Southwest Region Overview

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Washington State Transportation Commission Meeting
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Southwest Region Overview

- 7 counties
- 2,600 lane miles
- 400 bridges
- 6 border bridges with shared operations & maintenance costs
  - 2 maintained by WSDOT
  - 4 maintained by ODOT
Growth in Southwest Washington

- Clark County was the 2nd fastest growing county in the state - 18.3 percent growth rate 2010-2020
- Clark County outpaced growth of all other counties in the Portland-Vancouver Metro area from 2018-2020 – growing nearly as much as the three Oregon counties combined
- Between now and 2040, 22% of the population growth in the Portland-Vancouver Metro area is expected in Clark County
- From 2010 to 2016, the region has added 199,000 people and 168,000 jobs...that is like adding the City of Tacoma or Salem/Keizer
Region Conditions

• Staff and delivery capacity
• Infrastructure challenges
  – Bridge decks and paving
  – Settlement, unstable slopes, erosion
  – Signs, guard rail and pavement markings
  – Third party damage
• Facilities
• Equipment
• Safety Issues
Deferred Bridge Maintenance and Repair
Deteriorating Facilities

Main St facility portions built in 1936
Equipment doesn’t fit in garage bays

Maintenance since 2016 on leaky roofs, HVAC, aging pipes & electrical, deteriorating substructure
Aging Equipment/Fleet
Safety Conditions
Reality Based Planning
Complete Streets Requirement

Added to Chapter 47.24 RCW - CITY STREETS AS PART OF STATE HIGHWAYS

Purpose: “(1) In order to improve the safety, mobility, and accessibility of state highways, it is the intent of the legislature that the department must incorporate the principles of complete streets with facilities that provide street access with all users in mind, including pedestrians, bicyclists, and public transportation users, notwithstanding the provisions of RCW 47.24.020 concerning responsibility beyond the curb of state rights-of-way.”

Applies to “state transportation projects starting design on or after July 1, 2022, and that are $500,000 or more”

Note: This Is not the complete language of the law. There is Additional Language in the law that sets parameters and exemptions for this requirement
Geographic Constraints

I-5 Bridge
138,000 ADT
Next Crossing
40 Miles

I-205 Bridge
165,000 ADT
Next Crossing
30 Miles
2018 Regional Transportation Plan

ANTICIPATED INVESTMENTS

1. Salmon Creek Interchange - $35 Million
2. System to System Ramp SR 500 to I-5 North - $140 Million
3. I-205 Padden Parkway Interchange - $30 Million
4. I-205 Auxiliary Lanes SR 500 to Padden - $30 Million
5. I-205 Auxiliary Lanes SR 500 to Mill Plain - $25 Million
6. SR 500-54th & 42nd interchanges - $80 million
7. SR 500-4th Plain Interchange - $60 Million
8. SR 503 at Padden Parkway - $35 Million

$435 Million
Connecting Washington

179th Interchange

Mill Plain Interchange

SR 14 Widening
SR 503 Corridor

Corridor Context:
- Mix of contexts: rural, suburban
- Significant development and more potential
- Significant percentage of Spanish speakers and Russian/Ukranian populations
- Parallel route to I-5
- Intersection Spacing at 1 Mile (Consistent with typical freeway spacing)
Battleground Transportation System Plan
SR 503 Corridor Study

Purpose and need

• Incorporating a Transportation System Management and Operations (TSMO) and practical solutions approach, this study will develop a long-term plan to address what type of transportation network SR 503 should support and how it interacts with surrounding land uses.

