



# Rural Emergency Access

## Enabling Response to Natural Disasters

**CALIFORNIA, OREGON & WASHINGTON TRANSPORTATION COMMISSIONS**

**September 16 - 17, 2019**

**Skamania Lodge**

**1131 Skamania Lodge Dr. Stevenson, WA**

**Presentation by:**

**Chris Branch**

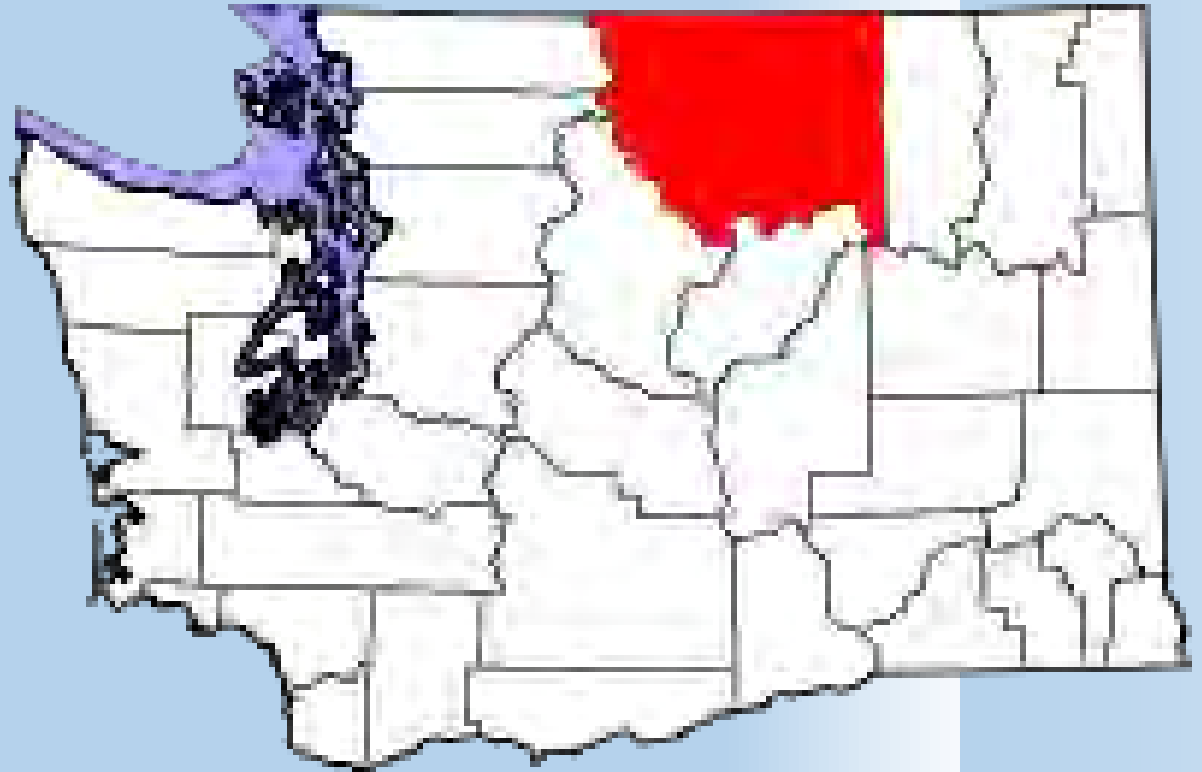
**Okanogan County Commissioner**



57% of which is state and federal land. Primitive and other rural roads provide access to these public lands, transport for resource-based industries, and emergency access and route redundancy.

## Okanogan County

Largest County in the state at 5315 sq. mi.



