

# Chapter 8

## Future Transportation System

### Introduction

In Chapter 6, a list of transportation improvements and needs consistent with the goals and policies of this plan were presented to focus the region in the years ahead on what we need to work on. The last chapter discussed specific topics related to plan implementation, such as the Regional Transportation Improvement Program and performance management. The next topic of discussion is to look towards the future of the regional transportation system.

There will be many challenges in the future. Limited financial resources will be the likely reality for the foreseeable future unless new, innovative ways of financing transportation improvements emerge in Congress and/or the Washington State Legislature. Given this scenario and the fact that only about 5 to 10% of the funded, planned, and unfunded improvements included in this plan are for system expansion and not preservation, maintenance, efficiency, or safety; the short and long-term future transportation system will probably look pretty much the same. WSDOT, ODOT, and local agencies likely will be focusing on improvements to maintain a state of good repair for the foreseeable future in our region.

In light of a future transportation system not likely to be too different from the current one, most of this chapter will provide a separate high-level analysis for each emphasis area of the existing/future system combined. This chapter will also provide a brief analysis of common environmental constraints that could impact transportation improvements. At the end of the chapter there will be a short discussion of future challenges, possible successes, and opportunities the region may see in the future.

### Active Transportation

The regional Bicycle and Pedestrian Assessment in 2016 mapped a network of about 782 miles of potential active transportation facilities. Maps in the Chapter 8 Appendix for the bicycle and pedestrian accessibility analysis show the potential facilities. By 2045, it is envisioned that local and/or state agencies will have successfully constructed some of the potential bicycle and pedestrian facilities. Funding challenges will likely make it impossible for the entire network of bicycle and pedestrian facilities to be realized.

Active transportation concerns using non-motorized modes (biking and walking) not only for recreation, but also to replace vehicle daily trips to major destinations such as schools, parks, or transit stops. A bicycle and pedestrian accessibility analysis was completed to help determine if our existing/potential network has been planned to provide people the opportunity to make these trips by walking or biking. For the accessibility analysis, the locations of schools, parks, and transit stops (the selected destinations) were mapped and ½-mile, one-mile, and two-mile buffers were created around each individual destination. The buffer distances were chosen to represent distances reasonable for people to either walk or bike. All of the individual ½-mile, one-mile, and two-mile buffers were combined to illustrate the outer extents of all three distance buffers regionwide. At this point, the existing and existing/potential bicycle and pedestrian network was overlaid to determine the number of miles within each distance buffer. Table 8-1 shows the total miles and percentages of facilities within either the ½-mile, one-mile, or two-mile buffer areas around schools, parks, or transit stops. The results are presented for the existing and potential network combined as well as the existing network only for comparison purposes.

MPO & RTPO Bicycle and Pedestrian Accessibility Analysis			
	Within a 1/2 Mile of 1 or More Schools, Parks, and/or Transit Stops	Within 1 Mile of 1 or More Schools, Parks, and/or Transit Stops	Within 2 Miles of 1 or More Schools, Parks, and/or Transit Stops
<b>Existing Bike/Ped Facilities (305 Miles)</b>			
Total Miles	158	203	239
Percentage	52	67	78
<b>Existing &amp; Potential Bike/Ped Facilities (1,087 Miles)</b>			
Total Miles	433	605	794
Percentage	40	56	73

**Table 8-1: MPO & RTPO Bicycle and Pedestrian Accessibility Analysis**

In reviewing the results first for the existing network, about 52% of facilities are within ½ mile of schools, parks, and/or transit stops; the percentage increases to about 78% with the two-mile buffer. These numbers seem to suggest there are reasonable opportunities for people to use active transportation to reach schools, parks, or transit stops. The percentages would probably be higher if retail business locations were also added into the analysis. When the potential network is added in the percentages drop a little, but still show about 40% of facilities within ½ mile of schools, parks, and/or transit stops and about 73% within two miles. The lower percentages probably reflect recreational trails that are planned in more rural areas and those connecting communities. These trails are as important as facilities within ½, one, or two miles of major destinations because of the recreational benefits and the potential regional linkages between communities. The maps in the Chapter 8 Appendix provide a graphic depiction of the bicycle and pedestrian accessibility analysis.

### Freight Transportation

Freight transportation is the one emphasis area where not much data exists at a scale needed for a detailed forecast of future conditions in the MPO and RTPO regions. Most freight data sources are available at a state or regional level. The freight transportation system in our region is connected to the national and global freight network thus future state or regional forecasts of freight volumes are probably a good indicator of what the MPO and RTPO regions could expect to see as well.

The Federal Highway Administration (FHWA) publishes the Freight Analysis Framework (FAF) that provides state and regional-level freight data. The FAF provides a forecast of total ton-mile by origins and destinations and by mode for 2045. The MPO and RTPO regions are a small part of three zones (Portland OR-WA [Washington Portion], Portland OR-WA [Oregon Portion], and Seattle WA) in the FAF. By

2045, the amount of freight ton-miles regardless of mode (truck, rail, water, pipeline) will increase by double digits in almost every instance. In some instances, the ton-miles will double or triple. Table 8-2 provides these forecasted total ton-miles in 2045 along with the percentage increase since 2012.

