

# Palouse Regional Freight Study

## Final Report

Prepared by

**HDR**

for the

**Palouse Regional Transportation  
Planning Organization**

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## Table of Contents

Table of Contents .....	i
Executive Summary.....	iv
Multi-Modal Assets in Eastern Washington .....	iv
Study Purpose and Approach.....	iv
Identified Issues.....	iv
1.1 Study Purpose .....	1
1.2 Study Approach .....	1
1.3 Previous Studies.....	1
1.4 Existing Information.....	1
1.4.1 State, Regional and County Agency Assistance.....	1
1.4.2 Sources of Map and GIS Data .....	1
1.5 Report Organization .....	2
2.1 Methodology .....	3
2.2 Stakeholder Contacts .....	3
2.3 List of Shippers and Manufacturers, by County .....	3
2.4 Survey Development.....	5
2.4.1 Survey Instrument.....	5
2.4.2 Survey Delivery and Response Rate.....	5
2.5 Survey Results .....	5
2.6 Profile of Survey Respondents .....	6
2.6.1 County Location.....	6
2.6.2 Type of Business and Operations.....	6
2.6.3 Number of Employees.....	7
2.7 Value of Cargo .....	7
2.7.1 Previous Studies .....	7
2.7.2 Survey Responses.....	7
2.7.3 Is Shipping Seasonal? .....	8
2.7.4 Where are Goods Headed?.....	8
2.7.5 How Goods are Transported.....	9
3.1 Overview of Eastern Washington Commodities.....	11
3.1.1 Business Dependence upon Freight Infrastructure .....	11
3.2 Freight Corridors and System Level Patterns.....	11

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## Palouse Regional Transportation Planning Organization – Regional Freight Study

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3.2.1	Palouse Regional System Maps Inventory Freight Network Assets .....	11
3.2.2	County-Level Goods Movement.....	12
3.3	Roadways .....	12
3.3.1	Previous Studies .....	12
3.3.2	Roadway and Truck Data Maps.....	15
3.3.3	Operations.....	20
3.3.4	Roadway Conditions and Issues .....	20
3.3.5	What Shippers Care About in General .....	20
3.3.6	Specific Roadway Issues of Concern .....	20
3.3.7	General Road-Related Constraints Identified.....	24
3.3.8	Specific Roadway Improvements Wanted .....	24
3.4	Rail.....	25
3.4.1	Rail System Overview.....	25
3.4.2	Previous Studies .....	25
3.4.3	Short Line Railroad Inventory .....	25
3.4.4	Maps.....	27
3.4.5	Rail Operations in Palouse Region of Eastern Washington.....	27
3.4.6	Rail Conditions and Constraints.....	29
3.4.7	Survey and Interview Responses .....	29
3.4.8	Experience with WSDOT Grain Train .....	29
3.5	Barge/Ports .....	30
3.5.1	Maps.....	30
3.5.2	Barge/Port 2007 Data.....	30
3.5.3	Barge Issues .....	31
3.5.4	Waterway Conditions and Issues.....	31
3.5.5	Survey and Interview Responses .....	31
3.6	Air .....	32
3.6.1	Air Cargo Still a Niche Mode in Eastern Washington.....	32
3.6.2	Maps.....	32
3.6.3	Survey and Interview Responses .....	33
3.6.4	Airport Conditions and Issues .....	33
3.7	Other Facilities: Intermodal and Terminal Facilities, Storage, Warehouse and Distribution .....	36
3.7.1	Previous Studies .....	36

---

## Palouse Regional Transportation Planning Organization – Regional Freight Study

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3.7.2	Elevator Location and Capacity.....	36
3.7.3	Maps.....	39
3.7.4	Survey and Interview Responses .....	39
3.8	Other Issues Not Elsewhere Addressed .....	39
4.1	Palouse Regional Perspective.....	41
4.1.1	First and Last Mile of Freight Trips Use the County Roads .....	41
4.1.2	County Maps.....	41
4.1.3	Washington State Freight and Goods Transportation System (FGTS) Road Classification.....	41
4.1.4	County Freight and Goods System (CFGS) Road Classification .....	42
4.1.5	Classification of County Roads.....	42
4.1.6	Regional Areas of Concern.....	44
4.1.7	Specific Areas of Concern .....	45
4.2	Asotin County.....	45
4.2.1	County Priorities .....	45
4.2.2	Maintenance.....	47
4.2.3	High Priority-Urban Roads (Clarkston).....	47
4.2.4	Asotin County Bridge Priorities.....	47
4.3	Columbia County.....	47
4.3.1	County Priorities .....	47
4.3.2	At-Grade Rail Crossing Needs.....	48
4.4	Garfield County .....	48
4.4.1	County Priorities .....	48
4.4.2	High Priority-Rural Roads .....	49
4.5	Whitman County .....	49
4.5.1	County Priorities .....	49
4.5.2	High Priority-Rural Roads .....	50

Appendix A: Data Sources

Appendix B: Survey Results

Appendix C: County Maps



## Executive Summary

### *Multi-Modal Assets in Eastern Washington*

As previous studies and field observation confirm, Eastern Washington continues to enjoy the benefits of multiple modal options for freight service in many locations and situations. WSDOT’s recent purchase of the short lines north of the Great Northwest Railroad (GNWR) attests to the state’s conviction that market choice is a feature worth retaining, and thus worth investing in. However, the backbone of the entire regional freight system—the county road network—is threatened by increasingly heavy trucks and a decreasing level of funding for maintenance and reconstruction of fragile infrastructure.

### *Study Purpose and Approach*

The Palouse Regional Transportation Planning Organization (RTPO) requires periodic updates to its freight system baseline data in order to support funding requests, to prioritize investments, and to deliver projects that enhance economic viability of the four-county Palouse region. This report compiles existing freight data for Asotin, Columbia, Garfield, and Whitman counties, and provides updates and validation of that data, to the extent possible within these study parameters.

This report synthesizes four sources of information concerning the current state of the Palouse regional freight system:

- Previous studies of the Palouse area transportation network;
- Existing information from agencies at the state, region and county levels;
- Supplemental information from a 2007 web-survey conducted as part of this study, plus spot interviews; and
- County engineer and staff knowledge of freight issues within the four-county Palouse region.

### *Identified Issues*

#### **Rail**

There are no severe bottlenecks indicated on this map within the Palouse RTPO. However a railroad bridge located between Colfax and Pullman burned and because of this event this segment of track is out of service. This has impacted rail shippers to the east of Colfax, at Pullman and Moscow ID, particularly those shipping “UP route” cars. This also impacts the roadway under the trestle, causing truck diversion.

#### **Ports/Barge Traffic**

- Maintain dredging efforts to provide at least the minimum 14 feet operating pools (US Army Corps of Engineers standard).
- Address summer reduction in operating pools.

#### **Airports**

No specific issues relating to air cargo were found; no comments on air cargo were received during the survey and interview effort. However, Whitman County requires an all-weather (all-season) road to the Pullman-Moscow Regional Airport.

#### **Roadways**

- Weight restrictions and poor pavement
- Insufficient road maintenance
- Focus on access to Ports, major rail access points and grain elevators
- Safety is an issue due to lack of shoulders
- Need for all-weather roads

#### **“Most Wanted” Specific County Roadway Improvements**

County priorities are identified in Chapter 4.



## Chapter 1: Study Purpose and Approach

### 1.1 Study Purpose

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### 1.2 Study Approach

This report synthesizes four sources of information concerning the current state of the Palouse regional freight system:

- Previous studies of the Palouse area transportation network;
- Existing information from agencies at the state, region and county levels;
- Supplemental information from a 2007 web-survey conducted as part of this study, plus targeted interviews; and
- Consultant knowledge of freight issues within the four-county Palouse region.

### 1.3 Previous Studies

The freight system assets and deficiencies within eastern Washington's four-county Palouse region have been the subject of numerous agency, academic and business-oriented analysis over recent years. These include:

- Washington State Department of Transportation (WSDOT) Transportation Plan 2007-2026 (November 14, 2006)
  - Freight Movement (2005 Draft)
  - Rail System Study (2006)

- Eastern Washington Intermodal Transportation Study (EWITS) (1993/94)<sup>1</sup>
- Strategic Freight Transportation Analyses (SFTA) (2003/04)<sup>2</sup>
- Palouse RTPO Regional Transportation Plan

WSDOT and Washington State University at Pullman (WSU) jointly sponsored the EWITS research program that was funded through ISTEPA during the mid to late 1990s. This series of reports provided a comprehensive look at all modes and associated freight issues in Eastern Washington, and still provide a benchmark for comparing trends today.

The SFTA series of reports is a second six-year comprehensive research and implementation analysis intended to further improve knowledge about commodity movements in the region.

It is assumed that this information is generally known to readers of this report. Therefore, no attempt has been made to provide systematic summaries of that material; rather key points are included that provide specific foundational facts and background, as appropriate.

### 1.4 Existing Information

#### 1.4.1 State, Regional and County Agency Assistance

Existing information from state, regional and county level sources has been compiled into maps that are included throughout the report.

#### 1.4.2 Sources of Map and GIS Data

A major component of this report consists of the visual representation of freight system assets and deficiencies. The baseline information common to most of the maps included in the report derives from WSDOT, the Bureau of Transportation

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<sup>1</sup> EWITS reports are located at <http://ewits.wsu.edu/>

<sup>2</sup> SFTA reports are located at <http://www.sfta.wsu.edu/>

Statistics North American Atlas Transportation Data, and county databases.

For each of the maps focused on a mode or county, the baseline information was supplemented with data from sources identified below in Appendix A. The survey and interview data was not included in the mapping exercise, because the results of that effort were insufficiently data-dense and are at too small a scale to utilize mapping. Those results are included in narrative form.

### ***1.5 Report Organization***

**Chapter 2** identifies the shippers invited to respond to the 2007 web-based survey prepared for this study. It describes the survey instrument, survey delivery, and the level of response. Chapter 2 also contains information from the responding shippers with respect to type, value and tonnage of shipments and trucks used.

