State Facilities Action Plan

Briefing: Strategic Issues Facing WSDOT in the Puget Sound Region

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Presentation Overview

Practical Solutions

I-5 Action Plan

- **Nearterm Operational and TDM Improvements**
- **I-5 Preservation Needs**
- **Seismic Preparedness**

HOV Speed and Reliability

State Routes of Local Interest

Plan for Bringing it All Together

Practical Solutions

- **Clear understanding of needs**
- **Increased focus on system performance**
- **Enable more flexible and sustainable solutions**
- **Increased collaboration with partners**

Making the right investments at the right place and time for the lowest cost.

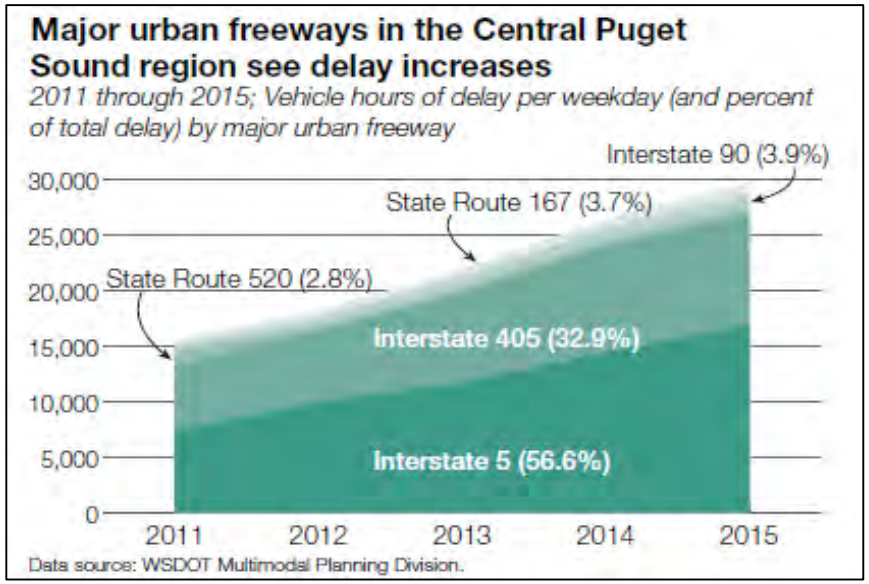
I-5 Operational Improvements

From 2016 Corridor Capacity Report

- I-5 accounts for **56% of total freeway delay** in the Puget Sound region
- Delay more than doubled between 2011 and 2015 due to travel growth
  Delay increased between 2013 and 2015 at bottleneck locations
  - In Tacoma, partially due to construction

Operational changes make a difference

- **16% Decrease in Congestion**
  - In part due to installation of 18 new ramp meters
- New peak use shoulder lane on Northbound I-405 has reduced congestion, increased throughput, and reduced travel times



I-5 Operational and TDM Improvements

WSDOT is working to identify near-term improvements

Two pilot areas

- Tumwater to DuPont
- Georgetown neighborhood of Seattle to Mountlake Terrace

Scope of work

- Develop near term operational and demand management strategies that could demonstrably improve I-5 performance within a 0-4 year timeframe
- Engage partners to collaboratively develop and deliver multimodal, multi-agency solutions

Next steps

- Refine project/program lists with local partners
- Pursue funding

Example strategies:

- **New and upgraded ramp meters**
- **Parking management at worksites and overcrowded park and rides**
- **HOV lane dynamic control**
- **Expand bus on shoulder**
- **Expand shift workers' use of transit**
- **First- and last-mile to transit improvements**
- **Expand use of telework, compressed work schedules and flexible start times**
- **Expand vanpools through community partnerships**

I-5 Preservation Needs

Pavement

- 800 lane miles of pavement, 200 lane miles of ramps
- Portland Concrete built in the 1960s - 20-year life expectancy
  - Out-performed expectations, but at end of its service life
  - WSDOT has been proactive addressing poor pavement conditions
  - 9% is currently rated in poor condition
- Best practices
  - Panel replacement and grinding to extend concrete life
  - Resurface asphalt every 15-18 years
  - Use life cycle cost analysis, compare asphalt replacement or concrete, or to use crack-and-seat method to recycle existing pavement as new foundation
- Due growing traffic volumes, preservation construction must be balanced by maintenance of mobility needs
- $1.2B needed for pavement preservation through 2040

I-5 Preservation Needs

Summary of I-5 Preservation Needs

- Life-cycle costs must be addressed for other highway elements including drainage culverts, storm water systems, illumination, signals, ITS, barriers
- Total need through 2040: $2.5 B
  - Approximately 18% of statewide total preservation need through 2040.

