase II. Further study will be underway to define the long-term scope of improvements along SR-500 at Faulk Road and NE 54th/Stapleton Road.
  - Discovery Corridor Adaptive Infrastructure Study. Growth in north Clark County will put additional strain on the regional transportation system. There is need to analyze the need for a transportation grid network parallel to and connecting with the major freeway networks. This will allow Urban Growth Areas to develop to and maximize route choice. This issue is particularly acute in the I-5 north corridor (Discovery Corridor) from north of NE 139th Street to NE 319th Street.
- Regional Transit Investments. The RTC Board of Directors adopted the Clark County High Capacity Transit System Study in December 2008 (see RTP, Chapter 5, HCT section). The Study provides a blueprint for C-TRAN and the Clark County jurisdictions to move HCT improvements forward in identified HCT corridors. The HCT System Study process included analysis of congested transportation corridors and adoption of a set of the most promising HCT corridors now included in the RTP as a framework

element (see Chapter 3, RTP's Regional Transportation System Map). Study is underway to expand bus-on-shoulder transit operations along major interstate commute routes as a low cost strategy to enhance transit performance and increase ridership. A second Bus Rapid Transit corridor is in project development for the Mill Plain Boulevard corridor. Further project scoping and definition is needed for yet un-improved high capacity transit corridors.

- High Speed Rail. A multi-party study is underway to evaluate the future potential for high-speed rail service between Portland (OR) and Vancouver (BC). Study recommendations will be evaluated as appropriate for inclusion into the Regional Transportation Plan.
- Columbia River Systems:
  - River commerce is an important component of the regional economy. Maintenance and upgrades to the Columbia River system should be responsive to the ongoing reshaping of the international maritime shipping markets. Future improvements to the river system and related maritime port facilities will likely be needed. Responsive strategies and projects will be evaluated, as appropriate, for inclusion into the Regional Transportation Plan.
  - Passenger ferry service. There is expressed interest in developing a strategy for study and deployment of a river ferry service between Vancouver (WA) and Portland (OR). If a Study moves forward, recommendations will be evaluated for inclusion into a future Regional Transportation Plan as appropriate.
- Air Transportation. Future regional economic development opportunities will be enhanced by robust air transportation service (passenger and commercial) and by ground linkages to that service. Planned expansion of the Portland International Airport will serve improved passenger and commercial air service and capacity. Facility and business planning for Grove Field (Port of Camas/Washougal) and Pearson Field (City of Vancouver) could address future recreational and commercial needs and activity. Future Unmanned Aerial System (drone) aviation technologies as well as electric motor technologies are under review at the national and state levels, and could impact airfield facility needs and also the regional transportation system. Regional partners should monitor the facility planning studies, and market opportunities and identify future regional transportation system investments that support expanded air travel and commerce options.

Projects and strategies resulting from these studies will be addressed further as part of the Comprehensive Growth Management planning process and future RTP updates. If projects are identified and considered feasible, further detailed analysis and financial modeling may be warranted prior to inclusion into the "fiscally-constrained" RTP.

New Technology

Rapid changes will affect personal mobility and commercial transportation over the coming decades. Emergent technologies may create a safer transportation system, and may expand mobility options for all populations within the region. These transformations will impact all aspects of the economy, from real estate to business productivity to consumer behaviors, and will reshape urban transportation system and community design. While the specific outcomes are unknown, the given is that change is coming.

Transformative Technologies

Changes are expected in the equipment used to manage traffic flow, the equipment used for personal and commercial vehicles, and how public agencies manage and design the use of public roadway spaces. The region has established the multi-agency Vancouver Area Smart Trek (VAST) program, to monitor and propose strategies related to the public agency management of traffic signal and related equipment and technology adoption. The state of Washington and Federal Highway Administration are reviewing state and national policies and technology standards for autonomous vehicle systems. Regional communities are assessing growth regulations and design standards in anticipation of changes in the urban transportation systems. Monitoring and adapting to changes in technologies, and implementing sound practices which enable the benefits of technology adoption will be a regional priority in the coming decades.

Transportation as a Service

The business model of auto ownership and commercial fleet services is rapidly evolving. Over the upcoming planning cycle, it is probable that the market will expand subscription based mobility affecting longstanding personal and fleet ownership models. Expanded market acceptance of those (and similar) business models could expand and lower costs for mobility services. Expanded on-demand personal mobility providers will likely affect the future business model of public transit providers and also government regulation of both the street right-of-ways and business regulations. Further monitoring and evaluation of the regional transportation system impacts of these new business models will be needed in order to be responsive in the regulatory, planning and project development processes.

E-commerce

Personal and business goods consumption models have been evolving over the past decade, and future changes will further impact the nature of travel activity on the regional transportation system. State and national review of Unmanned Aerial Systems delivery aircraft technology is underway, and public implementation of those technologies may emerge within the planning horizon. Monitoring of delivery and logistics models and resulting circulation impacts on regional roadways will be critical for future traffic forecasting and system design. Preserving and enhancing

key assets in regional airports will be necessary to reinforce the growing importance of regional airports for business travel and to accommodate new logistics business models that will likely result from future use of drone Unmanned Aerial Systems flight technologies.

Regional Funding Programs

The federal gas tax has not been increased since 1993. State gas taxes have been adjusted in recent years to fund major capital and maintenance programs; yet the bulk of those new revenues have been committed to specific projects and maintenance programs, leaving limited discretionary revenues for regional allocation. Over the long-term, gas tax revenue forecasts indicate a declining trend in buying power and discretionary appropriations, leaving potential gaps in needed revenues for regional system improvements and maintenance.

Consideration of Regional Options

To address the declining buying power of the traditional gas tax, the state is studying a Road Usage Charge funding model. As findings and recommendations are presented to the state legislature, regional leaders should monitor the development of new project and maintenance funding models. Regional funding models such as the Transportation Benefit District and project specific toll programs will need to be further evaluated, and possibly implemented, to fund regional system projects and system maintenance needs during the planning horizon.

Growth Management

Clark County and the greater Portland/Vancouver metropolitan area has been, and is forecast to be, a major growth region over the next 20-years. With this forecast growth, growth management planning among regional jurisdictions will become more important. Consideration of transportation system improvements that are responsive to the growth management plans will be a priority in order to optimize public and private investments in regional and local transportation infrastructure.

Transportation Corridor Visioning Study

The Southwest Washington Regional Transportation Council Board of Directors acknowledged the need to plan for, and evaluate, future regional transportation demands and countywide development patterns beyond the 20-year timeframe of the RTP (recognizing that new transportation corridors take a considerable time to plan for and construct). The purpose of the Visioning Study, and its primary focus, was to answer the question "How will we get around within our own community in the longer-term future <u>if</u> Clark County reaches one-million in population?"

- The RTC Board endorsed the Transportation Corridor Visioning Study in April 2008. The Vision Study recommendations presented broad

concepts for new regional corridors; corridors connecting places and current and potential future nodes of growth in Clark County. Corridors on the eastside, north-south, connections between east Vancouver/Camas/Washougal and Battle Ground, east to west connection between Battle Ground and the Discovery Corridor and westside connections were all considered. The Study report is available on RTC's website at www.rtc.wa.gov.