Future Freight Forecasts by Mode			
Zone	Mode	Total Ton-Miles Forecasted in 2045	Percentage Increase in Total Ton Miles, 2012-2045
<i>Origins (Exports)</i>			
Portland OR-WA (Washington Portion)	Truck	7,071	99%
	Rail	2,843	86%
	Water	307	240%
	Pipeline	1,128	127%
Portland OR-WA (Oregon Portion)	Truck	20,687	70%
	Rail	6,186	29%
	Water	690	68%
	Pipeline	1,306	59%
Seattle WA	Truck	28,475	75%
	Rail	7,103	82%
	Water	6,294	122%
	Pipeline	596	-38%
<i>Destinations (Imports)</i>			
Portland OR-WA (Washington Portion)	Truck	5,908	73%
	Rail	22,530	27%
	Water	260	361%
	Pipeline	457	40%
Portland OR-WA (Oregon Portion)	Truck	23,327	50%
	Rail	24,922	73%
	Water	1,110	15%
	Pipeline	1,859	60%

Seattle WA	Truck	36,253	64%
	Rail	20,944	27%
	Water	12,265	1%
	Pipeline	5,137	26%

**Table 8-2: Future Freight Forecasts by Mode**

Source: FHWA Freight Analysis Framework

While these forecasted increases in ton-miles are for regional zones much larger than the MPO and RTPO regions, it is very probable that freight traffic will increase here significantly as well. The increases that might be expected in the MPO and RTPO will likely not be as large, but none the less will probably be very significant. These significant increases in freight will be a major challenge to address. Examples of possible increases in freight would focus on the regional deep-water ports such as the Port of Longview's acquisition of Barlow Point and soon to be expanded Industrial Rail Corridor to serve new deep-water draft operations.

There is freight data specific to the MPO and RTPO regions available for daily truck vehicle miles traveled from the FAF. Maps of daily truck vehicle miles traveled forecasted in 2045 on state routes across the MPO and RTPO show significant increases when compared with 2012. Please refer to the Chapter 8 Appendix for these truck freight maps.

## Public Transportation

The future public transportation system in the MPO and RTPO regions will likely still be faced with providing transportation services (operations and capital) on a limited amount of funding. The Coordinated Public Transit-Human Services Transportation Plan (CPT-HSTP) for the RTPO details unmet needs across the five counties that will likely still be an issue for many years to come. Unmet needs in the 2018 CPT-HSTP are included in the Chapter 8 Appendix.

## Roadways

The backbone of the regional transportation system is the roadway network. Future roadway conditions were examined both quantitatively and qualitatively. Within the Longview-Kelso-Rainier Metropolitan Planning Area (MPA), the CWCOG maintains a travel demand model that allows anticipated future roadway conditions to be looked at quantitatively. Outside of the MPA in the rest of the five-county Regional Transportation Planning Organization there is no regional travel demand model covering the entire five county area. In place of a model, discussions with stakeholders, technical advisory committees, and/or policy boards were held to develop a qualitative report of future conditions (increased traffic/congestion, safety, resiliency) of the roadway network.

### Longview-Kelso-Rainier MPO

The CWCOG developed future year model scenarios to forecast traffic volumes and capacities within the Longview-Kelso-Rainier MPA for this Regional Transportation Plan. Scenarios were developed for 2025 and 2045. There are two models for each year: 1) A no-build model assuming no transportation improvements are built with the only changes being to land use and 2) A build model that includes nine planned transportation projects and land use changes. For a list of assumptions specific to the model scenarios developed for this plan, please refer to Table 8A-1 in the Chapter 8 Appendix.

Both the 2025 and 2045 model scenarios' results are presented in Figures 8-1 through 8-4. These model scenarios show projected traffic volume to capacity (V/C). To see a base model map for 2015 for comparison purposes, please see Figure 8A-5 in the Chapter 8 Appendix.

