



Okanogan
COUNCIL OF GOVERNMENTS

Phase 2

OKANOGAN COUNTY BACKROADS STUDY

June 30, 2021

Project Information

Project: Okanogan Backroads Study Phase 2
Prepared for: Okanogan Council of Governments
303 2nd Avenue South, Suite A
Okanogan, WA 98840

Project Representative

Prepared by: SCJ Alliance
8730 Tallon Lane NE
Lacey, WA 98516
360.352.1465
scjalliance.com

Contact: Hans Shepard, SCJ Alliance

The Okanogan Council of Governments (OCOG) assures that no person shall, on the grounds of race, color, national origin, or sex be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity receiving federal financial assistance from the Washington State Department of Transportation, in full compliance with Title VI of the Civil Rights Act of 1964 and the Civil Rights Restoration Act of 1987, Executive Order 12898 on Environmental Justice, and related statutes and regulation in all programs and activities.

Executive Summary

The *Okanogan Council of Governments (OCOG)* is a voluntary group of community representatives working to improve transportation access, coordination, and efficiencies across the county.

In 2017, OCOG adopted its first long-range regional transportation plan. The 2040 Regional Transportation Plan for the Okanogan Region identifies transportation issues and opportunities of consequence to the region. It spells out specific strategies to address those issues and harness the opportunities that benefit from regional partnerships.

A priority strategy identified in the regional plan is a "Primitive Roads Study." The intent of the recommended study is to establish a better understanding of the uniquely rural transportation network made up of primitive, gravel, and unimproved roadways that support highly rural mobility needs and identify practical ways to improve coordination and collaboration between agencies in managing this critical asset.

An extensive system of backroads provides critical support for rural residents, public safety, recreation, and economic development across the Okanogan Region. In late 2019/early 2020, Phase 1 of this study collected and assessed available data needed to support this effort and identify a reasonable implementation strategy allowing work to progress through multiple funding cycles.

Phase 1 Findings and Considerations:

1. There is limited coordination between agencies in planning for or maintaining rural roads.
2. Resources are scarce for rural roadway needs.
3. Fire management and suppression is a priority for every land management agency.
4. Severe wildland fires create long-term

risks for highly rural roads.

5. Residential pressures are growing in highly rural parts of the region.
6. Agriculture relies on rural roads for seasonal access.
7. Access to highly rural essential public facilities is an on-going concern for utilities.
8. Community-based emergency planning and preparation efforts are underway.
9. Designated roadless areas are prevalent in highly rural areas.
10. Roadway geodata exists and is regularly shared among different agencies.
11. High quality lidar data is sought for multiple applications in most LMAs.
12. Funding opportunities reward collaboration and partnerships.

An expanded discussion of each finding and consideration can be found within the [Phase 1 Report](#) of the Okanogan County Backroads Study.

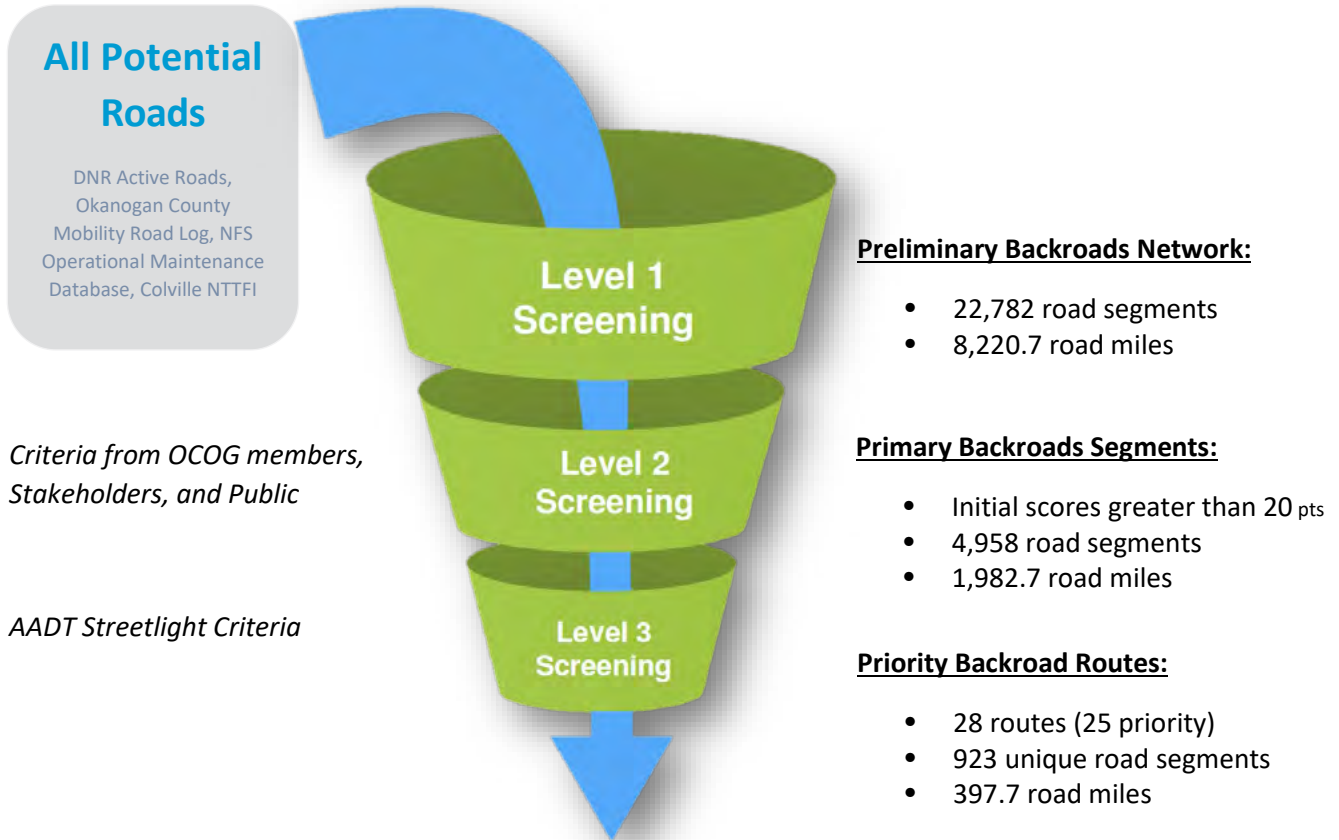
Phase 2: Inventory and Identification

The purpose of Phase 2 of the Backroads Study was to identify and prioritize the extensive system of backroads which provide critical support for rural residents, public safety, recreation, and economic development across the Okanogan Region.

Of the over 10,000 miles of mapped roads within Okanogan County, 8,220.7 miles were selected for consideration within the *Preliminary Backroads Network*. The *Preliminary Backroads Network* was then scored against a list of metrics developed through interviews and feedback from OCOG members, Land Management Agencies (LMA), Colville Confederation of Tribes, various stakeholders and user groups, and the Okanogan community at large.

Through this scoring process, 4,958 **Primary Backroad Segments** totaling 1,982.7 miles of road were identified for their ability to meet the stated needs of the backroads network. From these segments 25 **Priority Backroad Routes**, 15 secondary (B) routes, and 3 additional routes were identified for further evaluation and

consideration as part of the **Priority Backroads Network** in Okanogan County. **The Priority Backroads Network** includes 923 unique road segments offering direct access to 397.7 miles of rural Okanogan County.



Priority Backroad Network

Phase 2 Screening Workflow

Table of Contents

Executive Summary	3
Phase 1 Findings and Considerations:.....	3
Phase 2: Inventory and Identification	3
Study Area	8
Previous Phases & Guiding Documents	9
Phase 1 of the Okanogan Backroads Study	9
Guiding Documents.....	9
Phase 2: Preliminary Backroads Network	10
Datasets of the Preliminary Backroads Network.....	11
Data Gaps within Preliminary Backroads Network	11
Phase 2: OCOG, Stakeholder & Community Priorities	13
COVID-19 and Participation	13
OCOG Members.....	13
Backroad Stakeholders.....	13
Public Workshop: Key Locations.....	15
Phase 2: Development of a Priority Scoring Matrix	16
Level 1 Criteria: Pass/Fail.....	18
1.1 Within Okanogan County	18
1.2 Incorporated Communities	18
1.3 WSDOT designated roads.....	18
1.4 Roadless Areas Conservation Rule (36 CFR 294, Subpart B).....	18
Level 1 Criteria: Model Workflow	19
Level 2 Criteria: Qualitative Metrics.....	19
2.1 Key Locations.....	19
2.1.1 Key Infrastructure or Population Center (sole access).....	19
2.1.1 Key Infrastructure or Population Center (direct routes).....	19
2.2 Route Redundancy for Urban Road Network.....	20
2.3 Designated Resource Lands	20
2.3.1 RCW 84.34 Designated Agriculture, Open Space and Timber Lands.....	20
2.4 Demand Response Service	20
2.5 Census Designated Places and Populous Areas.....	21
2.5.1 Census Designated Places and Populous Areas (direct routes).....	21
2.6 School Bus Routes	21
2.7 Mail Delivery Routes	21

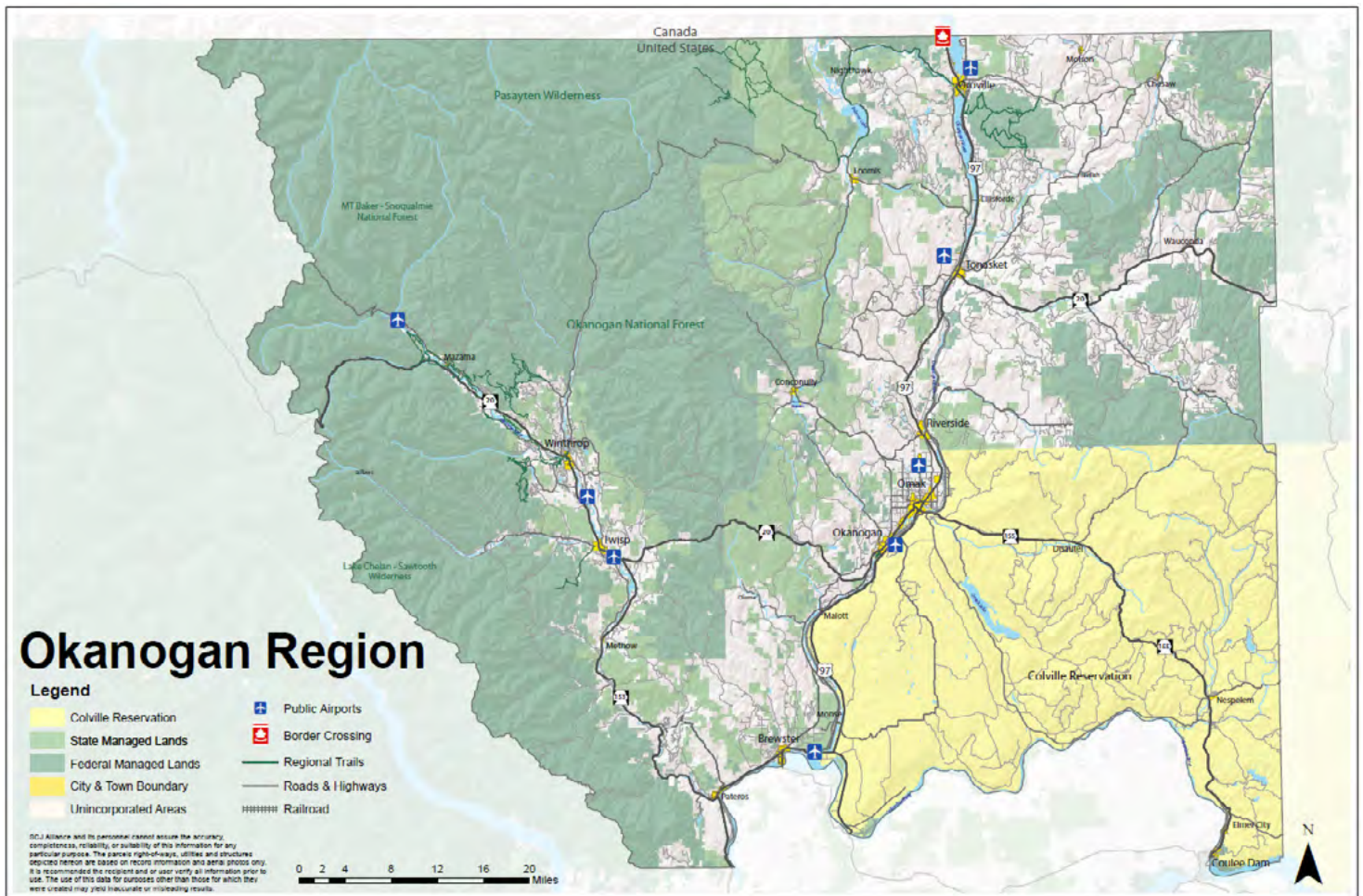
2.8 Okanogan County Fire Districts.....	21
2.9 Wildland Urban Interface Lands (LD).....	21
2.9.1 Wildland Urban Interface Lands (Rural Conditions).....	22
2.10 Community Wildfire Protection Plan (CWPP).....	22
2.11 Backcountry Discovery Route	22
2.12 Trailhead Access.....	22
Level 2: Primary Backroad Segments	23
Level 3: Priority Backroad Routes.....	24
Annual Average Daily Trips.....	24
Priority Backroad Routes	25
Appendix 1: Backroad Priority Routes	26
Appendix 2: Stakeholder Survey Results	55
Appendix 3: Backroad Cost Estimation	105
Appendix 4: Phase 2 Analysis Methods	108

Tables & Figures

Okanogan Region	7
WSDOT Major Collector	9
Table 1: Initial Findings of the Preliminary Backroads Network.....	10
Inventory Data Gaps.....	11
OCOG Member Key Places Results	12
Table 2: Phase 2 Stakeholders.....	13
Public Workshop Key Places	14
Table 3: OCOG Backroads Priority Scoring Matrix	16
Roadless Areas Map.....	17
Level 1 Criteria: Model Workflow	18
Demand Response Service Areas Map.....	19
Wildland Urban Interface Lands Map	20
Community Wildfire Protection Plan.....	21
Backcountry Discovery Route	21
Map of Primary Background Segments	22
Swanson Mill Road	23
Table 4: Top Scoring Priority Backroad Routes	24

Study Area

The project study area is defined as lands within Okanogan County outside the jurisdictional boundary of all cities and towns. Okanogan County is the largest county in the state of Washington and covers 5,281 square miles. Only 30% of the land within the County is in private ownership due to the amount of state and federal lands within the County. Of all the federal lands located in Okanogan County, approximately 95% is under the jurisdiction of the United States Forest Service (USFS). The study area is characterized by forested highlands, shrub covered hills, and valleys with an array of agriculture such as crops and range animals. Additionally, much of the County is comprised of dense, rugged, mountainous terrain primarily located on USFS lands.



Previous Phases & Guiding Documents

Backroads are recognized as a critical asset within the Okanogan region. These critical assets are part of an increasingly fragile network that is heavily relied upon for accessing public lands, resource-based industries, recreation, emergency access, evacuation, and route redundancy. Many roads are already straining to support current uses and emergency needs. At the same time, every agency responsible for building and maintaining some part of this network faces severe funding shortfalls for transportation projects and mounting backlogs of deferred maintenance.

As backroad segments are owned and managed by a diversity of local, state, federal, and tribal land management agencies with varying objectives and protocols, maintenance and coordination challenges are compounded. The goal of this project is to establish an understanding of the rural transportation network made up of primitive, gravel and unimproved roadways that support highly rural mobility needs and identify practical ways to improve coordination in agency management and decision making.

This project is intended to be iterative, with each phase informing the next while building from the findings of the last.

Phase 1 of the Okanogan Backroads Study

Phase 1 of this project served as an exploratory dive into the challenges facing this critical backroads network. Phase 1 sought to ask the questions about what was currently known; what inventories and datasets were available and the methodology for database management. This phase also included direct interviews with many of the Land Management Agencies to identify project constraints and where information was missing.

Through this initial dive, a list of key findings and considerations were identified that would serve

as a guide for future phases. The *Department of Natural Resources – Active Roads Feature Service* was identified within this review as offering the greatest coverage within the project study area with frequent updates and defined protocols for ongoing data management.

An expanded discussion of each of these findings and an in-depth review of available Geographic Information Services (GIS) inventories and dataset consideration can be found within the *Phase 1 Report* of the Okanogan County Backroads Study.

Guiding Documents

While the *2040 Okanogan Regional Transportation Plan* laid the groundwork for Phase 1 of the Okanogan Backroads Study, a coordinated strategy for the identification and maintenance of this critical resource has been a reoccurring theme within many other Okanogan regional plans.

This study is both informed by and seeks to address some of the needs stated within the Okanogan County Humans Services Transportation Plan of 2014, Okanogan County Multi-hazard Mitigation Plan of 2014, and Okanogan County Community Wildfire Protection Plan of 2013.

Phase 2: Preliminary Backroads Network

Based on the findings and recommendations within Phase 1 of the Backroads Study, Phase 2 focused on the identification and prioritization of key routes that work to enhance the region's overall resilience, mobility, and economic security within the region. Phase 2 was an iterative process of desktop analysis and stakeholder review and refinement.

Building on the results of Phase 1, group discussions and direct interviews were held with OCOG members, Land Management Agencies, and key stakeholders to determine what constitutes a priority backroad network and how it is identified. From these conversations, two road networks were identified for the purposes of this study:

1. **The Urban Roads Network:** Defined as those roads within Okanogan County that fall within an incorporated city, town, or urban growth area as defined by [Municipal Research and Services Center \(MRSC\)](#), and Washington State Department of Transportation designated state routes (like SR20). The majority of Arterials and Collectors ([as defined by WSDOT](#))

were also included within this definition with a few exceptions.

- a. *The Okanogan County Mobility Road Log maintains records including maintenance, surface type, and road width. For WSDOT designated Collectors and Arterials identified within the Mobility Road Log as not having a paved surface, these sections of road were removed from the Urban Roads Network. Cameron Lake Road outside of Okanogan, Washington is one example of an unpaved WSDOT designated major rural collector excluded from the Urban Roads Network.*

2. **The Preliminary Backroads Network:** Defined as those roads within Okanogan County not included within the Urban Roads Network.

All takes associated with Phase 2 of the Backroads Study were conducted using the Preliminary Backroads Network.



Cameron Lake Road - WSDOT Rural Major Collector

Datasets of the Preliminary Backroads Network

Task 2.A.1 Data Collection and Assessment within Phase 1 of the Backroads Project offers a review of available GIS inventories and databases with roadway coverage and characteristics within Okanogan County. A more extensive review of available datasets can be found within Appendix C: Database Documentation of Phase 1 of this project.

The Department of Natural Resources – Active Roads Feature Service was selected as the base layer for use within the Preliminary Backroads Network as it offered extensive coverage throughout the Okanogan region, undergoes regular updates, and is regularly used between agencies and jurisdictions.

The Okanogan County Public Works Mobility Road Log, National Forest Service Operational Maintenance Database, and Colville National Tribal Transportation Facilities Inventory were also utilized to fill in missing links and supplement available attribute entries.

Data Gaps within Preliminary Backroads Network

While the DNR-Active Roads Feature Service offered the greatest coverage within the project study area, data gaps were encountered at various points within Phase 2 of the Backroads Study. These data gaps generally fell into two primary categories:

1. Undocumented or incomplete segment records as identified within Table 1
2. Missing or omitted features or roadway segments.

Undocumented or incomplete records are to be expected within any dataset of this scale or degree of complexity. Depending on the record sought, upwards of 90 percent of segment records were either undocumented or incomplete.

Table 1: Initial Findings of the Preliminary Backroads Network

Unique Road Segments	22,782 segments	100%
Total Road Miles	8,220.7 miles	100%
Management – WA DNR	1338.4 miles	16.3%
Management – US FS	119.2 miles	1.4%
Management – Private	55.6 miles	0.7%
Management – County	898.7 miles	10.9%
Management – Other/Unknown	5,808.8 miles	70.7%
Availability - Year-Round	664.4 miles	8.1%
Availability - Temporarily Gated	5.6 miles	0.1%
Availability - Not Drivable	102.9 miles	1.3%
Availability - Management Only	575.2 miles	7.0%
Availability - Unknown	6,872.6 miles	83.6%
Road Surface - Asphalt	238.3 miles	2.90%
Road Surface - Crushed Aggregate	171.9 miles	2.10%
Road Surface - Native Soil	186.7 miles	2.30%
Road Surface – Other/Unknown	7528.8 miles	91.60%

Missing and omitted features posed a greater challenge within Phase 2 of this project, as initial network modeling interpreted missing links or gaps within the Preliminary Backroads Network to be route ends within the backroads network. An example of this is show below near Lone Frank Pass where NF-3820 fails to join with NF-39 within the Preliminary Backroad Network while

The variability and distance between missing or omitted links necessitated additional route and network verification within Phase 2.



Inventory Data Gaps

Phase 2: OCOG, Stakeholder & Community Priorities

Given the extensive, highly rural, and widely dispersed nature of the backroads network, Phase 2 analysis was heavily reliant on the local knowledge and guidance provided by user groups within the study area. Phase 2 project outreach included participation and guidance from OCOG members, 32 different stakeholder groups, and over 60 community participants from across the Okanogan region.

COVID-19 and Participation

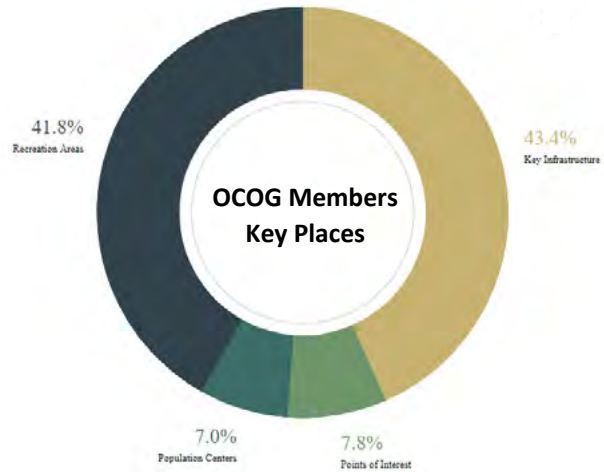
Phase 2 of this project was initially scoped before the outbreak of COVID-19. As a result, many of the planned formats for gaining feedback and insights from local backroad user groups and target agencies were not possible per CDC requirements and local guidelines. Outreach within Phase 2 relied heavily on virtual meetings, teleconferencing, and other online engagement platforms. With inconsistent internet access across the project study area, this placed notable limitations on the reach and availability of opportunities to participate for many user groups.

OCOG Members

The Okanogan Council of Governments is a [*voluntary alliance of governments*](#) from across the Okanogan Region. These members include representatives from every city and town within Okanogan County and many other transportation agencies.

Through publicly held OCOG Regional Transportation Planning Organization (RTPO) meetings, pre-recorded and live presentations, and virtual workshop, OCOG members provided project review and guidance throughout Phase 2 of the backroads study.

Members worked with the project team to identify priorities and key places throughout the study area that were important to the backroads network. Through collaboration and discussions with OCOG members, 129 locations



were identified for further review within Phase 2. These locations included Key Infrastructure, Popular Points of Interest, Population Centers, and Recreation Areas.

With the local knowledge and expertise of this group, locations of Key Infrastructure included utility lines, emergency services, and industry centers were prominently featured within the comments received.

Recreation areas were also prominently featured with many hikes, lakes and popular vistas making the list. Population centers and other points of interest were less prominently featured as these locations primarily fell within the boundaries of incorporated communities and were outside the focus of this study.

In addition to the 129 Key Locations identified within the OCOG workshop, OCOG members were also asked to help the project team in the development of a list of backroad regional stakeholders with direct knowledge and regular operations across the network.

In total, 50 different stakeholder groups were contacted and invited to participate within Phase 2 of the backroads study.

Backroad Stakeholders

The initial list of backroad stakeholders included various user groups and organizations that are heavily reliant on the backroad network for accessing important sites and for operational access needs. These stakeholders included emergency responders, the Colville Confederated Tribes, land management agencies, public utility companies, transit authorities, farm and agricultural agencies, conservation groups and land trusts, tourism agencies, and other recreation groups.

In addition to the initial list of stakeholders, surveys included a request for the identification of additional user groups that could be contact as part of this project. A complete list of stakeholders contacted within Phase 2 of this project can be found to the right in Table 2.

Consistent with the objectives of Phase 2, stakeholders were asked targeted questions about how the backroads network could be improved to better serve rural residents, emergency responders, recreational groups, and agricultural and resource industries across the Okanogan Region.