Asset Type – I-5 Puget Sound Region	Estimated Preservation Need through 2040 (millions of dollars)
Pavements	$ 1,200
Bridges	$ 675
Major Drainage (Including Fish Barriers)	$ 100+
Major Electrical	$ 468
Barriers	TBD
Total	**Approximately $ 2.5 Billion**

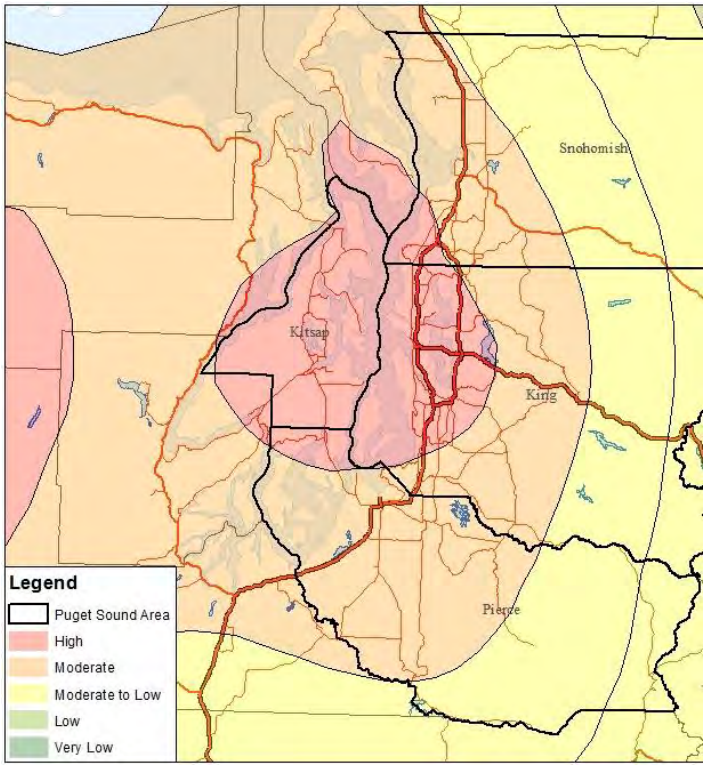
Seismic Preparedness

WSDOT seismic preparedness activities

- Seismic retrofits to bridges and ferry facilities
- Participation in emergency management and resilience programs

Bridges

- $195M spent to retrofit over 300 bridges statewide and partially retrofit over 100 more
  - Further work needed to jacket multi-column bridge piers columns with steel
- $1.5B needed to fully retrofit all 594 bridges in need of strengthening statewide
  - $1.1B in the Puget Sound region