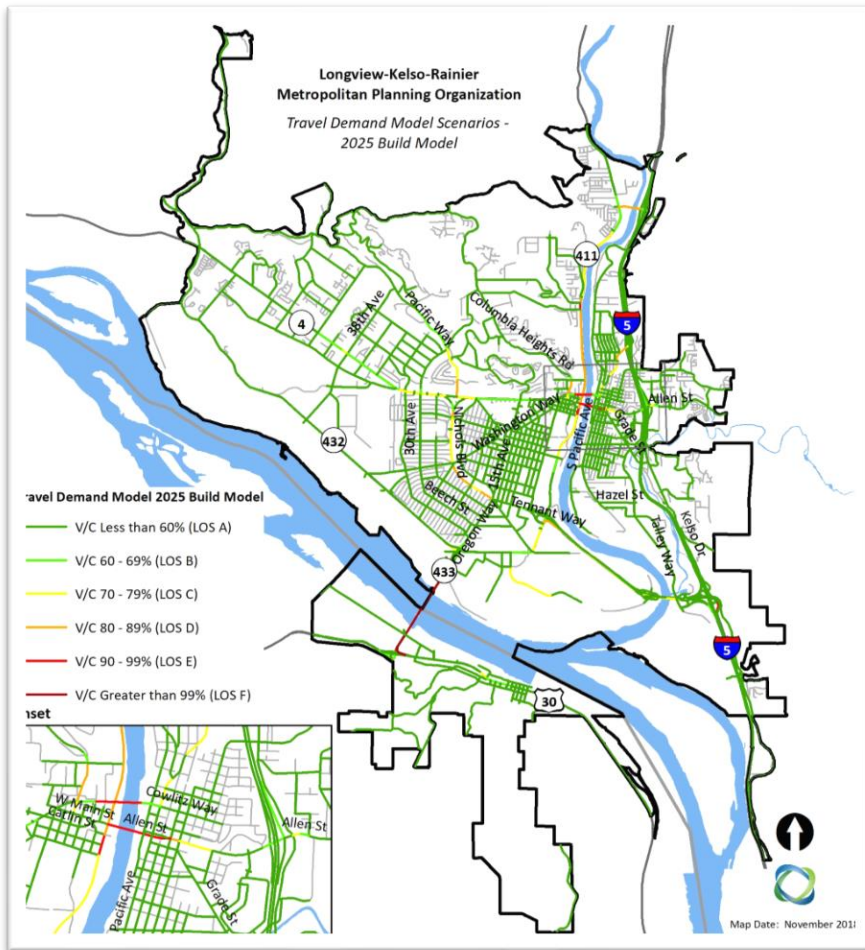


Figure 8-1: Travel Demand Model 2025 Build Model

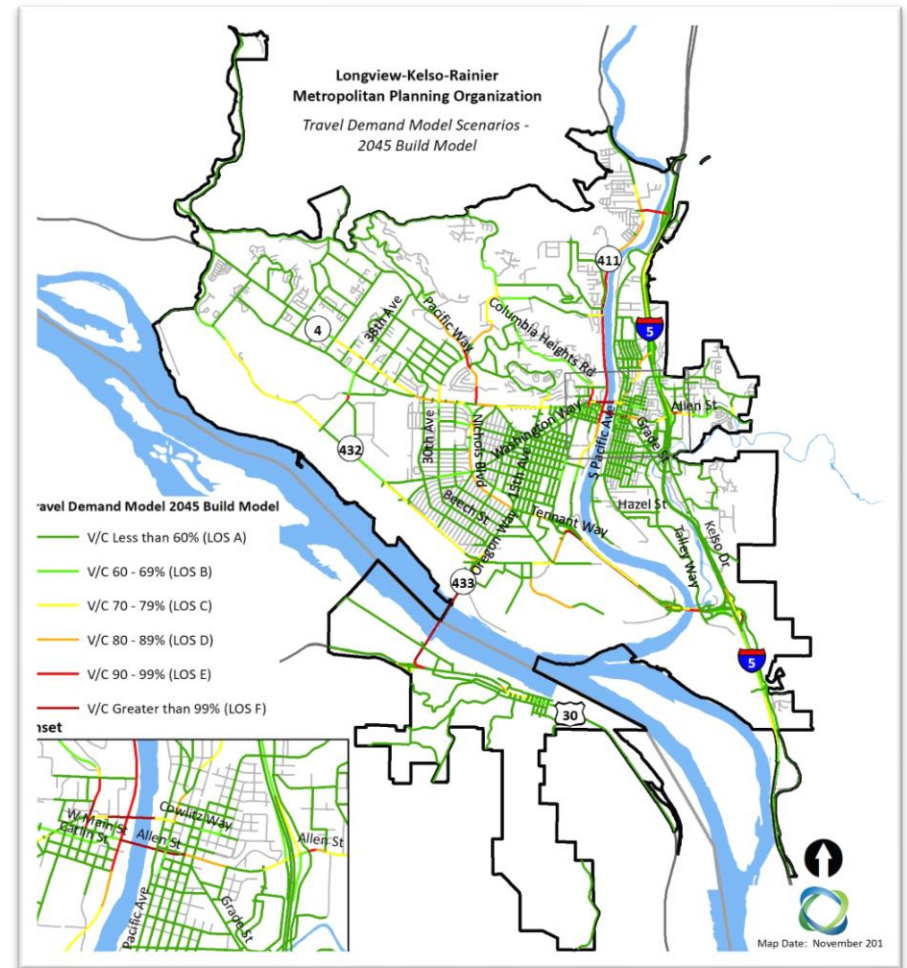


Figure 8-2: Travel Demand Model 2045 Build Model

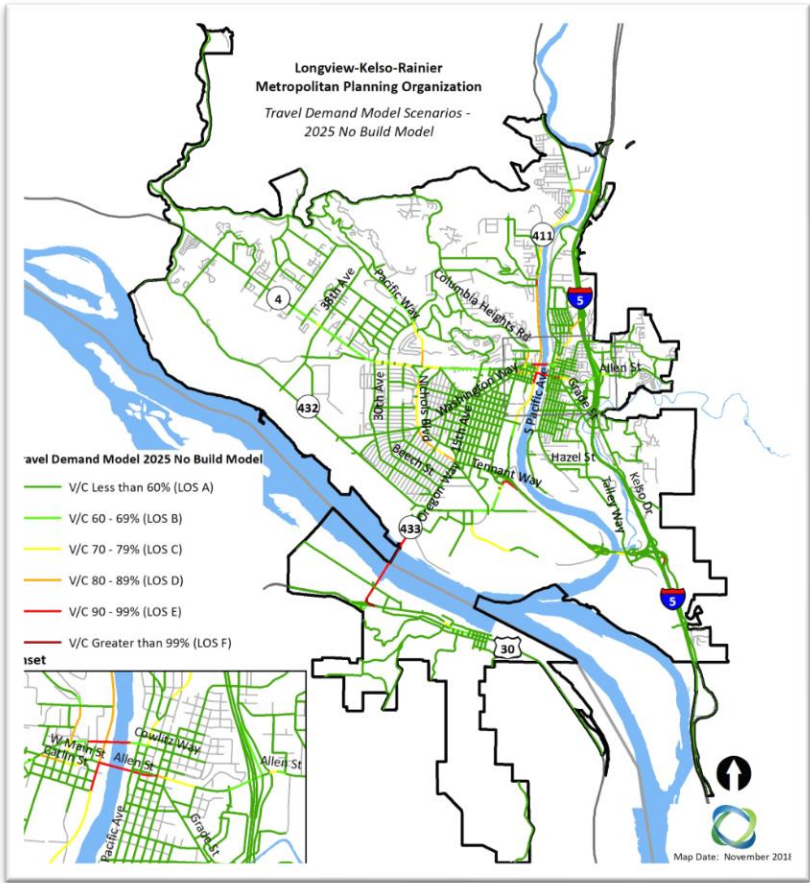


Figure 8-3: Travel Demand Model 2025 No Build Model

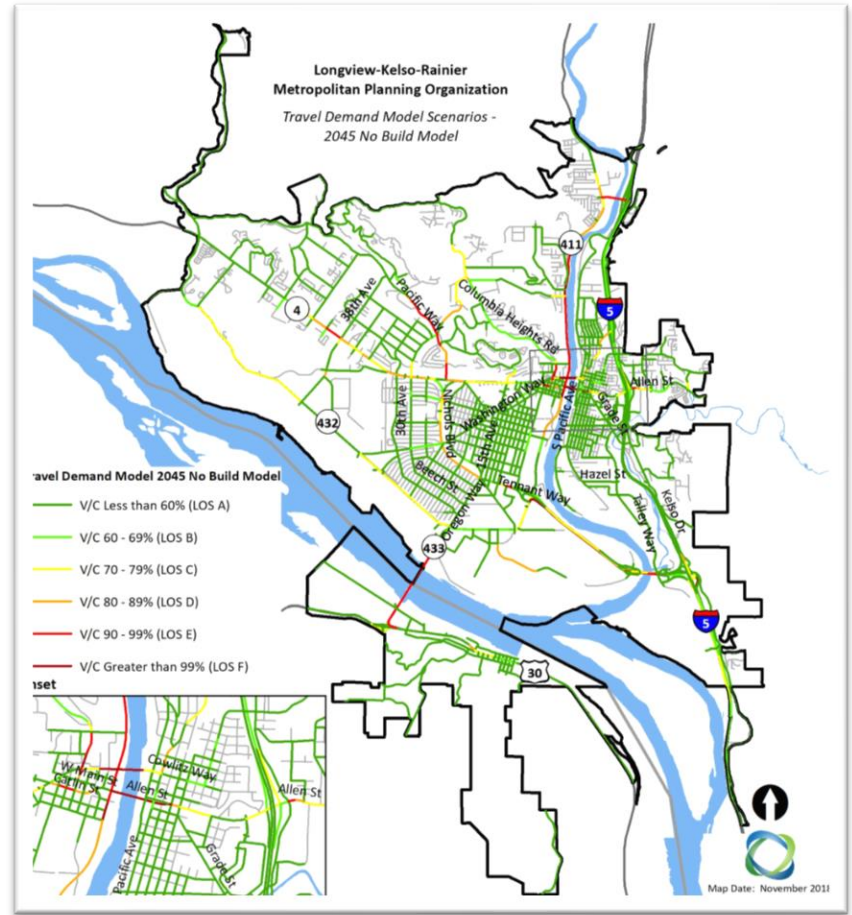


Figure 8-4: Travel Demand Model 2045 No Build Model

In reviewing the travel demand models, several areas with very high traffic volumes to capacities are illustrated. These congestion problem areas have a Level of Service (LOS) of 'E' and 'F'. Three problematic areas, based on LOS, that are present in the 2015 base model, and the 2025 and 2045 future models, are the Lewis & Clark Bridge, West Main Street/Allen Street Bridge, and the Cowlitz Way Bridge. All of the problems areas with LOS 'E' or 'F' in the 2025 and 2045 models, along with areas approaching problematic status (LOS 'D'), are noted in Tables 8-3 and 8-4. There are a few areas noted in the tables as only appearing in the 'no build' model. The best example is Catlin Street in West Kelso. Catlin Street is not LOS 'D' or higher in the build models because of the planned street improvements that will be completed as part of the West Main Street Realignment Project, Phase 2.

2025 No Build & Build Models - Congestion Problem Areas (LOS E & F)	
<i>Congestion Problem Areas (LOS E &amp; F)</i>	
SR 433/Lewis & Clark Bridge	US 30/Lewis & Clark Bridge Interchange
West Main Street/Allen Street Bridge	1st Avenue (near Cowlitz County Courthouse)
SR 4/Cowlitz Way Bridge	Tennant Way/Industrial Way*