While questions were asked about each of these backroad user groups individually, feedback from stakeholders was consistent across all user groups with minimal variation between each sub-group.

Reoccurring themes included the following:

1. **Improved signage and roadway markings.** Specifically, comments addressed rural intersections and the visibility of residential addresses. With limited phone service and internet connectivity, comprehensive signage and site addressing is imperative.
2. **Education campaigns on safety in rural areas.** With limited resources and extended response times of many emergency services in rural portions of the county, being well-informed and well prepared to navigate emergency situations is an important precursor to traveling on the backroads network.
3. **Prioritized maintenance routes based on evolving needs.** With thousands of miles of roads and frequent spurs, it is important to focus limited resources around the areas that will have the greatest overall net impact to the region. Primarily, this includes targeting grading and brushing on priority routes based on regional needs.

In addition to these areas of need, stakeholders

Table 2: Phase 2 Stakeholders

12th District Representatives
Backcountry Horseman of WA
Backcountry Hunters and Anglers
Environmental Protection Agency
Farm Bureau
FEMA
Housing Authority of Okanogan County
Methow Trails Collaborative
Methow Watershed Council
Okanogan County Electric Coop
Okanogan County Emergency Management
Okanogan County Land Trust
Okanogan County Water Conservancy Board
Okanogan Highlands Alliance
Okanogan Highlands Fire Watch
Okanogan Open Roads Coalition
Okanogan-Wenatchee National Forest
Tree fruit industry group
TRIP
Unites State Dept. of Agriculture
WA State Dept. of Natural Resources
WA State Dept. of Transportation
Washington State Dept. of Agriculture
Western Federal Lands Highway Division
Bureau of Land Management
Confederated Tribes of the Colville Indians
Okanogan County Commissioners
Okanogan Sheriff's Office
Bureau of Indian Affairs
Colville Tribes Department of Transportation
Conservation Northwest
County Road Administration Board
Federal Highway Administration (FHWA)
Methow Valley Citizens Council
North Central ATV Club
North Central Audubon Society
Okanogan Conservation District
Okanogan County PUD
Okanogan County Cattleman's Association
Okanogan County Community Action Council
Okanogan County Community Coalition
Okanogan County Fire District #6
Okanogan County Planning Department
Okanogan County Tourism Council
Okanogan Volunteer Fire Department
TranGo
WA State Dept. of Fish and Wildlife
Snowmobile Association
Bureau of Indian Affairs - Roads Branch
Okanogan County Transportation & Nutrition

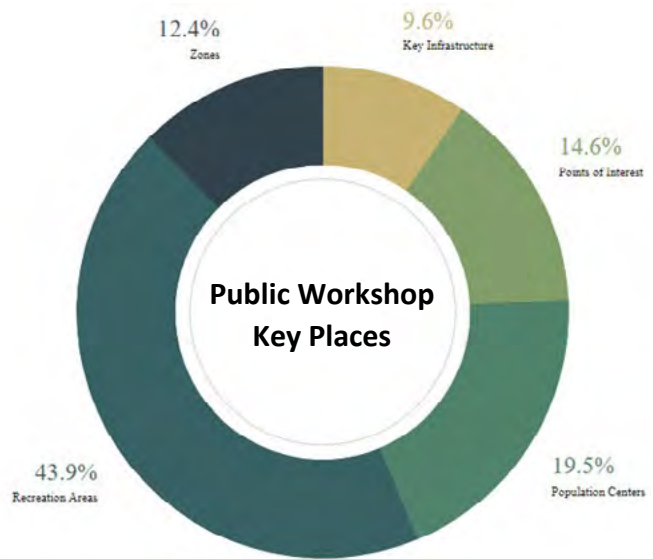
identified 143 additional key locations across the Okanogan region to be included within Phase 2 analysis and review. Consistent with OCOG members, stakeholder locations primarily identified locations of key infrastructure.

An extended list of stakeholder survey results can be found within the Phase 2 - Stakeholder Survey Appendix.

Public Workshop: Key Locations

Following the insights and feedback gained from OCOG members and identified backroad stakeholders, the Key Locations Virtual Workshop was distributed to the general public. The public workshop was launched on May 11th of 2021 and ran through the end of the month. The workshop served as both a public introduction to the project and a key locations mapping exercise for those who wished to share ideas with the project team. In total, the workshop received 174 visitors with 69 additional locations being identified for further consideration. While OCOG member and stakeholder identification of key locations leaned towards locations of infrastructure, public comments favored popular recreation destinations across the Okanogan region.

To reduce participation barriers associated with



internet connectivity and access, a hard copy of the workshop was also made available to the public. A complete list of identified [Workshop Key Locations](#) can be found at the bottom of the Backroads Study project webpage.

Phase 2: Development of a Priority Scoring Matrix

Based on the conversations, interviews, and feedback gained within Phase 1 and 2 of the Backroads study and those guiding documents reviewed as part of this phase, a list of metrics was developed to assist the project team in the identification and prioritization of segments and priority routes within the Preliminary Backroads Network. While selected scoring metrics are being used as a static point of reference within this report, it is anticipated that metrics will be adapted to reflect evolving priorities and new information within future phases of the Backroads Study.

The backroads priority scoring matrix (Table 3), has been developed in direct response to the feedback received from local backroad user groups and subject experts within the Okanogan region. Consistent with the goals of the backroads study, selected metrics have been grouped based on their ability to provide critical transportation support for rural residents, public safety, recreation, and lands of economic significance.

Table 3: OCOG Backroads Priority Scoring Matrix

Level	#	Criteria	Determination			Score	Points
1	1.1	Within Okanogan County?	Yes	No	-	If Yes, Advance	Pass/Fail
	1.2	Outside Incorporated Community or UGA?	Yes	No	-	If Yes, Advance	
	1.3	WSDOT designated State Route or Arterial/Collector?	Yes	No	-	If No, Advance	
	1.4	Roadless Areas Conservation Rule (36 CFR 294, Subpart B)	Yes	No	-	If No, Advance	
2	2.1	Number of "Key" Locations served (based on survey locations open to the public)	1-2	3-4	5+	+5 / +8 / +10	Network Access (22 pts)
	2.1.1	♦ Is this the only way to an identified "Key Infrastructure" or "Population Center"?	Yes	No	-	Yes: +6	
	2.1.2	♦ If No, is this the most direct (distance) route back to Urban Road Network?	Yes	No	-	Yes: +4	
	2.2	Does this route offer redundancy for the Urban Road Network?	Yes	No	-	Yes: +6	
	2.3	Does this route provide access to designated resource lands?	Yes	No	-	Yes: +4	Agriculture / Resource (10 pts)
	2.3.1	♦ If Yes, is this Ag, Open, or Timber Land under RCW 84.34?	Yes	No	-	Yes: +6	
	2.4	Does this route improve access within a Human Services Transportation service area?	Yes	No	-	Yes: +4	Population Centers (20 pts)
	2.5	Does this route serve an unincorporated Census Designated Place (CDP)?	Yes	No	-	Yes: +3	
	2.5.1	♦ If Yes, is this the most direct (distance) route back to the Urban Road Network?	Yes	No	-	Yes: +3	
	2.6	Is this route part of a School Bus route?	Yes	No	-	Yes: +6	
	2.7	Is this route part of a Mail Delivery route?	Yes	No	-	Yes: +4	Emergency Response (19 pts)
	2.8	Is this route within a designated Okanogan County Fire District?	Yes	No	-	Yes: +8	
	2.9	Does this route provide access to a designated CWPP WUI (LD) zone?	Yes	No	-	Yes: +4	
	2.9.1	♦ Does this route provide access to a designated CWPP WUI (RC) zone?	Yes	No	-	Yes: +3	
2.10	Does this route provide access to a designated CWPP Treatment Project area?	Yes	No	-	Yes: +4		
2.11	Is this route part of the Backcountry Discovery Route?	Yes	No	-	Yes: +6	Recreation/ Tourism (14pts)	
2.12	Does this route provide access to a mapped trailhead?	1-2	3-4	5+	+4 / +6 / +8		
3	3.1	Streetlight AADT estimates for top 25 routes (based on score)	≤ 300	301-500	501+	+5 / +10 / +15	(15pts)

Level 1 Criteria: Pass/Fail

Level 1 criteria represent the initial screening process within Phase 2 of the backroads Study. Level 1 metrics were developed for roadway segments under consideration for the Preliminary Backroads Network. These metrics are unweighted with a simple pass/fail qualifier. Those segments that made it through Level 1 were included within the Preliminary Backroads Network.

1.1 Within Okanogan County

The boundary of Okanogan County serves as the outer limits of the Backroads Study. This metric was selected to eliminate routes outside the study area and scope of the Backroads Study.

1.2 Incorporated Communities

Consistent with the intent of the Backroads Study, an emphasis was placed on routes of a highly rural nature. Established streets within incorporated cities or towns as identified by the [Municipal Research and Services Center \(MRSC\)](#) and their associated Urban Growth Areas (UGA) were not included within the Preliminary Backroads Network.

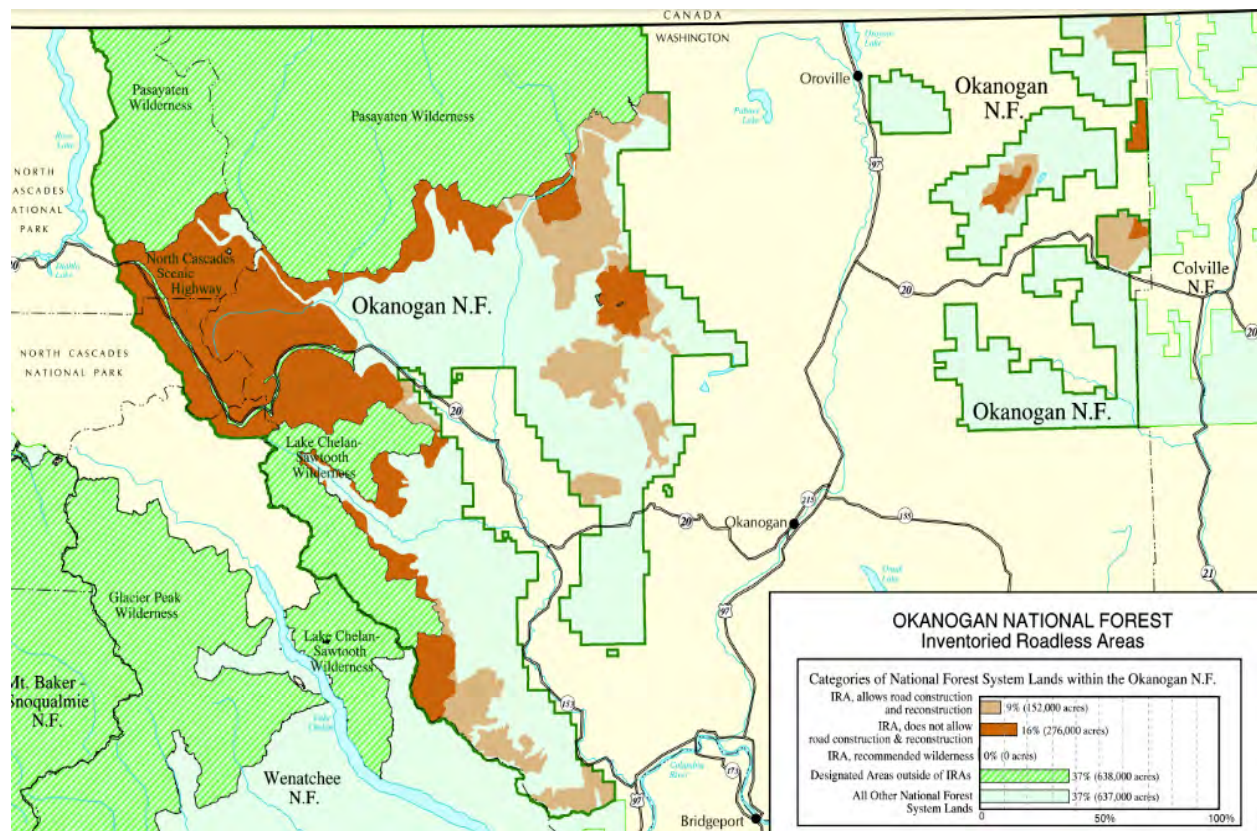
1.3 WSDOT Designated Roads

For the purposes of this study, State Routes (including SR20) and [Arterials and Collectors](#) (as identified by WSDOT) are considered part of the Urban Roads Network (with a few exceptions).

The Okanogan County Mobility Road Log dataset maintains segment records including maintenance, surface type, and road width. For FFC designated Collectors and Arterials identified within the Mobility Road Log as not having a paved surface, these sections of road were added back into the Preliminary Backroads Network for further analysis and consideration within the Backroads Study.

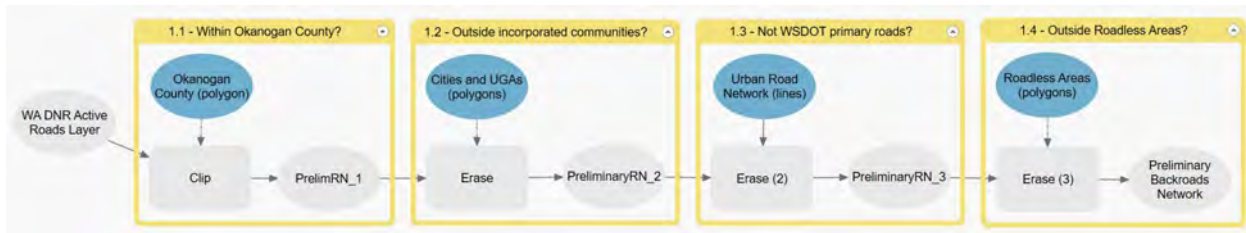
1.4 Roadless Areas Conservation Rule (36 CFR 294, Subpart B)

Consistent with the Code of Federal Regulations, portions of Okanogan County have been designated as Roadless Areas for conservation. The construction of new roads or reconstruction of existing roads is prohibited within these [designated areas](#). Segments within Inventoried Roadless Areas (IRAs) were not included within the Preliminary Backroads Network.



Level 1 Criteria: Model Workflow

Using the identified criteria from Level 1 within the Backroads Priority Scoring Matrix, the project team developed a workflow for the Preliminary Backroads Network.



Level 2 Criteria: Qualitative Metrics

Level 2 metrics seek to assign values to routes within the Preliminary Backroads Network based on each segment's ability to support the goals of the Backroads Study. While routes frequently hold value for a range of user groups within the Preliminary Backroads Network, metrics were further grouped based on their ability to provide redundancy during disastrous events, such as wildfire or flooding, and for economic resiliency; connectivity in remote residential areas; and access for recreational users and tourism.

The Preliminary Backroads Network includes 22,782 road segments traversing over 8,220 miles of road within the Okanogan region. These road segments were included within Level 2 analysis.

2.1 Key Locations

Key locations within this project were identified through a multi-phased outreach effort with OCOG Members, identified stakeholders, and the general public. Outreach and engagement efforts are discussed in greater detail within the engagement section of this report. Of the 353 Key Locations identified through Phase 2 outreach, 137 made it through level 1 criteria. Locations were eliminated for a range of reasons included those that fell within an incorporated community, were directly serviced by an existing, paved road within the Urban Roads Network, or were identified as a private facility other than those locations identified as critical or key infrastructure such as power facilities and conveyance lines.

Road segments received points for this metric based on the number of Key Locations they

serviced. Road segments providing direct service to 1 or 2 locations, 3 to 4 locations, and 5 or more locations received 5 points, 8 points, or 10 points respectively.

2.1.1 Key Infrastructure or Population Center (sole access)

In addition to a general score assigned to all road segments leading to identified Key Places, locations with a single point of access were determined to be more vulnerable to forest fires and other emergency events. For this reason, road segments leading to Key Infrastructure and Population Centers as identified within Phase 2 workshops received an additional 6 points to further emphasize these critical routes within the Preliminary Backroads Network.

Sole access routes gained an additional 6 points for providing access to Key Infrastructure and Population Centers.

2.1.2 Key Infrastructure or Population Center (direct routes)

In instances where Key Infrastructure and Population Centers (as identified within Phase 2 workshops) had more than one point of access, points were allocated to road segments providing the most direct route (based on distance) to and from the Urban Roads Network.

While locations with multiple access points did not receive points for 2.1.1, the most direct route segments to locations of Key Infrastructure and Population Centers received 4 points.

2.2 Route Redundancy for Urban Road Network

In many instances, the backroads network provides route redundancy for those routes included within the Urban Roads Network. Remote regions of Okanogan County that are serviced by a single Urban Roads Network route are considered vulnerable to many of the same risks as identified within 2.1.1. Routes within the Preliminary Backroads Network were reviewed based on their ability to provide redundancy to the Urban Roads Network in rural portions of the county.

Routes within the Preliminary Backroads Network that offered route redundancy for the Urban Roads Network received 6 points for their value as a potential emergency alternative.

2.3 Designated Resource Lands

Using the Department of Revenue (DOR) Use Codes as identified by the [Okanogan Assessor](#), 17,619 parcels were identified as agricultural or resource lands within the project study area. These lands encompass 1,154.36 square miles covering 21.7% of Okanogan County. Designated Resource Lands are considered a vital component within the regional economy as they employ 26.2% of the labor force ([Employment Security Department/LMEA, QCEW](#)) and represent over 4% of agricultural sales for the State of Washington ([2017 Census of Agriculture County Profile](#)).

Road segments within the Preliminary Backroads Network with direct service to designated resource lands received 4 points for playing an important role within the regional economy.

2.3.1 RCW 84.34 Designated Agriculture, Open Space and Timber Lands

Taken a step further, the Revised Code of Washington (RCO) has identified lands of statewide importance. RCO includes the following discussion of these lands:

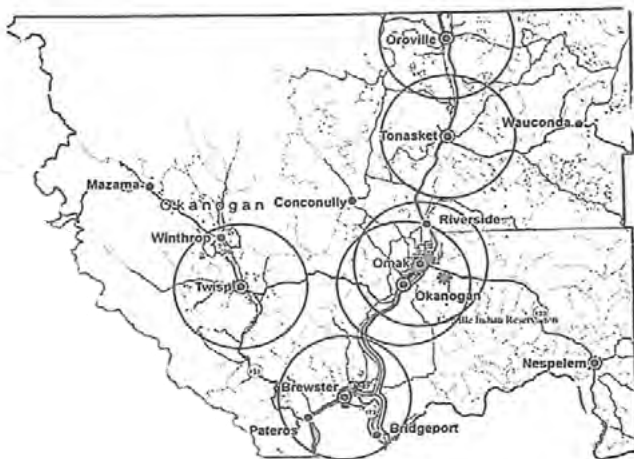
"... it is in the best interest of the state to maintain, preserve, conserve and otherwise continue in existence adequate open space lands for the production of food, fiber and forest crops, and to assure the use and enjoyment of natural resources and scenic beauty for the economic and social well-being of the state and its citizens... practices must be so designed as to permit the continued availability of open space lands for these purposes..."

Within Okanogan County, 13,380 parcels are recognized under RCW 84.34 for a total of 967 square miles (18.2% of Okanogan County). Road segments within the Preliminary Backroads Network with direct service to RCO designated resource lands received an additional 6 points.

2.4 Demand Response Service

The Okanogan County Office of Transportation and Nutrition (OCTN) developed a [Human Services Transportation Plan](#) for the Okanogan Region in 2014. As identified within this plan, OCTN provides Demand Response Services within a 10-mile radius of the 5 largest communities in Okanogan County. These 5 service areas encompass the communities of Omak and Okanogan, Oroville, Tonasket, the communities of Brewster, Pateros, and Bridgeport, and Twisp and Winthrop. Transit vehicles providing demand response service do not follow a fixed route but travel throughout the community transporting passengers according to their specific needs. It is worth noting that the Okanogan County Transit Authority provides service within Okanogan County within more urban centers and established fixed routes not included within this study.

A 10-mile linear radius around these communities was used to identify and evaluate backroads within the preliminary network that support the OCTN Demand Response Service Area. Segments



Demand Response Service Areas Map

within the Preliminary Backroads Network that overlapped with these zones received 4 points for their value within the Demand Response Service Area.

2.5 Census Designated Places and Populous Areas

Many population centers exist within Okanogan County outside of those cities and towns identified within criteria 1.2 *Incorporated Communities*. These areas of higher density residential developments include the communities of Molson, Nighthawk, Chesaw, Loomis, Malott, Carlton, Monse, Methow, Havillah, Mazama, Wauconda, and Ellisforde.

Preliminary Backroad Network segments linking these communities to the Urban Roads Network received 3 points as important links for these rural communities.

2.5.1 Census Designated Places and Populous Areas (direct routes)

In addition to those routes providing access to these rural communities, an additional 3 points were allocated to the road segments providing the most direct route (based on distance) to and from the Urban Roads Network.

2.6 School Bus Routes

The Okanogan County Public Works Department maintains the Geographic Information Systems (GIS) based Mobility Road Log for Okanogan County. Designated school bus routes are included within this GIS database.

6 points were allocated to road segments within the Preliminary Backroads Network that are designated school bus routes by the Mobility Road Log.

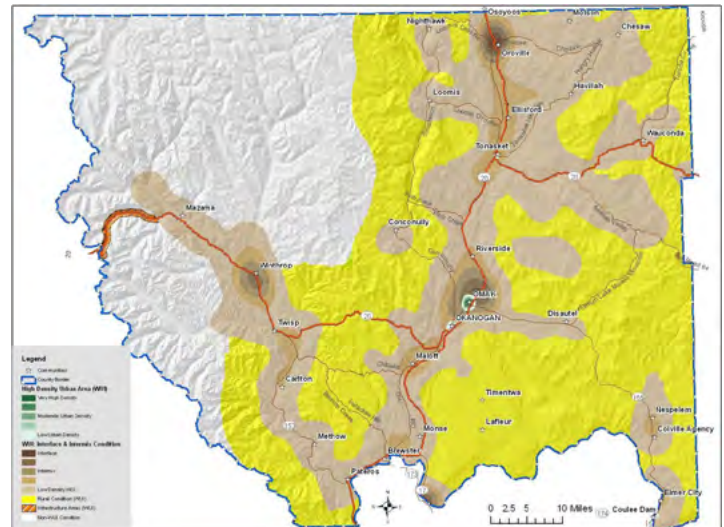
2.7 Mail Delivery Routes

The Okanogan County Public Works Department maintains the Geographic Information Systems (GIS) based Mobility Road Log for Okanogan County. Designated mail delivery routes are included within this GIS database.

4 points were allocated to road segments within the Preliminary Backroads Network that are designated mail delivery routes by the Mobility Road Log.

2.8 Okanogan County Fire Districts

Okanogan County has 16 different Fire Districts covering a total of 1,204 square miles of urban and highly rural areas. 8 points were assigned to road segments within the Preliminary Backroads Network that overlap with any of the 16 Fire District service areas within the study area.



2.9 Wildland Urban Interface Lands (Low Density)

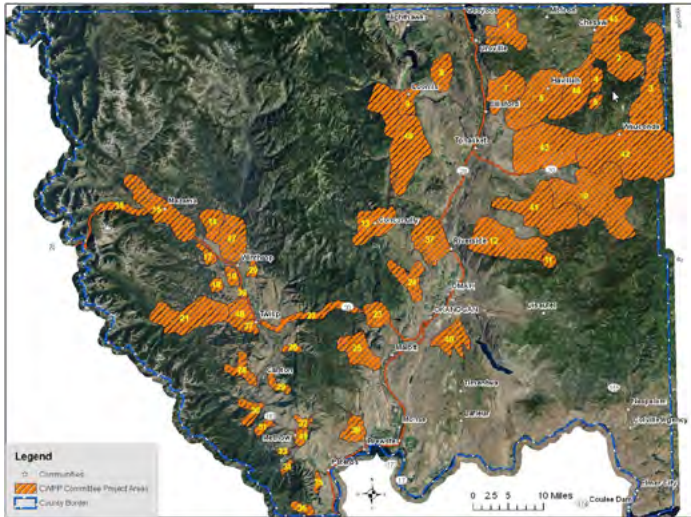
A key component in meeting the underlying need for protection of people and structures is the protection and treatment of hazards in the Wildland-Urban Interface (WUI). The WUI refers to areas where wildland vegetation meets urban developments or where forest fuels meet urban fuels such as houses. The WUI encompasses not only the interface (areas immediately adjacent to urban development), but also the surrounding vegetation and topography.

Okanogan County's WUI is based on population density. Relative population density across the county is estimated using a GIS-based kernel density population model that uses object locations to produce, through statistical analysis, concentric rings, or areas of consistent density.