**Chapter 3** of this report begins with a brief discussion of the relationship between freight and economic development in the region. It then reviews the updated and compiled information for the four freight modes found in the Palouse RTPO jurisdiction:

- Roadways (trucking);
- Railroads;

- Barge, ports and waterways; and
- Air cargo.

Within each modal discussion, the relevant freight-related material is organized in the following order:

- Summary of key findings from previous studies, including consultant’s own prior products (if needed)
- Presentation and discussion of system information on regional and/or county maps
- Supplemental information from surveys and interviews with shippers in the Palouse region.

The chapter concludes with an overview of intermodal and grain elevator facilities.

Maps for this chapter are included within the text; supplemental maps can be found in Appendix C.

**Chapter 4** focuses on the county-level system, and identifies county priorities for freight investment. The information for this chapter comes from survey results, stakeholder interviews, discussions with the county engineers and staff, and data provided by the counties. Maps for each county are included in Appendix D.

## Chapter 2: Freight Shipper Inventory

### 2.1 Methodology

#### Palouse Regional Transportation Planning Organization (RTPO) Staff

Palouse RTPO Executive Director, Ken Olson, and his staff, facilitated information-gathering at the regional and county level. They also assisted in identifying agency, shipper and manufacturer contacts.

#### County Sources

Closest to the ground are the four respective county staffs upon which local operations and maintenance falls. This report was dependent on information generously provided by the County Engineers and staff from Asotin (Joel Ristau), Columbia (Andrew Woods), Garfield (Grant Morgan) and Whitman counties (Mark Storey).

#### Washington State Department of Transportation Sources (WSDOT)

WSDOT Eastern Region’s Mark Rohwer supplied data and data sources for the system mapping efforts contained in this report.

### 2.2 Stakeholder Contacts

In addition to electronic surveys, the following stakeholders were contacted by telephone. The report is in debt to the following people who donated their time and expertise to the Palouse Freight Study:

- Central Ferry Terminal Association (Terry Houtz)
- City of Pullman, Wash. (Art Garro)
- Hennigar Trucking (Susie Hennigar)
- NuChem (Ron Wachter)
- Port of Garfield (Laura Brazil)
- Port of Whitman County (Debbie Snell)
- Tidewater Barge (Craig Nelson)

US Forest Service, Umatilla National Forest (Ranger Monte Fujishin)

Wilbur Ellis Company (Jon Litourneau)

**[Additional interviews are taking place as the draft is finalized.]**

### 2.3 List of Shippers and Manufacturers, by County

An inventory of the primary freight generators was developed in coordination with the Palouse RTPO and the four member-county County Engineers. The list is shown in Table 2-1 (Shippers) and 2-2 (Manufacturers).

**Table 2-1: Palouse Regional Shipper Inventory**

Shipper Name	Location
A&R Construction Inc.	(email address only)
Ag Trade Company	St. John, WA
Almota Elevator Co.	Colfax, WA
Baker Truck Lines	(email address only)
Bioniche Animal Health USA	Pullman, WA
Central Ferry Terminal Association	Pomeroy, WA
CHS, Inc.-Rockford	Rockford, WA
CLD Pacific Grain, LLC	Lewiston, ID
Columbia County Grain Growers	Dayton, WA
Columbia Grain	Colfax, WA
Columbia Grain International	Clarkston, WA
Cooperative Agricultural Producers, Inc.	Rosalia, WA
DeAtley Construction Co.	(email address only)
Duckworth Boats	(email address only)
Eagle Transfer Trinaco, Inc.	Lewiston, ID
Empire Seed	Garfield, WA
Excel Transport	Lewiston, ID
Freightways	Lewiston, ID
Foss Maritime	Clarkston, WA
Genessee Union Warehouse Co.	Genessee , ID

## Palouse Regional Transportation Planning Organization – Regional Freight Study

**Table 2-1: Palouse Regional Shipper Inventory**

Shipper Name	Location
Grassland West	Clarkston, WA
Guy Bennett Lumber Company	Clarkston, WA
Guy Bennett Lumber Company	Clarkston, WA
Hennigar Trucking, LLC (3 separate companies)	Colfax, WA
Hughes Supply	Spokane, WA
Inland Empire Milling Company	St. John, WA
Lewis-Clark Terminal, Inc.	Lewiston, ID
McGregor Company	Colfax, WA
Mesa Transport	Lewiston, ID
Northwest Grain Growers	Walla Walla, WA
Nu Chem Company	Pullman, WA
Nu Chem Company	Pomeroy, WA
Oak Harbor Freight	Spokane, WA
Odessa Union Warehouse Cooperative	Odessa, WA
Paffile Freight Systems	Lewiston, ID
Palouse Grain Growers	Palouse, WA
Poe Asphalt & Paving	Clarkston, WA
Pomeroy Grain Growers	Pomeroy, WA
Potlatch Corp.	Lewiston, ID
Potlatch Corp.	Lewiston, ID
Richardson Trucking	Lewiston, ID
St. John Grain Growers	St. John, WA
Swift Transportation	Lewiston, ID
Thunder Jet	
Tidewater Barge Line	Vancouver, WA
Uniontown Co-Operative Association	Uniontown, WA
USF ReddiAway	Lewiston, ID
WATCO Companies	Lewiston, ID
Wheat Growers of Endicott	St. John, WA
Whitman County Growers, Inc.	Colfax, WA
Wilbur-Ellis Company	Pomeroy, WA
Yellow Freight Systems	Spokane Valley, WA

*Source: HDR 2007, from local agency input*

The following list of firms received a shorter (five-minute) version of the survey.

**Table 2-2: Palouse Regional Manufacturer/Ag Inventory**

Shipper Name	Location
Dye Seed Ranch	Pomeroy, WA
Farm Commodities	Colfax, WA
Hotwire Direct	Clarkston, WA
Aztec/Phantom Jet Boats	Clarkston, WA
Renaissance Marine Group	Clarkston, WA
SBC Slings and Binders	Clarkston, WA
Jetco Machine and Fab	Clarkston, WA
Clearwater Converting	Lewiston, ID
Alpine Archery	Lewiston, ID
Gateway Materials Inc.	Lewiston, ID
Penton Machine Co.	Moscow, ID
SEL-Schweitzer Engineering Lab	Pullman, WA
Scientech Inc	Pullman, WA
Decagon Devices	Pullman, WA
EKO Compost	Lewiston, ID
GolfTek Inc.	Lewiston, ID
Custom Coat	Lewiston, ID
Wilbert Precast	Lewiston, ID
World Wide Abrasives	Lewiston, ID
Sterling Machine	Lewiston, ID
Truss Systems Inc.	Lewiston, ID
Fab Tech	Moscow, ID
AB Technology	Pullman, WA
Metriguard	Pullman, WA

*Source: HDR 2007, from local agency input*

## 2.4 Survey Development

### 2.4.1 Survey Instrument

A 29-question web-based survey was developed, designed to take less than 25 minutes to complete. The survey instrument covered the following categories:

- Business name, address, contact information
- Type of business
- Volume and value of shipments
- Volume and value of supplies received
- General destination of goods (e.g., within RTPO; within Washington, within US, international)
- Truck classifications used for shipping
- Estimates of future volumes shipped and received
- Primary mode used for goods shipped and received
- Use of ports, airports and rail facilities
- General level of concern about roadway conditions, congestion, and weather impacts to mobility and safety
- Identification of constraints on roadways, road structures, rail lines, or at barge, port, airport, intermodal and storage facilities.
- Prioritization of most needed improvements.

### 2.4.2 Survey Delivery and Response Rate

All 52 prospective participants were called prior to conducting the survey, in order to obtain email addresses. At that time, the survey was briefly explained and consultant staff attempted to identify the person most likely to be able and willing to respond to the survey.

An email invitation to participate in the survey web-based survey, supplemented by fax, mail and

telephone support, was sent out during the week of March 5, 2007. A second email-blast was issued the week of March 12, 2007. Follow up telephone calls and requests to participate were made through the middle weeks of March 2007. When it became clear that fewer than the number of responses desired had registered<sup>3</sup>, a second, truncated version of the survey was developed, intended to target the most salient questions and elicit the information likely to be of most use to the Palouse RTPO—that is, the respondents' general priorities for freight infrastructure and their specific suggestions for investment or areas of need. The second survey was sent to those non-responders on the first list of 52 firms as well as another list of 24 firms who, because of business type or location, might be less intensely concerned about the Palouse regional roadway network. Both surveys and summary responses are included in Appendix B.

Because this survey was not intended to be a statistical analysis of shippers, the number of surveys received was not, per se, critical. The respondents who did participate are generally representative of producers and shippers in the area, and information such as roadway conditions and problem spots within the freight system do not need “statistical” verification; they simply need to be identified. However, in order to increase the quality of the information for purposes of identifying freight investments, additional one-on-one telephone contacts were also made (see Section 2.2, above.)

## 2.5 Survey Results

Despite repeated attempts, survey recipients proved reluctant to respond to the survey. Twenty four nominal responses included a good cross section of respondents included 11 agricultural businesses and four manufacturers. However, of the 15 nominal respondents, six of them failed to complete the survey. Phone

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<sup>3</sup> Seventeen respondents to the long survey provided their names. Of these, only 10 completed all key questions.

contact with survey recipients indicated several reasons for the lower-than-desired level of response:

- High seasonal business activity;
- Low staffing levels;
- Perceived difficulty of relaying complex information about multiple roadways and modes in a survey instrument;
- Cynicism about the value of participation in the survey; and
- A disconnect between the drivers or freight handlers (who really knew where the freight deficiencies existed) and the office staff (who had time to complete the survey and/or access to a computer)

Several of those contacted indicated that they would meet with an interviewer in person, with a map, to discuss exactly where the biggest problems lay. Others indicated that after spring planting season was over, a lull before the next busy period would provide time to think about freight issues. Offers were made by several knowledgeable shippers and producers to spend time at the end of May 2007 in a one-on-one interview situation or as part of a focus group.