SR 411/Westside Highway (north of Nevada Drive)	Exit 36
<i>Approaching Problem Areas (LOS D)</i>	
Pacific Way (near Ocean Beach Highway)	Nichols Boulevard (Washington Way to 15th Avenue)
North Kelso Avenue (Redpath Street to I-5)	Catlin Street (near Cowlitz Way)*
SR 411/Westside Highway (West Main Street to Nevada Drive)	Lexington Bridge
Long Avenue (Cowlitz Way to Fishers Lane)	

\* No Build Model Only

**Table 8-3: 2025 No Build & Build Models Congestion Problem Areas**

2045 No Build & Build Models - Congestion Problem Areas (LOS E & F)	
<i>Congestion Problem Areas (LOS E &amp; F)</i>	
SR 433/Lewis & Clark Bridge	US 30/Lewis & Clark Bridge Interchange
West Main Street/Allen Street Bridge	SR 411/Westside Highway (Cowlitz County Courthouse to Shoreview Drive)
SR 4/Cowlitz Way Bridge	SR 432/Tennant Way to I-5
Long Avenue (Cowlitz Way to Fishers Lane)	Catlin Street (near Cowlitz Way)*
Pacific Way (near 30th & Ocean Beach Highway)	SR 4/Ocean Beach Highway (west of 38th Avenue)*
Lexington Bridge Exit 36	Allen Street/Kelso Drive
<i>Approaching Problem Areas (LOS D)</i>	
Portion of Glenwood Drive	Nichols Boulevard (Most of Ocean Beach Highway to 15th Avenue)
North Kelso Avenue (Redpath Street to I-5)	SR 4/Ocean Beach Highway (near 38th Avenue)*
1st Avenue (Cowlitz County Courthouse to Hudson Street)*	SR 4/Ocean Beach Highway (30th Avenue to Kessler Boulevard)
SR 411/Westside Highway (Shoreview Drive to Lexington)	Fibre Way
Portion of US 30 in Rainier, Oregon	

\* No Build Model Only

