

7.0 Transportation

The Growth Management Act (GMA) requires that local comprehensive plans include a transportation element. The GMA further created a formal mechanism for local governments and the state to coordinate transportation planning for regional transportation facilities, and it authorized the creation of Regional Transportation Planning Organizations (RTPOs). The Southwest Washington Regional Transportation Council (RTC) is the RTPO for the three-county area of Clark, Skamania, and Klickitat Counties.

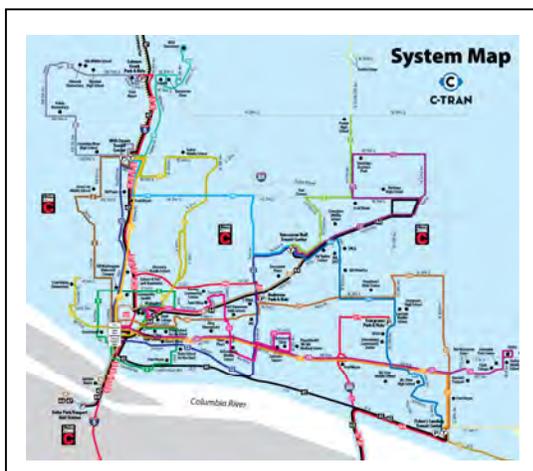
The Regional Transportation Plan (RTP) for Clark County is the region's principal transportation planning document and provides a complete and up-to-date description of transportation facilities and issues in the County (citation needed). The 2014 RTP identifies future regional transportation system needs to the year 2035. It outlines strategies and improvements necessary to maintain adequate mobility within and throughout Clark County. The RTP must be consistent with the area's comprehensive long-range land use plans including the Clark County Community Framework Plan, urban development objectives, overall social economic and environmental system performance, and energy conservation goals and objectives. The RTP, along with the analysis in the 2007 Comprehensive Plan EIS, provided the basis for Sections 7.1 and 7.2 of this chapter.

The transportation system in Clark County consists of five components, all of which are linked together to keep people and freight moving through-out the County: roadways for motorized vehicles (cars, trucks and other vehicles, and bus service); non-motorized facilities for pedestrians and bicycles; airports; rail lines; and marine ports. The system is described below, and in more detail in the 2007 Comprehensive Plan Transportation Element. This section is intended to update and supplement the analysis in the 2007 Comprehensive Plan FEIS.

7.1 Setting

7.1.1 Existing Roadway Network and Mass Transit

Clark County's Arterial Atlas defines the functional classifications of roadways and is intended to work in conjunction with the Comprehensive Plan. It is a graphic account of all the arterial roadways within the County and provides design guidelines for planning purposes. The major roadways in the County are shown on Figure 7-1.



One of the highlighted transportation issues in the RTP for Clark County is freight mobility. It is worth noting that \$37 million worth of freight moves toward its destinations on Washington roadways every hour, including the roads of Clark County (SWRTC, 2014). The RTP is written to work in conjunction with other regional and state plans concerning freight movement, such as the Washington State Freight Mobility Plan (WSDOT, 2014) and the Clark County Freight Mobility Study (SWRTC, 2010).

Local bus service is provided on area roadways by C-TRAN, a publicly funded transit agency. Its facilities and services are included as part of the designated regional transportation system. C-TRAN operates 16 local urban routes, 4 limited and 7 premium commuter routes and general purpose dial-a-ride and American with Disabilities Act (ADA)-compliant paratransit services for about 230,000 customers. C-TRAN also operates other bus transit services such as Connectors and the shopping shuttle. In 2013 C-TRAN provided 280,922 annual vehicle hours and 254,632 annual revenue hours of fixed route service with annual ridership totaling 6.2 million. C-TRAN service levels are dependent on sustaining funding sources, with local sales tax being a significant revenue source for system operations (SWRTC, 2014).

Inter-city bus service to cities throughout the northwest and nation-wide, provided by Greyhound Bus Lines and Bolt Bus service, is accessible at Portland, Oregon. C-TRAN provides opportunities to connect with TriMet for fixed route transit to Portland, Oregon, connection with Skamania and Cowlitz County service providers.