## 2.6 Profile of Survey Respondents

This section provides an overview of those businesses which elected to participate in the survey. Again, though not a “statistically valid sample” this information is provided in order to give a sense of what range of coverage (geographically and substantively) the responses relate. Business names are attached to information only where needed for understanding.

### 2.6.1 County Location

Twenty three of the twenty four respondents provided enough information to determine the county in which they operated:

Asotin County:	4
Columbia County:	1
Garfield County:	1
Latah County (ID):	1
Lincoln County:	1
Nez Perce Co. (ID)	2
Walla Walla County	1
Whitman County:	12

### 2.6.2 Type of Business and Operations

Twenty-four respondents answered a question about their business classification:

Agriculture:	14
Manufacturing:	8
Trucking:	3
Distribution and Logistics:	1
Professional Service:	1

Respondents’ self-descriptions of their business operations follow:

#### Agriculture

- Receive and process Kentucky Bluegrass lawn seed.
- Commodity broker shipping grain out of Central Ferry to Portland on the river system.
- Hay, grain, farm equipment construction equipment, livestock
- Equipment, grain, livestock, hay
- Seed treatments
- Grain (wheat and barley)
- Soft white winter wheat, DNS, Hard red winter wheat,. Barley
- Fertilizer products for sale to growers in 46 Inland Northwest communities. Crop protection products for sale throughout the region. Grain from our ranch. Seed wheat

and barley through our Columbia Seed and Tomco operations.

- Wheat, barley shipping out of Davenport on the PCC Rail line.
- Wheat, barley, dry peas, safflower.
- Grain shipper.
- White wheat, club wheat, barley, peas, dark northern spring wheat, hard winter wheat, canola.

### Manufacturing

- We are a compost manufacturing facility; we ship compost and potting soil.
- We produce Manual and CNC foam cutting machines.
- Manufacturer of welded aluminum recreational and fishing boats-inboard and outboard.
- Lumber grading machine components. Approximately 13 tons shipped to Spokane and 12 tons picked up by customer for delivery to Pullman, Washington. Parts for gun sites. Approximately one ton was picked up by local customer.
- Veterinary biotech—products and media used in veterinary assisted reproduction.
- We are a general fabrication and machine shop. We do all of the welding for Northwest River Supplies, Inc in Moscow as well. We ship mostly production-based parts for NRS.
- Indoor golf simulators and golf swing analyzers (30 lb. boxes to 1000 lb. crates)
- Boats and Trailers—shipped approximately 500 packaged units in 2006

### 2.6.3 Number of Employees

Cumulatively, the respondents' businesses account for 743 full-time employees. Six firms employ 10 or fewer people; nine firms employ between 11 and 49 people; three firms employ

between 50 and 75; and one firm reported 310 on its payroll.

Fourteen of the 24 respondents reported employing part-time or seasonal workers as well. A total of 159 part-time/seasonal workers were employed by these firms who hired as few as one, two or three part-time employees to as many as 25 or 45 seasonal workers.

## 2.7 Value of Cargo

### 2.7.1 Previous Studies

Between 1994 and 2003, the state's largest increase in the value of cargo shipped in trucks was from trucks originating in eastern Washington.<sup>4</sup> The increase within the region was over 180 percent, amounting to \$47.6 billion a year. Truck trips nearly doubled during the same period.

### 2.7.2 Survey Responses

Nine respondents were willing or able to provide information about approximate 2006 figures for the value of the goods they shipped. Presented in order from highest to lowest annual value of cargo, these figures were:

- \$100 million
- \$ 85 million
- \$ 45 million
- \$ 22 million
- \$ 16 million
- \$ 8.5 million
- \$ 1.24 million
- \$ 398,000

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<sup>4</sup> *Freight Movements on Washington State highways: Comparison of Results 1993 to 2003*, Steven K. Peterson and Eric L. Jessup, SFTA Research Report #20; October 2006, p. 6

The 2006 tonnage reported by respondents, again from highest to lowest, was:

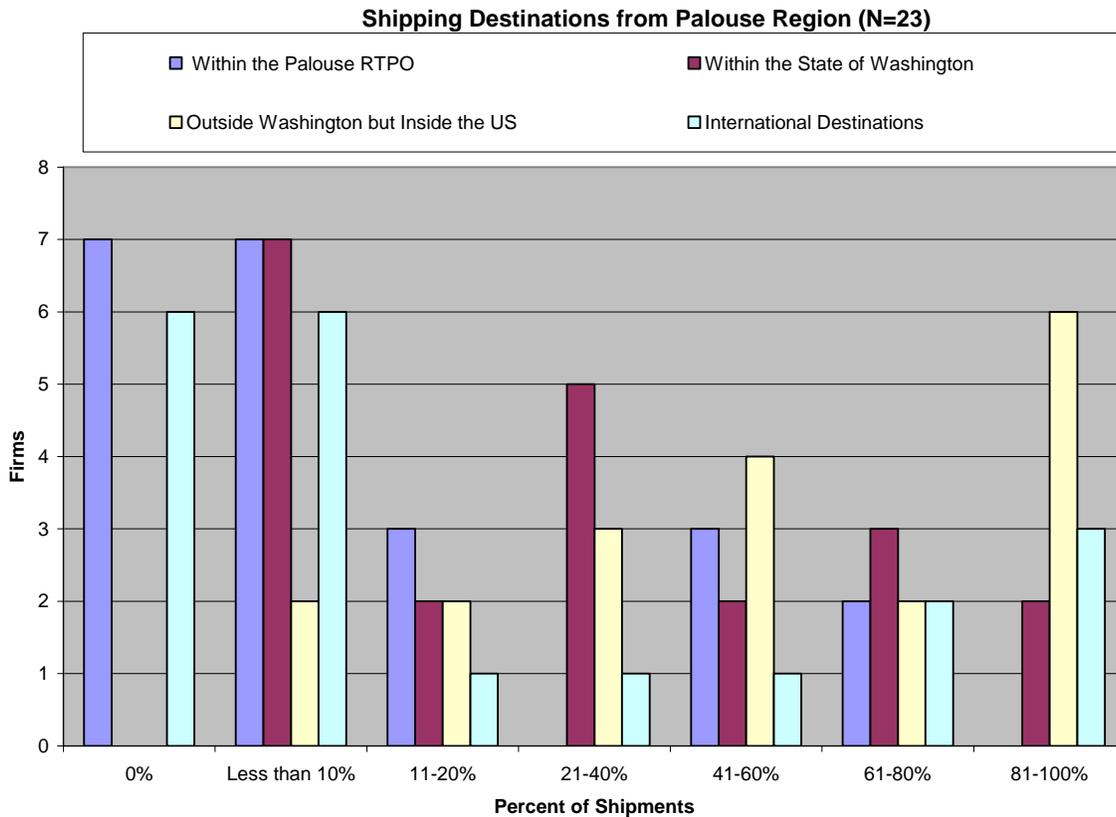
- 1.09 million tons
- 513,000 tons
- 316,516 tons
- 210,000 tons
- 100,000 tons +
- 60,000 tons
- 8,428 tons
- 700 tons
- 500-550 tons
- 26 tons
- 20,000 pounds (approximately)

### 2.7.3 Is Shipping Seasonal?

Three respondents answered in the affirmative. For one, spring and fall are the busy seasons. For another shipper, shipping periods vary, with a high being up to 25 trips per day. For the third harvest season from July through September marks the heaviest shipping season.

### 2.7.4 Where are Goods Headed?

The graph below shows the destination of goods shipped from within and near the Palouse RTPO boundaries, for the 23 responding firms. Twelve businesses indicate that they ship 41 percent to 100 percent of their goods to locations outside Washington, but inside the US. Five firms ship 41-80 percent of goods within the four-county jurisdiction of the Palouse RTPO. Five firms report sending 61-100 percent of their shipments to international destinations.



Source: HDR On-Line Freight Survey (2007)

## 2.7.5 How Goods are Transported

### Truck Types Used in Shipping

Respondents were permitted to check all applicable categories of trucks used in their shipping operations. Reported use of larger trucks (5-, 6- and 7-axle trucks) comports with the statewide and national trend toward larger, heavier trucks, with concomitant infrastructure requirements and wear inflicted on roadways.

Table 3-1: Truck Classification (2007, N=23)

Truck Classification	Number of Survey Respondents
Light truck, pickup, panel or SUV, or any 2-axle, four-tire truck	4
2-axle, 6 tire, single unit truck	6
3-axle, single unit truck	3
4 or more axle, single unit truck	4
4 or less axle single trailer truck	2
5-axle single trailer truck	10
6 or more axle single trailer truck	8
5 or less axle multi-trailer truck	3
6-axle multi-trailer truck	3
7 or more axle multi-trailer truck	8
Other	1