**Table 8-4: 2045 No Build & Build Models Congestion Problem Areas**

For the Longview-Kelso-Rainier MPO, the no-build and build model scenario results are mostly the same given the small number of planned capacity improvements.

## Cowlitz County

Most of the future roadway conditions in Cowlitz County have been addressed by the discussion in the previous section about anticipated traffic volumes/congestion within the MPA. However, there are a few additional areas of concern to mention under increased traffic/congestion, safety, or resiliency that are outside of the MPA boundaries.

### Increased Traffic/Congestion

- I-5 traffic volumes will likely continue increasing due to people commuting from Cowlitz County to Vancouver, Washington and Portland, Oregon, as well as increasing freight traffic.
- SR 504 will continue to have high traffic volumes in the summer due to travel to Mount Saint Helens and other recreational areas.
- Traffic volumes and congestion will likely continue increasing around the Port of Kalama due to recreational amenities including McMenamins and future events at the amphitheater (currently under construction).
- Exits 21 and 22 as well as Atlantic and Pacific Avenues in Woodland will continue to experience congestion due to population growth and commercial and industrial activities.

### Safety

- At-grade rail crossings at the Port of Kalama create safety concerns for vehicles in addition to occasional congestion.

### Resiliency

- Based on historical flooding in Downtown Kalama, flooding risk will likely continue to impact roadways in the area, but the city is actively exploring long-term solutions.