7.1.2 Existing Non-Motorized Facilities and Services

Pedestrian travel is accommodated and enhanced by sidewalks, shared use paths, crosswalks, curb ramps and other infrastructure that provides separated space and enhances visibility for pedestrians. Clark County has a large system of local and regional trails for non-motorized use.

The County's policy is to construct sidewalks on one side of most streets, although several main streets through areas with pedestrian destinations have sidewalks on both sides, such as NE 99th Street and SW Eaton Boulevard. In rural areas, pedestrians usually travel on the shoulder of the roadway, which is often unpaved. New development in rural centers is currently required to construct sidewalks as part of infrastructure improvements. The County also has a modest program to construct sidewalks in already developed areas. Bicycles are permitted on all roads in Clark County, with two exceptions through the Vancouver area: bicycles are not allowed on Interstate 5 (I-5) from the Columbia River to the junction with I-205 or on I-205 from state line to State Route (SR) 14 (Clark County, 2010).

7.1.3 Existing Airports, Rail & Marine Ports

Airports and Air Transportation

Clark County largely relies on the Portland International Airport (also known as PDX) located in Portland, Oregon to the southwest of the I-205 Glenn Jackson Bridge for air passenger transportation service. This is a regional airport with domestic and international passenger and freight service.

In addition, there are a number of air freight carriers serving Portland. PDX saw rapid growth in passenger numbers and freight in the 1990s and now consistently serves over 1 million passengers per month.

Within Clark County, general aviation airfields include Pearson Field and Grove Field. Pearson Field, located south of downtown Vancouver off SR-14, is operated by the City of Vancouver and covers 134 acres owned by the National Park Service. 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



The Pearson Field Airpark circa 1930.
Source: Davis-Monthan Aviation Field Register
(http://www.dmailfield.org/people/bond_cf/index.html).

Prairie area 5 miles north of Camas, it has a 2,832 foot paved illuminated runway, an above-ground self-fueling station and hangar space for over 60 aircraft. Clark County is also home to a number of private airfields.

Rail

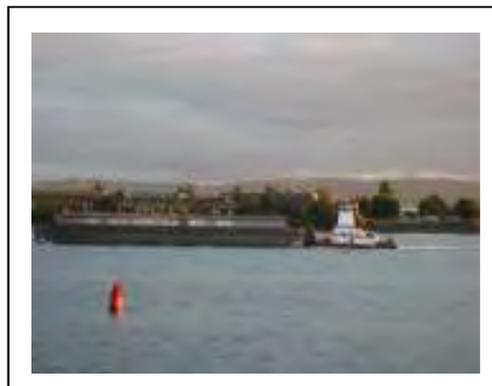
Twelve Amtrak trains serve Vancouver daily with 807,349 riders in 2013. The Empire Builder travels between Seattle and Chicago via Portland, Oregon; the Coast Starlight travels between Seattle and Los Angeles via Portland, Oregon; and the Cascades travels between Vancouver, British Columbia, and Eugene, Oregon. An average of 5,274 passengers per month pass through the Clark County station.

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. The BNSF Seattle/Vancouver line running north/south has 70 to 80 trains operating in the corridor each day. The BNSF Vancouver/Eastern Washington line running east/west handles about 40 trains daily. Union Pacific Railroad operates some freight trains to Tacoma and Seattle on BNSF’s lines. Amtrak provides daily passenger service on the BNSF lines.

The Chelatchie Prairie Railroad (Lewis and Clark Railroad) is a 33-mile short line railroad owned by Clark County. The operating and maintenance responsibilities for the line are leased out under long-term operating contracts to two different railroad operators. On the upper 19-mile line north of Heisson, the Battle Ground, Yacolt, and Chelatchie Prairie Railroad Association (BYCX), a volunteer group, operates a passenger excursion program originating in Yacolt. On the lower 14-mile line segment from Heisson to the south, the Portland Vancouver Junction Railroad (PVJR) is responsible for freight operations. It is anticipated that considerable freight growth will continue through the freight operator to help support the economic development vision for Clark County.