- The Corridor Visioning Study is intended to be exploratory and informational. A map summarizing the new regional corridor candidates identified in the Transportation Corridors Visioning Study is provided in Figure I-1. **Note: This map is not an adopted plan for corridor alignments. All corridors will require further study before any are added to the fiscally-constrained RTP or local Comprehensive Plans.**

- Study Recommendations: The Visioning Study **recommendation concluded that further regional land use planning review and analysis is needed prior to further review of potential new corridors, to gauge whether future growth forecasts warrant such a project discussion.** The study also recommended that future study should include review of the impacts of these candidate corridors on future land use patterns within Clark County. That analysis should occur during a future countywide Growth Management Planning comprehensive plan process. Further, the Corridor Visioning Study identified conceptual Columbia River bridge crossing locations for the sole purpose of regional traffic modeling and to assess the impacts to existing Interstate bridge crossings at I-5 and I-205. Study findings observed minimal effects (congestion relief, trip diversion).

Figure I-1: Corridors Visioning Study, Candidate New Regional Corridors Map

Appendix J: A History of RTP/MTP Update and Amendment

RTP History

Federal and state laws require regular update of the RTP, also known as the Metropolitan Transportation Plan (MTP). A summary history of the Regional Transportation Plan for Clark County's adoption, update and amendment actions follows.

The 1994 Metropolitan Transportation Plan was the first adopted after RTC's formation in 1992. Since then, there have been seven long-range transportation plan updates and 8 amendment actions by the RTC Board to maintain consistency between the RTP for Clark County, federal, state and local transportation planning efforts including passage of updated federal transportation acts and updated local Comprehensive Growth Management Plans.

The 2018 RTP update is developed to begin to address federal transportation performance management and target setting to guide transportation investments. The updated Plan addresses emerging transportation technologies and possible impacts to future transportation as well as resiliency of the transportation system. The WSDOT's concept of Practical Solutions is integrated into the Plan update and results and recommendations from recent transportation studies are incorporated. Subsequent transportation planning efforts will be incorporated into future RTP updates or amendments and will influence the development of the Clark County region's transportation system.

A Chronology of RTP/MTP Update and Amendment, 1994 to 2018

Note: Employment is Bureau of Labor Statistics (BLS) equivalent or 'covered' employment.

December 1994, MTP Adoption, RTC Board Resolution 12-94-30

This was the first MTP adopted following formation of RTC. The 1994 MTP met all requirements of the federal Intermodal Surface Transportation Efficiency Act passed in 1991. The Plan was fiscally constrained and met air quality standards.

Year	Population	Households	Employment
Base 1990	238,053	88,438	80,100
Forecast 2015	380,425	152,170	138,300

1995

RTC staff reviewed the 1994 MTP and listed elements to change and enhance at the next MTP update. An RTAC memo, dated October 31, 1995, outlined the changes and enhancements identified for the next update.

December 1996, MTP Update, RTC Board Resolution 12-96-22

The update extended the horizon year from 2015 to 2017. Land use inputs consistent with the *Clark County 20 Year Comprehensive Growth Management Plan* and forecasts consistent with the population forecast supplied by Washington Office of Financial Management (OFM) were used in MTP process. Also updated was the designated regional transportation system, transportation system performance measures and list of identified transportation projects for the 20-year period.

Year	Population	Households	Employment
Base 1990	238,053	88,438	80,100
Forecast 2017	437,167	171,842	154,500

December 1997, MTP Amendment, RTC Board Resolution 12-97-23

The amended MTP included changes to the designated regional transportation system, transportation system performance measures and list of identified transportation projects for the 20-year period.

Year	Population	Households	Employment
Base 1990	238,053	88,438	80,100
Forecast 2017	437,167	175,577	154,500

October 1998, MTP Prioritization Process, RTC Board Resolution 10-98-16

The MTP Prioritization Process was adopted in October 1998. This focused on major mobility type projects. A Summary Report on the Prioritization Process was published including policy criteria, technical evaluation of projects and results. Economic development and existing commitments to business and industry were prime criteria for prioritization. Congestion Mitigation/Concurrency Deficiencies, project cost-effectiveness, completion of the transportation system, freight movement and bi-state movement were all considered. The significance of Transportation Demand Management (TDM) was noted.

December 1998, MTP Amendment, RTC Board Resolution 12-98-24

Incorporated into the Dec. 1998 MTP amendment were:

- Results from the prioritization process.
- A matrix of potential TDM strategies.
- Chapter 4 (finance) updated to show balance between estimated revenues and forecast expenditures on MTP transportation needs.
- Chapter 5 (system development) updated to include Prioritization Process, additional TDM detail and economic development description..

Year	Population	Households	Employment
Base 1990	238,053	88,438	80,100
Forecast 2017	437,167	175,577	154,500

April, 1999, MTP Amendment, RTC Board Resolution 04-99-09

Phase I of the I-5/NE 219th Street; planning and design of a proposed new interchange was included in the MTP.

October 1999, MTP Update, RTC Board Resolution 10-99-26

The demographic forecast was extended to 2020. The MTP update includes the new federally-required planning factors, adds several arterial improvements and has an updated air quality conformity analysis.

Year	Population	Households	Employment
Base 1996	303,500	120,312	104,200
Forecast 2020	473,898	192,716	170,900

December 2000, MTP Amendment, RTC Board Resolution 12-00-30

The amendment included the following elements:

- I-5 AM peak period HOV lane project
- Base Year updated from 1996 to 1999
  C-TRAN service description updated (July, 2000)
- Appendix A; projects under construction or fully funded noted.

Year	Population	Households	Employment
Base 1999	337,000	137,974	112,490
Forecast 2020	473,898	192,716	170,900

December 2002, MTP Update, RTC Board Resolution 12-02-24

The update included the following elements:

- Base year updated to year 2000 and horizon year extended to 2023.
- Update to Chapter 4 Finance Plan.
- Updated list of MTP "fiscally-constrained" recommended improvements.
- Strategic Plan element incorporated into MTP Appendix includes recommendations of the I-5 Partnership Governors' Task Force (June 2002).

Year	Population	Households	Employment
Base 2000	345,238	127,203	118,310
Forecast 2023	486,225	200,094	185,370

December 2003, MTP Amendment, RTC Board Resolution 12-03-32

The amendment included the following elements:

- Add Port of Ridgefield Rail Overpass Project.
- Amend Strategic Plan Recommendations (Appendix B).
- Minor Amendments to Financial Plan to acknowledge funding of state "nickel package" projects.

December 2005, MTP Update, RTC Board Resolution 12-05-24

The update included the following elements:

- Review and update of MTP Goals and Policies.
- Horizon year extended to 2030.
- Update to the Designated Regional Transportation System Map.
- Update to Chapter 4 Finance Plan.
- Updated list of MTP "fiscally-constrained" recommended improvements.
- Strategic Plan element update in Appendix B.

Year	Population	Households	Employment
Base 2000	345,238	127,203	118,310
Forecast 2030	592,378	220,215	238,515

December 2007, MTP Update, RTC Board Resolution 12-07-24

The update included the following elements:

- Consistency with state and local plans
- Update to the Designated Regional Transportation System Map (transit system).
- Update to Chapter 4 Finance Plan.
- Updated list of MTP "fiscally-constrained" recommended improvements.
- Strategic Plan element update in Appendix B.
- Incorporation of technical papers on security and environmental mitigation.

Year	Population	Households	Employment
Base 2000	345,238	127,203	118,310
Forecast 2030	639,337	246,848	283,875

July 2008, MTP Amendment, RTC Board Resolution, 07-08-10

The amendment includes the following element:

- Add the I-5 Columbia River Crossing project's Locally Preferred Alternative. The LPA is added to the map of the Regional Transportation System in Chapter 3, is included in Chapter 4 (Financial Plan) which includes a description of the financing assumptions, and is added to the Transportation Improvements map in Chapter 5. The Plan's amendment is acknowledged in Chapter 7. Appendix A is amended to include the CRC's LPA and Appendix B (Strategic MTP) is amended to delete the CRC project as it is brought into the fiscally constrained Plan.