Road segments within the WUI Low Density (LD) or higher zones received 4 points for provided network connectivity in areas of higher residential development.

2.9.1 Wildland Urban Interface Lands (Rural Conditions)

Consistent with 2.9 WUI discussions, road segments within the Rural Conditions Areas as depicted within the WUI Map R=received an additional 3 points.



2.10 Community Wildfire Protection Plan (CWPP)

The following project areas were identified by the CWPP planning committee as having multiple factors contributing to the potential wildfire risk to residents, homes, infrastructure, and the ecosystem. Recommended treatments within the project areas include homeowner education, creation of a wildfire defensible space around structures, fuels reduction, and access corridor improvements.

Consistent with these goals and the priorities of the Backroads Study, road segments within these identified Project Areas received 4 points as part of the Preliminary Backroads Network.

2.11 Backcountry Discovery Route

Consistent with goals to support recreational activities and continued tourism throughout the Okanogan region, the [Backcountry Discovery Route](#) was identified as an important recreation draw and economic boost for many of the shops and communities along the way. This 575-mile route enters Okanogan County south of Lake Chelan, winding its way along Sawtooth Ridge before dropping into the Methow Valley. Continuing on, the route includes a popular overnight in Conconully before a visit to Nighthawk on its way north to the Canadian Border.

Preliminary Backroad Network segments which comprised part of the Backcountry Discovery Route received 6 points as part of this analysis.

2.12 Trailhead Access

The [Washington State Trails GIS inventory](#) identifies 43 trailheads within the project study area. These trails draw tens of thousands of visitors annually to the Okanogan region for the uniquely rugged terrain and wide-open vistas. Consistent with the priorities placed on recreation and tourism within the Backroads Study, routes within the Preliminary Backroads Network with access to mapped trailheads received points depending on the number of trailheads accessed.

Routes providing access to 1 or 2 trailheads received 4 points, whereas routes with access to 3 or 4 trailheads received 6 points and 8 points respectively.

Backcountry Discovery Route

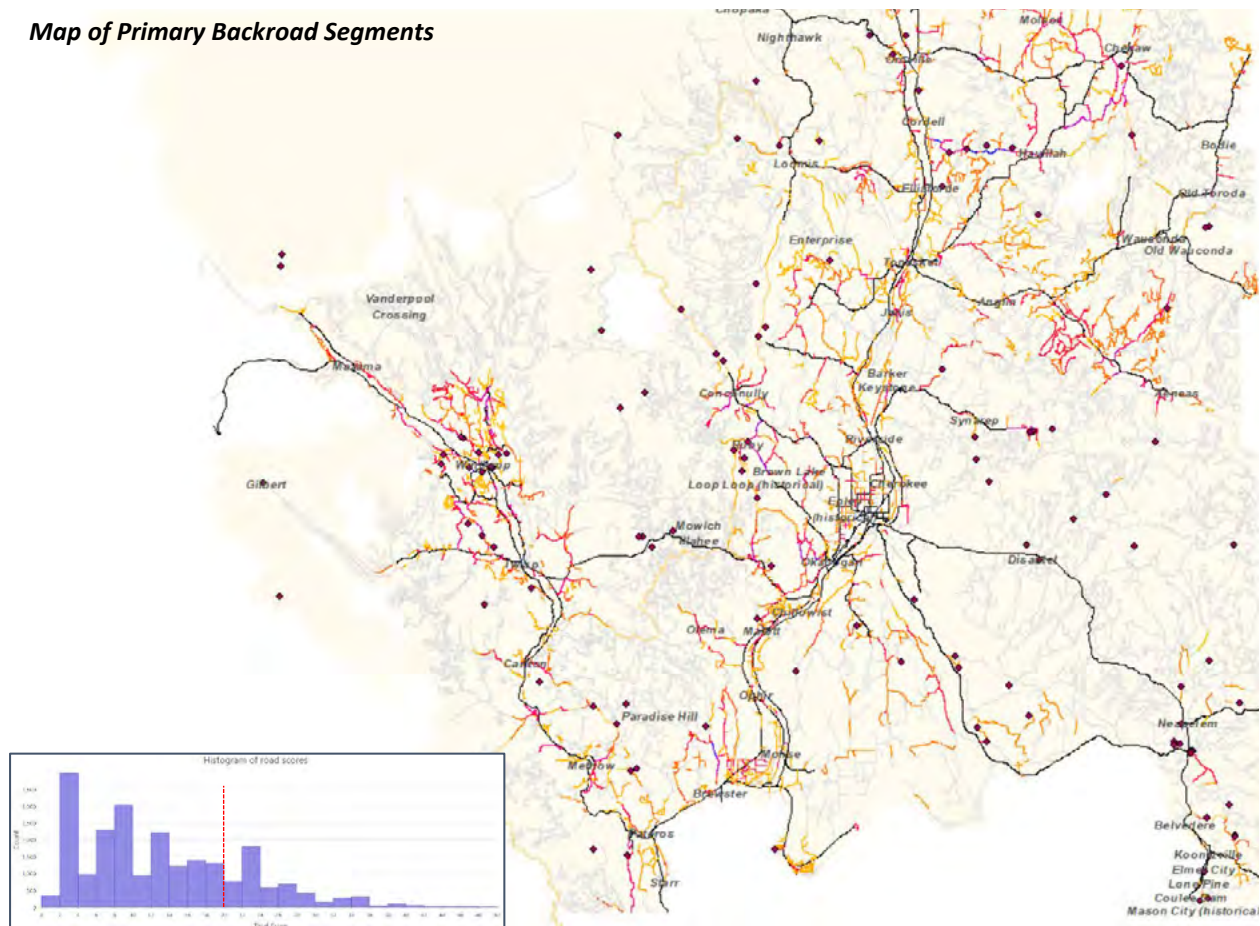


Level 2: Primary Backroad Segments

Using the identified criteria from Level 2 within the Backroads Priority Scoring Matrix, every road segment within the Preliminary Backroads Network was evaluated based on its ability to provide critical transportation support for rural residents, emergency responders, recreation activities, and lands of economic significance.

Of the segments included within the Preliminary Backroads Network, 4,958 received a score equal to or greater than 20 points of a potential 85 for a segment that received points for every Level 2 metric. In total, these segments traverse 1,982.7 miles of rural countryside within Okanogan County and represent 24.1% of the roads contained within the Preliminary Backroads Network.

Map of Primary Backroad Segments



Level 3: Priority Backroad Routes

Level 3 criteria within the Backroads Priority Scoring Matrix is based on the recorded average daily users within a given route. Scoring Matrix is based on the recorded average daily users within a given route. Given the highly rural nature and general scale of the area covered by the [Primary Backroads Segments](#), site visits and field surveys were considered cost-prohibitive within Phase 2 of this study. For this reason, Primary Backroad Segments were ordered sequentially based on a simple high score.

While there is a potential high score of 85 points from Level 2 criteria within the Backroads Priority Scoring Matrix, the highest individual segment score was 58 points for a few segments of road contained within the Swanson Mill Road Route located in northeastern Okanogan County between Cordell and Havillah.



Annual Average Daily Trips

To further prioritize routes within the Preliminary Backroads Network, [Priority Backroad Segments](#) as identified by Level 2 criteria within the Backroads Priority Scoring Matrix were grouped into [Priority Backroad Routes](#) based on cumulative segment scores. The top 28 scoring routes are listed within Table 4.

To supplement Level 2 criteria, Level 3 seeks to add a quantitative metric within the Backroads Priority Scoring Matrix by reviewing the 2020 Annual Average Daily Trips (AADT) per Priority Backroad Route. Streetlight data was collected for the top 25 Priority Backroad Routes. For consistency, AADT estimates were collected from the beginning of routes as vehicles depart the Urban Road Network.

It is anticipated that AADT estimates will be highest near the beginning of a Priority Backroad Route as these routes were selected (in part) for the multiple destinations they serve. The Okanogan County Mobility Road Log also maintains Average Daily Trip (ADT) estimates for many of the routes reviewed within Level 3 criteria. Where Priority Backroad Routes overlapped with the Mobility Road Log, AADT and ADT estimates were averaged to improve metric confidence.

on Level 2 criteria as identified within Backroads Priority Scoring Matrix.

Priority Backroad Routes

Appendix 1 include a list of the top 28 [Backroad Priority Routes](#), organized based on the segment scores received within Level 2 of the Backroads Priority Scoring Matrix.

Table 4 includes the AADT estimates for each of the top scoring Priority backroad Routes based

Table 4: Top Scoring Priority Backroad Routes			
Route #	Name	Length	AADT
1	Swanson Mill Connector	11.52 miles	523
2	Spring Coulee Road	5.1 miles	433
3	Wolf Creek Road	8.97 miles	622
4	Happy Hill Road and Salmon Creek Road	3.65 miles	266
5	Tunk Creek Road to NF-30	8.64 miles	320
6	McLaughlin Valley Road to Chewiliken Valley Road	13.39 miles	279
7	Goat Creek Road	5.21 miles	459
8	Horse Spring Coulee Road	12.27 miles	549
9	Gold Creek Loop Road to S Fork Gold Creek Road	6.11 miles	347
10	Dry Gulch Road	7.16 miles	282
11	Lower Beaver Creek Road	1.8 miles	375
12	West Chewuch Road	6.65 miles	990
13	Cameron Lake Road / Greenaway Road	27.5 miles	290
14	Paradise Hill Road - North Star Road - King Rock Road	9.12 miles	392
15	West Fork Road	1.69 miles	411
16	NF Road 51	6.17 miles	354
17	Buzzard Lake Road	13.73 miles	289
18	Myers Creek Road / Nealy Road	9.63 miles	297
19	Molson Rd	5.39 miles	364
20	NF Road 37	7.27 miles	391
21	Elbow Coulee Road	5.08 miles	269
22	Lyman Lake -Moses Meadows Road	20.34 miles	326
23	Cape Labelle Road	12.44 miles	375
24	Toats Coulee Road	12.88 miles	277
25	Burma Road	3.0 miles	224
26	Lemansky Road to Pine Creek Road	18.43 miles	109*
27	Texas Creek Road Connector	13.83 miles	56*
28	Twisp River Road to Gilbert	13.61 miles	237*

**entry represents Mobility Road Log (MRL) ADT estimates only. Streetlight (SL) data was not used/available for identified route.*

Phase 2: Conclusion

The Okanogan Council of Governments has embarked on an ambitious, timely initiative to improve the resiliency of the region's rural roadway system, regardless of system ownership or jurisdiction. This initiative presents unique challenges and equally unique opportunities with far-ranging benefits for the region, its agency partners, and its communities.

The background investigation completed in Phase 1 of the Okanogan County Backroads Study provided useful insights that shaped Phase 2 implementation strategies. Phase 2 placed a significant emphasis on local knowledge and expertise as it sought to translate diverse regional priorities into a tangible list of priority routes and networks for further investigation and review.

While values have been assigned to many of the metrics within Phase 2 (based on feedback received within Phase 1 and 2 outreach), it is important to recognize the potential for changing priorities and new information. It is recommended that priority routes and metrics undergo additional review to further ensure selected metrics and scores are representative of regional transportation needs.

Comments and **suggestions** are welcome and should be directed to the Okanogan Council of Governments through their [Contact Page](#).

Next Steps

Future project phases are funding dependent. No revenues are currently earmarked to advance this work, but it is anticipated that future funds will be available from the Okanogan Council of Governments. This study assumes that grants or other outside funding sources will be needed to augment any funds from the OCOG to complete this work. To that end, this study recommends the following priority activities as near-term pursuits:

1. **Continue engagement efforts with land management agencies.** Circulate this report and implementation strategy to representatives within each of the land management agencies and solicit input on the proposed process. Continue to identify allies with shared interests and work to develop a working coalition of agency representatives that will be involved in Phase 2 implementation efforts.
2. **Secure grant funding for future phases.** Building on the continued engagement with land management agencies and backroad enthusiasts, work to create a multiagency partnership and funding proposal for the Federal Lands Access Program (FLAP). Determine partnership interest in pursuing a USGS proposal for high quality lidar data collection. Evaluate interest and potential pursuits for a Federal Lands Transportation Program (FLTP) grant. Where possible leverage the multiagency, multidisciplinary aspects of this work to secure grants from diverse sources.
3. **Distribute and Refine the Backroad Priority Scoring Matrix.** While many agencies struggled to articulate the value and priority of servicing one facility or region of Okanogan County over another, reflecting on the results of the Backroads Priority Scoring Matrix is likely to promote additional ideas or elements for consideration. While selected scoring metrics are being used as a static point of reference within this report, it is anticipated that metrics will be adapted to reflect evolving priorities and new information within future phases of the Backroads Study. A potential Phase 3 of this study could include steps to solicit further feedback on the scoring matrix criteria and associated points and revisions to the backroads model based on these discussions.

Identify and Pursue Follow-up Activities

Based on project outcomes identified within Phase 1 and 2, there are a variety of potential activities that may generate interest in follow-up pursuits.

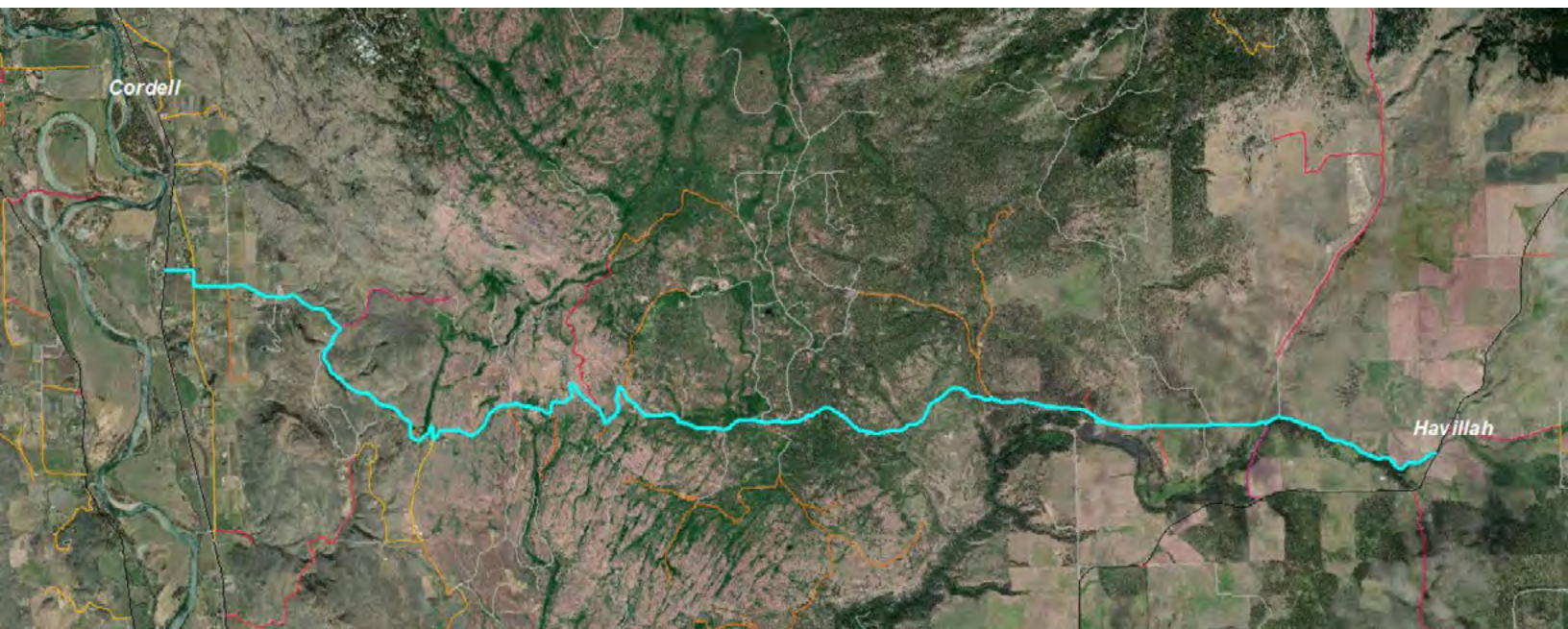
- **Improved signage and roadway markings.** Comments within Phase 2 addressed rural intersections and the visibility of residential addresses. With limited phone service and internet connectivity, comprehensive signage and site addressing along rural backroads is imperative for improving emergency response times.
- **Coordinated Maintenance Plans.** Once an agreed upon primary rural network is designated, each land management agency can incorporate these designations into its own maintenance strategy. A base level of coordination opens opportunities for interagency agreements and consolidation of activities to complete work.
- **Grant Funding for Capital Improvements.** Critical infrastructure needs identified during route assessment can provide compelling grant funding opportunities, particularly if they can demonstrate multiagency collaboration and benefit such as proposed in this Backroads Study.
- **Support WUI Management Efforts.** Okanogan County's Department of Emergency Management maintains a database of high-risk areas for catastrophic wildfires. Designation of a primary rural network makes it possible to direct limited resources for roadside vegetation maintenance to the most important routes that support wildland fire abatement through emergency access and creating defensible fire breaks.
- **Input to community-based emergency planning efforts.** Resulting maps of the primary rural network can provide valuable input to rural communities engaged in coordinated emergency planning efforts.
- **Enhance public education efforts.** Include study into existing public education efforts regarding rural mobility in the Okanogan Region. This includes input for the community-based emergency planning efforts described above, as well as data that underscores the County message of self-sufficiency for those choosing highly rural residential lifestyles.
- **Integrate rural road planning with emergency management activities.** Numerous transportation-related strategies identified in the Okanogan County 2013 Community Wildfire Protection Plan and 2014 Multi-Hazard Mitigation Plan have been sidelined for lack of resources. Overlapping interests exist between owners and managers of the region's highly rural network and those engaged in public safety. These mutual interests create opportunities for strategic and programmatic alignment between local, state, federal, and tribal agencies.
- **Incorporate designated network and priorities into long-range transportation plans.** While the formats vary between agencies, each land management agency maintains its own version of a long-range transportation plan for its rural roadway system. Recognition of this agreed-upon highly rural road network in those plans would provide long-term policy support.
- **Evaluate cost-sharing arrangements to maintain critical roadways.** The process of identifying and evaluating priority roadways and their use characteristics may reveal the need for additional maintenance resources for critical segments. Cost-sharing agreements may offer win-win opportunities for users who require reliable, maintained access to their facilities and the cash-strapped agencies whose roadways support that access.
- **Maintain regular interagency coordination.** The value of this analysis and the resulting network may generate interest in on-going coordination between agencies and disciplines.

Appendix 1: Backroad Priority Routes

Route 1: Swanson Mill Connector

This route extends along Swanson Mill Rd, a FFC designated Rural Access Road. It connects to the Urban Road Network at SR 097 at one end, and to Havillah Rd (FCC Rural Major Collector) via Dry Gulch Rd at the other. It provides access to the Mt. Hull housing development, and recreation opportunities on Mt Hull and Mt Haley

- ◆ Segments: 39
- ◆ Top Segment Score: 58 (Level 2)
- ◆ Route Length: 11.52 miles
- ◆ Average Score: 47.8 (Level 2)
- ◆ Primary Surface: Gravel or Stone Surfaced
- ◆ Primitive Road: No
- ◆ ADT: 498 (MRL)/551 (SL)
- ◆ FFC Rural Local Access



Route 2: Spring Coulee Road

This route extends along Spring Coulee Rd (FFC designated Rural Local Access). It connects to the Urban Road Network at SR 20 to the south, and to Salmon Creek Rd (FCC Rural Minor Collector) to the north. Dry Coulee Road splits off from Spring Coulee Road and heads east into the City of Okanogan. While Dry Coulee Road did not score high enough on its own, it is an important connector for travelers between the City of Okanogan and Spring Coulee Road.

- ◆ Segments: 19
- ◆ Top Segment Score: 54_(Level 2)
- ◆ Route Length: 5.1 miles
- ◆ Average Score: 44.8_(Level 2)
- ◆ Primary Surface: Low type Bituminous Surface-Treated Road
- ◆ Primitive Road: No
- ◆ ADT: 274(MRL)/591_(SL)
- ◆ FFC: Rural Local Access



Route 3: Wolf Creek Road

This route departs the Urban Road Network at Twin Lakes Rd Road (FFC Rural Major Collector) and extends parallel SR 20 on the South side of the Methow River. Wolf Creek Rd is an FCC Rural Local Access road that provides redundancy for SR20 at the Eastern side of the mountains. Paved sections transition to gravel as you travel from south to north along this route.

- ◆ Segments: 22
- ◆ Top Segment Score: 58 (Level 2)
- ◆ Route Length: 8.97 miles
- ◆ Average Score: 40.6 (Level 2)
- ◆ Primary Surface: Paved (BST)/ Gravel or Stone Surfaced
- ◆ Primitive Road: Yes (segments)
- ◆ ADT: 476(MRL)/767 (SL)
- ◆ FFC: Rural Local Access



Route 4: Happy Hill Road and Salmon Creek Road

This route departs the Urban Road Network at Conconully Road (FCC Rural Major Collector) and extends South along Salmon Creek Rd (FFC Rural Minor Collector) until Salmon Creek Rd is paved and part of the Urban Road Network. Happy Hill Rd (FFC Rural Local Access) has been included as section (B) of this route. Both Happy Hill Rd and Salmon Creek Rd provide an alternative route between Omak and Conconully, and alternative exits from the Salmon Creek Valley and the ghost town Ruby.

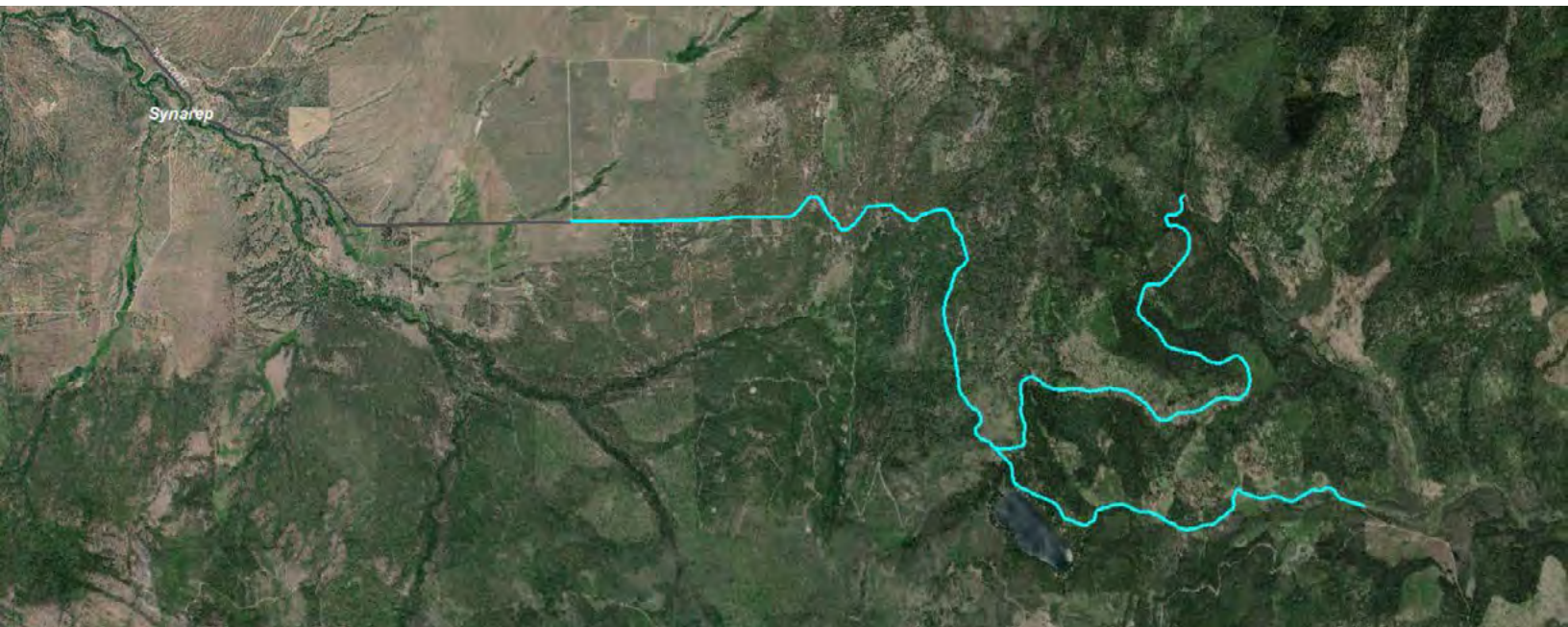
- ◆ Segments: 11
- ◆ Top Segment Score: 49_(Level 2)
- ◆ Route Length: 3.65 miles
- ◆ Average Score: 43.3_(Level 2)
- ◆ Primary Surface: Gravel or Stone Surfaced
- ◆ Primitive Road: Yes (segments)
- ◆ ADT: 41(MRL)/491_(SL)
- ◆ FCC: Rural Local Access & Rural Minor Collector



Route 5: Tunk Creek Road to NF-30

This route departs the Urban Road Network at the paved portion of Tunk Cr. Rd (FFC Rural Minor Collector). It provides access to many popular recreation areas in the Okanogan National Forest, and survey-identified areas of higher home density (Baker Flat's), FS 30100 (Crawfish Lake Rd) has been included as potential section (B) of this route.