- Slides along I-5 that cause highway closures are an ongoing issue especially with no alternative route between Kalama and Woodland.
- Slides on SR 503 have caused recent highway closures and could happen in the future causing significant travel delays.

## Grays Harbor County

Stakeholders identified a number of needs relating to anticipated roadway needs. All of these identified needs are not included here, but have been added to the unfunded needs in Chapter 6. There were also several areas mentioned where increased traffic/congestion, safety, or resiliency issues are occurring and will likely continue into the future. Some of the increased traffic/congestion issues also mention safety concerns. It is important to note that any mention of congestion below is for particular spot locations. In the WSDOT Corridor Sketches, no corridors in Grays Harbor County were listed as congested, but there can be no congestion at a corridor-level and still have spot locations where people experience congestion.

### Increased Traffic/Congestion

- US 12/Schouweiler Road (Elma) and US 12/Keys Road (Satsop) intersections are seeing high traffic volumes and safety concerns as well.
- US 12 westbound off-ramp at Montesano has intermittent traffic delays due to rail traffic.
- US 12 (Elma to Oakville) is a heavily used freight route with high traffic volumes and congestion.
- Hornsby Way/Wishkah Street to South Fleet Street (Aberdeen) experiences traffic congestion and reduced sight distance concerns.
- SR 109 corridor experiences very high traffic volumes, congestion, and bottlenecks especially on summer weekends and holidays, particularly the Fourth of July.



- SR 115 in Ocean Shores experiences high traffic volumes in the summer.
- Port Industrial Road in Aberdeen is experiencing increased passenger vehicle and truck freight. The five at-grade rail crossings also create safety concerns and traffic delays.

#### Safety

- Chehalis Tribe has access management issues with tourists and freight traffic entering and exiting US 12.
- Access management issues are an issue as well in the Central Park area between Aberdeen and Montesano.
- SR 115 (north of Ocean Shores) has high volumes of bicycles and pedestrians sharing the highway as part of tourism traffic that creates safety concerns.

#### Resiliency

- There are frequent mudslides on US 101 at milepost 78.9 (Cosi Hill).
- There is recurrent flooding at multiple points on US 12 especially around Oakville and the Chehalis Reservation. Flooding can cause the highway to be nearly impassable and access becomes completely restricted to the reservation.

### **Lewis County**

Lewis County stakeholders identified a variety of future needs and roadway condition challenges. The increased traffic/congestion areas listed were determined by referring to a county-specific travel demand model created as part of the North Lewis County Industrial Access project. These increased traffic/congestion areas are nearing, or at capacity, in the Lewis County model. There were also safety, resiliency, and roadway needs mentioned. Most of the needs are not included here and instead were added to the unfunded needs in Chapter 6.

#### Increased Traffic/Congestion

- 13<sup>th</sup> Street (at Interstate Avenue and I-5/Exit 76)
- Chamber Way
- Cooks Hill Road between interchange with I-5/Exit 81 and the hospital
- Multiple locations on Harrison Avenue – Interchange with I-5 at Exit 82, West 1<sup>st</sup> Street to Yew Street, Harrison Avenue/Yew Street/West Main Street Intersection, to Thurston County line
- Louisiana Road
- Rush Road at interchange with I-5/Exit 72
- SR 507 (Pearl Street) from West 6<sup>th</sup> Street to Big Hanaford Road
- SR 6 at interchange with I-5/Exit 77, Louisiana Avenue, and Riverside Road
- Yew Street/Mellen Street Intersection

#### Safety

- At-grade rail crossings
- US 12 from I-5 to the county line has multiple safety concerns especially at the following intersections: Baker Drive, Winston Creek Road, Village Road, Beach Road, and Savio Road.

#### Resiliency

- I-5 flooding issues

### **Pacific County**

In Pacific County, most of the discussion of future roadway conditions centered on several areas where there will continue to be increased traffic/congestion. There also were some safety concerns and needs mentioned as well. The needs are not included here, but were added to the unfunded needs section in Chapter 6. Below are the future roadway conditions anticipated for Pacific County.

### Increased Traffic/Congestion

- SR 100 will continue to see significant increases in volumes and congestion.
- US 101 (Ilwaco to the Astoria-Megler Bridge) will probably become a principal arterial in the future due to increased traffic volumes.
- Pacific County stakeholders believe the Astoria-Megler Bridge reached capacity about 5 years ago.
- US 101 near Johnson’s Landing (from the bypass to Parpala Road) will continue to be affected by seasonal traffic congestion. This section of the highway will never show up on a map of Annual Average Daily Traffic (AADT) because of averaging over the course of a year. This section of highway has almost no traffic in winter, but summer traffic is heavy and there are traffic delays throughout the season.