### Receiving Supplies—Trucking Predominates

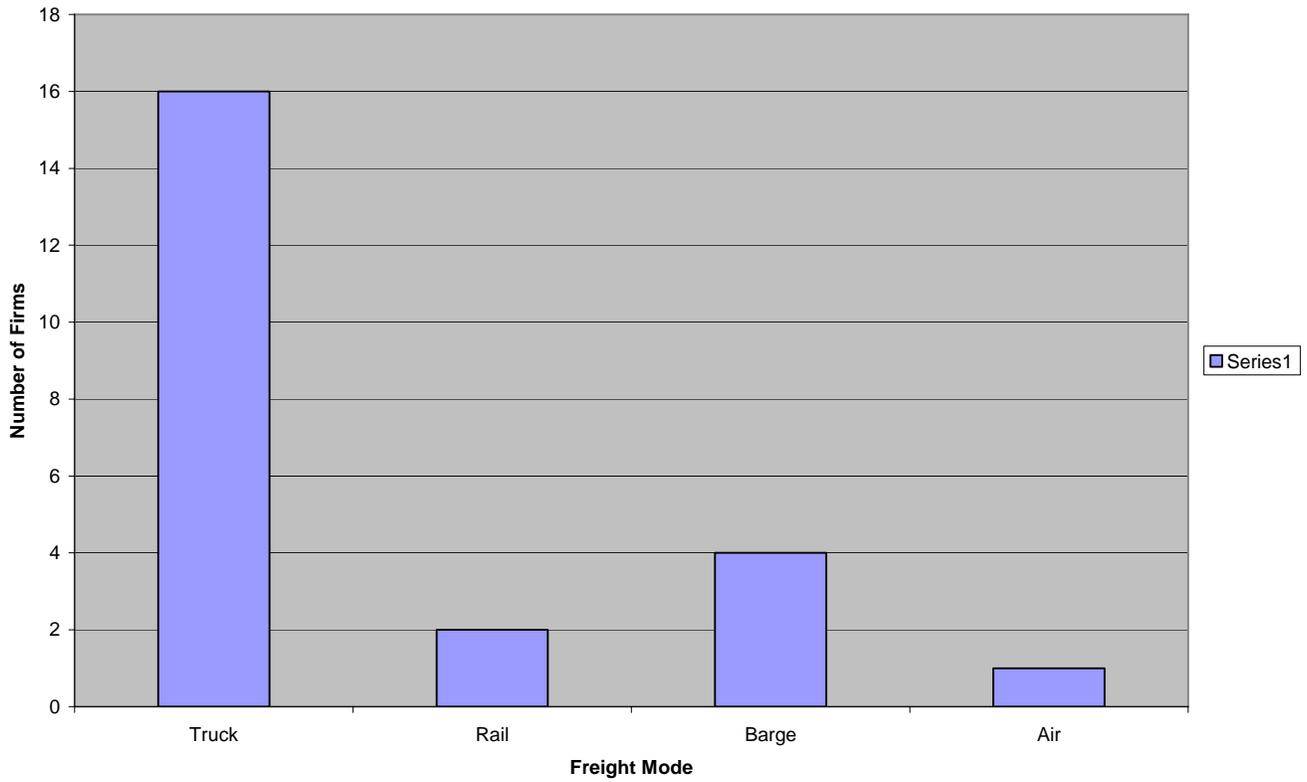
Supplies received include the following, as reported by survey participants:

- Seed treatments, micro fertilizer polymers, colorants

- Grain (wheat and barley)
- Anhydrous Ammonium, Phosphoric Acid and other agricultural chemicals
- Electronic parts, aluminum sticks, grass mat, plywood, fabric screen material
- Raw sheet and extrusion aluminum, boat components including seats, dashes, wood, adhesives, motors, jet drives, stern drives and outboard motors. Multiple trucks received on a daily basis, with only partial loads being delivered by each truck
- Soft white wheat, hard red winter wheat
- Steel in the form of box, angles, round, flat and burned shapes. Stainless steel in miscellaneous shapes. Aluminum in miscellaneous shapes. Small quantities of plastics. Total tonnage—25 tons
- Cannulae and other consumables, chemicals, laboratory equipment
- We receive approximately 25 million bushels of wheat, barley, dry peas and safflower from producers and other grain companies annually
- Grain only

Firms' response to a question about the mode by which they typically receive most of their supplies confirms recent statewide surveys: trucking is the dominant freight mode. The chart below illustrates the responses, by mode. The importance of trucking relative to other modes is consistent with larger statistically significant studies and trends.

How Supplies are Received (Majority of Trip) (2007, N=19)



Source: March-April 2007 Survey of Palouse Regional Shippers

## Chapter 3: Existing Conditions-Palouse Regional Freight System

### 3.1 Overview of Eastern Washington Commodities

Extensive research, especially that conducted by Washington State University (Casavant and Jessup) has been conducted on the topic of eastern Washington agriculture, and this research has been cited in this report. The importance of investment in freight infrastructure in the Palouse RTPO jurisdiction is based on the fact that agriculture continues to play an important role in the State of Washington. County economic rankings within the 39 state counties, based on agricultural production (2002) are as follows:<sup>5</sup>

Whitman County:	10 <sup>th</sup> , \$162.6 M (wheat, barley, peas and lentils)
Columbia County:	29 <sup>th</sup> , \$26.5 M (lentils, dry peas and wheat)
Garfield County:	30 <sup>th</sup> , \$19.7 M (barley, wheat and cattle)
Asotin County:	34 <sup>th</sup> , \$9 M (Cattle, hay and wheat)

#### 3.1.1 Business Dependence upon Freight Infrastructure

EWITS findings from the mid-1990s stated that 75 percent of (then) new eastern Washington manufacturing firms relied on truck freight. This general trend is not contradicted by the (non-statistical) 2007 survey information.

The study noted the following general relationships of dependence:<sup>6</sup>

Trucking:	Manufacturing Retail Services
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<sup>5</sup> WSDOT WTP, Appendix G-Map: Washington State Agriculture Production by County, 2002. Source: Washington State Department of Agriculture. AGR PUB 120-126 (N/12/04)

<sup>6</sup> EWITS Summary Report, Research Report #26, p. 6

Rail:	(New eastern Washington businesses, especially, including: Logging/lumber Fabricated Metals Transportation Equipment
Air Freight:	Food Manufacturing Industrial Machinery Transportation Equipment Engineering Management Consulting Specialty Retail
Water:	Export-oriented food and manufacturing industries

### 3.2 Freight Corridors and System Level Patterns

#### 3.2.1 Palouse Regional System Maps Inventory Freight Network Assets

A series of maps in this section highlights key aspects of both assets and constraints on the freight network within the Palouse RTPO jurisdiction. The section begins with three maps showing different aspects of the overall regional system. First, the Palouse **Regional System Map** introduces a multi-modal freight system network that includes a diverse set of options for agricultural, manufacturing and shipping firms in the counties of Asotin, Columbia, Garfield and Whitman.

The **Highways-Federal Functional Classification Map** identifies all federally-classified roadways. Major routes within the region include:

Rural Interstate

None

Rural-Major Collector

State Route 23

- State Route 27
- State Route 194
- State Route 261
- State Route 271
- State Route 272

Rural-Minor Arterial

- Highway 129

Rural-Principal Arterial

- Highway 12
- Highway 195

### 3.2.2 County-Level Goods Movement

At the next level of detail, and that most important for this study, are the county-level maps that have been assembled from data reported by the county engineers in Asotin, Columbia, Garfield and Whitman counties. The county arterial and collector system creates the farm and producer links into the regional and state network, and is being burdened with increasing volumes and weights of trucks. County roads are discussed in more detail in Chapter 4.

## 3.3 Roadways

### 3.3.1 Previous Studies

#### International and Out-of-State Trade Trends Boost Eastern Washington Truck Trips

Two of the major eastern Washington freight movement researchers have indicated that between 85 and 90 percent of all produce originating in Washington State is shipped by truck.<sup>7</sup> Both empty and loaded truck volumes increased in eastern Washington between 1993/94 and 2003/04. The volume of empty trucks coming from eastern Washington rose from 359,112 truckloads to 789,231 truckloads, a

<sup>7</sup> “Value of Modal Competition for Transportation of Washington Fresh Fruits and Vegetables,” Kenneth L. Casavant and Eric L. Jessup, SFTA Research Report No. 3, [http://www.sfta.wsu.edu/research/reports/pdf/Rpt\\_3\\_Value\\_of\\_Modal\\_Comp.pdf](http://www.sfta.wsu.edu/research/reports/pdf/Rpt_3_Value_of_Modal_Comp.pdf).

120 percent increase over the decade—and nearly four times as great an increase as the western part of the state. Loaded trucks coming from eastern Washington also increased, but not by as much—106 percent from 1993/94 truckloads (815,880) to 2003/04 (1.6 million).<sup>8</sup>

Table 3-1 shows the increase, over a decade, at specific truck survey sites, and so may capture anomalous data, but they nonetheless indicate changes in truck trips on roadways within the respective counties.