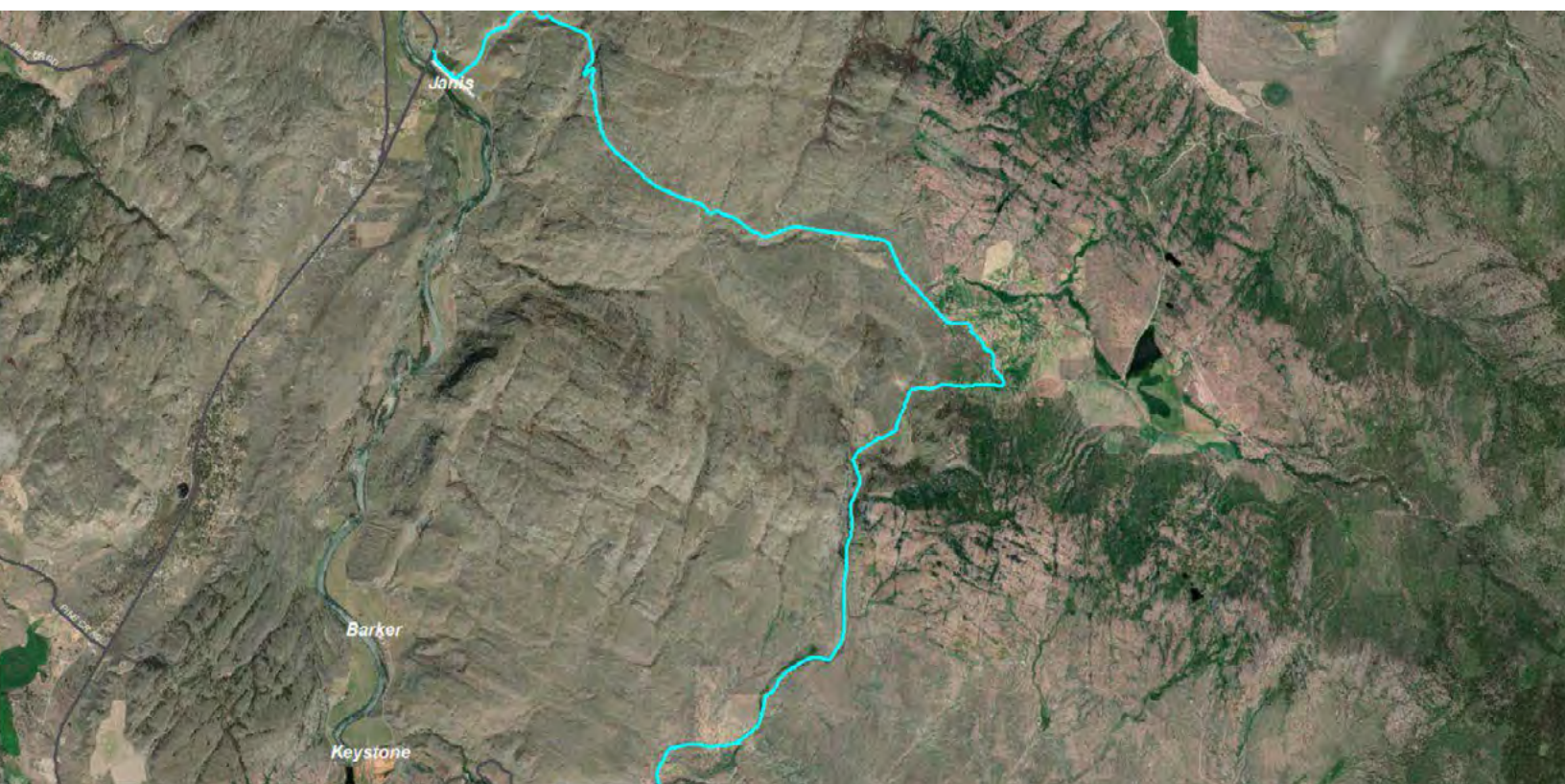
- ◆ Segments: 23
- ◆ Top Segment Score: 48 (Level 2)
- ◆ Route Length: 8.64 miles
- ◆ Average Score: 35.6 (Level 2)
- ◆ Primary Surface: Gravel or Stone Surfaced
- ◆ Primitive Road: No
- ◆ ADT: 82(MRL)/557 (SL)
- ◆ FFC: Rural Minor collector



Route 6: McLaughlin Valley Road to Chewiliken Valley Road

This route departs the Urban Road Network at SR 97 to the north and rejoins the Urban Road Network at Tunk Creek Rd (FFC Rural Minor Collector) to the south. It offers an alternative route for a large portion of SR 97 between Riverside and Janis. It serves as a bus route, mail route, and areas of priority emergency access, in addition to identified recreational opportunities.

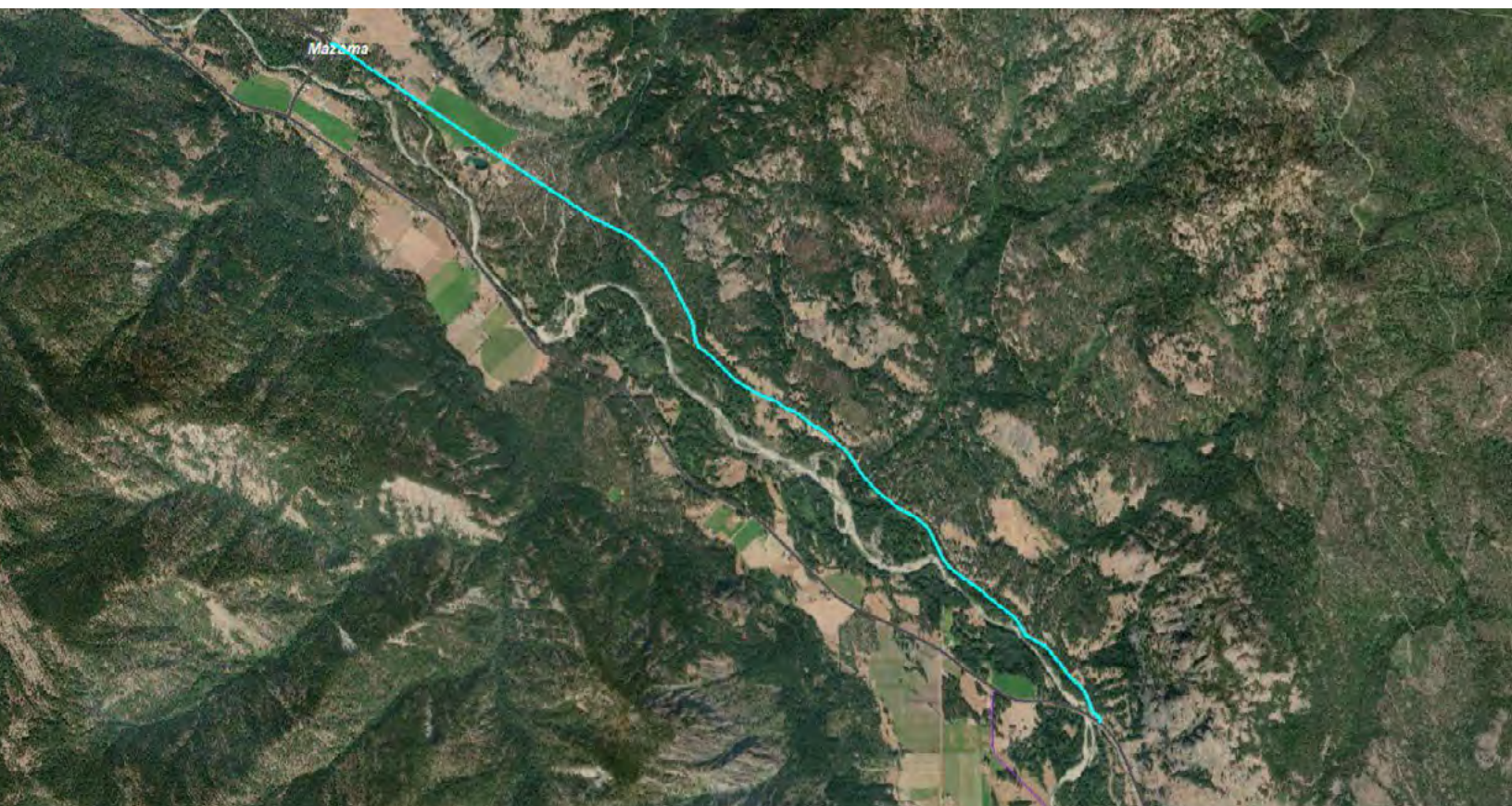
- ◆ Segments: 33
- ◆ Top Segment Score: 47 (Level 2)
- ◆ Route Length: 13.39 miles
- ◆ Average Score: 32.8 (Level 2)
- ◆ Primary Surface: Gravel or Stone Surfaced
- ◆ Primitive Road: Yes
- ◆ ADT: 81(MRL)/477 (SL)
- ◆ FFC: Rural Local Access



Route 7: Goat Creek Road

This route departs the Urban Road Network at SR 20 and terminates in Mazama. This route offers route redundancy for SR 20 and alternative departure points for Mazama residents.

- ◆ Segments: 17
- ◆ Top Segment Score: 47 (Level 2)
- ◆ Route Length: 5.21 miles
- ◆ Average Score: 36.5 (Level 2)
- ◆ Primary Surface: Low type Bituminous Surface-Treated Road
- ◆ Primitive Road: No
- ◆ ADT: 425(MRL)/492 (SL)
- ◆ FFC: Rural Local Access



Route 8: Horse Spring Coulee Road

This route departs the Urban Road Network at Loomis-Oroville Rd (FFC Rural Major Collector), just outside the town of Loomis. It follows Horse Spring Coulee Rd back to the Urban Road Network at Pine Creek Rd (FFC Rural Major Collector) near the town of Tonasket. It provides route redundancy between these towns, as well as access to popular recreation & tourism areas for a variety of user groups.

- ◆ Segments: 17
- ◆ Top Segment Score: 47 ^(Level 2)
- ◆ Route Length: 12.27 miles
- ◆ Average Score: 31.2 ^(Level 2)
- ◆ Primary Surface: Gravel or Stone Surfaced
- ◆ Primitive Road: Yes
- ◆ ADT: 600(MRL)/498 ^(SL)
- ◆ FFC: Rural Local Access



Route 9: Gold Creek Loop Road to S Fork Gold Creek Road

This route departs the Urban Road Network at SR 153. Gold Creek Loop Rd offers limited redundancy for SR 153 on the west side of Methow River, and services including bus and mail routes. The spur of Gold Creek Rd continues along a portion of Backroads Discovery Route between Chelan and Conconully and provides access to agricultural resources and recreational areas.

- ◆ Segments: 9
- ◆ Top Segment Score: 47 (Level 2)
- ◆ Route Length: 6.11 miles
- ◆ Average Score: 33 (Level 2)
- ◆ Primary Surface: Paved (BST)/Gravel or Stone Surfaced
- ◆ Primitive Road: No
- ◆ ADT: 111(MRL)/582_(SL)
- ◆ FFC: Rural Local Access



Route 10: Dry Gulch Road

This route departs the Urban Road Network at Chesaw Road in the north and connects to Havillah Rd in the south (FFC Rural Major Collectors). Dry Gulch Rd serves as a bus and mail route and provides access to agricultural resource areas.

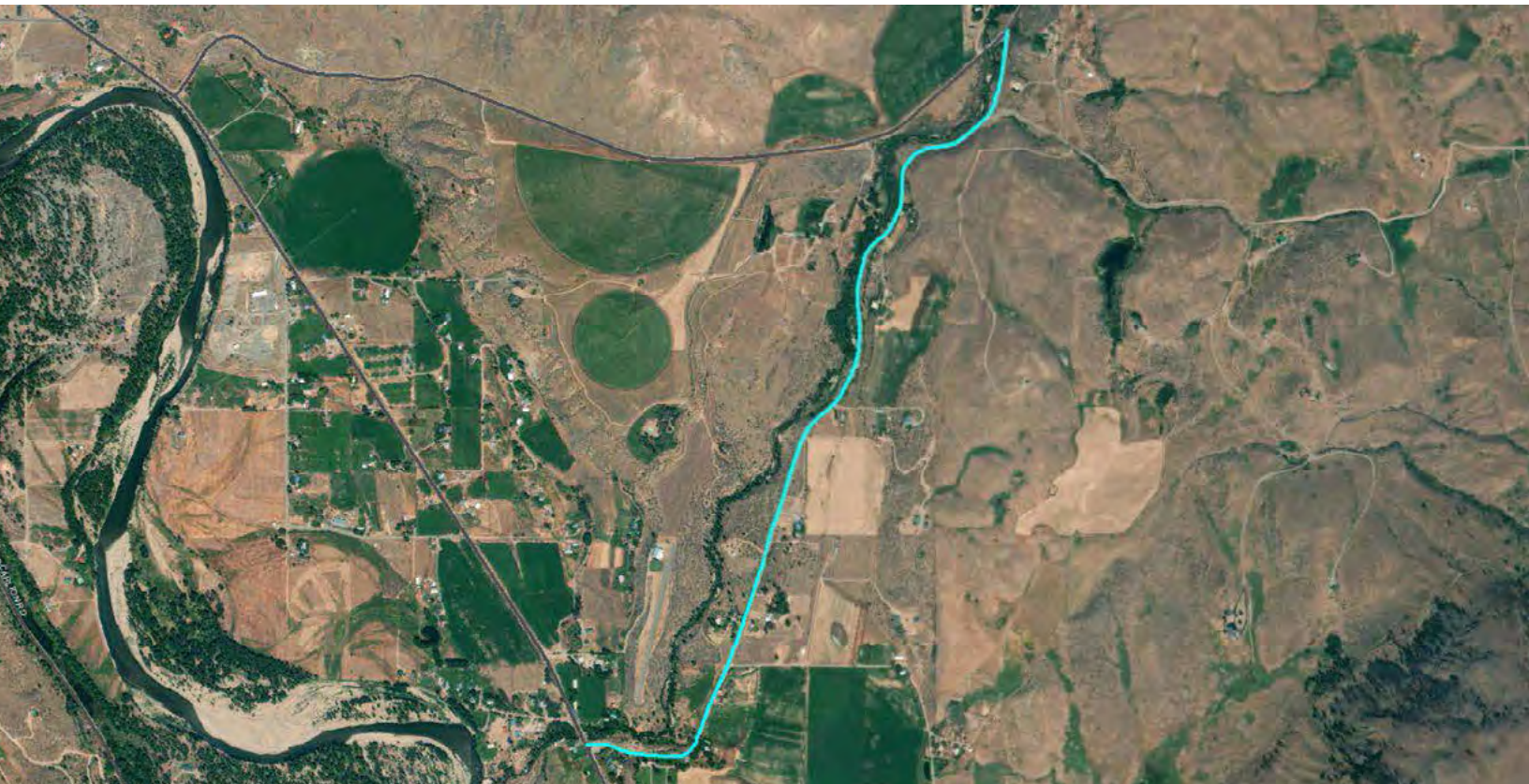
- ◆ Segments: 10
- ◆ Top Segment Score: 46_(Level 2)
- ◆ Route Length: 7.16 miles
- ◆ Average Score: 37.2_(Level 2)
- ◆ Primary Surface: Gravel or Stone Surfaced
- ◆ Primitive Road: Yes
- ◆ ADT: 36(MRL)/527_(SL)
- ◆ FFC: Rural Local Access



Route 11: Lower Beaver Creek Road

This route runs a short distance between SR 20 and SR 153, along Beaver Creek Road. It is both a bus and mail route and provides access to agricultural resource areas as well as route redundancy for navigating between those highways.

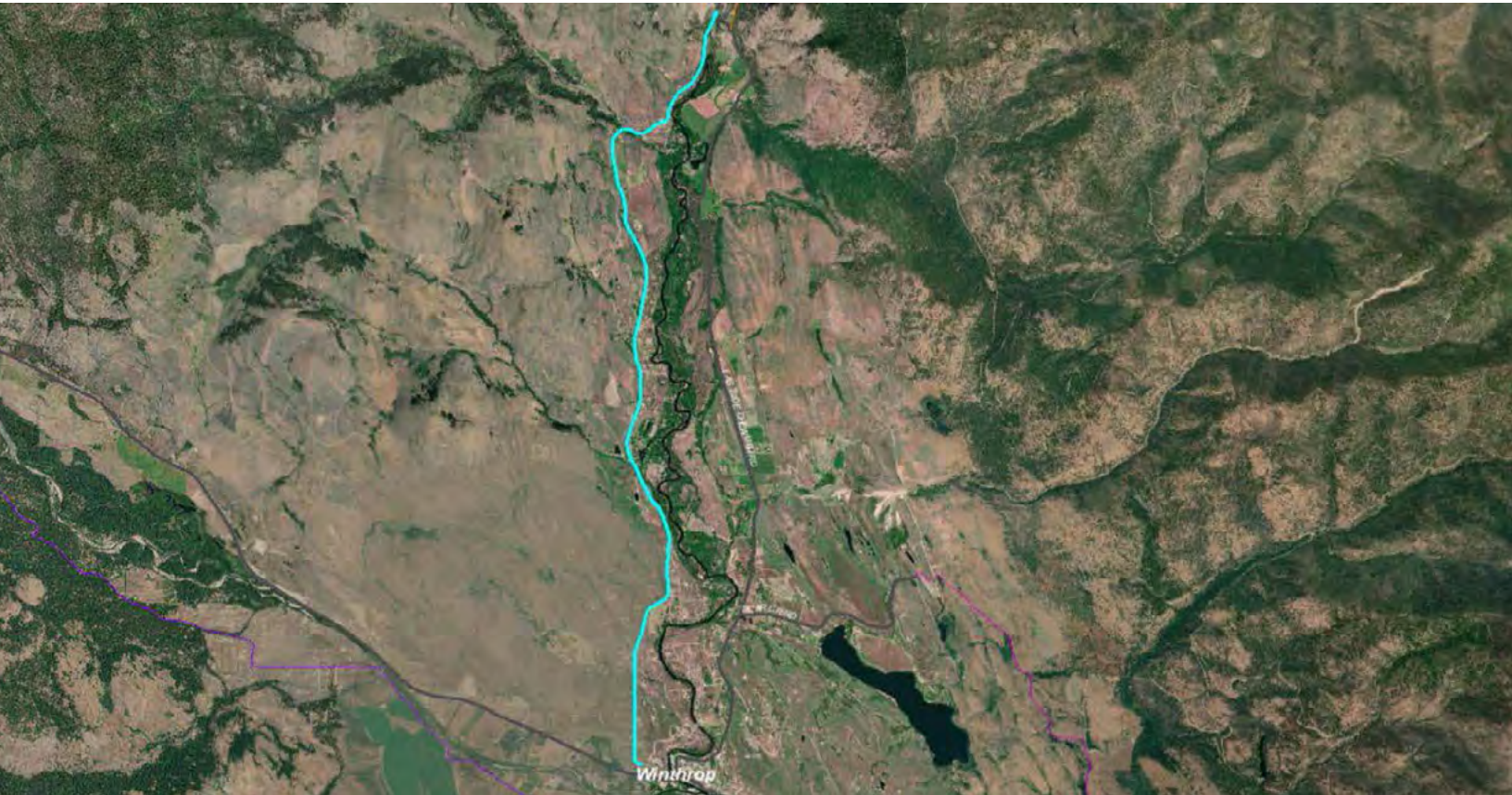
- ◆ Segments: 3
- ◆ Top Segment Score: 46_(Level 2)
- ◆ Route Length: 1.8 miles
- ◆ Average Score: 42.7_(Level 2)
- ◆ Primary Surface: Low type Bituminous Surface-Treated Road
- ◆ Primitive Road: No
- ◆ ADT: 179(MRL)/570_(SL)
- ◆ FFC: Rural Local Access



Route 12: W Chewuch Road

This route departs the Urban Road Network at SR-20 and parallels Eastside Chewuch Rd (FCC Rural Major Collector) for about 6 miles before rejoining Eastside Chewuch Rd to the north. It provides access for many survey-identified key places, including critical infrastructure and recreational areas.

- ◆ Segments: 19
- ◆ Top Segment Score: 45_(Level 2)
- ◆ Route Length: 6.65 miles
- ◆ Average Score: 37.4_(Level 2)
- ◆ Primary Surface: Low type Bituminous Surface-Treated Road
- ◆ Primitive Road: No
- ◆ ADT: 579(MRL)/1,401_(SL)
- ◆ FFC: Rural Local Access



Route 13: Cameron Lake Road/Greenaway Road

This route forms a T-shape between three roads on the Urban Road Network: Cameron Lake Rd (FFC Rural Major Collector), Columbia River Rd (FFC Rural Minor Collector), and SR 097. It is a primary mail route and provides access to agricultural resource areas and route redundancy.

- ◆ Segments: 44
- ◆ Top Segment Score: 44 (Level 2)
- ◆ Route Length: 27.5 miles
- ◆ Average Score: 28.2 (Level 2)
- ◆ Primary Surface: Gravel or Stone Surfaced
- ◆ Primitive Road: Yes (segments)
- ◆ ADT: 52(MRL)/527 (SL)
- ◆ FFC: Rural Major Collector/Rural Local Access

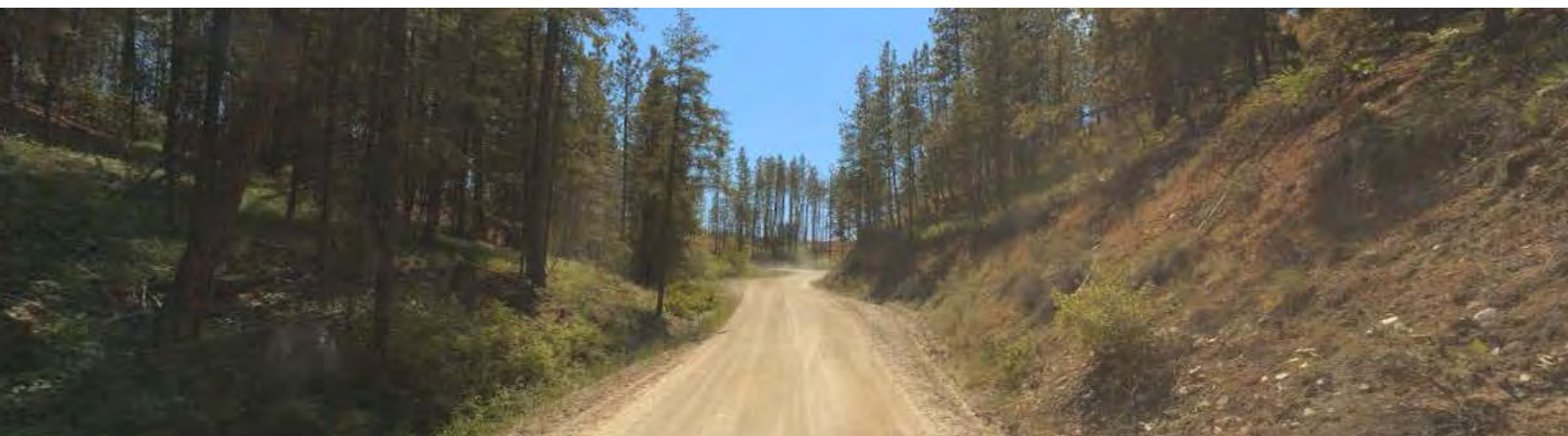


Route 14: Paradise Hill Road - North Star Road - King Rock Road

This route departs the Urban Road Network at Old 99 (FFC Rural Major Collector) just outside the city of Brewster. The primary route includes mostly paved roads (all FCC Rural Local Access) north of Brewster that provide rural community services including mail and bus routes, and access to agricultural resource areas.

A secondary route continues north along Paradise Hill Rd, signed primitive, to access additional key locations and agricultural areas.