### Safety

- Drivers on SR 401 have to be very mindful of bicycle traffic especially in the summer months. This route is used by bikes to get to Astoria rather than going through Long Beach. A Pacific County Technical Advisory Committee member has estimated from personal bicycle counts that between June 1<sup>st</sup> and August 31<sup>st</sup>, 1,000 bicyclists use SR 401.
- Trucks and residents living along Bay Center Road typically use the north intersection of US 101 and Bay Center Road. There is a second, southern intersection as well. The northern intersection is preferred due to better sight lines, but the increased use causes congestion and congested area signs should be installed.
- With increasing traffic on US 101, including bicycle traffic, the existing tunnel will continue to provide safety challenges for users.

### Resiliency

- Pacific County stakeholders have stated that when the Cascadia Subduction Zone earthquake strikes (magnitude 9+), none of the roads on the Long Beach Peninsula will survive including SR 103 and Sandridge Road.

### **Wahkiakum County**

Wahkiakum County stakeholders focused on key safety and resiliency issues that will continue to impact the roadway network in the future.

### Safety

- Pedestrian and bicyclist safety on, and crossing SR 4, especially in Cathlamet will continue to be a key roadway safety concern. In August 2018, the speed limit was reduced on SR 4 in Cathlamet to 45 MPH. There is a push to find funding for future highway safety improvements focused on pedestrians and bicyclists that will allow the speed limit to be reduced further.

### Resiliency

- Slope stability on SR 4 especially between Cathlamet and Longview has led to landslides in the past and landslides will likely continue to happen in the future. Landslides that cause SR 4 to close east of Cathlamet leave residents having to use the county ferry between Puget Island and Westport, Oregon as the only convenient way to travel to Longview.
- Maintenance of the county ferry causes, and will probably continue to cause in the future, temporary shutdowns. This leads to SR 4 as the only way to leave Wahkiakum County.

## Environmental Constraints

As transportation improvements in Chapter 6 are built in the future, environmental constraints will be an issue needing to be addressed in the planning and design process. Some of the more common environmental constraints are flood, wetland, and landslide hazard areas. However, there are other environmental constraints such as air and water quality issues; endangered wildlife and plant species; and environmental justice concerns that may impact a specific location and have to be addressed. Current and future transportation improvements will need to do their own environmental analysis, as needed and required, to determine improvement-specific environmental constraints. A detailed look at every possible environmental constraint across the region is beyond the scope of this plan. For this Regional Transportation Plan, a very high-level look at common environmental constraints that may be an issue was done. Maps were compiled to assist in determining whether flood, wetland, or landslide issues may impact individual improvements listed in Chapter 6. Please refer to the Chapter 8 Appendix to review these environmental constraint maps. In all cases, environmental permitting will impact the timing and costs of all transportation improvements. In many cases, these impacts will be significant for smaller improvements throughout the region.

## Future Challenges, Successes, and Opportunities

As the future approaches our region will be faced with many challenges when it comes to the regional transportation system with the main one being prioritizing improvements and paying for them. Other challenges will be managing increased demands when preservation and maintenance needs exceed capacity, emerging technologies, and becoming more resilient will also add to funding challenges in the region. The future will also present new opportunities and there should be successes as well.

## Challenges

As stated at the beginning of this chapter, only 5% to 10% of the transportation improvements included in this plan are not for preservation, maintenance, efficiency, or safety. Keeping the regional transportation system in a state of good repair will likely be the focus for WSDOT and local agencies for the foreseeable future. Despite this probable future, there will continue to be a need to manage peak demand and changing needs of the transportation system without sufficient revenues. In urban areas such as Aberdeen or Hoquiam; Centralia or Chehalis; and Longview, Kelso, or Rainier, Oregon increases in population, more employment opportunities, and more people commuting to Olympia, Vancouver, or Portland, Oregon may be contributing factors to increased demand on the system. For rural areas, traffic from tourism will be a major factor causing increased demand, especially in summer months. However, tourism traffic will also be a contributing factor to increases in demand in the urban areas as well. With limited financial resources lower cost improvements will be needed to manage increases in demand. The good news is that WSDOT and local agencies should be able to manage peak demand on the regional transportation system with signage, expansions to the bicycle and pedestrian network, or Intelligent Transportation System (ITS) facilities. To maximize resources, agencies should consider adding these types of lower cost improvements to existing preservation work. In other words, leverage opportunities should be considered. These lower cost solutions could help alleviate future congestion without a full system expansion. Effective use of leveraging also promotes a least cost planning methodology.

Emerging technologies, Electric Vehicles (EVs) and Autonomous Vehicles (AVs), are transforming the world of transportation. There are more and more EVs on the road every year and public charging infrastructure continues to expand, but is still concentrated in bigger cities and along interstates or other

major highways. While AVs have been used in a few test scenarios, there is still a lot of design and testing needed before being ready for deployment by freight companies and transportation network companies (such as Uber or Lyft) or available to the general public. When fully autonomous vehicles are ready for wider deployment in several years, their use will probably be limited to large metropolitan areas such as the Puget Sound region or Portland, Oregon and Vancouver, Washington. It could be much longer before the MPO and RTPO regions experience a significant deployment of AVs. However, the MPO and RTPO regions will probably experience, on a smaller scale, AVs in several years when residents of the larger metropolitan areas visit as tourists. How existing infrastructure will need to be upgraded to accommodate AVs is not entirely clear at this time. What is definitely clear is that the installation of more public and private charging infrastructure for EVs and upgrading existing infrastructure to accommodate AVs will be a major financial challenge in the MPO and RTPO regions. Some of these issues will be further explored in 2019 as the MPO and RTPO begins work on an EV Readiness and AV Plan.

