WASHINGTON STATE TRANSPORTATION COMMISSION
Transportation Issues, Challenges, & Successes

DAVE BIERSCHEBACH, REGION ADMINISTRATOR
North Central Region
May 15, 2019
OUTLINE

• North Central Region overview, with a focus on Okanogan County

• What has happened
  – SR 20 North Cascades Highway opening
  – Wildfires, flooding, and slides
  – SR 20 slope failure

• What is happening
  – Maintenance and Preservation
  – Aging bridges on the SR 153 corridor
  – Tribal relations

• What is on the horizon
  – SR 155 / 111 Omak spur bridge rehabilitation
  – Wildlife crossings in Tonasket on US 97
  – Omak area / US 97 corridor study

• Public support

• Takeaways
NORTH CENTRAL REGION (NCR) OVERVIEW

- **Size and Characteristics**
  - 13,493 sq. miles in 9 counties
  - 2,637 lane miles
  - Large rural and some urban areas

- **Infrastructure & Geography**
  - 175 bridges
  - 7 mountain passes
  - 1 tunnel
SR 20 NORTH CASCADES HIGHWAY OPENING

• Clearing the highway after winter is no easy task. A crew conducts an assessment in mid-March.
• Winter maintenance crews work from each side of the pass to clear the road every spring. Typically, the opening is in late April or early May; this year, it was April 18.
SR 20 NORTH CASCADES HIGHWAY OPENING

• In addition to plowing snow, crews repair guardrail and road signs damaged by winter, remove danger trees, cut emergency safety parking areas on the shoulders, and perform other needed maintenance work.

• Excavators, plows, snow blowers, loaders, graders, chainsaws, and snowmobiles are just some of the equipment used.
CARLTON COMPLEX FIRE, JULY 14 - AUGUST 24, 2014

- Largest single wildfire in WA history
  - Caused by 4 lightning strikes
  - 256,108 acres burned
  - 353 homes destroyed
  - Estimated $98m in damage
  - Vegetation destroyed, leaving multiple drainages susceptible to flooding

- Since the fire, our Region has spent at least $10 million to repair and keep the highways open

The fire area extended to 256,108 acres within WSDOT’s North Central Region and in Okanogan County, as of August 17, 2014. (Courtesy of the National Wildfire Coordinating Group)
WILDFIRES: INITIAL RESPONSE

- Road advisories, detours, and closures
- Evacuation assistance
- Daily fire briefings
- EOC participation
POST-FIRE WASHOUTS

- A downpour on August 21 during the Carlton Complex fire helped extinguish the fire, but caused flash floods and massive mudslides in Okanogan County
  - Blocked SR 153 and SR 20 near Twisp, stranding residents
  - Mud, debris, and washouts at Benson, Canyon, and Leacher Creek drainage crossings
POST-FIRE WASHOUTS

Leacher Creek, August 2014

Frasier Creek, August 2014

SR 153

Frasier Creek, August 2014
POST-FIRE WASHOUTS: PARTNERSHIPS

• Multiple private approach culvert issues on SR 20
  o Creek jumped its banks and ran along the highway

• Through partnerships with landowners, the Methow Salmon Recovery Foundation, FHWA, and others, we upgraded approach culverts
  o Removed five fish barriers
  o Provided additional capacity for future flows
  o Restored creek to original channel, away from the highway
POST-FIRE WASHOUTS: REPAIR

Before and after photos of SR 20. Left: August 24, 2014; Right: November 14, 2014

- Post-fire emergency flood repairs cost $4m in 2014
In early 2017 rain and snow melt caused major debris flows in 2014 fire areas that had not yet recovered, washing out SR 20 in multiple locations.

These subsequent emergency repairs cost an additional $5.5m in 2017.
WASHOUT PROGRESSION

SR 20, 2017

1

2

3

4

5

6
On May 1, 2019 a slope failure occurred on SR 20 west of Okanogan, 7 miles east of Loup Loup Pass at MP 222.

WSDOT geotechnical engineers have determined that ground water eroded the bank below the road. They have designed a repair plan that could exceed $1m.

Our staff has coordinated with other agencies to secure environmental permits, obtain permissions to work on adjacent property, and to obtain funding for the repair.

On May 7, WSDOT awarded an emergency contract. Repairs are beginning.

Single-lane signalized traffic control with wide load restrictions is in effect. Future full closures may be necessary.
MAINTENANCE CHALLENGES

• Scheduled maintenance

• Unscheduled maintenance
  – Accident response and collisions
  – Disabled and abandoned vehicles
  – Third party damage

• Aging infrastructure
  – Bridges
  – Pavement
NATURE’S CHALLENGES

- Winter
  - Snow removal and avalanche control
    - More than 40 feet of snowfall per year on Stevens Pass

- Spring
  - Run-off and flooding
  - Slides, rocks, trees, and debris

- Summer & Fall
  - Wildfires

- Year-Round
  - Wildlife
## 2018 UNSCHEDULED MAINTENANCE ISSUES

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PRESERVATION NEEDS

• NCR P Program Future Funding Needs
  – Bridges
    ▪ Average age of bridges is 55 years old
    ▪ 10 bridges are 80+ years old
    ▪ 6 bridge decks are due or past due for rehabilitation
    ▪ 2 large bridges are due for repainting
  – 80% of pavement lane miles are due or past due for rehabilitation.
    ▪ Average life of chip seal is 7 years. Average cycle is 12 years and some potentially will be 19+ years old by the next chip seal.
    ▪ Average paving life is 12 years. Average cycle is 15 years and some potentially will be 21 years old by the next repavement.
  – Upcoming paving project deferrals
    – 37 miles of weathering steel beam guardrail replacement
    – Need for replacement of roadway technology (cameras, message signs, weather stations)
PRESERVATION CHALLENGES