• Corridor themes:
  – Vehicle access: too restricted or too unrestricted?
  – Connected low-stress active transportation network
  – Consider growth and effects on congestion
  – Explore strategies to address congestion in spot locations
  – Maximize use of existing infrastructure
  – TDM and transit strategies
  – Corridor safety
  – Identify equity and environmental justice issues and strategies to address them
  – Others?
Active Traffic Demand Management (ATDM)

- Dynamically Manage System
  - Recurring and Non-Recurring Congestion
  - Reliability
  - Maximize System Efficiency
TSMO: Benefit-Cost Ratio

Comparison of returns for different road investments

Average benefit-to-cost ratios:

- Traditional road capacity: 2.7
- Electronic freight management system: 3.5
- Dynamic curve warning: 6.6
- CVISN: 7.5
- Maintenance DSS: 8.7
- Intelligent traffic management: 14.0
- National real-time traffic information system: 25.0
- Road weather management technologies: 37.0
- Service patrols (traffic incident management): 38.0
- Integrated corridor management: 39.0
- Optimized traffic signals: 62.0

Lower range
Upper range
Adaptive Ramp Metering

When only a few vehicles use a highway, they can all travel at the speed limit. If more vehicles use a highway, traffic slows down but capacity remains high. If too many vehicles use a highway, all traffic slows down and capacity decreases.

Data from: I-405 General Purpose Lanes
Incident Response
Weather Responsive

- Visibility
- ICE
- Rain
Lane Control System
Congestion Warning

WSDOT I-205
18th St 1
NORTH
Wrong Way Driving Detection
Electronic Road Flares
Tethered Drones
Smart Work Zone Elements

For regular, reoccurring queues of 6+ miles

Zipper merge

Traffic queue warning

Travel delay
Zipper Merge

• Use all open lanes up to merge point
• At merge point, take turns
Queue Warning

- Informs of slow or stopped traffic conditions
Smart Work Zone System Example

System Setup

FREEWAY (2 LANES): SMART WORK ZONE SYSTEM FOR SINGLE RIGHT LANE CLOSURE (QUEUES UP TO 6 MILES)
Smart Work Zone System Example

No Traffic Queues: Free-flow traffic conditions

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Not to Scale
Smart Work Zone System Example

Traffic Queue: Forms at Merge
End of queue warning begins

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Traffic Queue: Increasing, Less than 0.9 Mile

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Traffic Queue: Increasing, Approaching 0.9 Mile Traffic Sensor

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Freeway (2 lanes): Smart Work Zone System for Single Right Lane Closure (queues up to 6 miles)
Smart Work Zone System Example

Traffic Queues: Increasing, Beyond 0.9 Mile Traffic Sensor
Zipper merge begins
Travel delay begins

FREEWAY (2 LANES): SMART WORK ZONE SYSTEM FOR SINGLE RIGHT LANE CLOSURE (QUEUES UP TO 6 MILES)

NOT TO SCALE
Projects in Clark County

• Move Ahead Washington
  – Interstate Bridge Replacement Program
  – C-TRAN Bus Rapid Transit – Hwy 99
  – Bike-Ped bridge and sidewalk infill

• Connecting Washington
  – SR 501 / I-5 to Port of Vancouver
  – I-5 / 179th Interchange
  – SR 14 Access Improvements
  – SR 14 / I-205 to 164th Ave

• Operational projects
  – Ramp meters
  – Intersection improvements

• Preservation projects
  – East Fork Lewis River Bridge replacement
  – Bridge deck repair
  – Concrete panel repair
  – Paving – roads and ramps

• Emergency projects
  – Bridge strikes
  – Erosion / slides
SR 501 / I-5 to Port of Vancouver
Intersection and Profile Improvements
I-5 / 179th Street Interchange
SR 14 Access Improvements
15th Street and 32nd Street Roundabouts
SR 14/I-205 to 164th St – Auxiliary Lanes

Westbound
- Peak Use Shoulder Lane (Proposed)
- Lanes

Eastbound
- Inside Shoulder Median
- Lanes

Existing
- Shoulder Bus on Shoulder (BOS)
- Lanes

Proposed
- Shoulder Bus on Shoulder (BOS)
- Lanes

Diagram showing the proposed and existing lanes for SR 14/I-205 to 164th St.
Active and Pending Construction Map

SWR Breakaway Cable Terminal Replacement Locations (not shown)
I-5, SR 14, I-205, SR 432, SR 500, SR 502, US 97
Questions?

For additional information regarding the WSDOT Southwest Region, please contact:

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