- ◆ Segments: 32
- ◆ Top Segment Score: 44 (Level 2)
- ◆ Route Length: 9.12 miles
- ◆ Average Score: 33.2 (Level 2)
- ◆ Primary Surface: Gravel or Stone Surfaced
- ◆ Primitive Road: Yes (segments)
- ◆ ADT: 306(MRL)/477 (SL)
- ◆ FFC: Rural Local Access



Route 15: West Fork Road

This route departs the Urban Road Network from the City of Conconully and follows West Fork Rd (FFC Rural Local Access) south along the western bank of the Conconully Reservoir. The Primary route is short and includes the portion of the road which provides the most community services, including bus routes and mail routes to local residents.

The secondary route is a continuation of West Fork Road to Peacock Mountain Road, which completes a loop to several other Primary Backroad Routes, and access to additional agricultural resource lands and recreation areas.

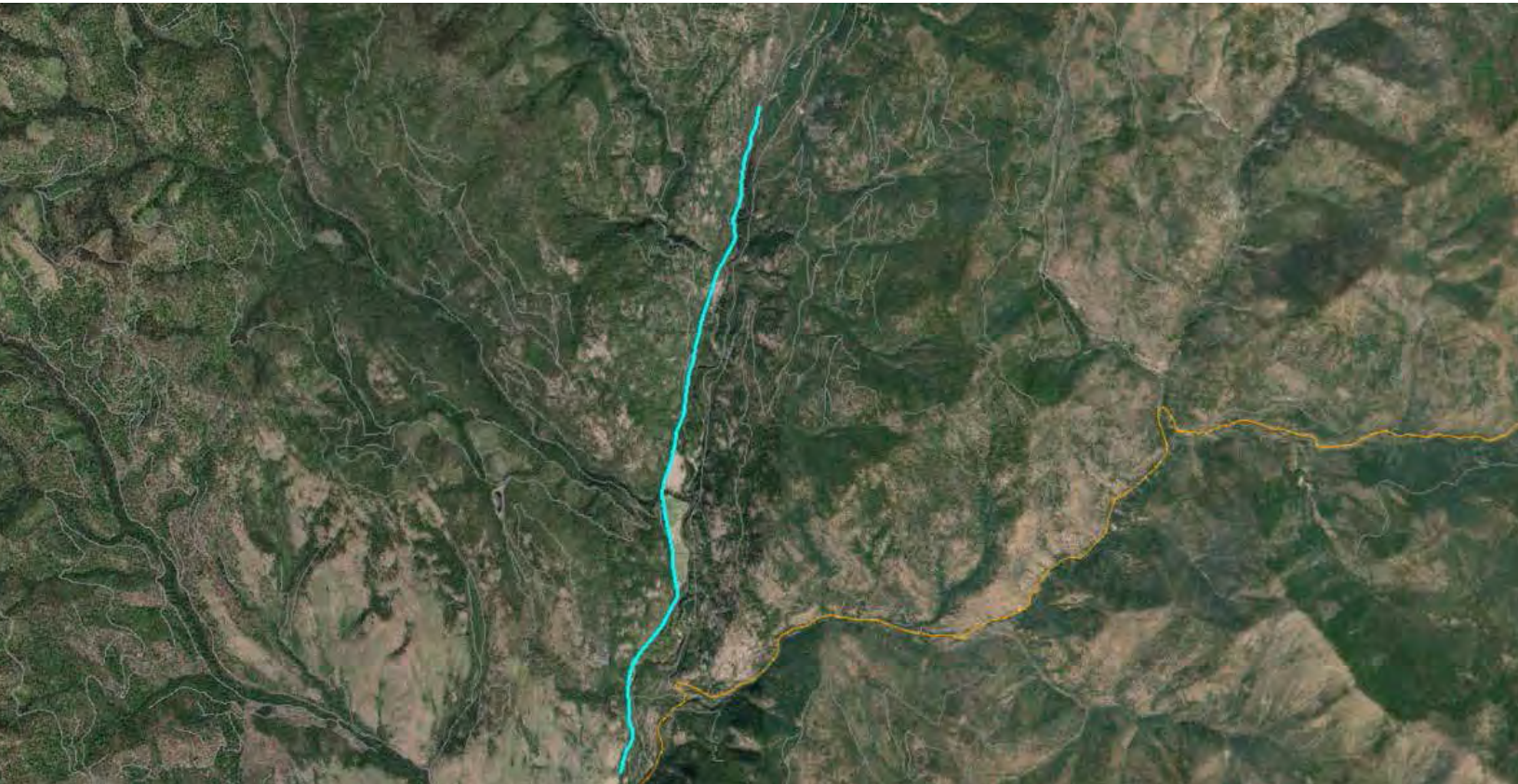
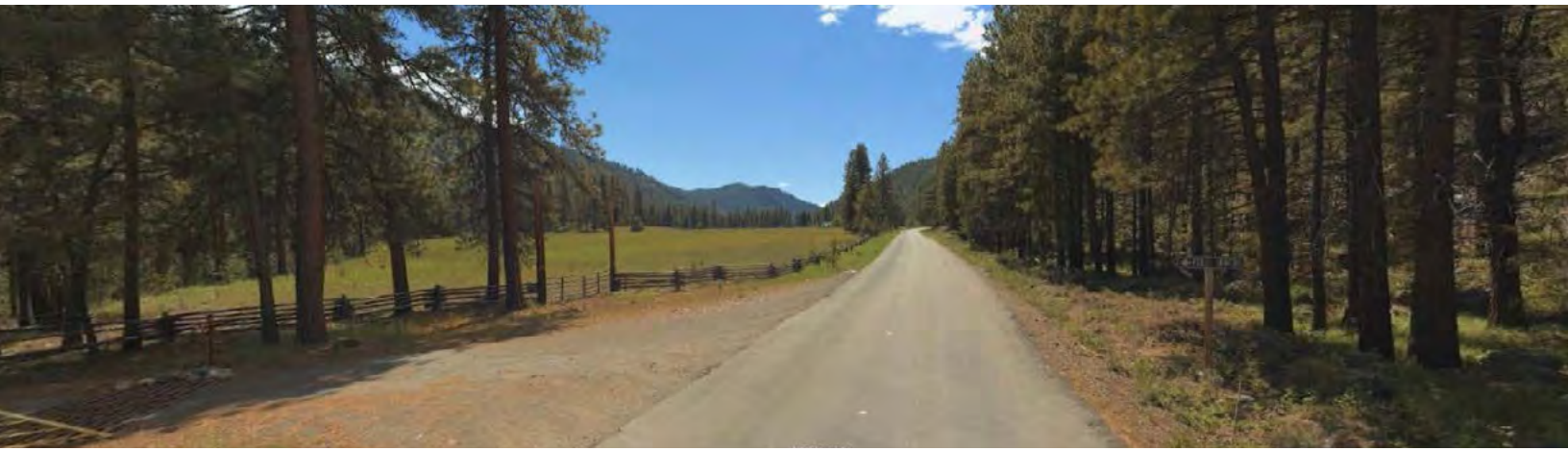
- ◆ Segments: 10
- ◆ Top Segment Score: 44 (Level 2)
- ◆ Route Length: 1.69 miles
- ◆ Average Score: 26.6 (Level 2)
- ◆ Primary Surface: Low type Bituminous Surface-Treated Road
- ◆ Primitive Road: No
- ◆ ADT: 146(MRL)/675 (SL)
- ◆ FFC: Rural Local Access



Route 16: NF-51

This route departs the Urban Road Network at the end of Eastside Chewuch Rd (FFC Rural Major Collector) continuing north along the west bank of the Chewuch River. While the very beginning of the route includes a local school bus route, the remainder of the route drops in score as it provides access to popular recreation areas with many campgrounds and trails.

- ◆ Segments: 9
- ◆ Top Segment Score: 43 (Level 2)
- ◆ Route Length: 6.17 miles
- ◆ Average Score: 27.2 (Level 2)
- ◆ Primary Surface: Asphalt
- ◆ Primitive Road: No
- ◆ ADT: 173(MRL)/535 (SL)
- ◆ FFC: Rural Local Access



Route 17: Buzzard Lake Road

This route departs the Urban Road Network from SR 20, and continues north along Buzzard Lake Rd (FFC Rural Local Access). It includes a mail route, and access to both agricultural resource areas and popular recreational opportunities. The northern end of this route connects to several other Priority Backroad Routes.

A secondary route follows Loup Loup Canyon Rd (FFC Rural Local Access). This route parallels Buzzard Lake Road, offering access to both agricultural resource areas and popular recreational opportunities. The Backcountry Discovery Route shares a section of this route between Chelan and Conconully.

- ◆ Segments: 57
- ◆ Top Segment Score: 42 (Level 2)
- ◆ Route Length: 13.73 miles
- ◆ Average Score: 25.6 (Level 2)
- ◆ Primary Surface: Gravel or Stone Surfaced
- ◆ Primitive Road: Yes
- ◆ ADT: 70(MRL)/507 (SL)
- ◆ FFC: Rural Local Access



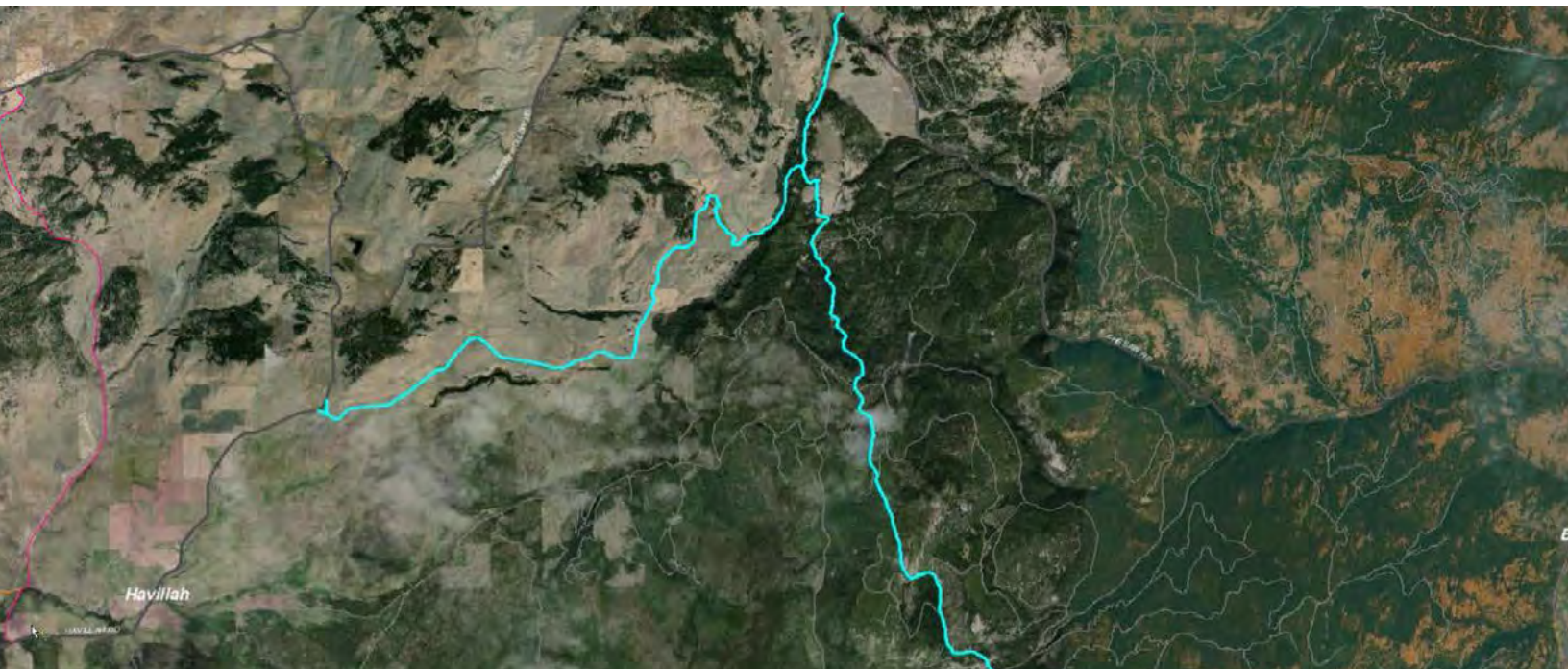
Route 18: Myers Creek Road/Nealy Road

This route departs the Urban Road Network at Chesaw Rd (FFC Rural Major Collector) and runs southwest via Myers Rd to Bartroff Rd (FFC Rural Local Access) and Nealy Rd (FFC Rural Local Access), before connecting back to the Urban Road Network at Havillah Rd (FFC Rural Major Collector).

A secondary route continues south via Myers Creek Rd (FFC Rural Local Access) and connects back to the Urban Road Network at Bonaparte Lake Rd (Rural Minor Collector).

The primary route serves many agricultural resource areas and mail routes. The secondary route provides access to additional key places and recreation and tourism destinations.

- ◆ Segments: 11
- ◆ Top Segment Score: 42 (Level 2)
- ◆ Route Length: 9.63 miles
- ◆ Average Score: 38.2 (Level 2)
- ◆ Primary Surface: Gravel or Stone Surfaced
- ◆ Primitive Road: Yes (segments)
- ◆ ADT: 69(MRL)/525 (SL)
- ◆ FFC: Rural Local Access



Route 19: Molson Rd

This route provides primary access to the town of Molson. It departs the Urban Road Network at Chesaw Road, and heads north to Molson along Molson Rd (FFC Rural Local Access). It is also a primary bus and mail route and provides access to agricultural resource areas and areas of priority emergency access.

Secondary routes loops from further west on Chesaw Road (FFC Rural Major Collector), along Nine Mile Road to Molson, then continues East of the town back to Chesaw Road along Mary Ann Creek Rd (FFC Rural Local Access). It is also a primary mail route, accesses priority agricultural areas, and provides alternative routes between the town and the urban road network.

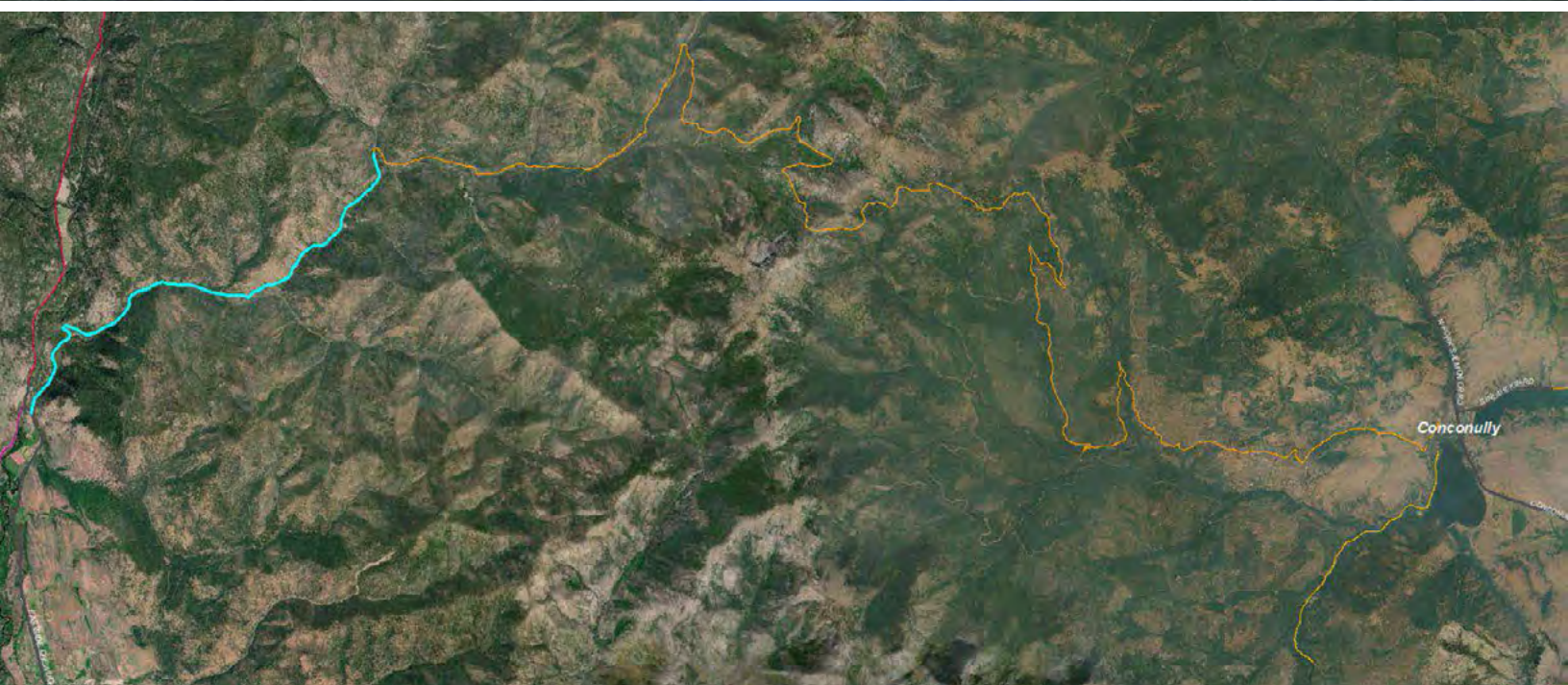
- ◆ Segments: 13
- ◆ Top Segment Score: 42 (Level 2)
- ◆ Route Length: 5.39 miles
- ◆ Average Score: 41 (Level 2)
- ◆ Primary Surface: Low type Bituminous Surface-Treated Road
- ◆ Primitive Road: No
- ◆ ADT: 208(MRL)/519 (SL)
- ◆ FFC: Rural Local Access



Route 20: NF Road 37

This route departs the Urban Road Network at Eastside Chewich Rd (FFC Rural Major Collector) and follows NF Road 37 into Okanogan National Forest. A forest service road heading East from the primary route has been included as section (B) of this route. This road adds E-W connectivity between Winthrop and Conconully and provides access to recreation areas.

- ◆ Segments: 15
- ◆ Top Segment Score: 42 (Level 2)
- ◆ Route Length: 7.27 miles
- ◆ Average Score: 26.9 (Level 2)
- ◆ Primary Surface: Asphalt
- ◆ Primitive Road:
- ◆ ADT: 173(MRL)/608 (SL)
- ◆ FFC: Rural Local Access

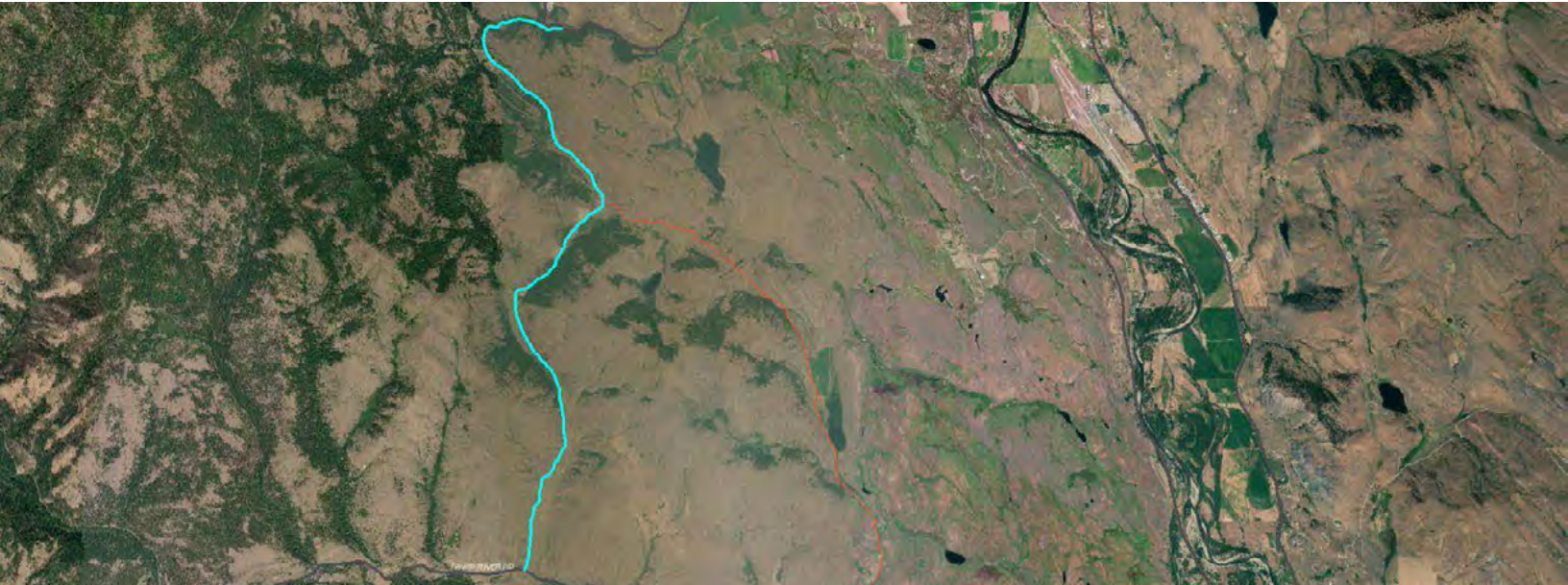


Route 21: Elbow Coulee Road

This route connects portions of the Urban Road Network, from Patterson Lake Rd (FFC Rural Major Collector) in the north to Twisp River Rd (FFC Rural Major Collector) in the south. It follows Elbow Coulee Rd (FFC Rural Local Access) and includes a mail route and access to agricultural resources, and areas of priority emergency access.

Frost Rd has been included as section (B) of this route. It also connects to Twisp River Rd in the south, and provides access to recreation and tourism destinations, as well as agricultural resources.

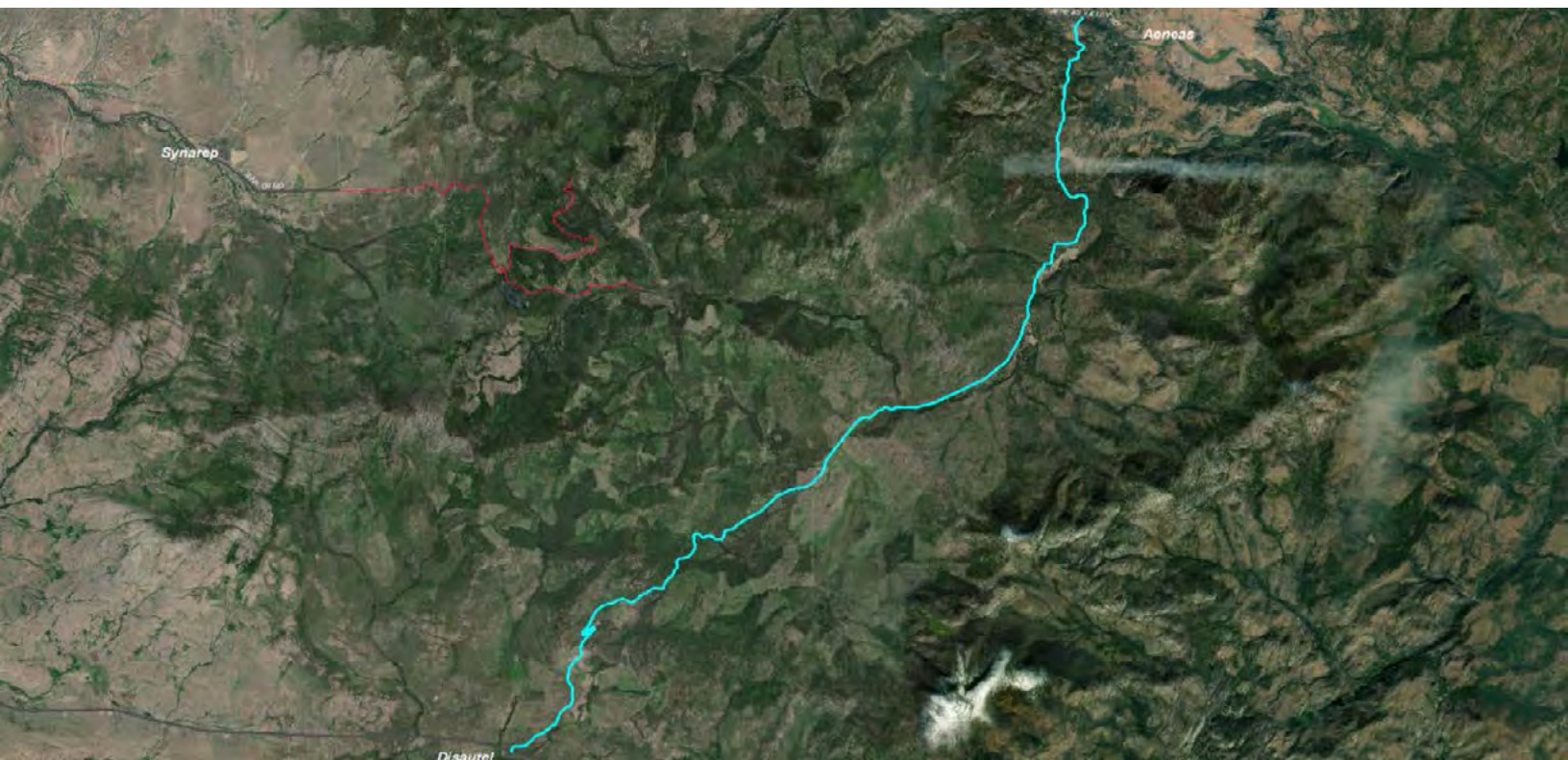
- ◆ Segments: 9
- ◆ Top Segment Score: 42 (Level 2)
- ◆ Route Length: 5.08 miles
- ◆ Average Score: 35.1 (Level 2)
- ◆ Primary Surface: Gravel or Stone Surfaced
- ◆ Primitive Road: Yes
- ◆ ADT: 142(MRL)/395 (SL)
- ◆ FFC: Rural Local Access



Route 22: Lyman Lake -Moses Meadows Road

This route departs the Urban Road Network at Aneas Valley Rd (FFC Rural Minor Collector) in the north and reconnects to the Urban Road Network at SR 155 in the south. It provides north-south connectivity, and access to key locations including population centers and recreational areas.