Marine Ports and Transportation

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



7.2 How has the transportation system changed since 2007?

In general, there has been little change to the transportation system in the County since 2007. The national, state, and local economies have reduced investment in much of the system; in some parts of the system, service has been reduced. The conditions are beginning to reverse with a combination of increasing travel demand and a clear desire by the general population for improved services (SWRTC, 2014). Demand continues to trend toward single occupancy vehicles as seen in Table 7-1. Table 7-1 also shows how an increase in the number of residents working from home affects travel patterns.

Table 7-1. Clark County Travel to Work Patterns

	1990	Percent	2000	Percent	2013	Percent
<i>Commuters</i>	108,945		161,471		192,379	
Drive Alone	87,748	80.5%	128,014	79.3%	152,952	79.5%
Carpool	12,017	11.0%	18,089	11.2%	16,410	8.5%
Transit	2,275	2.1%	4,228	2.6%	4,233	2.2%
Motorcycle					771	0.4%
Walked	2,091	1.9%	2,211	1.4%	3,488	1.8%
Bicycle					333	0.2%
Other	1,224	1.1%	1,788	1.1%	1,271	0.7%
Worked at Home	3,590	3.3%	7,141	4.4%	12,918	6.7%
Mean Travel Time to Work (those that work outside home)	21.2 min.		24.7 min.		25.5 min.	

Source: RTC, 2014 Table 2-1, based on U.S. Census Bureau (including 2013 American Community Survey, 1-year estimates)

7.2.1 Roadway Network

A review of traffic volumes at selected Clark County locations indicates continued annual growth of 3 to 5% on average between 1985 and today, with several locations, such as Padden Parkway, experiencing growth in the double digits. This overall growth rate reflects the fact that, even during the Great Recession years, traffic volumes continued to grow, although more slowly than in previous years (SWRTC, 2014).

There has also been growth in the number of registered passenger cars and total vehicles in Clark County. From 1980 to 2013 there was a 167% increase in passenger cars (from 106,889 to 284,969) and a 155% increase in total registered vehicles (from 171,474 to 437,840). Passenger cars represent 65% of total registered vehicles in 2013, up from 62% in 1980 (SWRTC, 2014).

Some of the major roadway construction projects completed since the 2007 include:

- Salmon Creek Interchange
- SR 502/219th Interchange
- NE 19th Street, from NE 72nd Avenue to NE 87th Avenue
- NW 179th Street, from I-5 to the Sherriff complex
- NE 88th Street, from Hwy 99 to St. Johns Road
- NE St. Johns Road, from NE 50th Avenue to NE 72nd Avenue

7.2.2 Transit

In 2014, C-TRAN operated 20 local urban bus routes, three more routes than in 2007, and 7 premium commuter routes, one less than in 2007. Between 2010 and 2014, minor transit service revisions were made, fare increases were implemented, and a new ridership counting method was initiated. With these changes, ridership decreased by 2.9% between 2010 and 2014 (SWRTC, 2015). General purpose dial-a-ride and ADA compliant paratransit services have also been reduced, although serving the same number of customers as it did in 2007. C-TRAN also operates other transit services such as Connectors and the shopping shuttle. These additional routes restored 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. The Yacolt Connector was replaced by an extension of Route #47.

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. Access to Greyhound and Bolt Bus service is now only available in Portland, Oregon. Northwest Trailways, which had service in the region in 2007, no longer operates out of Washington or Oregon.

7.2.3 Non-motorized Facilities

Clark County's Bicycle and Pedestrian Plan is intended to make traveling by non-motorized methods safer and more convenient for people to get to major destinations (Clark County, 2010). The plan identifies ways to improve the transportation network by integrating existing sidewalks, bike lanes and trails. The Bicycle and Pedestrian Plan was approved by the Board of Clark County Commissioners at a public hearing on November 23, 2010.

7.2.4 Air Transportation

In 1998, the number of airline passengers travelling through PDX surpassed 13 million for the first time and grew to 14.7 million passengers a year in 2007 before the economic downturn which reduced passenger numbers to 12.9 million in 2009. Recovery from the Great Recession is now evident with PDX serving 15 million passengers in 2013.