- Strategic Pavement Preservation uses low-cost treatments to incrementally extend the life of roadways with Hot Mix Asphalt (HMA) and Bituminous Surface Treatments (BST).
  - $3m-$3.5m funded per biennium. Expect needs to grow as length between preservation cycles extends to statewide funding levels.
  - Some public dissatisfaction with this approach ("When are you going to come back and finish the project?")

- Pavement preservation on US 97 near Tonasket:

  MP 314: before crack seal
  MP 306: wheel path oil
  MP 314: completed wheel path seal
PRESERVATION CHALLENGES

• Pavement preservation on SR 17, near Leahy junction

Grinding wheel paths

Filling wheel paths

More filling
AGING BRIDGES ON SR 153 CORRIDOR

• The 31-mile stretch of highway between US 97 at Pateros and SR 20 near Twisp includes 11 bridges over the Methow River

• All were constructed between 1933 and 1950, with an average age of 78. All bridges are in various stages of deterioration and have been classified as either structurally deficient, scour critical, or weight restricted

• For the last 20 years, the bridges have required constant maintenance or preservation through capital projects, with investments of over $10m

• We estimate it will cost $99m to replace the 8 bridges due for replacement

Left: Sidewalk, which fell off of Bridge 153/20 in 2002.

Right: Pier 2 of Bridge 153/15, showing deterioration of column before repairs were completed in 2018.
TRIBAL RELATIONS

• WSDOT staff met with the Colville Business Council in December 2018 and we continue to engage with the tribe and tribal resource groups

• In response to feedback, we are currently installing two Rectangular Rapid Flash Beacons (RRFB) and a “Your Speed Is…” sign on SR 155 in Nespelem for pedestrian, bicycle, and vehicle safety

Example of RRFB pedestrian crossing

Example of a “Your Speed Is…” driver feedback sign
JOHNSON CREEK FISH PASSAGE

- US 97 culvert is a WSDOT identified fish barrier for Johnson Creek in Okanogan County

- The project is estimated at $750,000

- The Colville Confederated Tribes have identified Johnson Creek as a priority and offered to pursue funding to remove barrier

- Tribe has only asked WSDOT to cover review costs for Region and HQ Bridge

- $50,000 in Practical Solutions funding identified to cover those costs
Built in 1923, the Omak bridge is functionally obsolete
- Currently there are 10-foot lanes, no shoulders, and 3-5-foot sidewalks

The rehabilitation project will remove sidewalks, widen lanes, and create a separate, shared-use structure

Budget: $11m

Design: 2023-2025 (original CWA plan)
Construction: 2025-2027 (original CWA plan)
Recently passed budget included design and construction in 2019-2021
- Challenged to engage community, refine options, design, permit, purchase right-of-way, and construct in given timeframe
- Colville Tribe has submitted $25m grant to completely replace bridge
US 97 WILDLIFE CROSSINGS

• The Safe Passage 97 Project aims to reduce deer-vehicle collisions and improve wildlife habitat connectivity on US 97 from MP 300.5 to MP 312.5.

• The preliminary project scope for Phase 1 consists of three underpasses and fencing (MP 305-308), with a preliminary cost estimate of $4m to $4.5m.

• $1.5m identified in House budget, but not passed.

• Conservation Northwest, the Okanogan Trails Mule Deer Foundation Chapter, and interested citizens are working with WSDOT to identify solutions for this currently unfunded project.

• The group has raised $240,000 in donations and grants.
  – Considering wildlife fencing at Janis Bridge (Practical Solutions approach).
OMAK / US 97 CORRIDOR STUDY

- WSDOT, the City of Omak, the Colville Tribe, and other stakeholders are working to improve safety and connectivity along a section of US 97 through Omak, between Sand Flat Road and 12 Tribes Casino Access Road.

- Practical Solutions, multimodal planning approach
- Local preference for low-cost actions: speed limit adjustments, signage, and pedestrian treatments
- Mixed reaction to roundabouts
- Stakeholders and community members prioritize safety, pedestrian access, and very localized congestion issues
- Analytics from the online open house show almost 1,000 unique visitors. Omak’s population is about 5,000.
PUBLIC SUPPORT (via social media)

2018 MESSAGES OF PUBLIC SUPPORT

Stay safe out there!

Thank you WSDOT for the fast response!

Thank you WSDOT crews!!!
Stay safe!

OMG! You guys are the best!

Thank you! The pass was in great shape this afternoon!

Thank you road crews!
Wow! Not an easy job!

You guys rock!

Thank you for keeping us safe!
TAKEAWAYS

• Coordinate with other agencies to work proactively on fire and flood issues

• Continue to form partnerships to deliver benefit for communities

• Concerned with future funding for maintenance and preservation

• Deliver our mission:
  – We provide safe, reliable, and cost-effective transportation options to improve communities and economic vitality for people and businesses
QUESTIONS?

For more information about North Central Region operations, please contact:

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