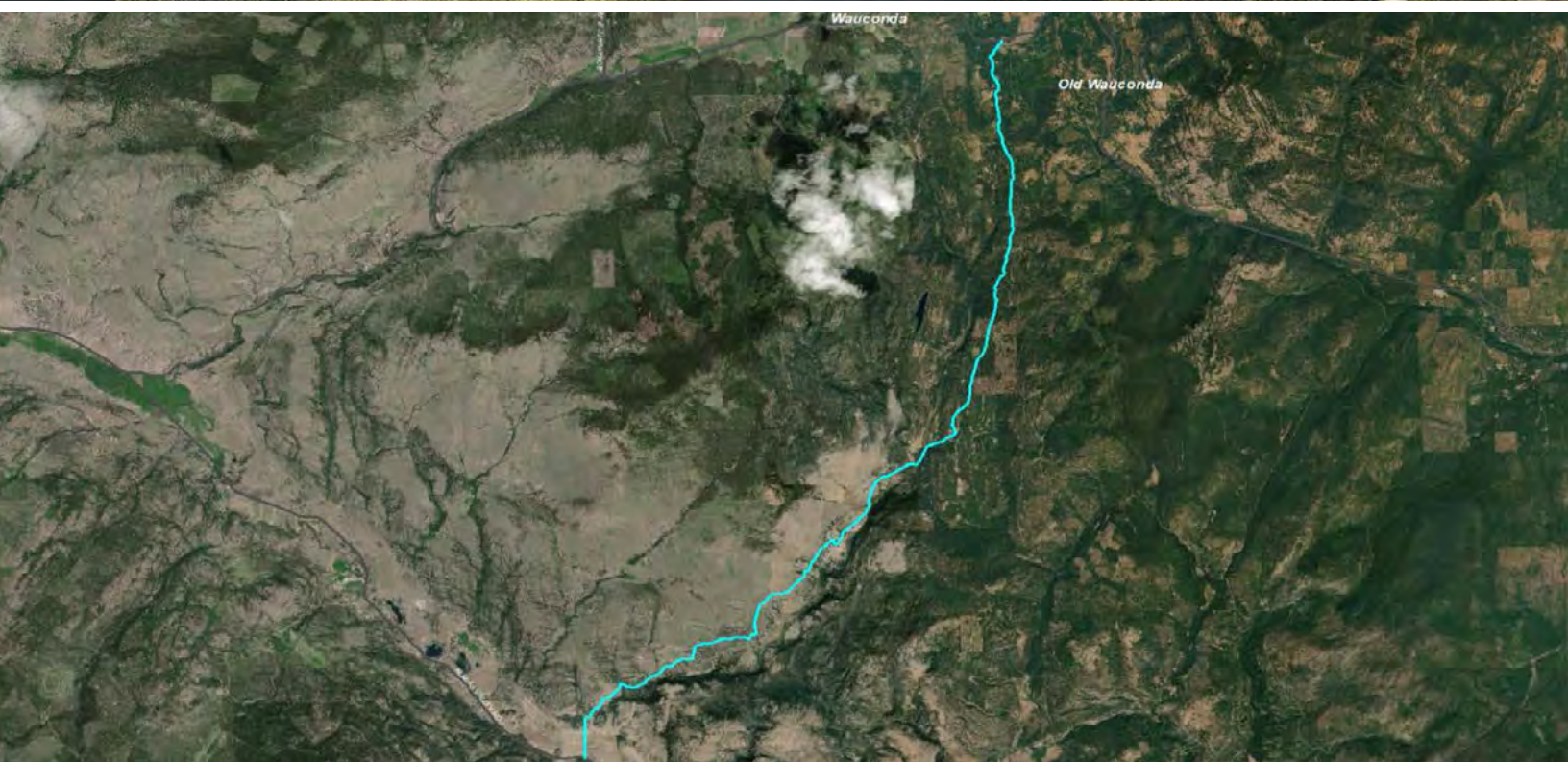
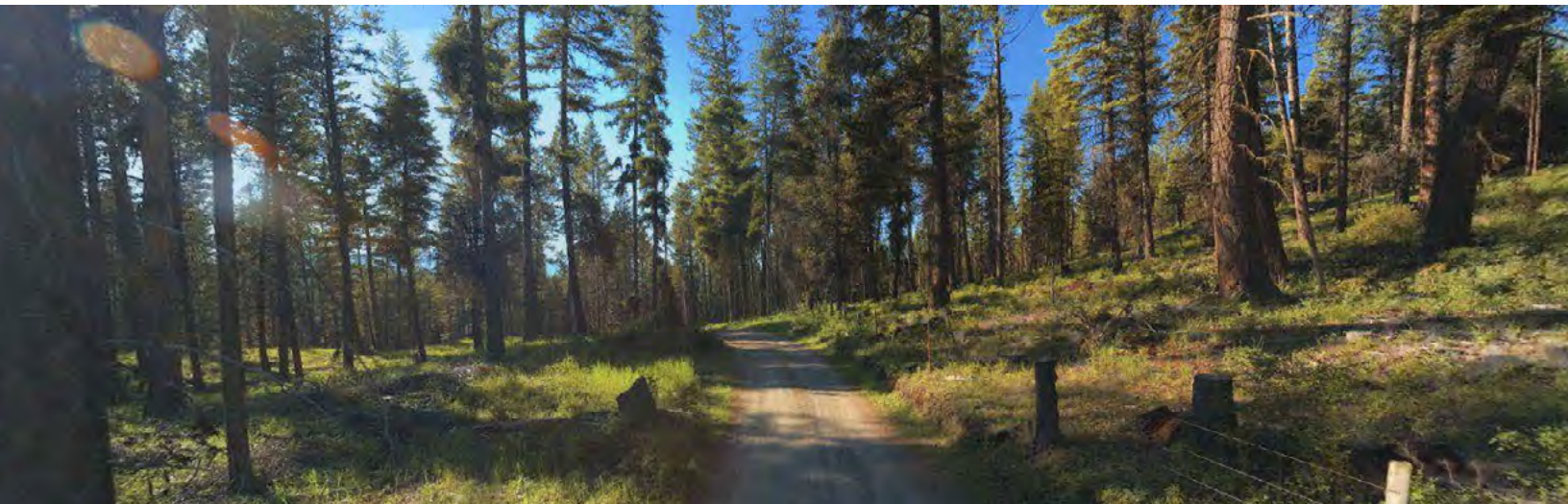
- ◆ Segments: 50
- ◆ Top Segment Score: 41 (Level 2)
- ◆ Route Length: 20.34 miles
- ◆ Average Score: 23 (Level 2)
- ◆ Primary Surface: Gravel or Stone Surfaced
- ◆ Primitive Road: Yes
- ◆ ADT: 101(MRL)/551 (SL)
- ◆ FFC: Rural Local Access



Route 23: Cape Labelle Road

This route departs the Urban Road Network at SR 20 in the north and follows Cape Labelle Rd (FFC Rural Local Access) back to the Urban Road Network at Aenas Valley Rd (FFC Rural Minor Collector). It is an alternative route out of the town of Wauconda and provides access to agricultural resource areas and areas of priority emergency access. Portions of the route also serve mail and bus routes.

- ◆ Segments: 30
- ◆ Top Segment Score: 41 (Level 2)
- ◆ Route Length: 12.44 miles
- ◆ Average Score: 28.4 (Level 2)
- ◆ Primary Surface: Gravel or Stone Surfaced
- ◆ Primitive Road: Yes (segments)
- ◆ ADT: 199(MRL)/550 (SL)
- ◆ FFC: Rural Local Access



Route 24: Toats Coulee Road

This route departs the Urban Road Network from the paved portion of Toats Coulee Rd (Rural Major Collector), just outside the town of Loomis. It provides access to a popular area for recreation within the Okanogan National Forest as it connects to NFD Road 39.

- ◆ Segments: 38
- ◆ Top Segment Score: 41 (Level 2)
- ◆ Route Length: 12.88 miles
- ◆ Average Score: 22 (Level 2)
- ◆ Primary Surface: Asphalt
- ◆ Primitive Road: No
- ◆ ADT: 101(MRL)/452_(SL)
- ◆ FFC: Rural Major Collector



Route 25: Burma Road

This route departs the Urban Road Network at SR 153, south of Methow. It follows Burma Rd (FFC Rural Local Access) and offers route redundancy parallel to the highway to just north of Methow, where it reconnects to the Urban Road Network at the paved portion of Burma Rd (Rural Minor Collector). This corridor is also a mapped mail delivery route.

- ◆ Segments: 3
- ◆ Top Segment Score: 41 (Level 2)
- ◆ Route Length: 3 miles
- ◆ Average Score: 40.3 (Level 2)
- ◆ Primary Surface: Gravel or Stone Surfaced
- ◆ Primitive Road: Yes
- ◆ ADT: 32(MRL)/416 (SL)
- ◆ FFC: Rural Local Access



Route 26: Lemansky Road to Pine Creek Road

This route departs the Urban Road Network from the paved portion of Pine Creek Rd (FFC Rural Major Collector) and includes a loop north along the gravel portion of Pine Creek Rd to Lemansky Rd (FFC Rural Local Access). It provides access to agricultural resource areas and dispersed homes, farms, and ranches. It also includes portions of mail and bus routes, and areas of priority emergency access.

- ◆ Segments: 41
- ◆ Top Segment Score: 40 (Level 2)
- ◆ Route Length: 18.43 miles
- ◆ Route Score: 31.4 (Level 2)
- ◆ Primary Surface: Gravel or Stone Surfaced
- ◆ Primitive Road: Yes (segments)
- ◆ ADT: 109(MRL)
- ◆ FFC: Rural Local Access/Rural Major Collector



Route 27: Texas Creek Road Connector

This route departs the Urban Road Network at SR153 and follows Little Cow Creek Rd to Texas Creek Rd (Rural Local Access), where it loops south back toward the highway, reconnecting with the Urban Road Network via French Creek Rd (Rural Minor Collector) at Burma Rd (Rural Minor Collector), just north of Methow. It provides access to key infrastructure serving the Methow Valley, as well as popular areas for recreation.

- ◆ Segments: 53
- ◆ Top Segment Score: 40 (Level 2)
- ◆ Route Length: 13.83 miles
- ◆ Average Score: 24 (Level 2)
- ◆ Primary Surface: Graded and Drained
- ◆ Primitive Road: Yes (segments)
- ◆ ADT: 56(MRL)
- ◆ FFC: Rural Minor Collector/Rural Local Access



Route 28: Twisp River Road to Gilbert

This route departs the Urban Road Network at Twisp River Road (FFC Rural Major Collector), providing primary access to the Twisp River Valley and Gilbert Mountain. It is a popular area for recreation with many trailheads and campgrounds along the way. W Buttermilk Road/ NFD Road 4420 has been included as section (B) of this route.

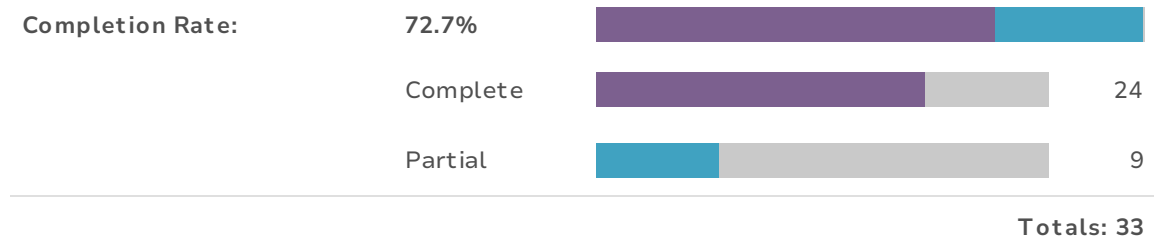
- ◆ Segments: 42
- ◆ Top Segment Score: 39 (Level 2)
- ◆ Route Length: 13.61 miles
- ◆ Average Score: 15.3 (Level 2)
- ◆ Primary Surface: Low type Bituminous Surface-Treated Road/Gravel or Stone
- ◆ Primitive Road: Yes (segments)
- ◆ ADT: 237(MRL)
- ◆ FFC: Rural Minor Collector/Rural Local Access



Appendix 2: Stakeholder Survey Results

Report for Okanogan Council of Governments - Backroads Study

Response Counts



1. The following details will help us ensure we are collecting a diversity of perspectives and offer an opportunity for follow-up once the initial survey has been completed.

ResponseID: 16

Name:	Allen Allie
Last Name	-
Title (designation):	Engineering Manager
Organization Name:	Okanogan County PUD
Street Address	-
Apt/Suite/Office	-
City	-
State	-
Zip	-
Country	-
Email Address:	allena@okpud.org
Phone Number:	509-422-8404
Fax Number	-
Mobile Phone	-
URL	-

ResponseID: 17

Name:	Lee Webster
Last Name	-
Title (designation):	-
Organization Name:	City of Brewster
Street Address	-
Apt/Suite/Office	-
City	-
State	-
Zip	-
Country	-
Email Address:	lee.webster@brewsterwa.us
Phone Number:	5096893464
Fax Number	-
Mobile Phone	-
URL	-

ResponseID: 18

Name:	Andrew Rasmussen
Last Name	-
Title (designation):	Program Manager
Organization Name:	Federal Highway Administration (FHWA)
Street Address	-
Apt/Suite/Office	-
City	-
State	-
Zip	-
Country	-
Email Address:	andrew.rasmussen@dot.gov
Phone Number:	2029133800
Fax Number	-
Mobile Phone	-
URL	-

ResponseID: 20

Name:	Chris Branch
Last Name	-
Title (designation):	County Commissioner
Organization Name:	Okanogan County
Street Address	-
Apt/Suite/Office	-
City	-
State	-
Zip	-
Country	-
Email Address:	cbranch@co.okanogan.wa.us
Phone Number:	15093220735
Fax Number	-
Mobile Phone	-
URL	-

ResponseID: 21

Name:	Jim Olson
Last Name	-
Title (designation):	Wildlife Area Manager
Organization Name:	Washington Dept. Fish and Wildlife
Street Address	-
Apt/Suite/Office	-
City	-
State	-
Zip	-
Country	-
Email Address:	jim.olson@dfw.wa.gov
Phone Number:	509-826-4430
Fax Number	-
Mobile Phone	-
URL	-

ResponseID: 22

Name:	John S St.Pierre
Last Name	-
Title (designation):	Land Use and Shoreline Administrator
Organization Name:	Colville Tribes Planning Department
Street Address	-
Apt/Suite/Office	-
City	-
State	-
Zip	-
Country	-
Email Address:	john.stpierre.pln@colvilletribes.com
Phone Number:	5099789034
Fax Number	-
Mobile Phone	-
URL	-

ResponseID: 23

Name:	Stephanie Palmer
Last Name	-
Title (designation):	Planning Director
Organization Name:	Okanogan County Office of Planning and Development
Street Address	-
Apt/Suite/Office	-
City	-
State	-
Zip	-
Country	-
Email Address:	spalmer@co.okanogan.wa.us
Phone Number:	15094227218
Fax Number	-
Mobile Phone	-
URL	-

ResponseID: 24

Name:	Craig Nelson
Last Name	-
Title (designation):	Executive Director
Organization Name:	Okanogan Conservation District
Street Address	-
Apt/Suite/Office	-
City	-
State	-
Zip	-
Country	-
Email Address:	craig@okanogancd.org
Phone Number:	5094220855
Fax Number	-
Mobile Phone	-
URL	-

ResponseID: 25

Name:	John S St.Pierre
Last Name	-
Title (designation):	Land Use and Shoreline Administrator
Organization Name:	Colville Tribes Planning Department
Street Address	-
Apt/Suite/Office	-
City	-
State	-
Zip	-
Country	-
Email Address:	john.stpierre.pln@colvilletribes.com
Phone Number:	5099789034
Fax Number	-
Mobile Phone	-
URL	-

ResponseID: 26

Name:	Ben Whitley
Last Name	-
Title (designation):	Manager
Organization Name:	Whitley Farms LLC
Street Address	-
Apt/Suite/Office	-
City	-
State	-
Zip	-
Country	-
Email Address:	benw@whitleyfuel.com
Phone Number:	5094224480
Fax Number	-
Mobile Phone	-
URL	-

ResponseID: 28

Name:	Jeremy Patrick
Last Name	-
Title (designation):	Fire Chief
Organization Name:	Okanogan Fire Department
Street Address	-
Apt/Suite/Office	-
City	-
State	-
Zip	-
Country	-
Email Address:	publicsafety@okanogancity.com
Phone Number:	509-322-1007
Fax Number	-
Mobile Phone	-
URL	-

ResponseID: 31

Name:	Allen Allie
Last Name	-
Title (designation):	Engineering Manager
Organization Name:	Okanogan County PUD
Street Address	-
Apt/Suite/Office	-
City	-
State	-
Zip	-
Country	-
Email Address:	allena@okpud.org
Phone Number:	509-422-8404
Fax Number	-
Mobile Phone	-
URL	-

ResponseID: 32

Name:	Jon Neal
Last Name	-
Title (designation):	Mayor
Organization Name:	city of Oroville
Street Address	-
Apt/Suite/Office	-
City	-
State	-
Zip	-
Country	-
Email Address:	neal.oroville@nvinet.com
Phone Number:	509-560-0900
Fax Number	-
Mobile Phone	-
URL	-

ResponseID: 34

Name:	Todd Thorn
Last Name	-
Title (designation):	Conservation Committee Member
Organization Name:	North Central Washington Audubon Society
Street Address	-
Apt/Suite/Office	-
City	-
State	-
Zip	-
Country	-
Email Address:	todd@canyonwren.us
Phone Number:	5093226565
Fax Number	-
Mobile Phone	-
URL	-

ResponseID: 35

Name:	Joseph Ezell
Last Name	-
Title (designation):	Watershed Restoration Specialist
Organization Name:	Colville Confederated Tribes
Street Address	-
Apt/Suite/Office	-
City	-
State	-
Zip	-
Country	-
Email Address:	joseph.ezell.env@colvilletribes.com
Phone Number:	509-631-0388
Fax Number	-
Mobile Phone	-
URL	-

ResponseID: 37

Name:	Lorah Super
Last Name	-
Title (designation):	Program Director
Organization Name:	Methow Valley Citizens Council
Street Address	-
Apt/Suite/Office	-
City	-
State	-
Zip	-
Country	-
Email Address:	lorah@mvcitizens.org
Phone Number:	4253083851
Fax Number	-
Mobile Phone	-
URL	-

ResponseID: 41

Name:	Tony Hawley
Last Name	-
Title (designation):	Sheriff
Organization Name:	Okanogan County Sheriff's Office
Street Address	-
Apt/Suite/Office	-
City	-
State	-
Zip	-
Country	-
Email Address:	thawley@co.okanogan.wa.us
Phone Number:	5094227183
Fax Number	-
Mobile Phone	-
URL	-

ResponseID: 43

Name:	Mark Williams
Last Name	-
Title (designation):	-
Organization Name:	BLM
Street Address	-
Apt/Suite/Office	-
City	-
State	-
Zip	-
Country	-
Email Address:	mrwillia@blm.gov
Phone Number:	509-665-2117
Fax Number	-
Mobile Phone	-
URL	-

ResponseID: 45

Name:	-
Last Name	-
Title (designation):	-
Organization Name:	-
Street Address	-
Apt/Suite/Office	-
City	-
State	-
Zip	-
Country	-
Email Address:	-
Phone Number:	-
Fax Number	-
Mobile Phone	-
URL	-

ResponseID: 46

Name:	Carolyn M Davis
Last Name	-
Title (designation):	Treasurer
Organization Name:	Okanogan County Tourism Council
Street Address	-
Apt/Suite/Office	-
City	-
State	-
Zip	-
Country	-
Email Address:	cdavis@economic-alliance.com
Phone Number:	5098265002107
Fax Number	-
Mobile Phone	-
URL	-

ResponseID: 53

Name:	Spencer King
Last Name	-
Title (designation):	President
Organization Name:	NCATV Club
Street Address	-
Apt/Suite/Office	-
City	-
State	-
Zip	-
Country	-
Email Address:	rcdriver_50@hotmail.com
Phone Number:	5098261675
Fax Number	-
Mobile Phone	-
URL	-

ResponseID: 55

Name:	Drew Woods
Last Name	-
Title (designation):	Deputy Director
Organization Name:	County Road Administration Board
Street Address	-
Apt/Suite/Office	-
City	-
State	-
Zip	-
Country	-
Email Address:	drew@crab.wa.gov
Phone Number:	3603506083
Fax Number	-
Mobile Phone	-
URL	-

ResponseID: 56

Name:	STACEY OKLAND
Last Name	-
Title (designation):	Executive Director
Organization Name:	Okanogan County Community Coalition
Street Address	-
Apt/Suite/Office	-
City	-
State	-
Zip	-
Country	-
Email Address:	OCCCSTACEY@YAHOO.COM
Phone Number:	5093228431
Fax Number	-
Mobile Phone	-
URL	-

ResponseID: 57

Name:	Todd McDaniel
Last Name	-
Title (designation):	-
Organization Name:	City of Omak
Street Address	-
Apt/Suite/Office	-
City	-
State	-
Zip	-
Country	-
Email Address:	admin@omakcity.com
Phone Number:	15098261170
Fax Number	-
Mobile Phone	-
URL	-

ResponseID: 58

Name:	Debra Wulff
Last Name	-
Title (designation):	BIA Superintendent
Organization Name:	Bureau of Indian Affairs
Street Address	-
Apt/Suite/Office	-
City	-
State	-
Zip	-
Country	-
Email Address:	debra.wulff@bia.gov
Phone Number:	509-634-2316
Fax Number	-
Mobile Phone	-
URL	-

ResponseID: 59

Name:	Michael Liu
Last Name	-
Title (designation):	Okanogan Lead - Forest Field Program
Organization Name:	Conservation Northwest
Street Address	-
Apt/Suite/Office	-
City	-
State	-
Zip	-
Country	-
Email Address:	mliu@conservationnw.org
Phone Number:	509-341-4836
Fax Number	-
Mobile Phone	-
URL	-

ResponseID: 60

Name:	Lael Duncan
Last Name	-
Title (designation):	Executive Director
Organization Name:	www.occac.com
Street Address	-
Apt/Suite/Office	-
City	-
State	-
Zip	-
Country	-
Email Address:	laeld@occac.com
Phone Number:	5094224041
Fax Number	-
Mobile Phone	-
URL	-

ResponseID: 61

Name:	Nicole Ahlem
Last Name	-
Title (designation):	Traffic Safety Coordinator
Organization Name:	The Confederated Tribes of the Colville Reservation
Street Address	-
Apt/Suite/Office	-
City	-
State	-
Zip	-
Country	-
Email Address:	nicole.ahlem.psd@colvilletribes.com
Phone Number:	5096342107
Fax Number	-
Mobile Phone	-
URL	-

ResponseID: 64

Name:	Richard Palmer
Last Name	-
Title (designation):	Department of Transportation Director
Organization Name:	Confederated Tribes of the Colville Reservation
Street Address	-
Apt/Suite/Office	-
City	-
State	-
Zip	-
Country	-
Email Address:	Richard.palmersr.dot@colvilletribes.com
Phone Number:	15099782556
Fax Number	-
Mobile Phone	-
URL	-

ResponseID: 65

Name:	Kelly Scalf
Last Name	-
Title (designation):	CEO
Organization Name:	Okanogan County Transit Authority
Street Address	-
Apt/Suite/Office	-
City	-
State	-
Zip	-
Country	-
Email Address:	kscalf@okanogantransit.com
Phone Number:	509-557-6177
Fax Number	-
Mobile Phone	-
URL	-

ResponseID: 66

Name:	Rusty Stamps
Last Name	-
Title (designation):	Asst. Fire Chief
Organization Name:	Okanogan County Fire District # 6
Street Address	-
Apt/Suite/Office	-
City	-
State	-
Zip	-
Country	-
Email Address:	rstamps@okanogancountyfd6.com
Phone Number:	509-679-0345
Fax Number	-
Mobile Phone	-
URL	-

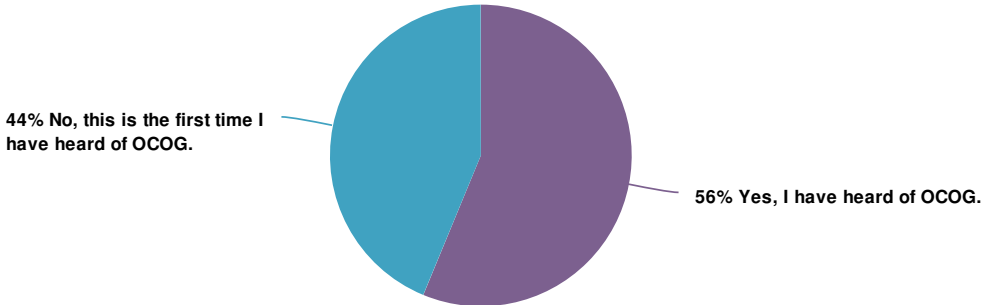
ResponseID: 76



Name:	Gina Erickson
Last Name	-
Title (designation):	Senior Office Assistant
Organization Name:	Colville Tribe Police Department
Street Address	-
Apt/Suite/Office	-
City	-
State	-
Zip	-
Country	-
Email Address:	gina.erickson@colvilletribes.com
Phone Number:	509-634-2501
Fax Number	-
Mobile Phone	-
URL	-

ResponseID: 80

Name:	Tony Hawley
Last Name	-
Title (designation):	Sheriff
Organization Name:	Okanogan
Street Address	-
Apt/Suite/Office	-
City	-
State	-
Zip	-
Country	-
Email Address:	thawley@co.okanogan.wa.us
Phone Number:	5094227183
Fax Number	-
Mobile Phone	-
URL	-

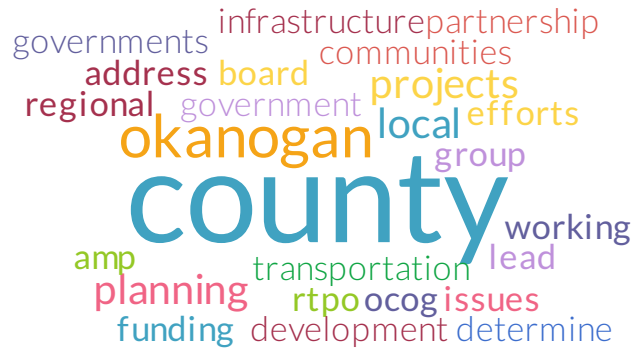
2. Have you heard of the Okanogan Council of Governments (OCOG) before today?