The Washington State Department of Transportation's Aeronautics Division and the local pilots' association recommended that an additional airport be sited in Clark County. Federal and state agencies and local jurisdictions are continuing efforts to site such facilities so that local jurisdictions ensure that the land uses surrounding potential sites are compatible with aircraft operations.

7.2.5 Rail

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 2011, service has grown to four daily Amtrak Cascades roundtrips operating between Seattle and Portland, with two extending to Eugene and Vancouver BC, Canada. Between 1993 and 2013, ridership increased by 758% from 94,061 annual riders in 1993 to 807,349 riders in 2013.

The Pacific Northwest Rail Corridor is one of eleven designated high-speed corridors in the nation. Its designation pre-qualifies the region for federal high-speed rail funding. Construction of rail corridor improvements began in 1998. Custom-built trains are now in 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.



Under the 2007 Comprehensive Plan, the County designated an area for railroad industrial to enable the development of industry and growth for use of the Chelatchie Prairie RR. 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 a new trans-load facility was created between 78th and 88th Streets. Clark County continues to pursue state and federal grants to upgrade the track for safer operation and increased freight on both the upper and lower lines.

7.3 Environmental Impacts

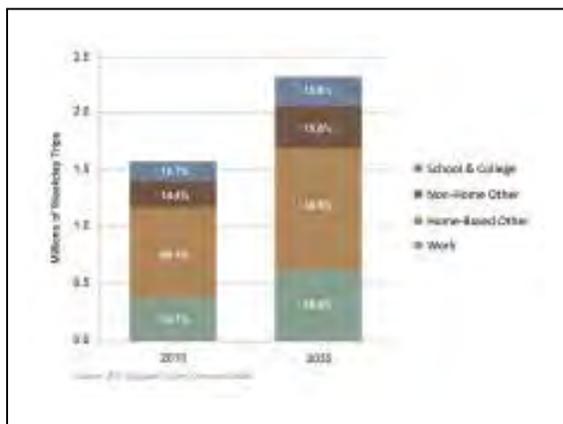
7.3.1 What methodology was used to analyze impacts to the transportation system from the Preferred Alternative?

Assessments of transportation impacts typically rely on population growth projections and regional transportation modeling information, such as travel demand, to confirm likely transportation system impacts and needs. The analysis of transportation impacts conducted for the 2007 Comprehensive Plan found that the Build Alternatives at the time would have resulted in a significant number of congested lane miles of roadway and freight mobility. C-TRAN service corridors would have experienced substantial delays, and reduced levels of service, and non-motorized facilities and services would have been similarly impacted. To address those impacts, in keeping with the concurrency requirements of the GMA, the Clark County 20-Year Transportation Capital Facility Plan (CFP) included over \$950 million in improvements to the road network for the 2004-2024 timeframe. To prioritize those investments, the six-year Transportation Improvement Plan (TIP) identified \$260 million for the 2007-2012 time period. Due to the Great Recession, 8 of the 20 projects in the TIP were completed totaling approximately \$100 million, the Salmon Creek Interchange being one of the largest at nearly \$40 million (see also Section 7.2.1, above).

The current growth projections considered by the 2014 RTP and this FSEIS are lower than those of the 2007 Comprehensive Plan, and the Preferred Alternative was qualitatively assessed to see how it would respond to and support the findings of the 2014 RTP considering these lower growth rates.

Since publication of the DSEIS, Clark County conducted an analysis of future transportation conditions in order to identify the projects needed to address future transportation deficiencies within the unincorporated areas of the county. The analysis focused on two types of transportation deficiencies: segments (link) and intersections. The analysis did not include network connectivity as a deficiency measure. This measure will be addressed through coordination within the County. See Appendix E for a full description of the County's analysis.