December 2008, MTP Technical Amendment, RTC Board Consent

Appendix F added to MTP to describe Year of Expenditure (YOE) Methodology; cost and revenues provided in YOE.

January 2010, MTP Technical Amendment, Appendix E, *"RTC Consideration of the Environment and Environmental Mitigation in the MTP Process"*, supplemented to include an overview matrix of regional environmental mitigation strategies at a programmatic level. Appendix E is cross-referenced in Chapter 5.

December 2010, MTP Amendment, RTC Board Resolution 12-10-24

The amendment includes the following elements:

- Add policy recommendations of the Clark County High Capacity Transit System Study (RTC, December 2008)
- Incorporate C-TRAN's 20 Year Transportation Development Program, *C-TRAN 2030*
- Delete reference to Washougal SR-14 roundabouts
- Update Appendix B, the MTP's Strategic Plan section, to add the New Transportation Corridors Visioning Study map.

December 2011, MTP Update, RTC Board Resolution 12-11-23

The 2011 MTP update is a comprehensive update to the Plan that highlights:

- Updated list of MTP "fiscally-constrained" recommended improvements.
- Safety assessment
- Freight planning.
- Pedestrian and bicycle plan.

Year	Population	Households	Employment
Base 2010	425,363	151,312	126,352
Forecast 2035	641,800	248,750	256,200

December 2014, RTP Update, RTC Board Resolution 12-14-24

The 2014 RTP update is an update to the Plan that highlights:

- Focus on finance and economic policies.
- Sets path toward MAP-21 implementation and its required performance-based planning, monitoring and targeted investments.
- Updated horizon year population forecast based on OFM 2035 forecast, mid-range (OFM, released 2012).
- Updated list of RTP "fiscally-constrained" transportation projects.
- Safety assessment (updated 2014).
- Pedestrian and bicycle plan and relationship to community health.

Year	Population	Households	Employment
Base 2010	425,363	151,312	126,352
Forecast 2035	562,207	211,400	232,500

March 2019, RTP Update, RTC Board Resolution 03-19-xx

The 2018 RTP update is a Plan update that highlights:

- Implementation of performance-based planning, monitoring and transportation performance target setting.
- Updated horizon year 2040 population forecast based on OFM 2040 population forecast (OFM, released 2017) and Clark County's updated Comprehensive Growth Management Plan (2016).
- Updated list of RTP "fiscally-constrained" transportation projects based on WSDOT, C-TRAN and local Capital Facilities Plans.
- Balance between multiple transportation modes with some Clark County jurisdictions having adopted Complete Streets ordinances.
- Emerging new transportation technologies.

Year	Population	Households	Employment
Base 2016	461,010	170,744	154,600
Forecast 2040	600,361	225,700	241,499

Appendix K: RTP Environmental Justice Analysis

Introduction

The following appendix presents the results of RTC's environmental justice (EJ) analysis conducted for the 2014 Regional Transportation Plan (RTP). The concept of environmental justice, derived from Title VI of the Civil Rights Act of 1964 and other civil rights statutes, was first put forward as a national policy goal by presidential Executive Order 12898[4], issued in 1994. It directs "each federal agency to make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." In response, the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) have renewed their commitments to assure that environmental justice is carried out in the programs and strategies they fund, including the activities of metropolitan planning organizations.1

As part of RTC's EJ component in its work program, the agency developed a 2017 baseline demographic profile which presented key demographic data describing Clark County and identified population groups and communities to be considered for subsequent EJ analyses and activities. (see Environmental Justice Demographic Profile for Clark County).

To further integrate EJ considerations into RTC's RTP work program, this analysis looks at both the geographic proximity of projects to the subject populations, as well as the distribution of those projects by type (e.g., transit, general-purpose roadway capacity, etc.). The analysis focuses on the RTP projects that are on the RTP regionally designated system, as these transportation strategies and projects focus on development of the regional transportation system. A list of these projects can be found in Table B-5 of Appendix B.

[4] *Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, February 1994. DOT Order to Address Environmental Justice in Minority Populations and Low-Income Populations, April 1997. FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, December 1998. FHWA and FTA Memorandum Implementing Title VI Requirements in Metropolitan and Statewide Planning, October 1999.*

Demographic Profile

RTC updated its Environmental Justice Demographic Profile in 2017. This document is a baseline report documenting populations of concern for EJ analysis and defining population thresholds to be used in further EJ analysis. This report was based on data from the US Census Bureau's 2011-2015 American Community Survey 5-Year Estimates, and focuses on several population groups, two of which, minority and low-income residents, are pertinent to this RTP EJ analysis. The profile summarizes the data by census block group geography.

Census block groups are the second smallest geographic units by which the Census summarizes data. There are 280 census block groups in Clark County made up from over 7,000 census blocks. The Demographic Profile provides a basis for the classification of census block groups as either "minority" or "non-minority" block groups. This minority classification is made on the basis of the proportion of a block group's population that defines itself as a minority; i.e. any block group in which the minority population percentage is greater than the regional average is classified a "minority block group." In Clark County, minorities comprise 19.75 percent of the population, therefore any block group in which 19.75 percent or more of the population self-identifies as members of a minority is deemed a "minority block group." A person is counted as a member of a minority group if he or she claimed any of the following identities in their Census return: Black, American Indian or Alaskan Native, Asian, Native Hawaiian or Other Pacific Islander, or Hispanic.

Similarly, the Demographic Profile provides a basis for a poverty classification scheme for census block groups as well. This classification is made in a similar way to the minority classification scheme in that block groups are deemed "poverty block groups" if the proportion of their population that is in poverty is greater than the regional average. Because the regional poverty rate is 11.2 percent, any block group with 11.2 percent or more of its residents in poverty is classified as a "poverty block group." Any person whose annual income fell below the US Department of Health and Human Services Poverty Guidelines in the American Community Survey was counted "in poverty."

Figures K-1 and K-2 illustrate the spatial distribution of minority and poverty population in the Clark County region, as described in the Demographic Profile.

Regional Transportation Plan Data

The RTP provides an overview of the metropolitan transportation planning process and is intended to be a plan to meet transportation needs over the next 20-plus years. A total of 115 projects have been identified in the RTP that are found on the regionally designated transportation system. Of these, 104 could be assigned to geographic locations, and are illustrated in Figure K-3. The remaining 11 projects were unable to be mapped, e.g., bus purchases and projects with nonspecific location information. A list of these projects can be found in Table K-4 at the end of this Appendix K.

Projects were assigned one of five "improvement type" classifications to reflect the major scope of the project. Table K-1 lists these improvement types and the number of projects included in each classification. The table reflects only the 104 projects that were mapped for this analysis, and does not include the non-mappable projects. Thus, many transit projects such as bus purchases and commute trip reduction programs do not appear in the totals.

In addition, these improvement types do not reflect the multimodal nature of many projects, and instead, reflect only one primary improvement type. For example, a project constructing an additional travel lane, sidewalks and a bicycle lane along a roadway segment would be classified only as a roadway general purpose capacity project.

Table K-1: Project Improvement Types

Improvement Type	Project Count
General Capacity	47
Other Roadway*	47
Intelligent Transportation Systems / Transportation Demand Management	2
Transit and Non-motorized	7
Freight	1
Total	**104**

* Other Roadway includes intersection improvements, bridge improvements, road relocations, minor widening and etc.