Value		Percent	Responses
Yes, I have heard of OCOG.		56.3%	18
No, this is the first time I have heard of OCOG.		43.8%	14

Totals: 32

3. What is your current understanding of OCOG and the function that we fulfill?

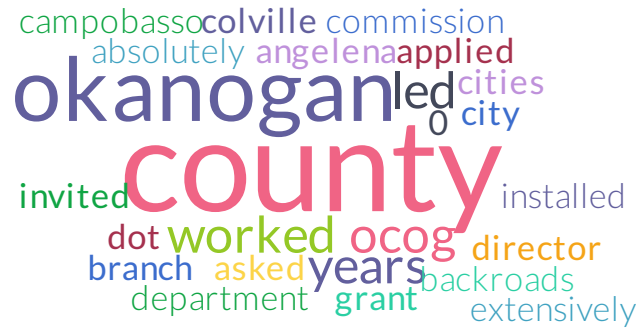


ResponseID	Response
16	OCOG is the regional transportation lead, a group of local governments working on similar interests within the county.
18	serves county governance
20	Regional Transportation Planning Organization and Council of Governments coordinating local government efforts in Okanogan County
23	Made up of Mayors within Okanogan County and the County Commissioners to address issues within the County pertaining to projects, infrastructure, funding, etc.
31	They serve as transportation lead for Okanogan County, it is a group of local government officials working for common goals in transportation.
32	to designate and maintain the transportation and infrastructure needs of the people and communities in the county.
37	I learned that OCOG is serving as the RTPPO for our region; I have also heard of the Backroads Study.
41	The various government entities around the county come together to discuss issues that impact them all in collaborate effort to find workable solutions for all.
46	Transportation Planning

ResponseID Response

55	RTPO for Okanogan County
57	RTPO & Local Government Partnership
58	An oversight planning board for Okanogan County development and expansion of services.
60	my understanding is that the group confers on countywide projects to assure partnership and promote partnership on future projects as well as lobbying efforts outside the county
61	They are basically a planning board that identifies areas within the county that can be improved, prioritize those projects and determine whether they can move forward.
64	OCOG members within the county lines represent and determine traffic for community development, safety and funding of projects within the county borders.
65	Yes
80	Collaborating to address transportation issues for the benefit of all the communities in Okanogan County

4. Has your organization ever worked with OCOG (currently or in the past)?



ResponseID	Response
16	Yes, about 3 years ago on providing LED lighting for cities in Okanogan County.
18	yes
20	Absolutely
23	Yes, I am a County Director
31	Yes, we worked with them several years ago getting LED lights installed in each city in Okanogan County.
32	yes
37	No, but we have supported the Backroads Study in testimony to the State Transportation Commission
41	Yes
46	No
55	Extensively with Okanogan County.
57	Yes
58	More than likely, the Roads Branch may have.
60	We have not been invited to participate. We would participate if asked.
61	My program has only requested a letter of support from OCOG for a Safe Routes to School grant that I applied for. I believe our tribal Planning Department and DOT have worked with OCOG in the past.
64	Colville Tribe representative voting member to OCOG had been Angelena Campobasso. A replacement will be representing the tribe soon.
65	Yes
80	yes

5. Does your organization have any upcoming projects you would be interested in discussing with OCOG in addition to the Backroads Study?(if so, please use the space provided to tell us a bit about them)



ResponseID	Response
16	Not at this time
20	WATVs
23	Not at this time.
31	No
32	not currently
34	Not at present.
35	The Colville Tribes' DOT has a consultant hired that is currently conducting a similar review of BIA and Tribal roads on the Rez. The Colville Tribes Environmental Trust Department plans to inventory fish passage issues related to all Reservation roads (including state and both counties) during 2021-2022. We would like to work with all Reservation jurisdictions to prioritize and address any issues found and work together on implementation/funding.
37	We have organized the Resilient Methow Climate Action Task Force, and would appreciate review and comment on our Climate Action Plan by OCOG, especially feedback related to transportation planning.

ResponseID	Response
41	No
53	Not sure at this time
57	No
58	We are currently looking at developing pit sites for road maintenance and construction projects.
59	1) Support for commuter trail from Twisp to Winthrop currently being worked on by Methow Trails 2) Continued wildlife crossing projects to reduce roadkill and connect landscapes 3) Funding in support of road decommissioning and closures as identified by Forest Service that restores hydrologic function and provides secure wildlife habitat
60	Preservation efforts on low income owner occupied homes. - preservation of the low income housing stock.
61	The Tribal Traffic Safety Committee has identified residential address signage as a priority for this upcoming year. There are many residences, as well as roads, throughout the reservation that are either unmarked or poorly marked which makes it difficult for Emergency Responders. It is our hope to begin to provide signage to residents.
64	Yes, Colville Tribes has a active TTIP for current and future projects.
65	No
66	non at this time

6. How could existing backroads within Okanogan County be improved to better serve emergency response?



ResponseID	Response
16	Better road signage
18	I am not familiar
21	The county road department does a good job of maintaining many miles of unimproved roads. Its the spur roads that may be in need of maintenance and repair and that responsibility falls on the landowner. Maybe improve education to rural residents, and new arrivals, by providing brochures and ad campaigns to inform them of the dangers of living remotely. Similar to the firewise program. Have an escape route, beware of vehicles starting fires in dry grass, etc.
23	Most backroads lack dust control and basic maintenance on surface, culverts, and signage.
24	Signage of evacuation routes that are on metal poles to help withstand fire. Street name signs on metal poles that can better withstand fire would be good. Proper sized culverts or drivable dips where possible for post-fire debris flow and flooding mitigation.
26	No improvement needed.
28	Better visibility on corners. better monthly maintenance. better signage for road name or number that coincides with county maps
31	Signage of road names

ResponseID Response

32	designate and map emergency escape routes
34	All roads providing access to multiple homesites should be built and maintained to engineering design standards enabling fire and emergency vehicle access. Subdivision of land, even to lots exceeding 20 acres, should have an access review by Okanogan Public Works and requirement to implement these emergency access standards. These roads should also be signed to improve emergency response. On the other hand, maintaining a vast network of open roads throughout forested areas is not justified for wildfire management. WDNR statistics show that 85% of wildfires are caused by humans and it's likely most of those start in locations served by open roads.
35	Maintenance/project prioritization and review of current need. Many transportation routes in the county were developed a century ago and agriculture, timber management, mining, ranching, residences, recreation, and regional and state transportation patterns are different in 2021. Some routes could likely be dropped from the county inventory while others could be adopted. In addition, natural resource--water, fish, game habitat, etc.--considerations have changed over the decades.
37	Identify networks and clearly map them and make maps accessible; ensure users are aware of and prepared for the potential hazards associated with backroads travel especially during shoulder seasons (washouts, fallen trees); develop relationships and agreements with communities most likely to need and/or use fragile road systems to assist with keeping the roads open and accessible to emergency vehicles and personnel.
53	Total access to motorized recreationalists to aid in emergency response
55	Signage and surface condition
56	I'm not sure. I live in town. I've been on few backroads and may help if the roads were wider for traffic to pass by. And some places to not have access to cell service so "call for help" stations might be helpful.
58	Regular maintenance
59	Maintenance such as roadside brushing and signage
60	work with OCCAC to identify roads where access to low income seniors and disabled folks have become either impassable or very difficult to access. This impacts the willingness of contractors to bid on repairs and is a significant health and safety exposure. Paying for this work would have to be an assessment that is payable upon transfer of the property or some other approach that does not require immediate payment. Education on proper approach to travel on sensitive roads would help as well. Many people go far too fast on these roads or enter roads that are compromised during breakup.

ResponseID Response

61 Adding residential address signage at the end of driveways, roads are clearly marked with signs and make sure that every road has mile post markers.

64 Better communications within the local communities

65 Outside of major roadways and cities, there are limited paved roads. Paving and maintaining (plowing, sanding etc) increase the ability to travel safely off of the main roads. Over 50% of the population lives outside of the cities and towns. That results in a disconnect between pavement and people.

66 I think they all should have the mile marker posted on all roads. Should be maintained all year round better, like snow removal from the roads for better snow melt runoff areas.

76 Readable signs, signs that are not damaged or broken

80 dust abatement, signage, and washout control

7. How could existing backroads within Okanogan County be improved to better serve agricultural uses?



ResponseID	Response
18	I am not familiar
23	Same as above, #6
26	No improvement needed.
28	on county roads where heavy agricultural uses/traffic is known, Mag that road or portion of road
32	Designate farm to market routes to ease the process for grants etc.
34	Consider relocation or redesign of roads prone to flood damage or which exacerbate flooding in agricultural areas. This might include a segment of the Oroville-Toroda Road where it is located close to Tonasket Creek. Some roads on land managed by WDFW, WDNR and USFS, which are currently open, may serve agricultural uses. The OCOG should support increased federal and state funding for improved road management and maintenance by these agencies.
35	Maintenance/project prioritization and review of current need. Many transportation routes in the county were developed a century ago and agriculture, timber management, mining, ranching, residences, recreation, and regional and state transportation patterns are different in 2021. Some routes could likely be dropped from the county inventory while others could be adopted. In addition, natural resource--water, fish, game habitat, etc.--considerations have changed over the decades.

ResponseID Response

37	Same as above; assuming rangelands are included as agricultural lands, working with surrounding landowners and communities and their resources to ensure roads are accessible will limit the burden on LMAs.
53	To allow motorized ATV/WATV's total access from farm to pasture to grazing lands
55	Wide surface and improved shoulders
56	I'm not sure. I live in town. I've been on few backroads and may help if the roads were wider for traffic to pass by. And some places do not have access to cell service so "call for help" stations might be helpful.
58	Same - regular maintenance
59	Reconstruct roads to a standard that can accommodate vehicles used for agricultural purposes. Designation for farm to market roads
60	if roads are built primarily for agricultural use then the users may need to pay a fee and be able to close the roads during periods like break up to other traffic.
64	Same as above
66	Consider better roads base in those areas in the county for the the traffic. Improved signs and lighting at intersections
76	marked signs for where the areas are for instance open range areas

ResponseID Response

34	More backroads open to motorized vehicle use is not desirable from an environmental nor does this serve all recreational users well. Roads should not be reopened nor built in roadless backcountry forest areas. Roads which are open according to National Forest transportation plans and policy provide satisfactory access to a lot of territory. The Forest Service needs increased funding to implement their transportation plans and maintain both open roads and roads that have been closed to motorized traffic. OCOG should actively lobby to increase National Forest funding for this purpose. Resurfacing of the Toats Coulee Forest Service mainline with its broken up pavement would be beneficial. Forest roads that are closed or decommissioned appropriately are likely to improve water quality, fish and wildlife habitat and provide high quality hunting, fishing, birding and hiking.
35	Maintenance/project prioritization and review of current need. Many transportation routes in the county were developed a century ago and agriculture, timber management, mining, ranching, residences, recreation, and regional and state transportation patterns are different in 2021. Some routes could likely be dropped from the county inventory while others could be adopted. In addition, natural resource--water, fish, game habitat, etc.--considerations have changed over the decades.
37	See answers to #6 and 7. Also, work with tourism and recreation groups to map areas where recreation is best focused, and ensure that users are prepared for the terrain and situations they may encounter. All of the above also require a fair amount of education about preventing, addressing and reporting human caused fires on the backroad system.
46	walking paths, bike lanes, horse lanes, etc.
53	To allow total access for all roads to connect to recreational opportunities throughout our County
55	Signage and accessibility
56	I'm not sure. I live in town. I've been on few backroads and may help if the roads were wider for traffic to pass by. And some places to not have access to cell service so "call for help" stations might be helpful.
58	Same, main backroads should be paved, or better maintenance.
59	Better maintenance of roads such as brushing, grading, drainage, rock armoring and signage. Support to Forest Service to complete travel management plan.
60	If there is a proven existing use of backroads, then some kind of recreational road use fund should be established. The funding stream would need to be evaluated for equity and return on investment/ community access.

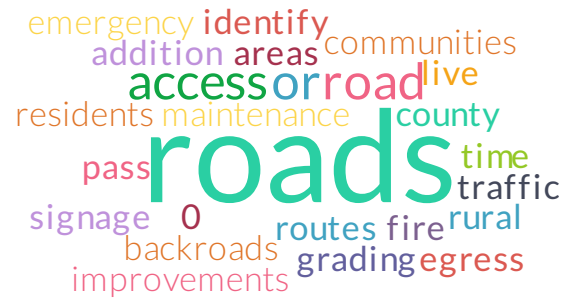
ResponseID **Response**

64 Same as above

66 Better identified for what use, better maps and informational signs.

76 having more signs for them

9. How could existing backroads within Okanogan County be improved to better serve rural residents?



ResponseID	Response
16	Grading
18	I am not familiar
23	Again, maintenance before it become an emergency.
26	No improvements needed.
28	more frequent maintenance of the roads or more mag the road
31	Grading
32	most people who live in the remote areas wouldn't be happy if the roads were dramatically improved due to increased traffic
34	See answer to question 4 above.

ResponseID Response

35	Maintenance/project prioritization and review of current need. Many transportation routes in the county were developed a century ago and agriculture, timber management, mining, ranching, residences, recreation, and regional and state transportation patterns are different in 2021. Some routes could likely be dropped from the county inventory while others could be adopted. In addition, natural resource--water, fish, game habitat, etc.--considerations have changed over the decades. I'm not sure what the requirements are for a "private road" but as a taxpayer, I wonder sometimes why the county is responsible for what might amount to a miles long driveway for one or two residences but roads in a more densely populated part of the county are not part of the county's road inventory.
37	All of the above AND work with rural residents in dispersed communities to identify, map and educate one another about priority connectivity for ingress/egress and escape routes, plan to involve the community in regular maintenance to ensure access during fire/flood seasons, and plan for continuity of relationships and communication as time goes by.
53	Total access to all roads to allow residents to ride from there homes to recitational areas
55	Signage, surface condition, width
56	I'm not sure. I live in town. I've been on few backroads and may help if the roads were wider for traffic to pass by. And some places to not have access to cell service so "call for help" stations might be helpful.
58	Maybe topical applications that would control dust. Also put visible signage for emergency responders.
59	Identify routes for fire egress, better maintenance of roads that connect communities
60	in addition to recreational uses, I see the need to access rural backroads dealing with foraging, fire wood collection, and hunting for food purposes. Perhaps having families obtain a road pass sticker could help to establish permission. Enforcement would be passive but a penalty for unpermitted use might be appropriate to folks who are uneducated about careful use or just plain abusing the use , i.e. just using the roads for 4 wheeling and not helping to preserve the ecosystem the road traverses.
64	Same as above
66	look into better/ bigger road widths. With improving winter care on them. Like looking to adding more plow drivers or possible night time road plowing county wide. For those trouble spots. Not just for winter .but year round road improvements.

ResponseID Response

76 Ensuring the roads don't have major potholes, properly plowed in the winter

10. While we have identified some of the major user groups of backroads within Okanogan County, we want to make sure we are not missing anyone. Are there other elements or other major user groups that should be considered within this initial evaluation process?



ResponseID	Response
18	Consider all non-motorized uses as well as motorized
21	Americans with disabilities, ORV groups, wildfire prevention.
23	Loggers and log trucks
31	None
34	Recognize that there are many users of closed roads, including hunters, fishers, birders, hikers, bicyclists. The general public benefits as well through better fish stocks, wildlife habitat, and watershed condition. OCOG should support strong funding and improved capacity by public land managers to manage road systems on those lands.
37	Native Americans accessing traditional activities on ancestral lands; Outfitters and Guides and their clients Community activities (thinking of the Ride to Rendezvous) that utilize historic routes, using historic equipment (horses and wagons)
53	All motorized forms of recreation
58	My Branch of Roads.
59	Motorized ATV groups Horseback/stock users including range permittees
60	I would be interested in what use you include in resident use. I know there is a thriving foraging network within the county for everything from native herbs to berries, mushrooms, etc.. Firewood (slash) gathering may be a specific use as well.
64	Consider sharing ideas ,concerns, communications, and planning with tribal government as a partner.
65	Outside of major roadways and cities, there are limited paved roads. Paving and maintaining (plowing, sanding etc) increase the ability to travel safely off of the main roads. Over 50% of the population lives outside of the cities and towns. That results in a disconnect between pavement and people.
66	I cant think of any
76	I feel they have all been covered
80	Fire, EMS, PUD

11. While each of these user groups will factor heavily into the outcomes of this process, it will be useful to categorize roads based on their user types. Please help us order the following user groups based on their level of reliance on backroads within Okanogan County.

Item	Overall Rank	Rank Distribution	Score	No. of Rankings
Rural Residents (connectivity in remote areas)	1		70	24
Emergency Responders (rescue, evacuation, fire, etc.)	2		65	23
Agriculture/Resource Based Industries (access and transport)	3		59	24
Recreation/Tourism (hunting, hiking, ATV, etc.)	4		49	25

Lowest Rank Highest Rank

12. Of the 1,335 miles of roads owned by Okanogan County, 653 miles (53%) are unpaved. Of these roads, 585 miles are designated as Primitive Roads. Thousands of additional miles of backroads 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. Limited resources and funding options across these roadway management agencies necessitate coordination and a system for identifying and prioritizing maintenance needs. The following question is intended as a conversation starter. We recognize the need to support and maintain connections to all of the following types of infrastructure.

	High Priority	Medium Priority	Low Priority	Responses
Telecommunication Facilities (transmission lines, cell towers, dispatch, etc.) Count Row %	17 70.8%	7 29.2%	0 0.0%	24
Energy Facilities (dams, transmission lines, pipelines, etc.) Count Row %	17 70.8%	5 20.8%	2 8.3%	24
Food and Agriculture (food production, processing, storage, etc.) Count Row %	17 70.8%	7 29.2%	0 0.0%	24
Water Supply (reservoirs, sanitation, supply, etc.) Count Row %	17 70.8%	5 20.8%	2 8.3%	24
Transportation Facilities (bridges, route redundancy, airports, etc.) Count Row %	19 79.2%	5 20.8%	0 0.0%	24
Economic Drivers (recreation, public lands, resource extraction, etc.) Count Row %	14 56.0%	11 44.0%	0 0.0%	25
Totals Total Responses				25

13. Please use this space to expand on your selected answers from question 12. Feel free to add other categories that should be included within this list.



ResponseID	Response
21	Its difficult to say any of these are of medium or low priority. Public energy facilities and federal facilities are some of the best funded organizations and could be less dependent on funding, therefore a medium priority.
32	na
34	I'm wondering if this question intends to refer to question 10 instead of 12. In giving Water Supply a high priority rating, we should be considering watershed condition. Backroads should be located, designed and maintained to minimize water quality degradation and hydrologic alteration. Roads located in and along stream bottoms reduce water storage in riparian soils, tend to exacerbate runoff peaks and reduce summer low flows. Alternatives to these road segments should be pursued. Regarding Transportation Facilities, OCOG and road managers should be looking ahead, planning and upscaling stream crossings to handle increased flooding and rain-on-snow events predicted given current climate warming trends.
35	Residential areas based on updated census data--high priority
37	Sorry that didn't seem too helpful - all of the above are key needs that require regular access in order to help agencies and companies provide reliable service and/or safety. Emergency ingress/egress and connectivity between towns (incorporated and unincorporated) and among increasingly populated mountain drainages often exist as historic routes that can be used if they have not been abandoned.

ResponseID Response

53	Motorized Recreation is the lifeblood for many business's in this County and stimulates the economics here in Okanogan County any so many ways if it were not for Motorized Recreation many would cease to stay open
58	Just a note, the BIA owns in excess of 800 roads within the Colville Reservation.
59	Considered categories all high priority in part due to the broad categories they represented.
60	I think the above priorities would be easier to evaluate if we knew the level of coordination investment for maintenance. Ag, Telecommunication, and Energy have access to funds that could support their use whereas public use would fall to county resources. based on availability of partner resources the priorities might be reversed
65	The category you have not included in the survey is public transportation. Roads connect residents to healthcare, education, jobs and basic necessities. I see this as the highest priority.
66	All of those infrastructures have needs though out our county for survival. We need to make sure that everything is up-to-date as much as possible. By obtaining funding to make improvement to all as the years go forward
76	I marked the telecommunication, transportation, energy, water and food as high priority because without those how do you ensure the residents are taken care of? In order to function and take care of themselves they need these things as a high priority.

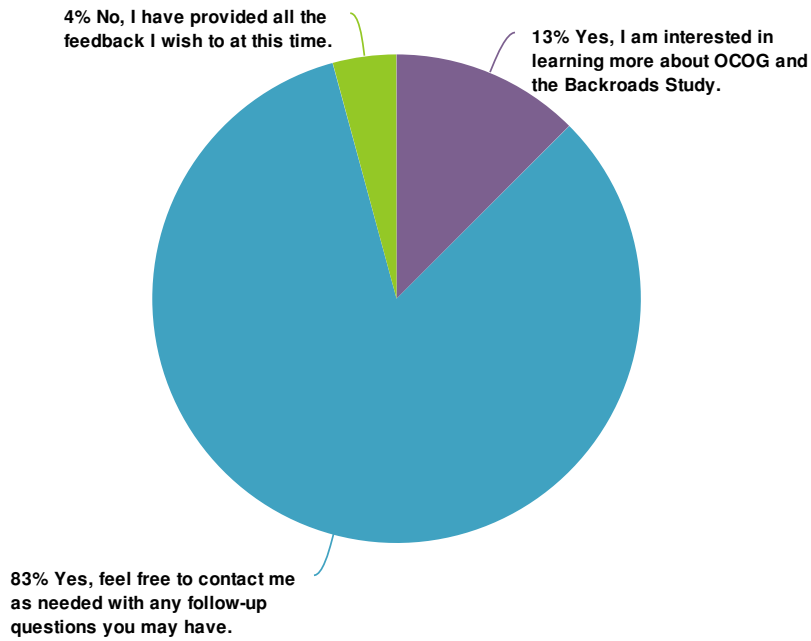
14. We are in the process of compiling an inventory of backroads within Okanogan County. When feasible, we will be attaching a range of attributes to the dataset including road widths, surface type, ownership, target users, last maintained, etc. What other types of roadway attributes would you like to see included as part of this inventory?



