WSDOT’S STATEWIDE CLIMATE VULNERABILITY ASSESSMENT:
WORKING TOWARD A MORE RESILIENT WASHINGTON

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Federal Highways Climate Pilot Projects
WASHINGTON STATE DOT’S CLIMATE ASSESSMENT KEY FACTS:

• FHWA $189,500 funds matched by state staff time
  – One of 5 national climate risk assessment pilots (2011)
• WSDOT test of the FHWA’s model leveraged:
  – Our asset management approach
  – Pacific Northwest climate change data from UW
  – Field personnel intimate knowledge
• Easily replicable process
  – 14 workshops across state & simple Microsoft Excel & GIS tools
• Qualitative rankings for all state-owned assets!
  – State highway & interstate routes, ferry terminals, freight rail lines, state-managed airports
STATEWIDE RESULTS
(map shows results with 2 foot sea-rise & all other threats)
WSDOT Community Planning Portal

Transportation Efficiency:

GIS tool for regional and local planning

http://www.wsdot.wa.gov/planning/community/WSDOTCommunityPlanningPortal.htm
2, 4 and 6 ft Sea-Level Rise Scenarios
(Only 2’ is on the portal, see WSDOT’s report for more info)
HOW IS WSDOT INCORPORATING THE VULNERABILITY ASSESSMENT RESULTS INTO OUR WORK?

Planning
Bring awareness of the potential climate vulnerabilities of WSDOT facilities when doing corridor studies and plans.

Design & Environmental Review
Evaluate potential risks during the environmental and design phase. Project teams follow WSDOT’s NEPA/SEPA guidance: [http://www.wsdot.wa.gov/SustainableTransportation/adapting.htm](http://www.wsdot.wa.gov/SustainableTransportation/adapting.htm)

Construction
Look at potential for new issues: salt water corrosion, heat or precipitation changes for long-term impacts on materials.

Maintenance & Operations
Multi-hazard risk reduction, awareness of maintenance activities that may be affected by heat or extreme weather events.
SR 522/US 2 PROJECT

Example of a completed highway project with elements that add resilience.
Mukilteo Multimodal Ferry Terminal
2 and 4 foot Sea Level Rise

Preferred Alternative simulation in Final EIS
INCORPORATING WHAT WE KNOW TODAY WITH PROJECTED FUTURE

11/11/14: Snow/Ice, Trees on Road
03/08/14: Heavy Rain, Mud and Rock Slide
10/01/13: Heavy Rain, Slope Failure

12/9/15 Situation Report: US 12 MP 154.5 Slope Failure
Flickr “WSDOT opens White Pass”
https://www.flickr.com/photos/wsdot/23171763893/in/album-72157659996537344/
Drilled shaft bridges like this one on I-90 near Gold Creek make those structures more resistant to high-velocity flooding.
COMMUNICATING “CO-BENEFITS” OF CURRENT PROGRAMS: FISH PASSAGE & HABITAT CONNECTIVITY

- Provides Steelhead, Bull Trout, & resident trout with access to 13.7 mi of stream habitat
- Provides deer with a safe crossing in one our worst deer-vehicle collision areas
- Uses 1.5 mi of fencing to funnel animals to the crossing
- More Resilient US 97!

Butler Creek, north of Goldendale
Community Resilience: All sectors

Engage others: Locals, tribes, neighborhoods are investing in hazard reduction projects

Mount Vernon flood wall

Integrate long-range flood hazard, transportation & land use plans
BUILDING A CLIMATE-READY TRANSPORTATION SYSTEM

Essential elements:

• Understand the climate forecast
• Assess our risks
• Integrate into planning and design
• Look for co-benefits
• Partner with others

For more information:

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