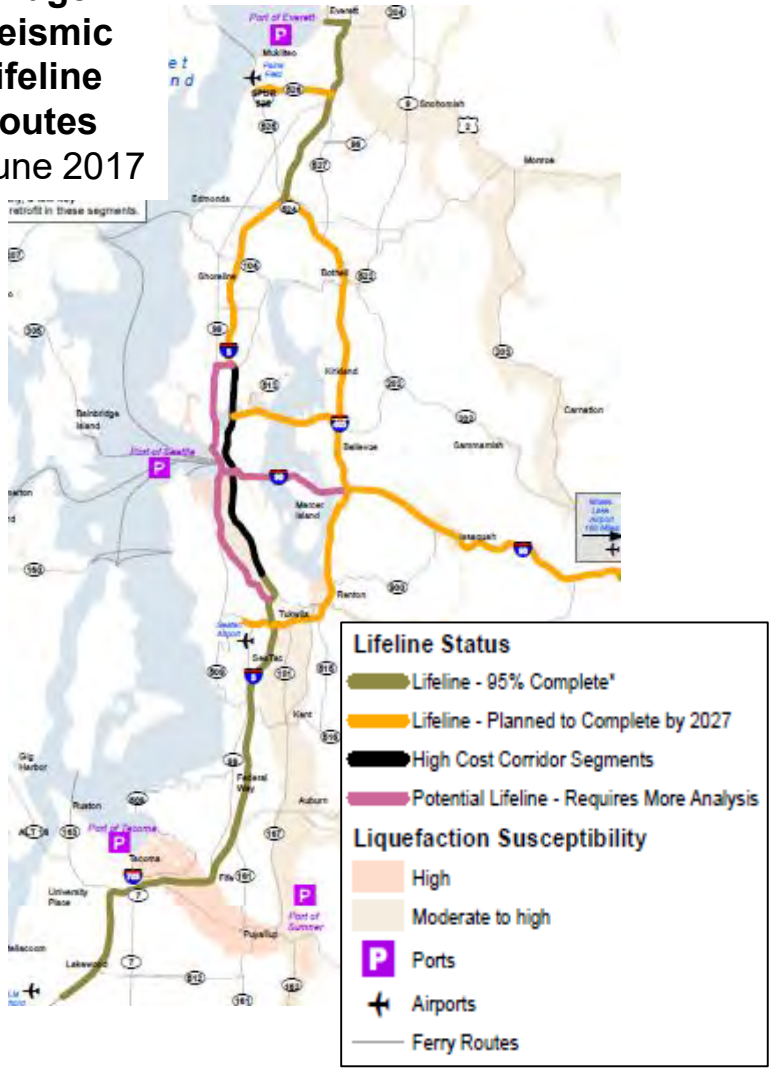


Seismic Preparedness

Lifeline System

- To prioritize needs, a “lifeline system” is identified:
  - Restore essential services within 3-7 days
  - Operational within 3 months
  - Focused on connecting major ports between JBLM and Everett
- $161M in estimated need to finish the lifeline system.
  - Funded in most recent transportation budget
  - Expected to be complete in 2027.
- Central I-5 corridor through Seattle includes multiple hollow-column structures that would be expensive to retrofit
  - Estimated at $550M
  - Not included in the funded lifeline.

Bridge Seismic Lifeline Routes
June 2017



HOV Speed and Reliability

Initial facilities in 1980's to support new Metro express bus service, park and ride lots, freeway stations, vanpool fleet and employer commute trip reduction programs

Core Freeway HOV Program Defined in 1990's

- Over 250 lane-miles of HOV lanes
- Purposes:
  - Provide fast and reliable transit service to regional centers
  - Maximize the person-carrying capacity of the freeway system

HOV Speed and Reliability Standard

- **Also in 1990's, WSDOT worked with partner agencies to establish a speed and reliability standard of 45 mph during peak hour on 90% of weekdays over six months**
- **Equivalent to being reliable nine days out of every ten**

HOV Speed and Reliability

- **The most important policy issue regarding HOV lanes is slow speeds and poor reliability**
  - Makes transit less effective and more costly
  - Defeats purpose of HOV lanes to offer speed and reliability advantage to high-occupancy vehicles
- **Before opening HOV access to new classes of vehicles, existing vehicle demand in HOV lanes must be managed**
- **WSDOT is addressing HOV lane effectiveness three ways:**
  - Near-term actions to address specific operational issues
  - Implementation of HOT lanes and express toll lane programs on I-405 and SR 167
  - Initiating work to engage Puget Sound regional partners in a comprehensive review of HOV lane policies

HOV Speed and Reliability

- **Data collection and system analysis - ongoing**
- **WSDOT is working to achieve near-term improvements in HOV speed and reliability**
  - Implementing peak use bus on shoulder operations on I-5 between Lynnwood & Mountlake Terrace
  - Identifying opportunities for buffer separation of portions of the HOV lane system
  - Initiating collaboration with the State Patrol on enhancing enforcement
  - Investigating and implementing technology to support HOV lane monitoring and enforcement
  - Reviewing the current HOV violation fine structure and making recommendation on revisions

State Routes of Local Interest

What are Local Interest State Routes?

- State highways that communities rely on for regional travel and local circulation
  - Usually principal or minor arterials; often function as “main streets”
  - Serve a wide range of needs, including daily commuting, commerce, non-motorized travel, transit and school bus routes, and emergency services access
  - Growth is exacerbating congestion on these routes, while state and local investments have not kept pace to address growing local access and mobility needs

State Routes of Local Interest

- WSDOT proposed work plan to apply practical solutions approach to local interest state routes
  - Review whether projects and plans completed previously need to be updated, revisited and/or reconfirmed
  - Assess emerging needs, and identify and prioritize practical strategies
  - List of planned and funded capital projects in PSRC's Regional Transportation Plan
  - Potential pilot project to demonstrate how regional and state goals align and can be translated into measures

Plan for Bringing it all Together

Implementation of two related and concurrent processes:

1. Regional Managed Lanes Task Force
2. I-5 Vision Scoping and Work Program Development

Moving forward, ongoing I-5 operational analysis work will include:

- Incorporate analysis recommendations into proposed I-5 Visioning and Scoping
- Extending modeling capability to cover full Tumwater to Marysville corridor
- Developing and testing performance of alternative scenarios
- Identifying near-term partnership opportunities to advance implementation
- Applying results to other corridors in Central Puget Sound as part of a Regional Managed System Plan

Plan for Bringing it all Together

I-5 Action Plan and Managed Lanes Work Group

2017	2018			2019			
October	January	April	July	October	January	April	July

Mobilize

- Focus existing resources and develop work program for new Management of Mobility office

Initial Operational Assessment **Maintain and Extend Operational Modeling Capacity**

- Partner agency engagement
- Identify near-term "early actions"

Further define preservation / seismic needs

Managed Lanes Work Group

- Facilitated process on managed lane policies and congestion management strategies
- Staff support for modeling and policy considerations
- Public engagement and opinion research

◆ Briefings ◆ Briefings

I-5 Vision Scoping / Work Program

- Stakeholder outreach
- Develop scope, project framework and work program

For More Information

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