**Table 3-1: Percentage Change (Nominal) in Average Daily Truck Trips in Eastern Washington**

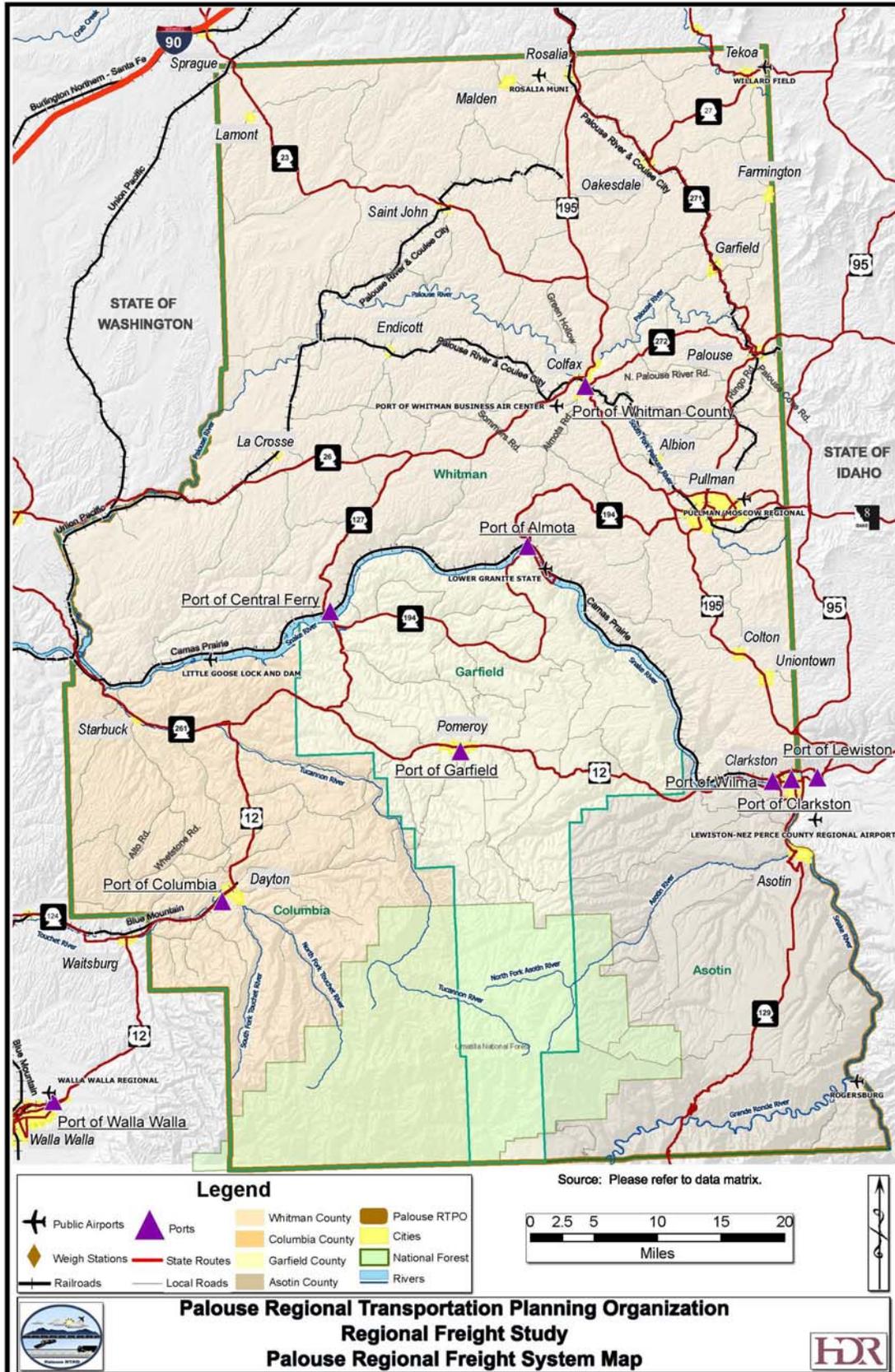
Origin County	EWITS (1993/94)	SSFTA (2003/04)	Change (%)
Asotin	4	16	300
Columbia	3	3	0
Garfield	1	6	500
Whitman	33	135	309

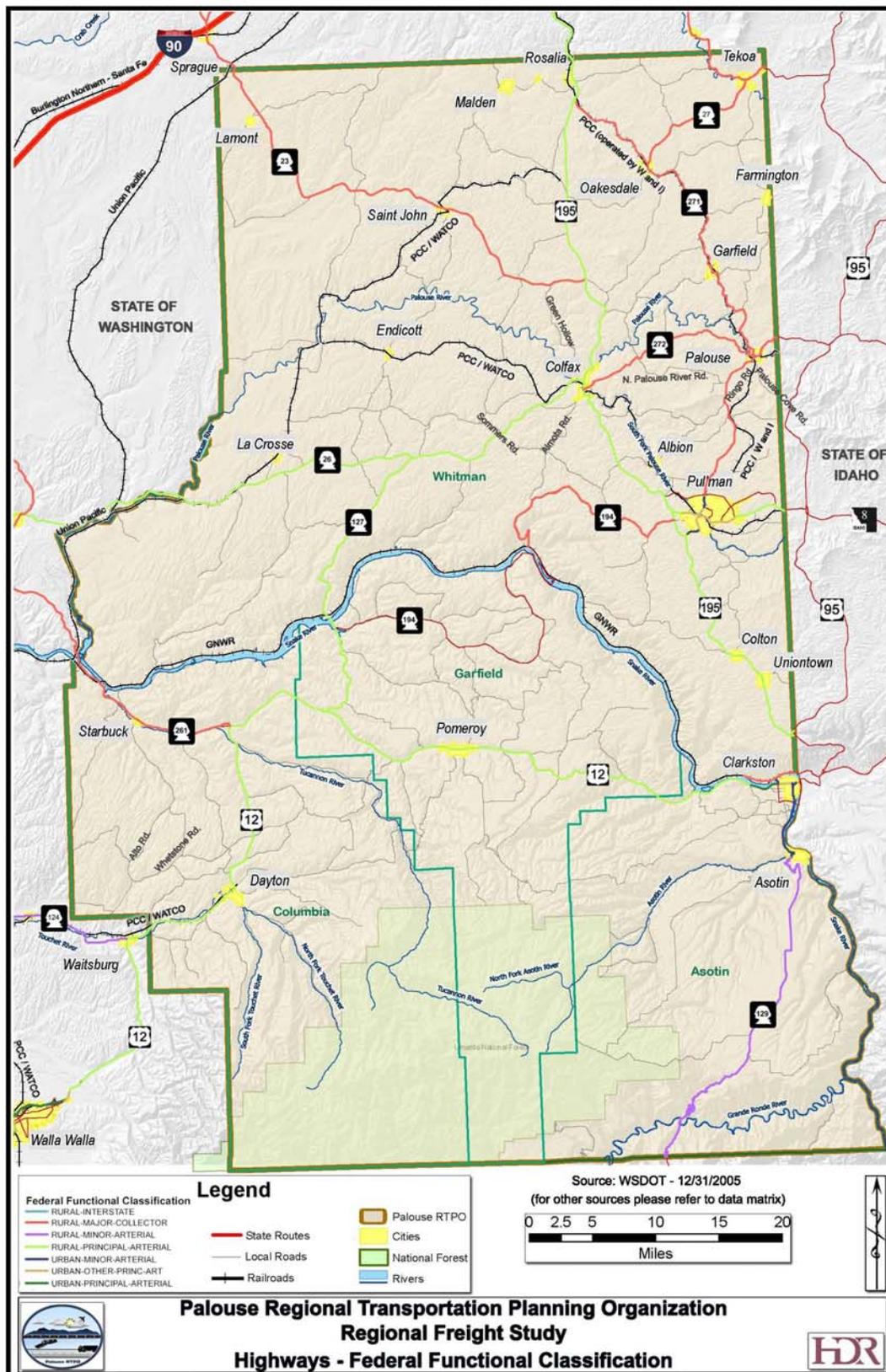
*Source: SFTA Research Report No. 20, October 2006, p. 14*

Annual cargo weight and value increased over the same ten-year period by 125 percent and 180 percent, respectively. Eastern Washington is bringing more supplies in, and shipping more loads out of the region, and these loads weigh more and are worth more than they were a decade ago. The percentage of those trucks actually hauling goods (i.e., not empty) has remained virtually stable, dropping one point to 68 percent.<sup>9</sup> Average ton per truckload in the eastern region rose about 10 percent, to 21.3 tons for each truck moving goods on the Palouse regional roadways.

<sup>8</sup> SFTA Research Report #20, p. 8

<sup>9</sup> SFTA Research Report #20, October 2006, p. 9.





More out-of-state truck trips are destined for eastern Washington (seven percent more, comprising 29 percent of the trucks from out-of-state are headed to eastern Washington, as opposed to 22 percent ten years ago.) This is accompanied by an increase of 14 percent of trips that both begin and end out of state. That is, pass-through truck freight movements have increased twice as much as out-of-state to eastern Washington.

Table 3-2, below, shows huge percentage increases in Asotin, Columbia and Garfield counties. (Note that they are based on relatively small total values compared to other county rankings.)

**Table 3-2: Percentage Change (Nominal) in Average Daily Trucked Cargo Value in Eastern Washington**

Origin County	EWITS (1993/94)	SSFTA (2003/04)	Change (%)
Asotin	46,319	163,821	254
Columbia	22,433	268,788	1098
Garfield	1,628	16,499	913
Whitman	672,251	891,339	33

Source: SFTA Research Report No. 20, October 2006, p. 15

**3.3.2 Roadway and Truck Data Maps**

The maps in this section document the most recent understanding of the roadway component of the freight system, including conditions of pavement and bridges, truck volumes and truck-involved accidents. The roadway infrastructure assets and deficiencies are presented first, followed by truck operational issues, including traffic volumes and collision data.

**Highways-Number of Lanes**

The vast majority of roadway route miles available for freight in the Palouse region are two-lane undivided roadways. The exceptions are roads that pass through urban areas, where two-lane roads become four- or six-lane facilities. One area where that pattern is broken is the local road southwest of Rosalia, in Whitman County, where the road widens to six lanes in two locations east of Malden.

**Highways—Lane and Shoulder Width Deficiencies**

Lane and shoulder width deficiency data from WSDOT sources, through December 2005, is shown on this map. Shoulders are designated deficient if they are unpaved or if they are paved and less than four feet wide on a state route, or paved and less than eight feet on a U.S route. Lane widths less than 12 feet wide are designated deficient.

Key areas of lane width deficiency are located at:

- SR 23 from Interstate 90 to Highway 195.
- SR 26 from the PCC/Watco Railroad crossing south of La Cross to south of Port of Whitman Business Air Center
- SR 27 from Willard Field to SR 271
- SR 129 from the Asotin River south to the Asotin County Line.
- SR 261 from Starbuck to Highway 12
- SR 271 from Highway 195 to Palouse
- Highway 12, near Pomeroy, and in sections of the south leg to Dayton
- Highway 195 from Palouse, through Pullman, to the Port of Almota
- Highway 195 from Colfax to a point approximately 10 miles north of Colfax

**Highways-Crossings, Bridges and Underpasses**

Bridges and at-grade rail crossings liberally dot the freight network in southeast Washington. SR 271 and the cities of Colfax, Pullman and Clarkston have concentrations of at-grade rail crossings; bridges are key features of many of the roadways, but are especially numerous on SR 23, SR 26, SR 127, SR 261 and SR 271.