Figure K-1: Minority Population, 2015

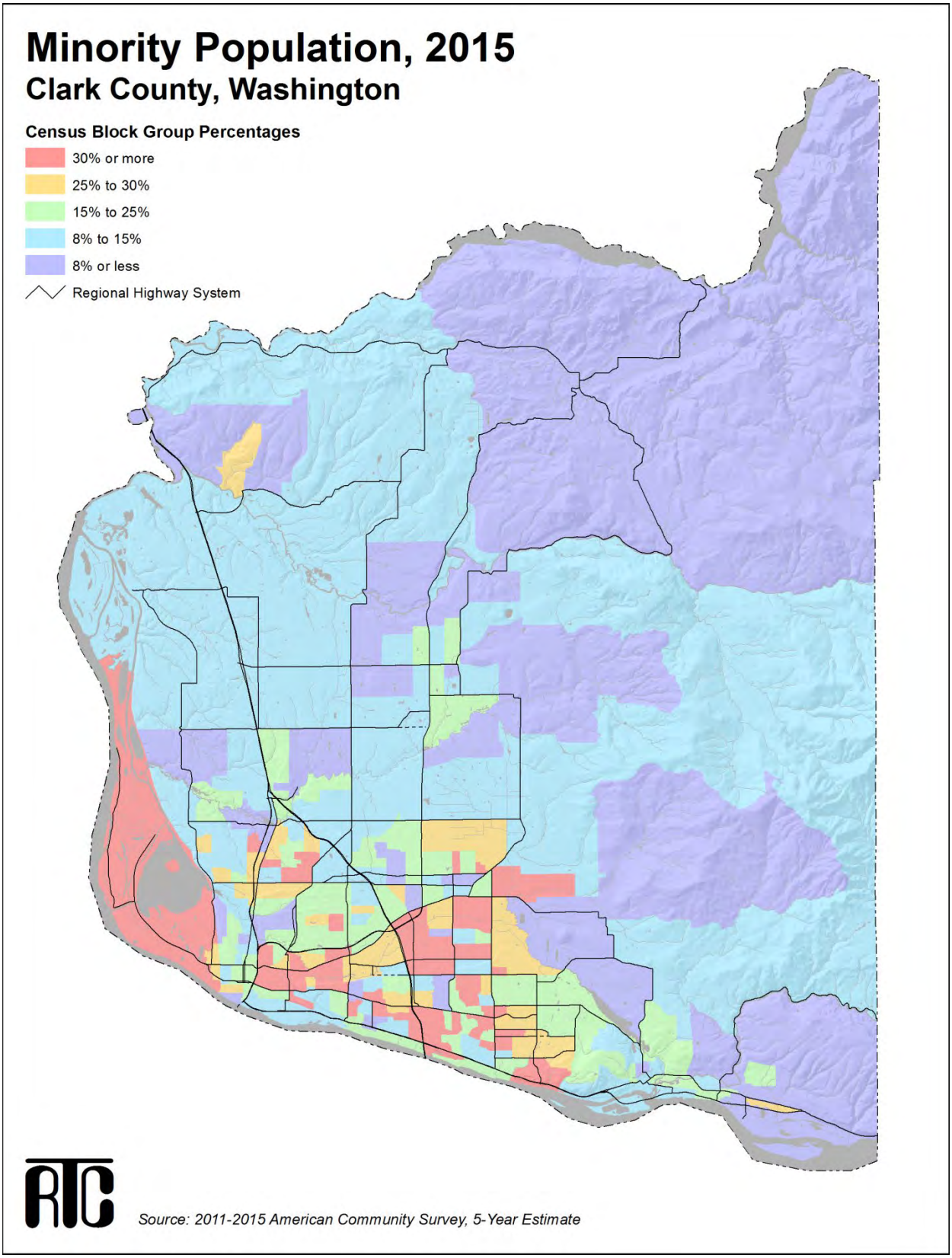


Figure K-2: Low-Income Population, 2015

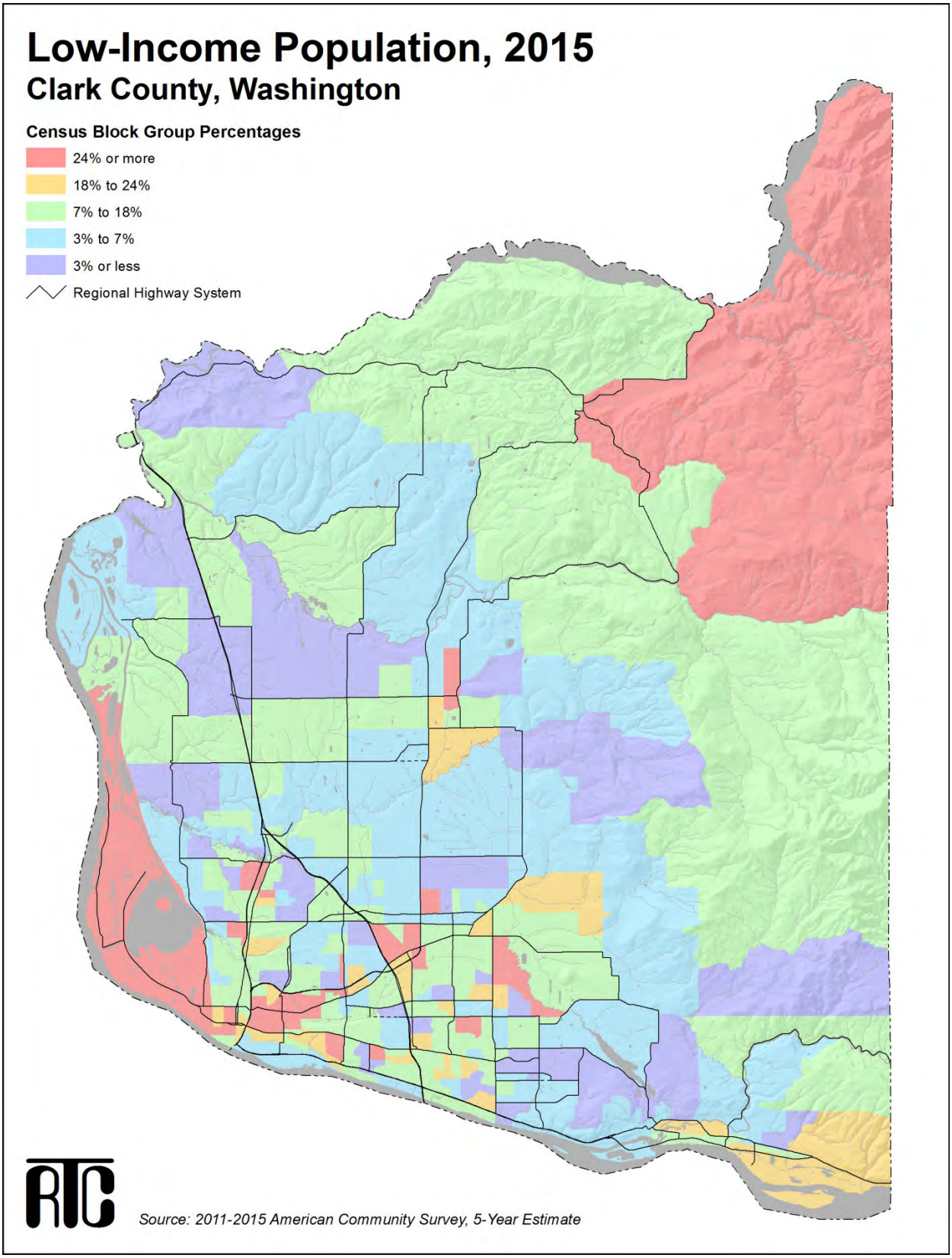


Figure K-3: RTP Regional System Improvements: Map to be inserted in final RTP

Analysis

The analysis discussed in this appendix describes various summaries of blocks and tracts that are in proximity of one or more projects. A block or tract is considered to be in proximity of a project if any part of that project is located within 100 feet of the boundary of the block or tract. County wide, 11.5 percent of all census blocks, comprising 17.3 percent of the population, are in proximity of one or more projects. Tracts, because of their larger size, have a greater proportion in proximity of a project: 81.7 percent of all tracts, comprising 79.1 percent of the population.