## Okanogan Council of Governments – 2017 Members

City of Brewster .....	Janis May, Councilwoman
Town of Conconully .....	Don Smith, Councilman
Town of Coulee Dam .....	Duane Johnson, Councilman
Town of Elmer City .....	Jimmer Tilman, Public Works Director
Town of Nspelem .....	Dennis Montes, Councilman
City of Okanogan .....	Jon Culp, Mayor
City of Omak .....	Cindy Gagne, Mayor
City of Oroville .....	Jon Neal, Mayor
City of Pateros .....	Carlene Anders, Mayor
Town of Riverside .....	Josh Crofoot, Councilman
City of Tonasket .....	Patrick Plumb, Mayor
Town of Twisp .....	Soo Ing-Moody, Mayor (Co-Chair)
Town of Winthrop.....	Anne Acheson, Mayor
Okanogan County .....	Jim DeTro, Commissioner (Co-Chair)
Confederated Tribes of the Colville Reservation .....	Angelena Campobasso, Senior Planner
Okanogan County Transit Authority .....	Kelly Scalf, General Manager
Okanogan County Transportation & Nutrition .....	Jennifer Fitzthum, Executive Director
Okanogan County Public Works .....	Josh Thomson, County Engineer
North Central Region, WSDOT .....	Nick Manzano, Transportation Planning Manager
Business Representative .....	Kurt Danison, Highland Associates