7.3.2 How will future growth impact the transportation system in 2035?

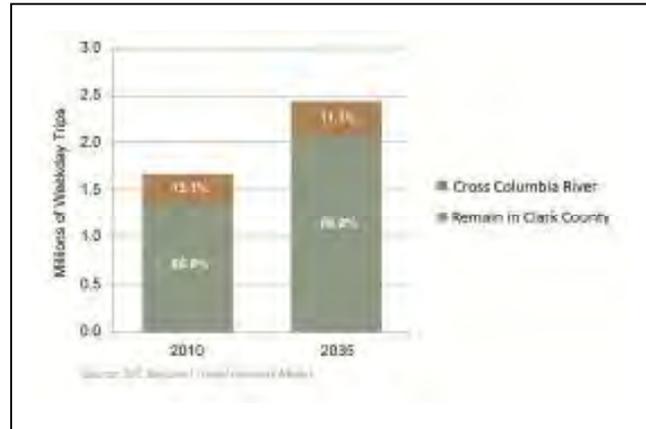


Between 2013 and 2035, the region's population is forecast to grow by 33% and the region's employment is forecast to grow by 75%. The regional travel forecast model, using a base year of 2010, projects a resulting increase in trips per day of 48% with a 5.5% increase in regional transportation system highway lane miles and an 18% increase in fixed-route transit service hours (SWRTC, 2014).

In the regional transportation planning process the forecast growth in housing and employment for the year 2035 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 over 665 zones in Clark County. For each Clark County TAZ, the comprehensive plan land use designations and existing zoning are used as a basis for distributing 2035 forecasts for housing and employment (SWRTC, 2014). Clark County travel demand, i.e., the number of travel trips, is heavily home-based, rather than work-based. From 2010 to 2035 there is forecast to be a 48% increase in all-day person trips from around 1.56 million trips per day in 2010 to over 2.31 million trips in 2035.

Growth in population and jobs has resulted in an increase in travel demand to be met by Clark County’s transportation system. 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. Travel to work in Portland accounted for a little over 13% of weekday trips in 2010 and is



projected to be an even smaller percentage in 2035; however, due to the overall increase in population, there will still be more people traveling to work in Portland in 2035 than there are today. The “new” suburban places of employment have tended to add to travel demand because jobs are distributed over a larger area compared to urban places where jobs are more concentrated. This design has catered to auto-commuters and is not as easily served by transit service.

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 forecasts indicate significant growth for the smaller cities within Clark County. These smaller cities are planning for denser development both inside and outside their existing urban growth boundaries as they become the focus for growth outside of the core urban area of Vancouver (SWRTC, 2014). In 2010 87% of trips remained in Clark County with 13% going into Oregon. The projection for 2035 is similar with 89% of trips staying in Clark County and 11% traveling to Oregon (SWRTC, 2014).

In the modeling process, a base year of 2010 was used with forecasting travel demands to the year 2035. A needs analysis was then carried out to determine what impact the forecast growth in travel demand might have on the transportation system. In carrying out analysis of the existing and future transportation network, the regional travel forecasting model was used to identify needs. This included committed projects identified in the TIP as well as projects with a reasonable expectation that funding would be available within the twenty year planning horizon.

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 there are mixed use developments and a 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 GMA, is to slow the trend of increased dependence on the automobile. That trend has yet to materialize as evidenced in the information provided earlier in Table 7-1.

The GMA requires that transportation system improvements be put in place, concurrent with land development. An extensive list of capital improvements has been included in the 2014 RTP to address the wide array of transportation needs for the Clark County region as expressed through the comprehensive planning efforts of its jurisdictions. The projects include roadway improvements, traffic signals, road widenings, overlays, intersection reconstruction, access ramps, bicycle lanes and sidewalks, school crossings, guard rails, culvert replacements, and storm drainage improvements. The total for the regional transportation infrastructure needed to accommodate growth over the next 20 years will require an investment of over \$1.8 billion (the approximate total cost of projects identified in the 2007 RTP was \$1.4 billion). The major capital projects for the 2035 regional transportation system are identified on Figure 7-2.

7.3.3 What are the impacts to the transportation system from the Preferred Alternative?

The majority of land use changes proposed under the Preferred Alternative are technical fixes to correct map inconsistencies, and a reduction in the number of comprehensive land use designations. There are minor adjustments within the UGAs of all the cities (except Camas and Yacolt) and minor additions to some. The other aspect of this alternative is the proposed reduction in minimum parcel area for resource and rural residential lands, which has the potential to create 8,024 new parcels. This amount of new development would create a need for expanded transportation facilities in all areas of the county. As shown in Figure 1-2, the parcels that could potentially be affected by this change are spread throughout the county.