Because of the difference in size between blocks and tracts, populations deemed to be "in proximity" to a project differ between the minority and poverty analyses. An individual is counted as in proximity to a project if he or she lives in a block or tract that is within 100 feet of a project. A greater proportion of the population is deemed to be in proximity to a project in the poverty analysis because the geographic units are larger; the larger the geographic unit, the more likely it is to be close to one or more projects. Proportions of the population that are in proximity to a project are therefore not comparable between the minority and poverty analyses.

Population-Based Analysis

The regional proportion of people self-identifying as members of minority groups, according to the US Census, is 18.2 percent. Assuming there is a balance in the distribution of projects, the minority proportion of the population living near such projects should roughly mirror the regional figure.

Starting with the subset of blocks and tracts in the region touched by a project, individuals were counted and summarized by minority and poverty status. Of all people living in census blocks touched by a project, 16.4 percent are members of minorities. Though marginally lower, this is comparable with the 18.2 percent regional minority proportion mentioned above. Because these proportions are so similar, it does not appear that people living in a census block touched by a project are more likely to be members of minority groups than are individuals region wide.

A similar pattern was found for people in poverty. Regionally, 12.6 percent of the population is living in poverty. Given an equitable distribution of projects, a similar poverty rate should be seen among people living near projects. This is in fact the case: 11.4 percent of people in proximity to a project are in poverty. As with the minority population-based analysis, because these proportions are so similar, individuals in proximity to a project do not appear to be more likely to be in poverty than do people region wide.

Neighborhood-Level Minority Analysis

In addition to the population-based analysis discussed above, another analysis was performed at the census block level to evaluate the proximity of projects to minority populations. Proportions of minority populations were calculated for all census blocks, as shown in Figure K-1.

Blocks were then assigned a classification of minority or non-minority. This classification was made by comparing the block's minority rate to the regional average minority rate. Any block in which the minority portion of the population meets or exceeds the regional rate of 18.2 percent was classified a "minority block." Of all blocks county-wide, 19.4 percent were classified as minority blocks under this method. A pie chart of this regional proportion of minority blocks is provided in Figure K-3. Given an equitable distribution of projects, the proportion of blocks touched by a project should roughly mirror this regional proportion of 19.4 percent. The analysis finds that of all census blocks that are within 100 feet of an RTP project, that 17.5 percent are "minority blocks."

Figure K-4: Minority Classification Among Clark County Census Blocks

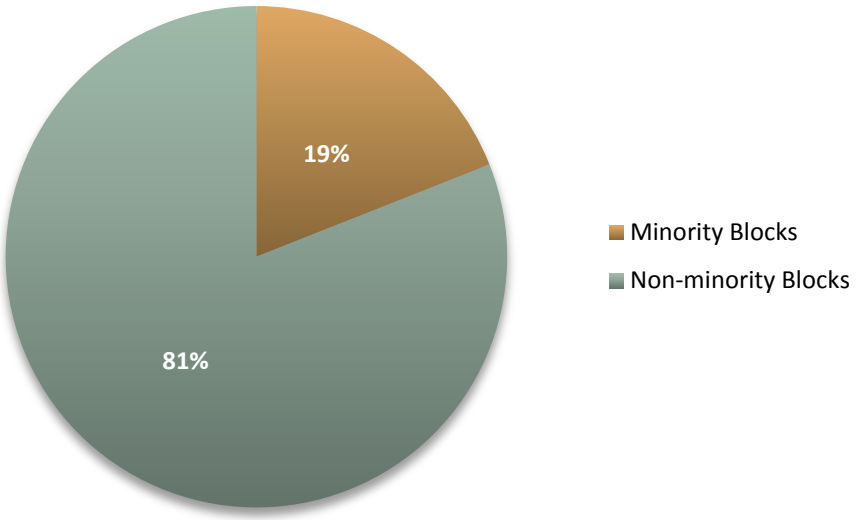
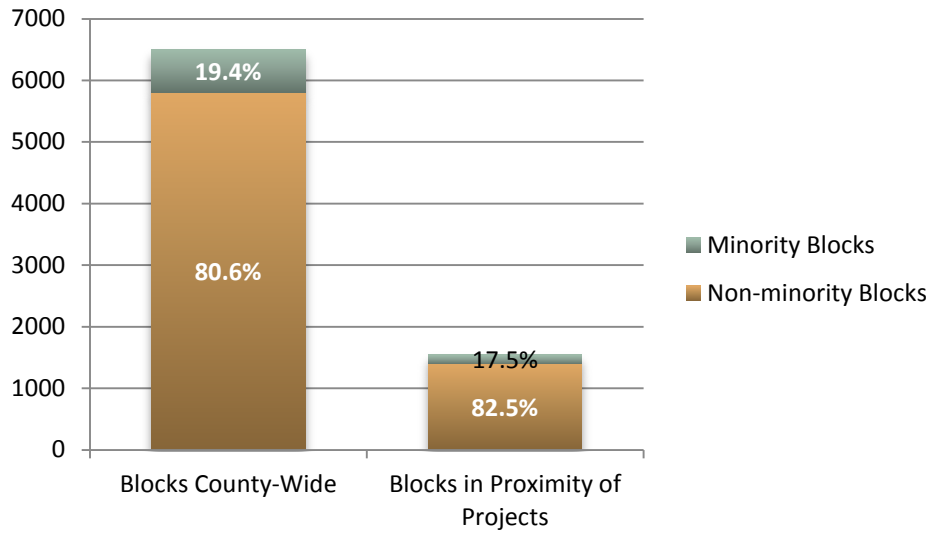


Figure K-5 displays the distribution of minority classification among blocks in proximity to RTP projects. It shows that the distribution of minority classification is roughly the same among blocks touched by projects as it is among all blocks region-wide.

Figure K-5: Regional Census Blocks vs Blocks in Proximity to RTP Projects – Minority Classification



Minority Analysis Distribution of Projects by Type

Another measure of analysis is the distribution of projects by type. As described above, projects were classified into five improvement types. Of all Census blocks within 100 feet of a project, a certain number are general purpose capacity projects, a certain number are non-motorized projects, etc. This information is summarized by minority and non-minority blocks and displayed in Table K-2. The number of projects represented by each category is also provided.

For example, the first row could be read the following way:

"There are 47 projects of the general purpose capacity improvement type. Of all the minority blocks touched by a project of any type, 51.7 percent are touched by general purpose capacity projects. This can be compared to the corresponding percentage for non-minority blocks, 65.0 percent."

Table K-2 shows that the distribution of improvement types is roughly equivalent among minority and non-minority neighborhoods. Generally, if a given improvement type is found to touch a large proportion of minority blocks, it is also found to touch a similar proportion of non-minority blocks as well.

Table K-2: Proportion of Blocks within Proximity of Projects by Improvement Type

Improvement Type	Project Count	Minority Blocks within Proximity of Projects	Non- Minority Blocks within Proximity of Projects
General Capacity	47	51.7%	65.0%
Other Roadway	47	26.2%	34.4%
ITS/TDM	2	1.4%	1.0%
Transit and Non-motorized	7	26.2%	19.0%
Freight	1	0.7%	0.0%

* Other Roadway includes intersection improvements, bridge improvements, road relocations, minor widening and etc.