ResponseID	Response
18	user type, ADT, access to federal lands
21	Parking, public facilities, campgrounds, interpretive information, trailheads.
24	Right of way width, easements, culvert/undercrossing locations
31	right-of-way width
32	seasonal access, weight and or size limits
34	1. Length of road within 200 feet of streams and wetlands 2. Number of stream crossings 3. Number of fish-bearing stream crossings 4. Length of road with raveling cut and fill slopes 5. Number of stream crossing structures with spans smaller than stream width, or that block upstream fish passage
35	Stream crossings, signage (especially directional and recreational), proximity/impact to streams and wetlands, road use volume (low, medium, high)
37	Service potential - e.g. connecting identified points, emergency ingress/egress, utility access, recreation, etc.

ResponseID	Response
45	bridge capacity
53	Roads open for WATV travel
58	Culverts, signages.
59	Function of road (is it an arterial, collector, or local road) Environmental risk rating (is road on unstable ground, erosion prone, or barrier to fish or wildlife passage)
60	topographic details(are the roads on hillsides likely to be impacted by slides, erosion and need more maintenance than roads that may be either newer and less susceptible to degradation.) With the recent fires we ran into clients who lived in developments of 5 acre parcels where the developer was supposed to put in roads and did not actually put in the roads, just used a dozer to clear paths.
64	trails sidewalks
65	Everything that is unpaved is a challenge for providing basic service to the residents of Okanogan County.
66	Updated maps of all roads (not just county)
76	Weight restrictions
80	daily usage, emergency redundancy routes

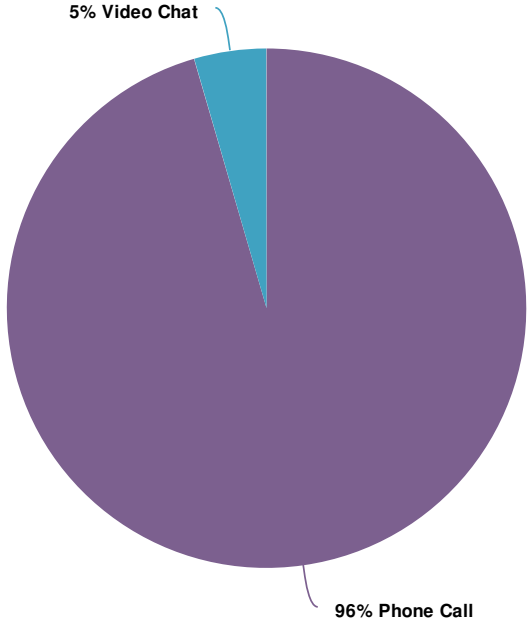
15. Once we have finished reviewing the initial survey responses, we may be interested in a short follow-up interview. These interviews would be an opportunity for us to gain additional insights and discuss the project with you in greater detail. Would you be available/interested in a short follow-up interview?



Value	Percent	Responses
Yes, I am interested in learning more about OCOG and the Backroads Study.	12.5%	3
Yes, feel free to contact me as needed with any follow-up questions you may have.	83.3%	20
No, I have provided all the feedback I wish to at this time.	4.2%	1

Totals: 24

16. Do you have a preferred format for follow-up interviews?



Value	Percent	Responses
Phone Call	95.5%	21
Video Chat	4.5%	1

Totals: 22

17. Are there any other groups or organizations you think we should contact as part of this effort?



ResponseID	Response
34	Okanogan Highlands Alliance, Conservation Northwest, WA Department of Fish and Wildlife, WA Department of Natural Resources, US Forest Service
35	Colville Tribes Department of Transportation
37	Chambers of Commerce, individual "neighborhoods" adjacent to backroads, Methow Trails Collaborative, BackCountry Hunters and Anglers
53	Snowmobile Association
56	Washington Fish and Wildlife Areas- Scotch Creek, Sinlahekin, Methow
58	BIA Branch of Roads
59	Forest Service, Cattleman Assn, Methow Trails, Backcountry Horseman, outfitter and guides, Methow Valley Trails Collaborative
60	Economic Alliance
65	OCTN and food banks connect people to basic nutrition either through delivery of meals or by getting people to food banks. They are connecting some of the most vulnerable populations to food, which is a critical service.
66	nope

18. Are there any other groups or organizations you think we should contact as part of this effort? - Text Analysis

No data to display

Appendix 3: Backroad Cost Estimation

OCOG Backroad Cost Estimate

KEY:	
	INPUT CELLS

INPUT	
ROADWAY WIDTH (FT)	20
CONTINGENCY	30%

OUTPUT		
ROAD REBUILD, FLAT		
LINEAR FT	\$	34.16
PER MILE	\$	180,371
ROAD REBUILD, STEEP		
LINEAR FT	\$	52.51
PER MILE	\$	277,229
NEW ROAD		
LINEAR FT	\$	143.97
PER MILE	\$	760,142

The OCOG Backroads Cost Estimate uses regional 2021 prices for materials. These prices were gathered using the WSDOT standard item unit bid analysis history keeping in mind possible difficult terrain and raw material acquisition.

Tool Overview:

All roads within this estimate are assumed to be gravel roads in the final design.

Flat Rebuild

For the rebuild of roads on flat ground, the model assumes 4" of roadway excavation to remove the top of the road and provide a suitable base for new construction. The roadway surface is finished with 4" of top course material.

Sloped Rebuild

For the rebuild of roads on steeper terrain, the model assumes excavation would be 6" deep with 3" of quarry spall laid down under 3" of top course.

New Build

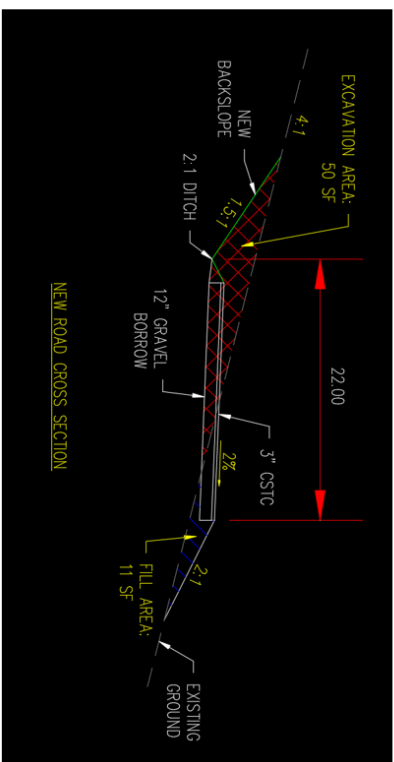
For new road development, the model assumes an average existing cross slope of 4:1 running through the center of the alignment. New builds assume an outslope and drainage ditch running along the inside shoulder, a 1.5:1 backslope and a 2:1 footslope. New roads consist of 1' of gravel borrow, topped with 3" of top course. The fill area beneath the outer edge of the road is assumed to consist of repurposed roadway excavation material harvested onsite.

The cross sectional and material assumptions within the estimating tool are based on the [2020 Cost Estimating Guide for Road Construction from the USDA Forest Service](#).

This model allows users to adjust inputs to better reflect changes in the width of the road, material prices, and material depths of the new or replaced roadway. Roadway costs for each of the three scenarios is shown in linear feet and per mile are shown on the TOTALS tab.

ITEM NUMBER	STANDARD ITEM	UNIT	NAME	COST
0310	310	C.Y.	ROADWAY EXCAVATION INCL. HAUL	\$ 15,00
0421	412	TON	GRAVEL BORROW INCL. HAUL	\$ 35,00
5120	5120	TON	CRUSHED SURFACING TOP COURSE	\$ 50,00
1085	1085	C.Y.	QUARRY SPALLS	\$ 50,00
0025	25	ACRE	CLEARING AND GRUBBING	#####

KEY:	
INPUT CELLS	
CF	CUBIC FEET
C.Y. & CY	CUBIC YARDS
ROADWAY E	ROADWAY EXCAVATION
GB	GRAVEL BORROW
CSTC	CRUSHED SURFACE TOP COURSE
QS	QUARRY SPALLS
C&G	CLEARING AND GRUBBING



REBUILD, FLAT (20' WIDE)					
DEPTH (FT)	WIDTH (FT)	CF PER FT OF ROAD	CY	TONS	ACRES
ROADWAY EX	0.33	20	6.6	0.24	0.45
CSTC	0.33	20	6.6	0.24	0.45
				Cost Per Foot	Cost Per Mile
				\$ 3.67 ROADWAY EX	\$ 19,360 ROADWAY EX
				\$ 2.61 CSTC	\$ 119,387 CSTC
				\$ 26.28 SUBTOTAL	\$ 138,747 SUBTOTAL
				\$ 7.88 CONTINGENCY	\$ 41,624 CONTINGENCY
				\$ 34.16 TOTAL	\$ 180,371 TOTAL

REBUILD, STEEP (20' WIDE)					
DEPTH (FT)	WIDTH (FT)	CF PER FT OF ROAD	CY	TONS	ACRES
ROADWAY EX	0.5	20	10.0	0.37	0.66
QS	0.33	20	6.6	0.24	0.45
CSTC	0.33	20	6.6	0.24	0.45
				Cost Per Foot	Cost Per Mile
				\$ 5.56 ROADWAY EX	\$ 29,333 ROADWAY EX
				\$ 12.22 QS	\$ 64,533 QS
				\$ 22.61 CSTC	\$ 119,387 CSTC
				\$ 40.39 SUBTOTAL	\$ 213,253 SUBTOTAL
				\$ 12.12 CONTINGENCY	\$ 63,976 CONTINGENCY
				\$ 52.51 TOTAL	\$ 277,229 TOTAL

NEW ROAD (4:1 EXISTING SIDE SLOPES, OUTSLOPE, 2' DRAINAGE DITCH, 20' WIDE ROAD)					
DEPTH (FT)	WIDTH (FT)	CF PER FT OF ROAD	CY	TONS	ACRES
ROADWAY EX	---	---	50.0	1.85	0.0008
C&G	1	22	22.0	0.81	1.51
GB	1	22	22.0	0.81	1.51
CSTC	0.25	22	5.5	0.20	0.38
				Cost Per Foot	Cost Per Mile
				\$ 27.78 ROADWAY EX	\$ 146,667 ROADWAY EX
				\$ 11.36 C&G	\$ 60,000 C&G
				\$ 52.76 GB	\$ 278,569 GB
				\$ 18.84 CSTC	\$ 99,489 CSTC
				##### SUBTOTAL	\$ 584,724 SUBTOTAL
				\$ 33.22 CONTINGENCY	\$ 175,417 CONTINGENCY
				##### TOTAL	\$ 760,142 TOTAL

CROSS SECTION NOTES:
 The blue 11 SF fill area in the diagram above is assumed to be compacted sidecast fill slope, made from the roadway excavation material.

NOTES:
 By default a 30% contingency is added to the subtotal to account for additional construction costs such as erosion control, stormwater, mobilization, etc. This % can be adjusted on the TOTALS tab.

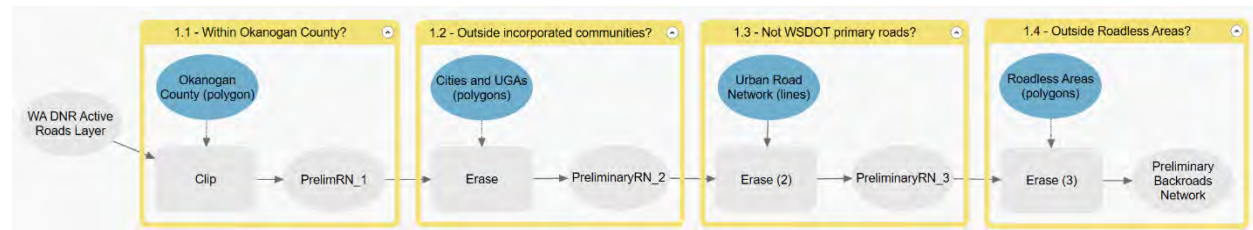
Appendix 4: Analysis Methods

Analysis Methods (Level 1 & Level 2)

This appendix provides additional details for the development and rating of the backroads network. All analyses were performed within ArcGIS Pro. Diagrams below are conceptual representations of the process followed. While ModelBuilder was used to conduct many of the analyses, no toolboxes were created for future use due to the extensive amount of manual route analysis and scoring correction required for this project. Future spatial alignment of road layers between agencies, filling of data gaps would streamline this process.

A. Level 1 Criteria: Pass/Fail

Level 1 criteria represent the initial screening process within Phase 2 of the backroads study. These metrics were used to create a preliminary backroads network. This schematic depicts the process followed in GIS to limit the WA DNR Active Roads Layer to our Preliminary Backroads Network.



Creation of the Urban Road Network

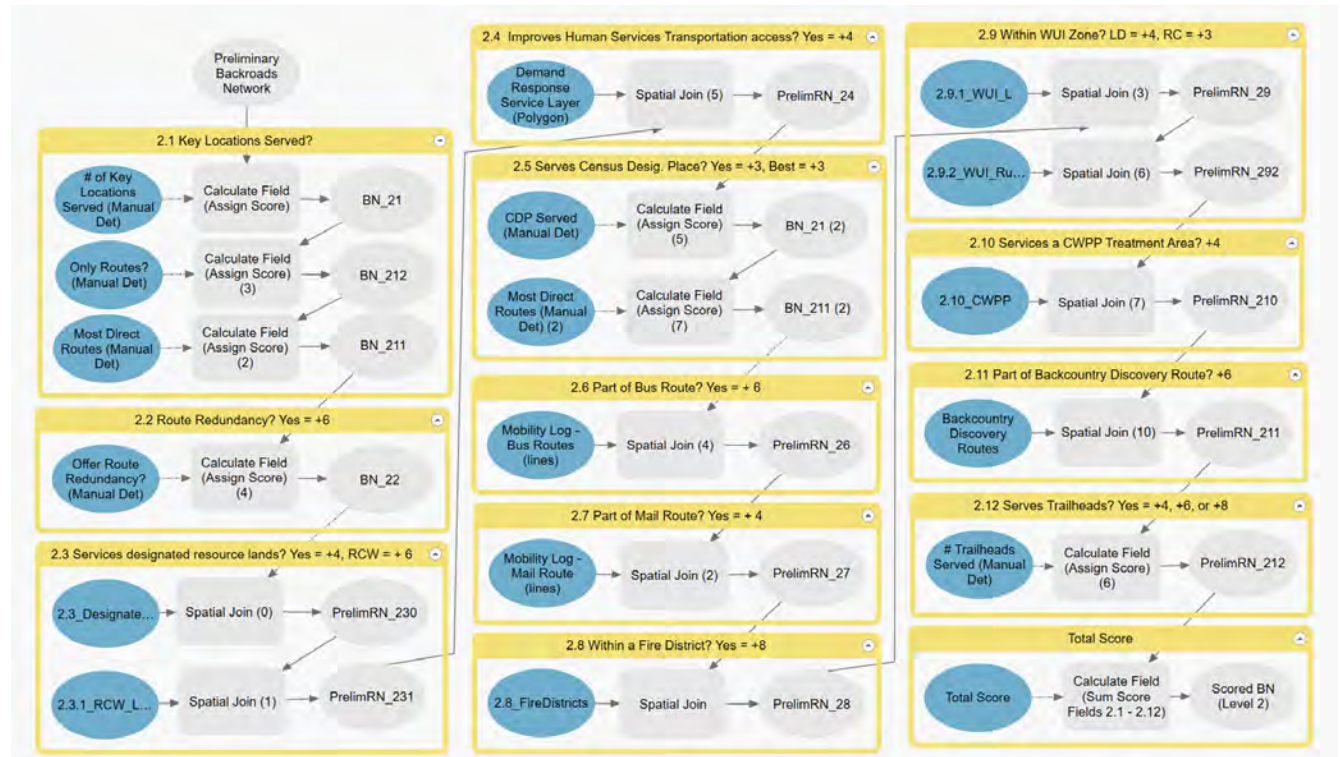
1. Start with the Mobility Road Log, provided by Okanogan County Public Works Department (2019)
2. Restrict to roads designated state routes, major arterials, and major collectors
 - a. Spot check: Using Bing to visually assess road conditions included by this method, we observed both gravel, dirt, and paved roads within these designations. Determining that gravel/dirt roads with the level of use of a primary collector should be considered in this analysis, we documented this variation, and chose to further restrict the Urban Road Network.
3. Within Major Collectors and Major Arterials, restrict further to just those with paved surfaces.

Creating Preliminary Backroad Network

1. Start with WA DNR Active Roads Layer
2. Clip/Erase the roads layer based on identified Level 1 Criteria:
 - a. Remove areas outside of Okanogan County
 - b. Remove areas within Incorporated City boundaries
 - c. Remove roads which comprise the “Urban Road Network”
 - d. Remove designated ‘roadless’ areas
3. Result: PreliminaryBackroadsNetwork.shp

B. Level 2 Criteria: Qualitative Metrics

As shown in Table 3 of the report, many Level 2 Metrics were identified to assign values to routes within the Preliminary Backroads Network, based on each segments' ability to support the goals of the Backroads Study. A schematic of the process used to assign scores for Level 2, below, may be used as a conceptual guide. Details of the process required for both the manually determined criteria and more automated processes follow.



Manually Determined Criteria / Scoring

Due to gaps in the road network, and variable distances of key place markers from roads, manual route analysis was performed in lieu of Network Analyst for several scoring criteria.

2.1 Key Places: Routes to key places were analyzed by hand. For each location, all roads leading from there to the nearest urban network(s) were selected.

(2.1) Number of Key Places Served: Field calculator was used to add a point to the Key Locations tally columns (KeyLoNum), or Key Zones tally column (KeyZoNum), respectively. To derive a score from the number of locations served, a new function was defined within Field Calculator using the equation and code blocks to reclassify the number of key places served (KeyLoNum + KeyZoNum) into a score for each road (KP_Score)

(2.1.1 and 2.1.2) Key Infrastructure and Population Centers: If there was only one route to “Key Infrastructure” or “Population Center”, Field Calculator was used to add a score of +6 was added to the column KP_Direct. If there were multiple routes, the most direct route was selected and Field Calculator used to add a score of +4 to KP_Direct.

- 2.2 Route Redundancy: Routes offering redundancy to sections of the Urban Road Network were analyzed by hand. For each urban road, road segments in the BN offering reasonable degree of redundancy were selected, and Field Calculator was used to assign 6 points (Redun_Score) if they contributed to a route providing redundancy to the Urban Network, or allowed an alternative route out of an area that otherwise had one way in/out on the Urban Network. Scores
- 2.5 Census Designated Places (CDP): Routes to CDP were analyzed by hand. For each location, all roads leading from there to the nearest urban network(s) were selected. Scores were then assigned using Field Calculator. If there was only one, it was assigned 6 points. If there were multiple, each was assigned 3 points.
- 2.12 Trailheads served: Routes to trailheads were analyzed by hand. For each location, all roads leading from there to the nearest urban network(s) were selected, and Field Calculator was used to add a point to the trailhead tally column (Trailheads). To derive a score from the number of locations served, a new function was defined within Field Calculator using the equation and code blocks to reclassify the number of Trailheads into a score for each road (Trl_Score)

Automated Scoring Criteria

For metrics that did not require network or route analysis to answer, a simple model was constructed to assign points based on spatial relationships. A field was added to each input metric containing the “score” for contributing to that feature. Following that, a spatial join was used to assign that score to every road segment that intersected the metric shapefile in question. Metrics that were able to be incorporated in this fashion included:

- 2.3 Access to Designated Resource Lands +4
- 2.3.1 RCW Resource Lands +6
- 2.4 Human Service Transportation +4
- 2.6 School Bus Route +6
- 2.7 Mail Delivery Route +4
- 2.8 Fire District +8
- 2.9 CWPP WUI (LD) zone +4
- 2.91 CWPP WUI (RC) zone +3
- 2.10 CWPP Treatment Proj +4
- 2.11 Backcountry Discovery Route (+6)

Although criteria 2.3 and 2.31 (Resource Lands) were approximated using the automated scoring method, this is not ideal, as for some locations that are further from the urban road network, the simple spatial intersection method would not increase the score of road segments between the adjacent road and the urban road network. That said, most are near the urban road network, and this approximation captured the vast majority of roads servicing those locations.

Due to misalignment between the WA DNR Active Roads Layer and road layers from the mobility road log (2.6 Bus Routes and 2.7 Mail Routes) as well as 2.11 Backcountry Discovery Route layer, all assignment of points based on alignment with linear features had to be manually corrected.

Results

Field Calculator was used to sum the scores assigned for each Level 2 metric.

Data Documentation

The resulting scored Preliminary Backroads Network data contained many abbreviated field names. For future users who may want to utilize this data, the field names have been documented and summarized below. The shapefile datum is NAD83 Harn Corrected (EPSG:4152).

Metric ID	Field Name	Description
<i>Columns from other sources</i>		
	Many Fields	Fields from base WA DNR Active Roads Layer (2017)
	route_name	Name of Backroads Discovery Route from ride.bdr maps - not all roads will have name associated correctly due to spatial join errors (line:line)
<i>Analysis Results</i>		
2.1	KeyLoNum	From 0614_PrelimBN_Score. Number of key points (survey) served by that road segment. Manually determined
2.1	KeyZoNum	From 0614_PrelimBN_Score. Number of key zones (survey) served by that road segment. Manually determined
2.2	Redundancy	Pass/Fail (1/0) if provides redundancy for the urban network.
2.12	Trailheads	Number of trailheads (DRC & WA GeoServices data) served by a route / each road segment. Manually determined
<i>Network Access Scores</i>		
2.1	KPScore_31	Score based on number of "Key Locations" served. Field calculator with coded reclassification. 1-2 = 5 pts, 3-4 = 8 pts, 5+ = 10 pts
2.1.1 & 2.1.2	KP_Direct	Score of +6 if part of the only route to an identified Key Infrastructure or Population Center (Subset of KP scored in 2.1), +4 if it is the most direct route to an Urban Road Network.
2.2	Redu_Score	Score +6 if the route provides redundancy for the Urban Road Network
<i>Agriculture Scores</i>		
2.3	Resource23	Score +4 for all roads intersecting with designated resource lands (spatial join)
2.3.1	RCW_231	Score +6 for all roads intersecting with a subset of designated resource lands which are identified as Agriculture, Open, or Timber Land under RCW 84.34 (spatial join)
<i>Population Center Scores</i>		
2.4	DRS_24	Score +4 if the route falls within a Human Services Transportation service area (spatial join to large polygons)
2.5	Census_DP	Score +3 if the road comprises a route to an unincorporated Census Designated Place (2.5), or +6 if it is the most direct route to that CDP (2.5.1). Manually determined
2.6	Bus_ScoreC	Score +6 if the road segment is part of a School Bus route (Spatial join, manually corrected)
2.7	Mail_Score	Score +4 if the road segment is part of a Mail Delivery route (Spatial join, manually corrected)
<i>Emergency Response Scores</i>		
2.8	FireScore	Score +8 if the road is within a designated Okanogan County Fire District (Spatial Join)
2.9	LD_Score	Score +4 if the road is within a designated SWPP WUI (LD) zone (Spatial Join)
2.9.1	RC_Score	Score +3 if the road is within a designated SWPP WUI (RC) zone (Spatial Join)
2.1	CWPP_Score	Score +4 if the road is within a designated CWPP Treatment Project Area (Spatial Join)
<i>Recreation</i>		
2.11	Disco_Score	Score +5 if road road intersects (Spatial Join, manually corrected) a Backroads Discovery Route
2.12	Trl_Score	Score based on number of Trailheads (DRC) that a route serves. Field calculator with coded reclassification. 1 = 4 pts, 2-3 = 6 pts, 4+ = 8 pts
<i>Results</i>		
	TotalScore	Sum of all scores calculated for Level 2 Metrics



Okanogan

COUNCIL OF GOVERNMENTS