# Leadership with Experience



Town of Twisp  
Mayor Soo-Ing Moody  
Chair

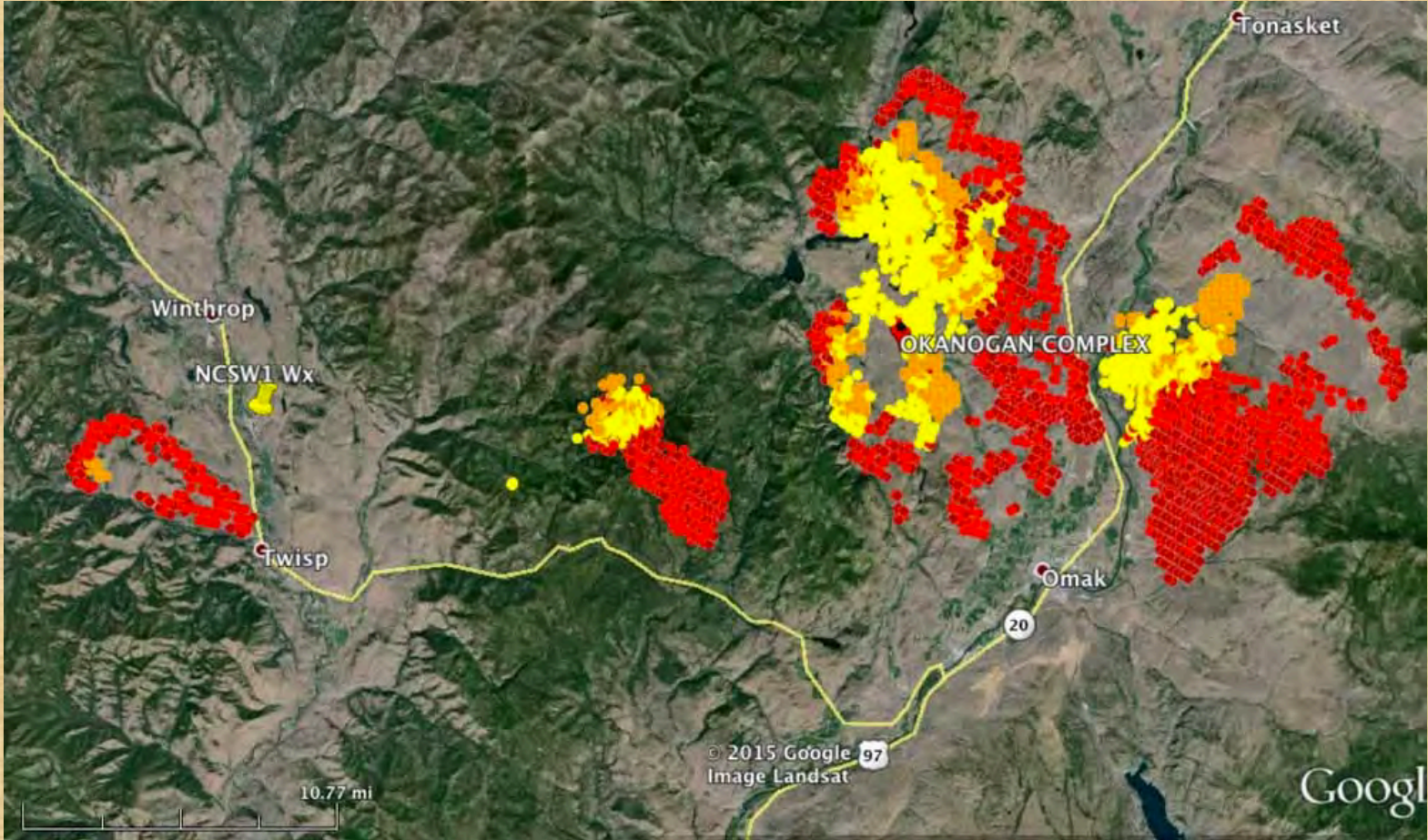


City of Pateros  
Mayor Carlene Anders  
Vice-Chair

# Pateros – Carlton Complex



# Twisp River Fire 2015



# 2014 and 2015 Wildfires critical access routes cut off by fire



2040 Regional  
Transportation  
Plan for the Okanogan  
Region

Transportation for  
the Okanogan  
Region

Resilient.

Resourceful.

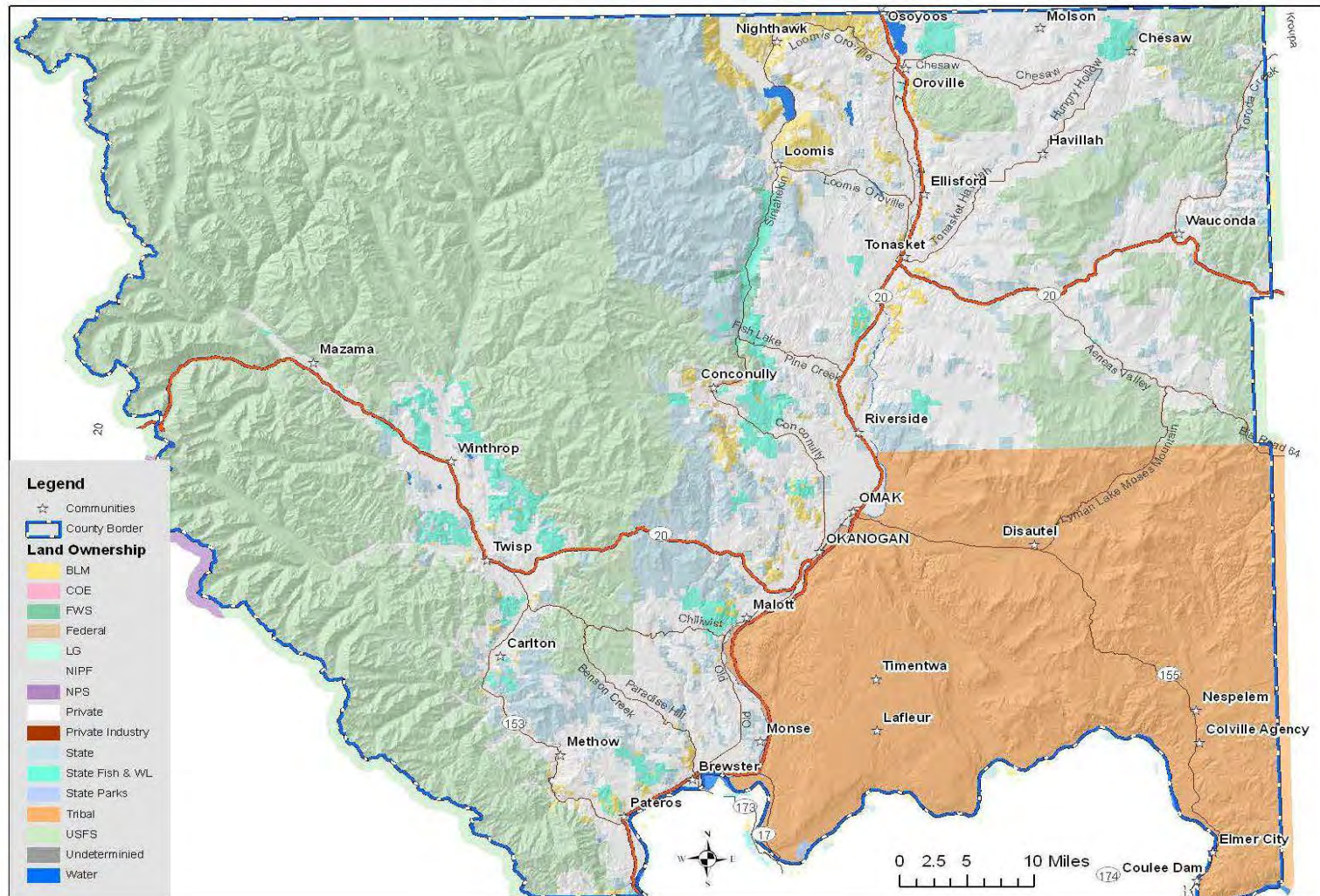
Responsible.