Note1 - The percentage columns represent the percent of blocks touched by projects, not the percent of all blocks.

Note 2 - The right-most two columns do not sum to 100 percent in any given row. This is because they represent proportions of different totals: one is a proportion of minority blocks within 100 feet of projects; the other is non-minority blocks within 100 feet of projects.

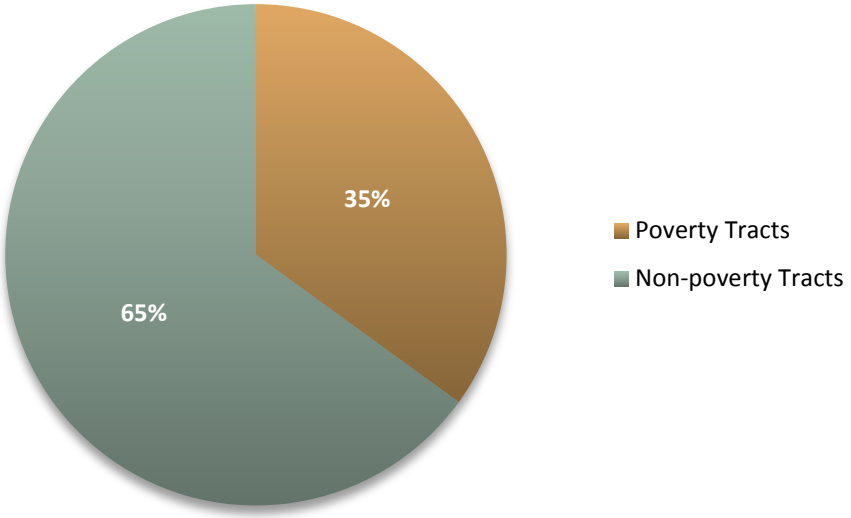
Note 3 - The percentages of blocks with projects sum to greater than 100 percent. This is due to the fact that some blocks have several projects of varying improvement types and are therefore counted in several rows.

Neighborhood-Level Poverty Analysis

A tract-level analysis was conducted for poverty areas, similar to the block-level analysis for minorities. As described earlier, the level of analysis is coarser for this poverty analysis due to the level of aggregation at which poverty data is available from the US Census. The smallest level of geography at which poverty data is available with a sufficiently narrow margin of error for this analysis is the tract level. This represents a substantial decrease in the number of areas under analysis when compared to the minority neighborhood analysis: from 7205 blocks to 104 tracts.

Tracts were assigned a poverty classification if they had greater than the regional average percentage of residents living at below the 1999 US Department of Health and Human Services Poverty Guidelines. Any tract in which more than 12.6 percent of the population was living in poverty was considered a “poverty tract”. Thirty-four point six (34.6) percent of tracts were classified as poverty tracts under this measure, as displayed in Figure K-6.

Figure K-6: Poverty Classification among Clark County Census Tracts

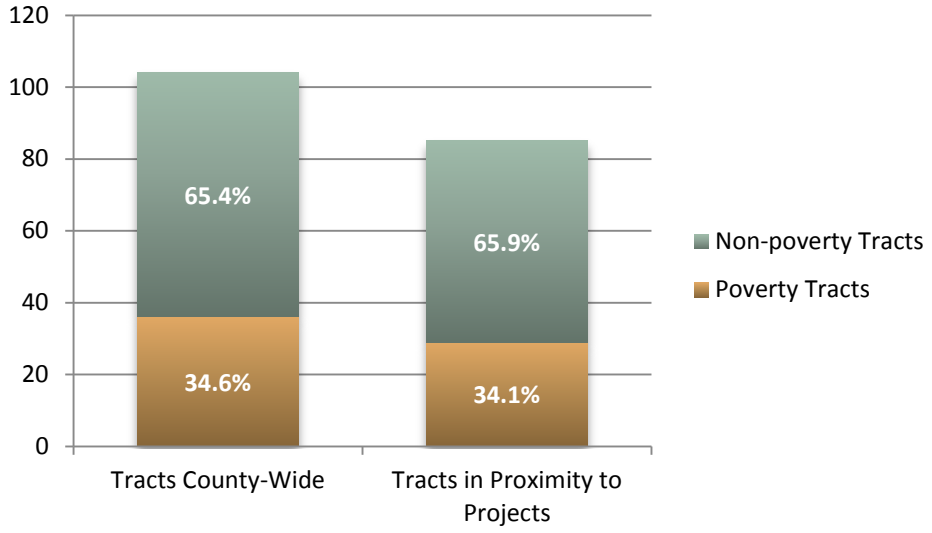


A limitation of this tract-level analysis is that it counts all tracts equally, regardless of the size of the population within each tract. A tract with 3000 people, 260 of whom are in poverty, is counted equally to a tract with a population of 700, 61 of whom are in poverty. Both of these areas have poverty rates of 8.6 percent but the actual number of people in poverty each represents is very different. This phenomenon applies also to the block-level minority analysis described in the previous section, but is more relevant to the poverty analysis due to the coarser level of aggregation.

Another feature of the neighborhood-level poverty analysis is that it does not account for the distribution of populations within tracts. A tract classified as non-poverty might in fact have a number of residents in poverty. As long as the proportion is less than the regional average this neighborhood-level analysis does not account for these residents because it is by definition a *neighborhood* analysis, not an analysis of population. For example, a large tract with a population of 3000 could have 200 people living in poverty, but because that figure represents a poverty rate of 6.7 percent the tract would not be considered a poverty tract. Thus those 200 individuals would not be counted as being in poverty in the analysis.

Neighborhood-level analysis is commonly used in EJ assessments because it is easily interpretable and provides a means for visualization of spatial patterns among populations of concern. In Clark County, 34.1 percent of all tracts touched by projects are classified as poverty neighborhoods. This percentage is displayed graphically in Figure K-7 and is slightly lower than the regional rate of poverty tracts of 34.6 percent, although it does not appear to be substantially so.

Figure K-7: Regional Census Blocks vs Blocks in Proximity to RTP Projects – Poverty Classification



Poverty Analysis Distribution of Projects by Type

As noted in the discussion of projects affecting minority blocks, all projects are not equal in character and major scope. One representation of this variation is a project's improvement type. As in the block-level minority analysis, tracts within 100 feet of RTP projects were summarized by poverty classification and by project type. Table K-3 summarizes this information. As with Table K-2, the percentage columns represent the percent of blocks within 100 feet of RTP projects by poverty class, not the percent of all blocks region wide.

Table K-3: Proportion of Poverty Tracts in Proximity to Projects, by Improvement Type

Improvement Type	Project Count	Poverty Tracts within Proximity of Projects	Non-Poverty Tracts within Proximity of Projects
General Capacity	47	82.8%	75.0%
Other Roadway*	47	55.2%	82.1%
ITS/TDM	2	6.9%	3.6%
Transit and Non-motorized	7	41.4%	7.1%
Freight	1	3.4%	0.0%

* Other Roadway includes intersection improvements, bridge improvements, road relocations, minor widening and etc.

Note1 - The percentage columns represent the percent of blocks touched by projects, not the percent of all blocks.

Note 2 - The right-most two columns do not sum to 100 percent in any given row. This is because they represent proportions of different totals: one is a proportion of poverty tracts within 100 feet of projects; the other is non- poverty tracts within 100 feet of projects.