**State Highway Road and Bridge Restrictions**

Road and bridge restrictions on state highways, updated in March 2007, are shown on this map. A bridge weight restriction on SR 12 south of Dayton requires overweight vehicles to use the

centerline. A 20,000 lb. per axle limit for Big Load and Class 8 vehicles<sup>10</sup> constrains trucks traveling on SR 261 west of Starbuck. Weight-restricted bridges in Colfax limit loads to 20,500 lbs per axle (big load) trucks on the first and to 18,500 lbs per axle (Big Load), 21,500 lbs. per axle (Class 8) or 43,000 lbs. per axle (single axle) trucks on the other bridge.

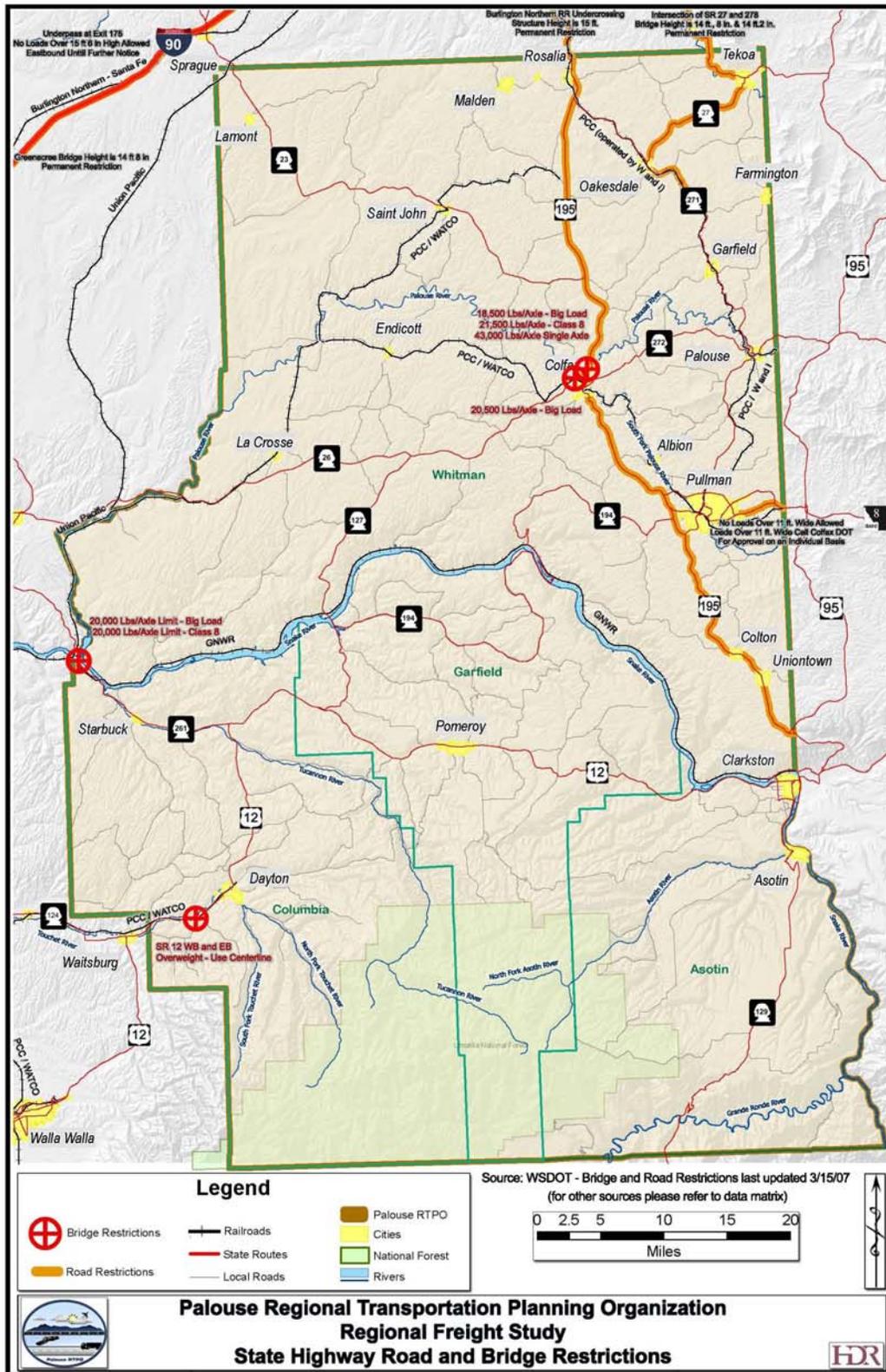
A significant permanent road restriction on Highway 195 is due to a Burlington Northern Santa Fe (BNSF) Railroad under-crossing structure height restriction of 15 feet. A second permanent restriction occurs at the intersection of SR 27 and SR 278, where bridge height places limits at 14 ft. 8 inches and 14 feet 2 inches.

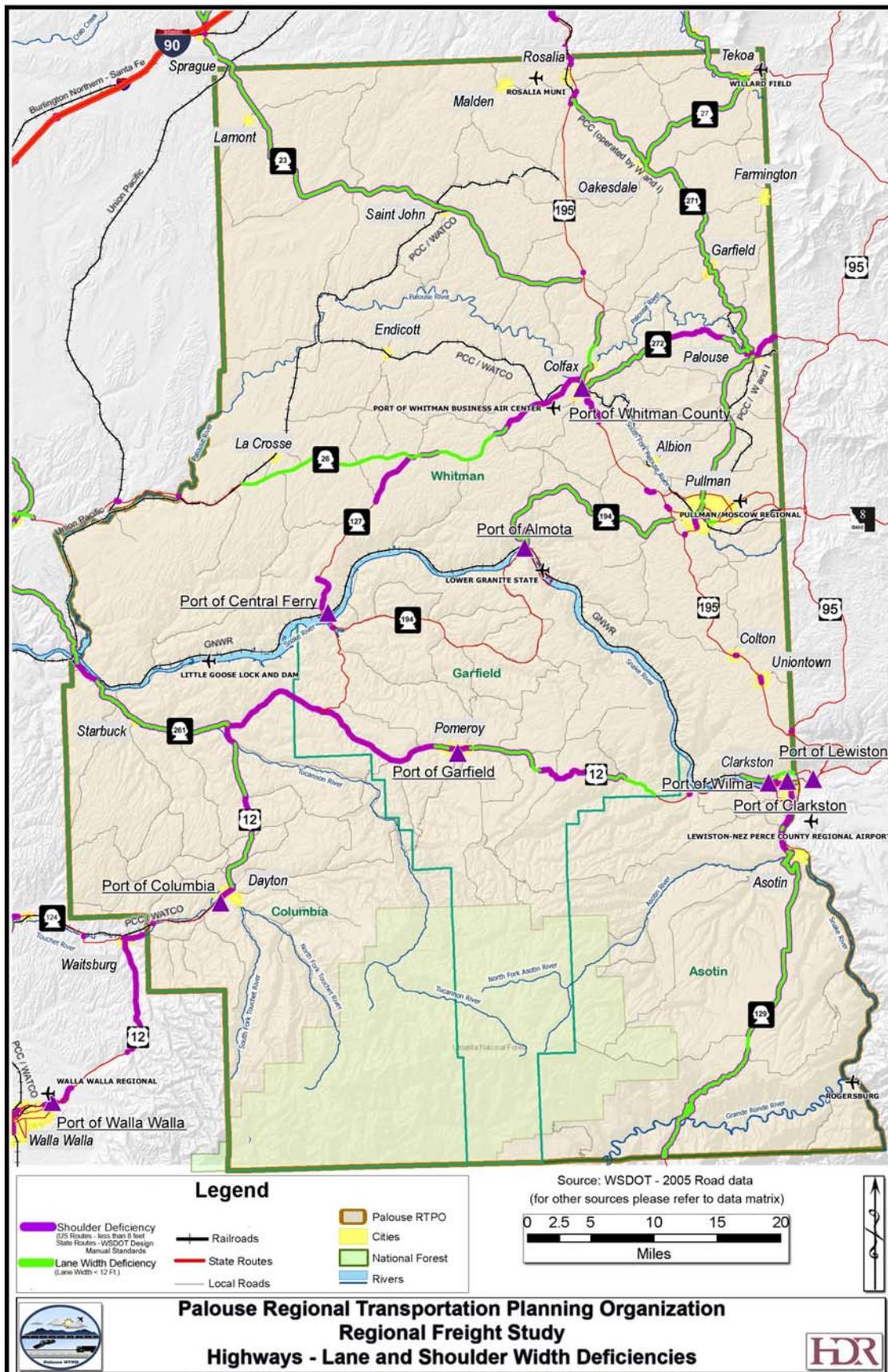
Width restrictions (no loads over 11 feet wide without approval) are in place on Route 270.

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<sup>10</sup> Class 8 vehicles are those over 33,000 gross vehicle weight







### 3.3.3 Operations

#### Map: Truck Average Annual Daily Traffic and Percentage of Traffic

This map shows daily truck trips (based on annual averages) and truck trips as a percent of total traffic along the main freight routes within the four-county area. The figures are for 2005.

Truck mode split reaches regional highs of 60 and 62 percent on the approaches to Port of Almota and Port of Central Ferry, respectively. At 425 and 503 daily truck trips, however, these are not the highest truck trip generators or attractors in the region. Daily truck volumes along Highway 195, for example, reach into the 800-1050 range in the busiest segments, though the percentage of total trips is only 18 percent at most. Smaller volumes, but higher truck mode splits prevail on Highway 12, and to a lesser extent on SR 26.

#### Map: Collisions Involving Trucks

Obvious concentrations of accidents, many of them non-injury accidents, occur in the more congested areas of Pullman, Colfax and, with less frequency, at Clarkston. Truck-involved collisions are prominent on Highway 195 (highest truck volumes) but also on Highway 12 and SR 26 (high truck mode split) and along SR 127 and SR 272. Six fatalities involving trucks occurred in the four year period (2002-2006) represented on the map.

### 3.3.4 Roadway Conditions and Issues

Previous studies, including WSDOT's WTP (2007) cite eastern Washington agricultural growers and processors concerns about the severe weather closures that shut down freight movements on Interstate 90 at Snoqualmie Pass. Locally, weather is also a concern, as county roads are shut down periodically for snow, ice, fog, flooding and mud.