One other significant challenge for the MPO and RTPO regions that is ongoing is how to make the transportation system more resilient. This geographic area is vulnerable to numerous natural hazards including earthquakes, tsunamis, volcanic eruptions, dam failure, wildfires, heavy rains, and flooding. There are also impacts from climate change. As was discussed in Chapter 4, each county in the region has natural hazard mitigation and emergency operation plans. Grays Harbor and Pacific Counties also have detailed evacuation maps for a tsunami. Cowlitz County has evacuation plans for any dam failures on the Lewis River as well as the Mayfield and Mossyrock Dams on the Cowlitz River. Communities in our region are generally prepared for when disaster strikes. However, ongoing discussion about preparedness will need to continue to keep people informed and adjust to new

information and changing conditions. An ongoing dialogue needs to happen about the importance of retrofitting transportation infrastructure to be more resilient and how to factor in retrofitting into regular preservation and maintenance. Even doing a few things to retrofit transportation infrastructure could make a difference in helping the infrastructure remain intact during a disaster. It will be important for at least some infrastructure to withstand the disaster itself so evacuation and emergency service routes remain available after the event.

### Successes

While the future will certainly be a challenge for many reasons regarding the regional transportation system, there should be successes as well. Two possible successes that should be mentioned are addressing safety concerns with at-grade rail crossings and continued development of bicycle and pedestrian facilities.

A significant level of work has gone into planning and design for improvements that would eliminate or reduce the safety concerns from at-grade rail crossings around the region. Several specific improvements that would be a positive step towards addressing road-rail conflicts are the following.

1. East Aberdeen Mobility has spent a lot of time to figure out the right solution to eliminate at-grade rail crossings between US 12 and the shopping mall in Aberdeen.
2. South Kelso Railroad Crossing is being designed currently and would eliminate a significant at-grade crossing in Kelso.
3. The new Industrial Way/Oregon Way intersection, as designed during the DRAFT Environmental Impact Statement (EIS) process, would eliminate some crossings and improve safety at other at-grade crossings in Longview.

4. In Rainier, Oregon construction should begin within the next year on rail safety work to separate vehicular travel lanes from the railroad tracks on 'A' Street.

There are also many smaller improvements planned in other communities around the region that would address road-rail conflicts. With even some of the improvements completed, this would be a major success in the future.

This region has a strong interest in building sidewalks, wide paved shoulders, bike lanes, trails, or many other types of bicycle and pedestrian facilities. There are many bicycle and pedestrian facility improvements included in this plan such as the Willapa Hills Trail (Pacific County portion) and the Six Rivers Trail in Cowlitz County. These trails would help develop connectivity for non-motorized users on a regional scale. There are also many smaller improvements for sidewalks in multiple communities across the region. Given past successes constructing bicycle/pedestrian facilities, the next 27-years will likely see completion of more facilities for non-motorized users.

### Opportunities

In the future our region will also have opportunities to continue innovative approaches to transportation planning. One such approach is Transportation Demand Management (TDM) and it deserves a little more explanation here.

TDM, according to WSDOT, is “an effective strategy for improving transportation efficiency from the project level to the statewide system and is a community-based approach that relies on collaboration, commuter information, and incentives to influence travel patterns and commuter choices.” Effective TDM is a low-cost way to help manage travel demand without new lanes on roadways and frees up limited revenue for other priority improvements. Types of TDM programs that are applicable to the MPO and RTPO regions would be commute

trip reduction, rideshares or vanpools, park and rides, active traffic management, bicycle and pedestrian facilities, as well as telework and flexible work scheduling. Most of these approaches are already done in this region with the exception of active traffic management or development of formal commute trip reduction programs. As a low-cost way of managing demand in the future, especially in the urban areas of our region, developing more consistent implementation of the TDM approaches already being used will be important. More education for the general public will also likely be needed in the future about what TDM programs are available.

The MPO and RTPO regions currently have two Amtrak passenger rail stops in Kelso and Centralia. These stops are a vital part of the public transportation services available in the region. Multiple transit and non-profit providers supply service to the Amtrak locations to help provide a well-connected, multi-modal public transportation system. Service to Amtrak locations allows people access to locations throughout Washington, Oregon, and the nation. Given the current importance to the region, and all of the Cascadia Mega-Region, regional passenger rail service utilizing the existing Kelso and Centralia stops is critically important.

There may also be many other new opportunities in the future for the region.