# HIGHWAY SYSTEM

## VAST LANDS BETWEEN HIGHWAYS



# Findings of the 2017 Okanogan County Regional Transportation Plan

- 1,376 miles of roads are owned by Okanogan County
- 726 of those miles – 53 percent – are gravel roads
- 571 miles are designated as Primitive Roads.
- Thousands of additional miles of Primitive Roads are owned by the Colville Tribes, the Washington State Department of Natural Resources, as well as the Bureau of Land Management, and the National Forest Service.

In the introduction to the County Road Administration Board's 2016 Gravel Roads Study, it's noted:

*There is possibly nothing more representatively iconic of rural Washington State or, perhaps of rural America than is the simple line of an unstriped, unpaved road hugging the land contours as it stretches through large, open spaces and reaches towards a distant horizon...this kind of road is not just emblematic of the history of surface transportation in our state, but is very much a functioning part of the system as it exists today, and will remain an important part of it for many future years.*

A scenic view of a gravel road winding through a forested valley. The road is flanked by tall pine trees and a white wooden fence. In the distance, a small settlement with white buildings is visible. The sky is blue with scattered white clouds.

OKANOGAN COUNTY  
BACKROADS STUDY  
Phase I

## Phase 1 Study Effort Objective:

Establish a baseline understanding of available resources and background issues sufficient to outline a Phase 2 implementation strategy to move this effort forward in a highly constrained funding environment.

# STUDY PURPOSE

- Identify a highly rural road network of gravel, dirt, and primitive roadways that function as the primary network providing critical access and rural connectivity regardless of jurisdiction or land management agency boundaries
- Identify strategies for improving interagency collaboration and coordination in the designation and management of this essential network.
- A highly rural road network functions as the rural equivalent of arterials and major collectors on the more familiar functional classification system of urban streets and roads. As the recognized backbone of the region's rural system of backroads, this network will designate the primary through-routes across the region and critical connectors that provide ingress and egress to rural communities, work sites, recreational destinations, essential public facilities, and other regionally significant places across rural Okanogan County.
- The objective of this Phase 1 study effort is to establish a baseline understanding of available resources and background issues sufficient to outline a Phase 2 implementation strategy to move this effort forward in a highly constrained funding environment.

# Other insights included:

- Public safety considerations extend well beyond that of wildland fires to include flooding such as Oroville and others experienced in spring 2018, and the potential evacuation needs of Pateros and Brewster if either the Chief Joseph or Grand Coulee dams fail.
- While it is important to identify logical primary routes through highly rural areas, that assessment should include an evaluation of vulnerabilities like the risk of landslides that can block culverts and wash out roads, a prevalent risk in the wake of significant wildland fires.
- The primary objective of this effort is to get agreement among land management agencies on what constitutes the primary rural network and appropriate design and maintenance standards, as well as ways to improve coordination amongst the different agencies in its management. The process should be open to the fact that new ideas might emerge that build on this work.
- Terminology matters and the term “primitive roads” has a very distinct meaning for counties that is established instate statute. Primitive roads are a subset of Okanogan County’s highly rural roadways. It was agreed that the name of this should be changed from a “primitive roads study” so as to avoid confusion.
- Highly rural roadways include a number of public use roadways that may come into consideration as part of a network. These are legacy roadways open to the public and dedicated for public use but they are not necessarily owned by the County or maintained as such.