The County's analysis of future transportation deficiencies identified infrastructure projects that would be needed to accommodate the projected growth shown in the Comprehensive Growth Management Plan. The methodology used to analyze segments and intersections resulted in the Clark County 2035 Draft Capital Improvements Project List (Appendix E). This list separates projects into six categories:

- Modified Existing CFP Projects
- Newly Identified CFP Projects
- Removed Existing CFP Projects
- Committed CFP Projects
- Existing CFP Projects
- WSDOT Projects

The modified "Existing CFP Projects" category recommends amending one project currently listed in the 2016-2021 Transportation Improvement Program. The "Newly Identified CFP Projects" section recommends adding 26 projects to the 20-year CFP. The "Removed Existing CFP Projects" section recommends removing a project from the 20-year CFP because it was not identified as a capacity need. The "Committed CFP Projects" section identifies projects in the existing 2016-2021 Transportation Improvement Program (TIP) that are needed to serve future growth. The "Existing CFP Projects" category identifies projects that are currently included in the 2014-2033 Capital Facilities Plan that are still needed. The "WSDOT Projects" category includes projects using state funds on State facilities.

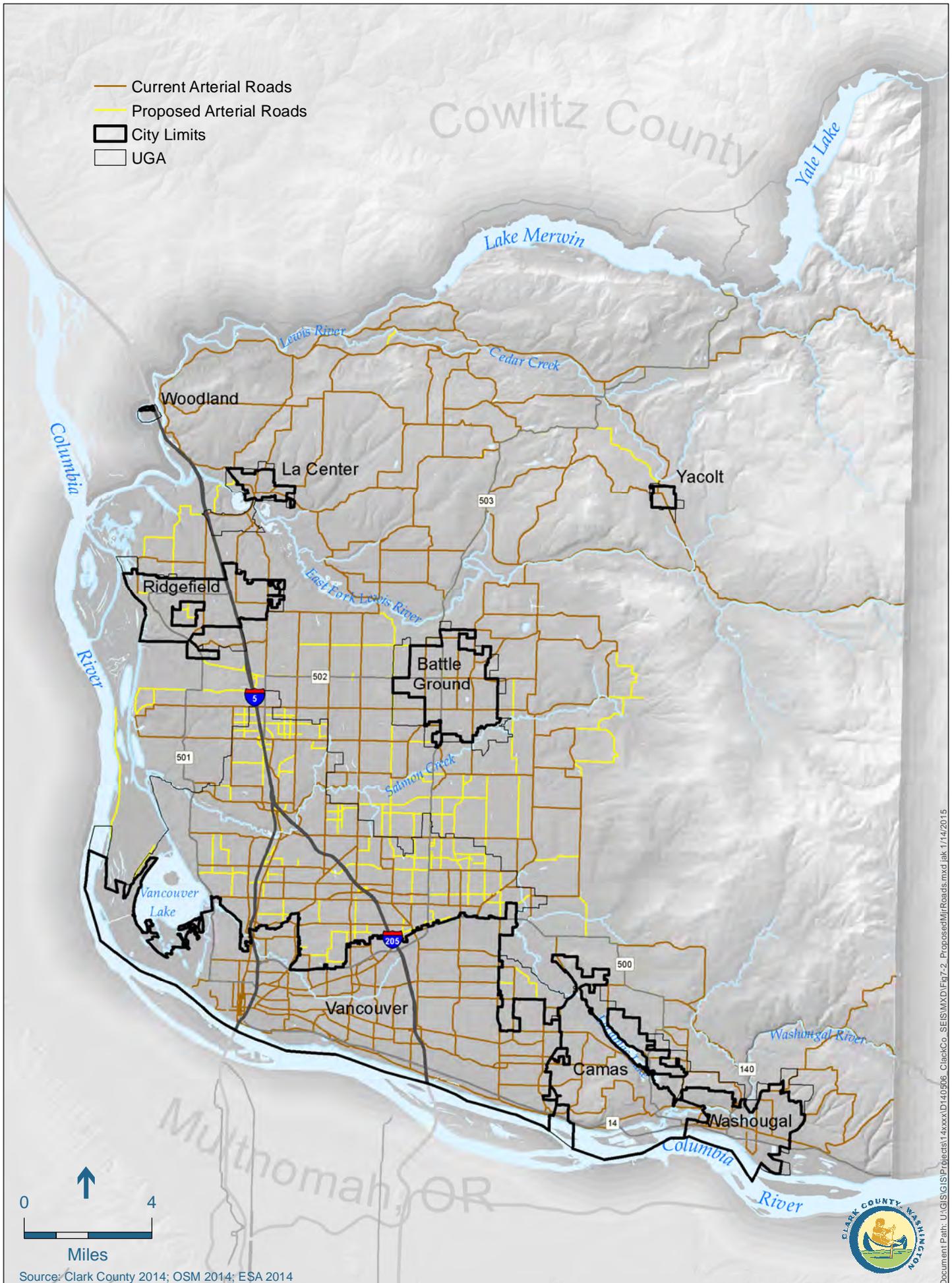


Figure 7-2: Proposed 2035 Major Roads

A portion of the potential development under the Preferred Alternative would occur where at least some infrastructure currently exists; however, a majority of the potential new development would require road improvements and additional transit routes, and would result in longer commutes to employment centers. The majority of the planned roadway improvements shown in the RTP are located within and adjacent to the more urban areas (Figure 7-2). Infrastructure to support potential future development under the Preferred Alternative would be in the more rural portions of the county and is not included in the current TIP, the RTP, or the budget for C-TRAN. Existing land uses (e.g., actively farmed areas) in the areas affected by the zoning changes could restrict the amount and placement of new roadways. The burden of constructing new transportation facilities or improving existing facilities to support allowed development would fall to the County, with partial recovery of costs through transportation impact fees. The projects identified in the CFP would aid in alleviating some of the demand created by growth under the 2016 Comprehensive Plan Update.