### 3.3.5 What Shippers Care About in General

A series of questions about the level of *general* concerns was posed to the participants.

Responses are summarized below and in the graphs on the following page.

### Roadway Issues

For those registering "very serious" concerns, safety was a primary issue. Unsafe passing conditions/truck-vehicle conflicts ranked high among the concerns of survey respondents. That concern is, however, related to other issues identified, such as poor visibility, lack of shoulders and so on. A second level of concern is related to specific weight and (to a much lesser degree) height restrictions encountered on roadways and bridges. Third was moderate concern about seasonal congestion on the roads that shippers use most.

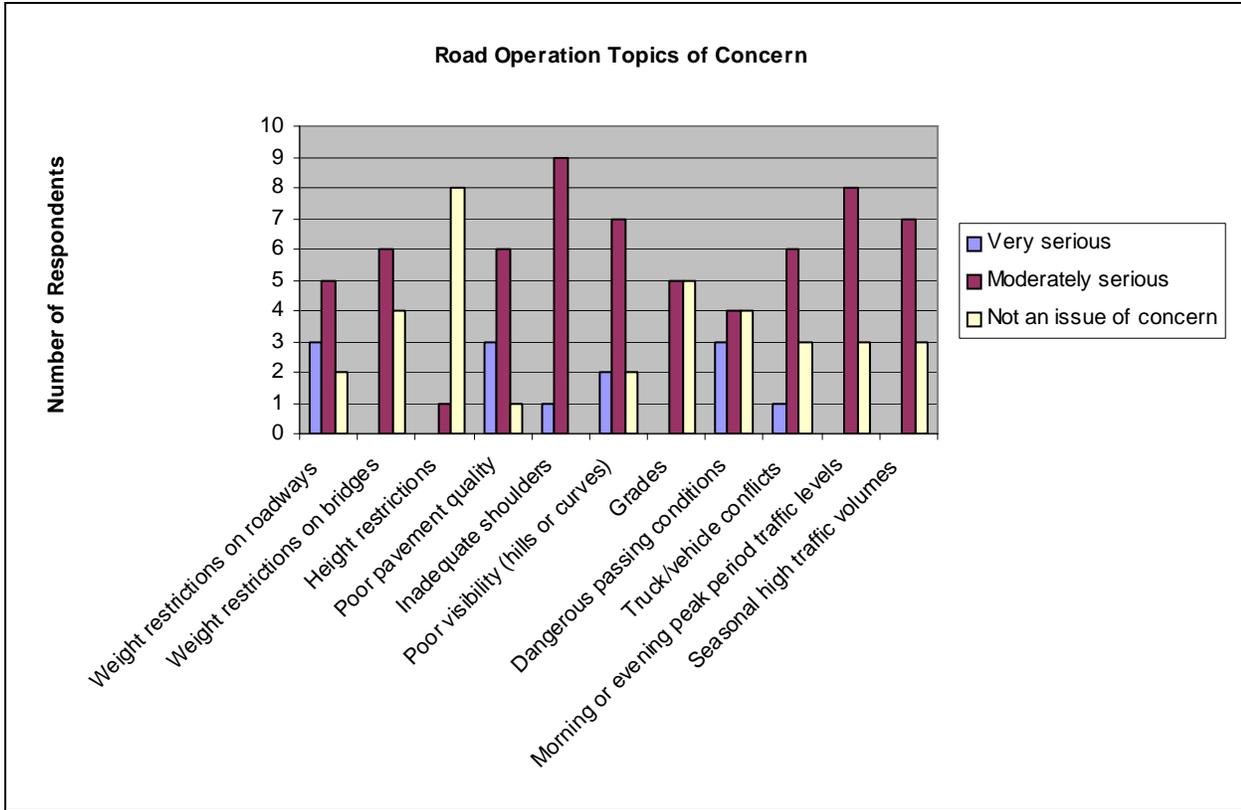
### Weather and Climate Issues

The freight impacts from snow, ice and fog are those of greatest concern to the 17 respondents who answered a weather-related question. This concern is reflected also in numerous comments about the need for all-weather roads in the Palouse RTPO region.

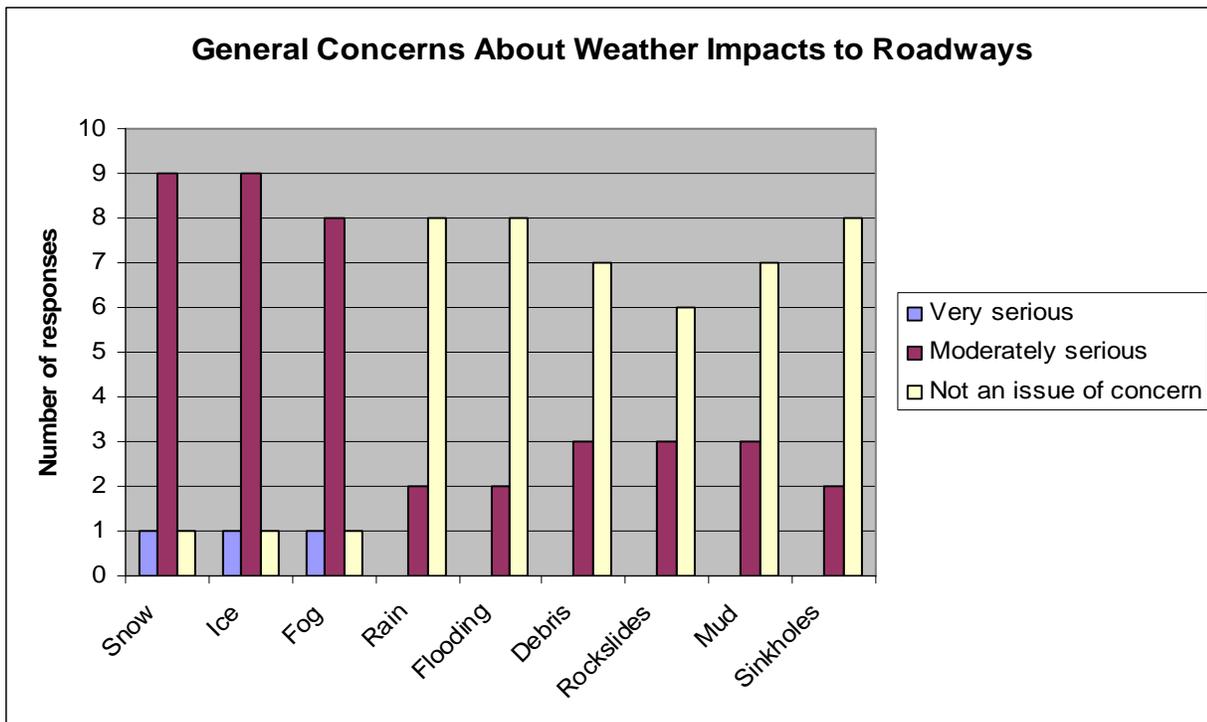
### 3.3.6 Specific Roadway Issues of Concern

A concern of the 2003/04 SFTA studies was that some truck movements on county roads might have been missed. The researchers felt this was particularly true in the case of trucks heading for railheads, after a period of rail consolidation in the area. Added to this potential for undercounting the importance of county roads is that the first and last legs of trips hauling agricultural or forestry products are very likely to use county roads, both paved and unpaved. In eastern Washington, these business classifications dominate, thus elevating the importance of the local roadway system. Further, based on the location of survey locations, southeastern Washington State may not have been covered to a sufficient level of detail. Tables 3-3 and 3-4 show specific concerns of 2007 survey respondents and interviewees, regarding identified roadways.

County maps provide detail on local roads and county-level truck routes (Appendix D).



Source: March-April 2007 Survey of Palouse Regional Shippers (N=17)



Source: March-April 2007 Survey of Palouse Regional Shippers (N=16)

**Palouse Regional Transportation Planning Organization – Regional Freight Study**

**Table 3-3: Physical Constraints on Roadways (2007 Shipper Survey + Supplemental Interviews)**

Problem Roadway	Weight Restrictions (Roadway)	Weight Restrictions (Bridge)	Height/Width Restrictions	Poor Pavement Quality	Inadequate Shoulders	Poor Visibility (Hills or Curves)	Grades
<b>Asotin County</b>							
13 <sup>th</sup> Street (Clarkston)							
SR 129					✓		
SR 295							
<b>Garfield County</b>							
Peola Rd.			✓	✓			
Bell Plain Rd.				✓	✓		
<b>Whitman County</b>							
Ringo Rd.	✓						
Palouse Cove Rd.	✓			✓	✓		
Green Hollow	✓				✓	✓	
North Palouse River Rd.	✓					✓	
Almota Rd.	✓				✓	✓	
Sommers Rd.	✓				✓		
SR 8	✓			✓			
SR 26	✓			✓			
SR 27	✓			✓	✓		
SR 128							
HWY 95	✓			✓	✓		
HWY 195	✓			✓	✓		

*Source: March-April 2007 Survey of Palouse Regional Shippers (N=15)*

**Table 3-4: Weather and Climate Issues Affecting Roadways (2007 Shipper Survey)**

Problem Roadway	Snow	Ice	Fog	Rain	Flooding	Debris	Rock-slides	Mud	Sink-holes
<b>Asotin County</b>									
13 <sup>th</sup> Street (Clarkston)									
SR 129									
SR 295									
<b>Whitman County</b>									
Ringo Rd.								✓	
Palouse Cove Rd.	✓	✓	✓	✓					

**Palouse Regional Transportation Planning Organization – Regional Freight Study**

Problem Roadway	Snow	Ice	Fog	Rain	Flooding	Debris	Rock-slides	Mud	Sink-holes
Green Hollow	✓	✓			✓			✓	
North Palouse River Rd.	✓	✓			✓		✓	✓	
Almota Rd.	✓	✓							
Sommers Rd.	✓	✓							
SR 8									
SR 23	✓	✓							
SR 26	✓	✓							
SR 27	✓	✓			✓				
HWY 95	✓	✓	✓						
HWY 195	✓	✓	✓	✓					