Note 3 - The percentages of tracts with projects sum to greater than 100 percent. This is due to the fact that some tracts have several projects of varying improvement types and are therefore counted in several rows.

Table K-3 shows that the distribution of improvement types is roughly equivalent for poverty tracts and non-poverty tracts. It shows that, generally, improvement types that touch a large number of poverty tracts also touch a large number of non-poverty tracts and that those that touch few poverty tracts also touch few non-poverty tracts. There are some moderate exceptions to this pattern: Transit and non-motorized projects make up a somewhat larger proportion of poverty tracts than they do of non-poverty tracts.

Summary

The projects reviewed in this analysis are found to be equitably distributed with respect to minority and non-minority populations. Residents of census blocks within 100 feet of RTP are 16.4percent minority, a ratio marginally but not substantially lower than the minority proportion of the regional population, 18.2 percent. The block-level minority analysis shows a similar relationship: of blocks in proximity to projects, 17.5 percent are minority blocks, which, though lower than the regional proportion of 19.4 percent, are roughly commensurate with the regional ratio. Blocks are designated “minority blocks” where they have a higher proportion of minority residents than the region on the whole, even if they have a substantial number of non-minority residents as well.

The 11.4 percent poverty rate among residents with projects within 100 feet of their tract is slightly lower than the regional poverty rate of 12.6 percent. The neighborhood-level poverty analysis shows that 34.1 percent of tracts within 100 feet of RTP projects are poverty neighborhoods, which is a slightly higher percentage than the proportion of poverty tracts region wide, 34.6 percent. As in the minority analysis, not all individual residents of poverty tracts are in poverty themselves, but those tracts have a greater percentage of residents living in poverty than the region does as a whole.

As individual transportation projects are implemented, project sponsors must avoid, minimize, or mitigate adverse human health and environmental effects, including social and economic impacts. Any localized burdens associated with specific projects in the RTP must be mitigated, regardless of the racial or economic characteristics of the surrounding area.

Table K-4: Non-Mappable RTP Projects

Jurisdiction / Agency	Project
C-TRAN	Fleet Replacement and Expansion
C-TRAN	Major Fleet Component Maintenance
C-TRAN	Passenger Amenities - Improvements/amenities at bus stops and transit centers - new and existing; Also equipment on board buses
C-TRAN	Maintenance and Support Vehicles
C-TRAN	Facility Capital Maintenance
C-TRAN	Office Equipment/Computer Systems/Printers
C-TRAN	Miscellaneous Capital Repair & Replacement
Clark County	Signalized Intersections at Various Locations
Clark County	TSMO upgrades
County-wide	Pedestrian & Bicycle Projects and Programs
County-wide	Demand Management and CTR

Appendix L: Abbreviations and Acronyms

AA	Alternatives Analysis
AADT	Annual Average Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
AAWDT	Annual Average Weekday Traffic
ACE	Active Community Environments
ACS	American Community Survey
ADA	Americans with Disabilities Act
ADT	Average Daily Traffic
APC	Automatic Passenger Counter
APP	Arterial Preservation program (TIB funding program)
APTA	American Public Transportation Association
APTS	Advanced Public Transportation System
AQMA	Air Quality Maintenance Area
ARRA	American Recovery and Reinvestment Act of 2009
ASA	Automated Stop Announcement
ATIS	Advanced Traveler Information System
ATCI	Accessible Transportation Coalition Initiative
ATIS	Advanced Traveler Information System
ATM	Active Traffic Management
ATMS	Advanced Transportation Management System
AVL	Automated Vehicle Location
AVO	Average Vehicle Occupancy
AWDT	Average Weekday Traffic
BACT	Best Available Control Technology
BAT	Business Access and Transit
BEA	Bureau of Economic Analysis
BLS	Bureau of Labor Statistics (federal)
BMS	Bridge Management System
BNSF	Burlington Northern Santa Fe
BOCC	Board of County Councilors
BOS	Bus on Shoulders
BPAC	Clark Communities Bicycle and Pedestrian Advisory Committee
BRACC	Bridge Replacement Advisory Committee
BRRP	Bridge Replacement and Rehabilitation Program
BRT	Bus Rapid Transit

CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CAC	Citizens' Advisory Committee
CAD	Computer Aided Dispatch
CAPP	County Arterial Preservation Program
CAV	Connected and Autonomous Vehicles
CBD	Central Business District
CCAC	C-TRAN Citizens Advisory Committee
CCTA	Clark County Transportation Alliance
CCTV	Closed Circuit Television
CDBG	Community Development Block Grant
CDMP	Corridor Development and Management Plan
CE	Categorical Exclusion
CERB	Community Economic Revitalization Board
CETAS	Collaborative Environmental and Transportation Agreement for Streamlining (Oregon)
CEVP	Cost Estimating Validation Process
CFP	Capital Facilities Plan
CFP	Community Framework Plan
CFR	Code of Federal Regulations
CHAP	City Hardship Assistance Program
CIC	Communications Infrastructure Committee
CIPP	Capital Improvement and Preservation Program
CM/AQ	Congestion Mitigation/Air Quality
CMM	Congestion Management Monitoring
CMP	Congestion Management Process
CMS	Congestion Management System
CO	Carbon Monoxide
CRAB	County Road Administration Board
CRC	I-5 Columbia River Crossing Project
CREDC	Columbia River Economic Development Council
CRESA	Clark Regional Emergency Services Agency
CRFC	Critical Rural Freight Corridor
CTPP	Census Transportation Planning Package
CTR	Commute Trip Reduction
C-TRAN	Clark County Public Transportation Benefit Area Authority
CUFC	Critical Urban Freight Corridor
CV	Connected Vehicle
CVISN	Commercial Vehicle Information Systems and Networks
DBE	Disadvantaged Business Enterprise
DEIS	Draft Environmental Impact Statement
DEQ	Oregon State Department of Environmental Quality
DLCD	Oregon Department of Land Conservation and Development
DNS	Determination of Non-Significance

DOE	Washington State Department of Ecology
DOH	Department of Health
DOL	Washington State Department of Licensing
DOT	Department of Transportation
DS	Determination of Significance
DSHS	Washington Department of Social and Health Services
DTA	Dynamic Traffic Assignment
EA	Environmental Assessment
ECO	Employee Commute Options
EIS	Environmental Impact Statement
EJ	Environmental Justice
EMME/4	EMME/4 is an interactive graphic transportation planning computer software package distributed by INRO Consultants, Montreal, Canada.
EOC	Emergency Operations Center
EPA	Environmental Protection Agency
ETC	Employer Transportation Coordinator
ETC	Electronic Toll Collection
ETRP	Employer Trip Reduction Program
FACT	Southwest Freight and Commerce Task Force
FAF	Freight Analysis Framework
FAST Act	Fixing America's Surface Transportation Act (2015) – the current Federal Transportation Act
FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FFY	Federal Fiscal Year
FGTS	Freight and Goods Transportation System
FHWA	Federal Highways Administration
FMS	Freeway Management System
FMSIB	Freight Mobility Strategic Investment Board
FONSI	Finding of No Significant Impact
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
FY	Fiscal Year
FFY	Federal Fiscal Year
GIS	Geographic Information System
GHG	Greenhouse Gas
GMA	Growth Management Act
GTEC	Growth and Transportation Efficiency Center
HB	House Bill
HBRRP	Highway Bridge Replacement and Rehabilitation Program (federal)
HC	Hydrocarbons
HCM	Highway Capacity Manual
HCT	High Capacity Transportation
HLC	Southwest Washington Healthy Living Collaborative