Full development under the Preferred Alternative would not happen quickly, but incrementally over the 20-year planning period. Individual projects would be required to undergo additional environmental analysis under SEPA; however, the cumulative impact of adding transportation facilities to support the development allowed under the proposal could be significant. The infrastructure needed would change the character of rural Clark County. All of the proposed UGA expansions would include more intensive development at full build-out than currently exists, resulting in increased traffic congestion in those areas. UGA expansions fall within the areas planned for future development and transportation network improvements. Increased demands on transportation within the UGAs are not expected to be significant for the Preferred Alternative.

7.3.4 Are there adverse impacts that cannot be avoided?

Even with the level of infrastructure investment estimated in the draft MTP and the CFP, increased congestion can be expected on Clark County's transportation system by the year 2035. In many of the transportation corridors, further system expansion through widening of existing highways will not be feasible (SWRTC, 2014).

In order for new development under the Preferred Alternative to be serviced by C-TRAN, new routes would have to be established, new equipment (e.g., buses) purchased, and new employees hired for operation. Because rural development is likely to happen incrementally, over a longer period of time, it may be cost-prohibitive for C-TRAN to service the rural areas of Clark County until those full build-out conditions are reached, if at all.

7.4 Mitigation

7.4.1 Are there mitigation measures beyond regulations that reduce the potential for impacts?

The need for maintenance and preservation of the existing regional transportation system, safety for travelers, and expansion of the roadway network are needs faced by most communities around the nation. Consecutive federal Transportation Acts: ISTEA (1991), TEA-21 (1998), SAFETEA-LU (2005), and MAP-21 (2012) emphasized the need to develop alternative modes and increase capacity of the existing highway system through more efficient use by, for example, ridesharing, demand and system management, development of non-motorized modes (bicycle lanes and pedestrian paths), transit and high capacity transportation systems. These federal laws provided funding mechanisms to require that other alternatives be considered before highway capacity expansion is identified as the solution (SWRTC, 2014). In order to take advantage of federal assistance, Clark County and its cities could consider incorporating more transportation options and further encourage use of alternative transportation modes.