# Other insights included:

- FEMA-funded community-based emergency preparedness efforts are underway and expanding across the region. It will be valuable to engage with these community groups during stakeholder outreach in Phase 2.
- Versatile mapping products are needed that are easily scalable to specific areas and easy to print.
- Don't overlook utilities as a key stakeholder interest. Their corridors and facilities cross the boundaries of land management agencies and they rely on these roadways for access.
- The implementation strategy needs to address long-term database maintenance needs. Devise a crosswalk that enables seamless data updates without requiring extra effort on the part of agencies.



### Okanogan County Backroads Study: Multi-Agency Dataset Analysis

An inventory of available agency datasets and their attributes based on project relevancy and area coverage.

Data Attributes →	Road Name	Segment Ownership	Maintenance Responsibility	Segment Identifier	Availability Status	Segment Class/Level	Physical Characteristics	Maintenance Level	Use Volumes	Dataset Notes:
Provider/Source ↓										
DNR - Active Roads Feature Service	☑	☑	☑	☑	☑	☑				Primary data layer used between jurisdictions. Will function as baseline for future layer development. <i>Automatic Oracle database triggers updates.</i>
Okanogan County Public Works and Planning - Roads	☑	☑		☑	☑ Primitive	☑ FFC + LFC	☑ + width	☑ Pave year	☑ ADT	PRIMITIVE roads designation metric. Bus routes, speed limits, mail routes, SPECIALSYS attributes also available.
USFS - National Forest System Roads (feature layer)	☑		☑	☑	☑ + seasonal + passage	☑	☑	☑		SYSTEM Layer: Identifies whether a road is a National Forest System Road (NFSR) or is part of another system. A system is a network of travel ways serving a common need or purpose, managed by an entity with the authority to finance, build, operate and maintain the routes.
USFS - Motor Vehicle Use Map: Roads (feature layer)	☑		☑	☑	☑ + seasonal	☑	☑	☑		Operational Maintenance Level defines the level to which the road is currently being maintained. The maintenance level currently assigned to the road considering current needs, road condition, budget constraints and environmental concerns.
WSDOT Mat Labs - Pavement Management System	☑			☑			☑	☑		Coverage is minimal but attributes are good.
WSDOT - Local Agency Public Roads	☑			☑						Attributes are minimal but coverage is good.
WSDOT – Washington All Public Roads	☑			☑			☑	☑		
County Road Administration Board – County Roads				☑						CRAB uses this data collected from counties for system reports.
Colville National Tribal Transportation Facilities Inventory	☑	☑		☑		☑	☑	☑		Contains terrain, roadbed, surface, width, shoulder, drainage, maintenance attributes.
Forest Practices Orphaned and Abandoned Roadways				☑	☑					Minimal data coverage, but links in with DNR inventories.

While the Department of Natural Resources Roads Feature Service will function as the baseline for the development of the Highly Rural Roads Network, other inventories provide supplemental coverage areas and attributes that will be referenced to further inform network development and evaluation criteria. Those columns marked in green offer additional evaluation metrics above and in addition to those found in the DNR Active Roads Feature Service inventory.

**Road Name:** Segments represented with a locally recognized naming convention.

**Segment Ownership:** The entity in ownership control of the given roadway segment.

**Maintenance Responsibility:** The party or agency tasked with segment maintenance.

**Segment Identifier:** A numerical identifier unique to each segment.

**Availability Status:** Information regarding a segment's seasonal and public use availability.

**Segment Class/Level:** A hierarchical listing of segments based on capacity and serviceability.

**Physical Characteristics:** Segment characteristics including condition, surface type, width, roadbed, terrain etc.

**Maintenance Level:** Attributes regarding a segments condition, scheduled maintenance, and general state of repair.

**Use Volumes:** The frequency with which a segment is used by vehicles and other modes of transportation.

## Phase 2- IMPLEMENTATION STRATEGY

Move this effort forward in a highly constrained funding environment.

Okanogan County Backroads Study – Phase 1

Okanogan County Project Management – Josh Thomson, County Engineer



CJ Alliance Project Team

Charity Duffy: Project Manager

Hans Shepherd: GIS mapping and data analysis, website development

Thera Black: Interagency coordination, funding research, regional planning