HOV	High Occupancy Vehicle
HPMS	Highway Performance Monitoring System
HSC	Human Services Council
HSIP	Highway Safety Improvement Program (federal)
HSP	Highway System Plan
HSS	Highways of Statewide Significance
HSTP	Human Services Transportation Plan
HUA	Highway Urban Area
HUD	Department of Housing and Urban Development
ICM	Integrated Corridor Management
IM	Incident Management
I/M	Inspection/Maintenance
ISTEA	Intermodal Surface Transportation Efficiency Act (1991)
ITS	Intelligent Transportation System
IV/HS	Intelligent Vehicle/Highway System
JARC	Job Access and Reverse Commute
JOPS	Joint Operations Policy Statement
JPACT	Joint Policy Advisory Committee on Transportation
LAS	Labor Area Summary
LCDC	Oregon Land Conservation and Development Commission
LCP	Least Cost Planning
LEP	Limited English Proficiency
LMC	Lane Miles of Congestion
LMP	Limited Maintenance Plan *(relating to air quality)*
LOS	Level of Service
LPA	Locally Preferred Alternative
LRT	Light Rail Transit
M&O	Management and Operations
MAB	Metropolitan Area Boundary
MAP-21	Moving Ahead for Progress in the 21st Century (2012 Federal Transportation Act)
MDNS	Mitigated Determination of Non-significance
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MOVES	Motor Vehicle Emissions Simulator
MP	Maintenance Plan (air quality)
MPA	Metropolitan Planning Area
MPO	Metropolitan Planning Organization
MTP	Metropolitan Transportation Plan
MUTCD	Manual on Uniform Traffic Control Devices
MVET	Motor Vehicle Excise Tax
NAAQS	National Ambient Air Quality Standards
NCPD	National Corridor Planning and Development Program
NEPA	National Environmental Policy Act
NHFN	National Highway Freight Network

NHFP	National Highway Freight Program
NHPP	National Highway Performance Program (federal funding program)
NHS	National Highway System
NHTS	National Household Travel Survey
NMFN	National Multimodal Freight Network
NOX	Nitrogen Oxides
NPMRDS	National Performance Management Research Data Set
NPRM	Notice of Proposed Rule Making
NTOC	National Transportation Operations Coalition
NSSG	New Starts Strategy Group
NTS	Neighborhood Traffic Study
O/D	Origin/Destination
ODOT	Oregon Department of Transportation
OFM	Washington Office of Financial Management
OMSC	Oregon Modeling Steering Committee
OTMIP	Oregon Travel Model Improvement Program
OTP	Oregon Transportation Plan
P&M	Preservation and Maintenance
P&R	Park and Ride
PBP	Performance Based Planning
PBPP	Performance Based Planning and Programming
PCE	Passenger Car Equivalents
PE	Preliminary Engineering
PE/DEIS	Preliminary Engineering/Draft Environmental Impact Statement
PEA	Planning Emphasis Area
PFN	Primary Freight Network
PHF	Peak Hour Factor
PHFS	Primary Highway Freight System
PIA	Portland International Airport
PM10	Particulate Matter
PM2.5	Particulate Matter (fine)
PMS	Pavement Management System
POD	Pedestrian Oriented Development
PORTAL	Portland Transportation Archive Listing
PPP	Public Participation Process of Public Participation Plan
Pre-AA	Preliminary Alternatives Analysis
PSC	Project Sponsors Council *(relates to Columbia River Crossing Project)*
PSMP	Pedestrian, Safety & Mobility Program
PTBA	Public Transportation Benefit Area
PTMS	Public Transportation Management System
PTSP	Public Transportation Systems Program
PVMATS	Portland-Vancouver Metropolitan Area Transportation Study
PWTF	Public Works Trust Fund

RAP	Rural Arterial Program
RCW	Revised Code of Washington
RCTO	Regional Concept for Transportation Operations
RDP	Route Development Program
REET	Real Estate Excise Tax
RID	Road Improvement District
RJT	Route Jurisdiction Transfer
ROD	Record of Decision
ROW or RW	Right of Way
RTAC	Regional Transportation Advisory Committee
RTC	Southwest Washington Regional Transportation Council
RTFM	Regional Travel Forecasting Model
RTP	Regional Transportation Plan
RTPO	Regional Transportation Planning Organization
RUGGO	Regional Urban Growth Goals and Objectives
RW	Right of Way
RWIS	Road Weather Information Systems
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (2005)
SAGES	Statewide Advisory Group for Environmental Stewardship
SCAP	Small City Arterial Program (TIB funding program)
SCPP	Small City Preservation Program (TIB funding program)
SCSP	Small City Sidewalk Program (TIB funding program)
SEIS	Supplemental Environmental Impact Statement
SEPA	State Environmental Policy Act
SGR	State of Good Repair
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SMS	Safety Management System
SMTP	Statewide Multimodal Transportation Plan
SOV	Single Occupant Vehicle
SP	Sidewalk Program (TIB funding program)
SPG	Strategic Planning Group
SPUI	Single Point Urban Interchange
SR-	State Route
SRTS	Safe Routes to school
STIP	State Transportation Improvement Program
STBG	Surface Transportation Block Gran
SWCAA	Southwest Clean Air Agency
TA	Transportation Alternatives (federal)
TAM	Transit Asset Management
TAMP	Transit Asset Management Plan
TAZ	Transportation Analysis Zone
TC	Transit Center

TCM's	Transportation Control Measures
TDM	Transportation Demand Management
TDP	Transit Development Program
TDP	Travel Delay Program (WSDOT)
TEA-21	Transportation Equity Act for the 21st Century
TIA	Transportation Improvement Account
TIB	Transportation Improvement Board
TIFIA	Transportation Information, Management and Control System
TIMACS	Transportation Information, Management, and Control System
TIP	Transportation Improvement Program
TMA	Transportation Management Area
TMC	Traffic Management Center
TMIP	Transportation Model Improvement Program
TMS	Transportation Management Systems
TMUG	Transportation Model Users' Group
TMZ	Transportation Management Zone
TOD	Transit Oriented Development
TPA	Transportation Partnership Account *(205 Washington state funding program)*
TPAC	Transportation Policy Alternatives Committee
TPEAC	Transportation Permit Efficiency and Accountability Committee
TPM	Transportation Performance Management
TPMS	Transportation Performance Measurement System (WSDOT)
TPR	Transportation Planning Rule (Oregon)
Transims	Transportation Simulations
Tri-Met	Tri-county Metropolitan Transportation District
TSMO	Transportation System Management and Operations
TRO	Traffic Relief Options
TSM	Transportation System Management
TSMO	Transportation System Management and Operations
TSP	Transit Signal Priority
TSP	Transportation System Plan
UAB	Urban Area Boundary
UAP	Urban Arterial Program (TIB funding program)
UAS	Unmanned Aerial Systems
UATA	Urban Arterial Trust Account
UDBE	Underutilized Disadvantaged Business Enterprise
UGA	Urban Growth Area (Washington)
UGB	Urban Growth Boundary (Oregon)
ULB	Useful Life Benchmark
UPWP	Unified Planning Work Program
USDOT	United States Department of Transportation
USP or SP	Urban Sidewalk Program (TIB funding program)
UZA	Urbanized Area

V/C	Volume to Capacity
VAST	Vancouver Area Smart Trek
VHD	Vehicle Hours of Delay
VMS	Variable Message Signs
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds
VOT	Value of Time
WAC	Washington Administrative Code
WSDOT	Washington State Department of Transportation
WSP	Washington State Patrol
WTP	Washington Transportation Plan
WVFA	West Vancouver Freight Access