*Source: March-April 2007 Survey of Palouse Regional Shippers (N=15)*

**Table 3-5: Traffic-Related Problems on Roadways (2007 Shipper Survey)**

Problem Roadway	Dangerous Passing Conditions	Truck/ Passenger Vehicle Conflicts	AM or PM Peak Period Traffic Congestion	Seasonal High Traffic	Inadequate Shoulders	Poor Visibility (Hills or Curves)
<b>Whitman County</b>						
Ringo Rd.						
Palouse Cove Rd.						
Green Hollow	✓					
North Palouse River Rd.	✓					
Almota Rd.	✓					
Sommers Rd.	✓					
SR 8						
SR 26				✓		
SR 27						
HWY 95	✓					
HWY 195						
<b>Asotin County</b>						
13 <sup>th</sup> Street (Clarkston)						
SR 129	✓	✓				
SR 295						

*Source: March-April 2007 Survey of Palouse Regional Shippers (N=15)*

### 3.3.7 General Road-Related Constraints Identified

The A general concern was registered regarding Whitman County road closures of up to 45-60 days each year. County road restrictions were also mentioned as a problem. Another respondent cited seasonal weight restrictions during thaws as an area of concern. The need for all-weather roads was mentioned by many as an overall need in the region, especially for strategic freight routes. One respondent would like to see “all rural roads” better maintained. One remote respondent cited difficulty in getting truck service to his business. Fuel prices were also mentioned as a concern.

### 3.3.8 Specific Roadway Improvements Wanted

Respondents identified roads they’d most like to see improved, and in some cases specified improvements, as follows:

- Almota Rd.
- Sommers Rd.
- Bell Plain Rd. –Widen shoulders, paint lane lines, fill potholes
- SR 26 (two respondents)
- SR 27
- SR 127
- SR 128
- SR 270 (Note that this route will be a new four-lane road by the end of summer 2007)
- Highway 12 (three respondents)
- Highway 95 (four respondents)

This roadway is the subject of an Idaho Transportation Department (ITD) study examining alternative alignments from Thorncreek to Moscow, Idaho. Two respondents

suggested that the stretch be widened from two to four lanes.<sup>11</sup>

- Highway 194

Pavement is breaking up and deteriorating. The roadway has no shoulders or safe passing areas. The condition of the highway inhibits access to the Port of Almota. Lane width deficiencies have been noted north of the Snake River into Pullman.

- Highway 195
- Umatilla Forest Access (USFS comments)
  - Peola Road—A first priority. This road, from Pomeroy directly south to the nation forest boundary. Could be subsurface problems, and asphalt problems. Reports of above-average fatalities on this road. (Garfield County Engineer also cites Peola Rd. as an issue—too narrow.)
  - Tucannon River Road—Second priority. This road, from Highway 12 south, accessing Umatilla to the west of Peola Road. Tucannon River road is old, is highly used by logging trucks, and is showing signs of wear.

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<sup>11</sup> The roadway is outside Washington State, but is included because it was specifically identified as an issue, and is part of the overall regional freight system.

### 3.4 Rail

#### 3.4.1 Rail System Overview

Two Class I (main line) railroads operate within the State of Washington, BNSF Railway (BNSF) and Union Pacific Railroad (UP). However, within the four-county area of the Palouse RTPO, rail service is provided by short-line connections to the two Class I systems. The UP line touches the northwest corner of Columbia County/southwest corner of Whitman County, and the northwest corner of Whitman County. Washington main line routes are at or near capacity in many parts of the state, and international and national through-traffic demand is pushing up rates for all shippers.

Within the Palouse RTPO region, three short lines operate, providing service to manufacturers, lumber and agricultural shippers, and accessing grain terminals and Snake River ports.

#### 3.4.2 Previous Studies

In December 2006, WSDOT completed a major and comprehensive review and assessment of statewide rail issues that includes a summary final report and numerous technical memoranda and background reports, under the umbrella of its *Statewide Rail Capacity and System Needs Study*<sup>12</sup>. Capacity constraints through Stevens Pass, Stampede Pass and the Columbia Gorge, as well as specific points of terminal congestion and tunnel constraints on the Class I main lines are part of the larger rail freight issues that impact the Palouse region. These have been well documented in the reports, however, and will not be addressed in this study, except to note that main line capacity issues mean that it is that much harder for smaller shipments or off-main-network shipments to compete with high-volume traffic sources at existing rates.

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<sup>12</sup> Washington Statewide Rail Capacity and System Needs Study Final Report, December 2006

According to the WTP rail study<sup>13</sup> three Washington industries were identified as being “especially sensitive to rail performance:”

- Trade and Distribution
- Agriculture and Food; and
- Lumber, Paper and Wood.

These industries in particular must rely either on barge or rail to move heavy, bulky and generally lower value commodities at a cost that enables them to compete in global markets.

#### 3.4.3 Short Line Railroad Inventory

Three short line railroads serve agriculture and industry within the Palouse RTPO region:

**Watco-Owned and Operated Great Northwest Railroad (GNWR) (Former Camas Prairie Railroad)** (Garfield/Whitman County Line)

**WSDOT-Owned Former Palouse River and Coulee City Railroad (PCC)** Operated by WATCO and Washington and Idaho Railroad (Whitman County)<sup>14</sup>

**Watco-Owned and Operated Palouse River and Coulee City Railroad (PCC) (Former Blue Mountain Railroad)** (Columbia County)<sup>15</sup>

These three lines are part of the secondary network that feeds the primary UP and BNSF grain and carload traffic network that funnel eventually either to the central United States or into Vancouver/Portland. Recently published descriptions, along with updated inventories and features of the rail lines are provided in the following sections.

#### Great Northwest Railroad (GRNW)

The Great Northwestern Railroad (GRNW), a wholly owned subsidiary of Watco Companies, Inc. (Watco) operates a Class III short line in

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<sup>13</sup> Washington State Rail & System Needs Capacity Study, Technical Memo 8, Policy Investment Options, [http://www.wstc.wa.gov/Rail/TM1\\_2\\_B\\_ProfilesoffrghtrailUsers.pdf](http://www.wstc.wa.gov/Rail/TM1_2_B_ProfilesoffrghtrailUsers.pdf) p. 9

<sup>14</sup> Originally a combination of former BN and UP lines.

<sup>15</sup> Originally a combination of former BN and UP lines.

eastern Washington and western Idaho, crossing the State line at Clarkston. The GRNW operates along the north bank of the Snake River, which marks the southern boundary of Whitman County.

The line was constructed in 1909 by the Oregon-Washington Railroad & Navigation Company (UP predecessor) as it competed with the Northern Pacific (BNSF predecessor) to serve Lewiston, Idaho. Both roads realized that constructing parallel lines into the hinterland east of Lewiston would not be beneficial, and agreed to combine their existing and future lines as the jointly owned Camas Prairie Railroad (CSP). BNSF and UP sold the CSP to Camas Prairie RailNet in 1998. The line was acquired by the GRNW from Camas Prairie RailNet in 2004. In 2005, GRNW sold a portion of its network east of Lewiston, Idaho to the Bountiful Grain and Craig Mountain Railroad.<sup>16</sup>

Commodities handled by the GNWR include grain and lumber, paper and pulp, chemicals, scrap iron and frozen vegetables.

#### *Conditions*

The line is approximately 71 miles long, and extends from Ayer junction, on the Union Pacific mainline, to Lewiston Id.

The GRNW is in very good condition. The 74 mile main line from Riparia, Washington (just east of Ayer Jct.) to Lewiston, Idaho, has a track speed of 40-60 miles per hour. This high speed is possible because the line was rebuilt and re-engineered in 1970-74, to lift it above mean high-water level when four dams were constructed along the Snake River.

#### **Hooper Junction-Thornton, Marshall-Pullman, and Winona-Moscow, Idaho Lines (Publicly Owned, Operated by PCC and W and I Railroad)**

The PCC dominated the rail market in eastern Washington.<sup>17</sup> However, for some years,

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<sup>16</sup> Note that Montana Rail Link has trackage rights from Sand Point to Spokane on BNSF.

<sup>17</sup> SFTA Research Report #6, October 2003, p. iii

WATCO, the parent company of the PCC (and other lines in the region) had complained that low volumes and revenues were making it difficult to maintain and operate the system.

In 2004, WSDOT purchased the PCC trackage owned by Watco lying south of Marshall and east of Hooper Junction, with the intention of rehabilitating the lines to ensure their ability to serve area shippers into the future.

Currently the Marshall-to-Pullman and Moscow via Pullman segments are being operated by Washington and Idaho (W and I) Railroad. WSDOT is also in the process of purchasing the operating rights for this portion of the track. A new operator may be operating this segment by mid 2007.

#### *Conditions*

This rail network includes approximately 209 miles of track, including 18 miles beyond the State line to Harvard, Idaho, and two miles to Moscow, Idaho.

The Marshall-to-Pullman line includes 34 miles of 112-pound continuous welded rail and 46 miles that range from 90 to 115 pounds. Rail weights are not an issue on this line.

#### **PCC Wallula-Dayton Line, formerly Blue Mountain Railroad (Privately Owned)**

The PCC operates the former Oregon-Washington Railroad & Navigation Company line connecting Wallula, located on the UP Hinkle-Spokane line, with Dayton. This line was among a group of rail lines acquired by the Blue Mountain Railroad (BLMR) in 1992 from UP. The BLMR was subsequently acquired by the PCC in 1998.

PCC's route extends from the UP connection at Wallula up the valley through Touchet, Lowden and College Place to the yard in Walla Walla. The route leaves Walla Walla and goes north to Prescott, Washington and then east through Waitsburg to Dayton. At Dayton, the PCC serves food and grain related industries. From Walla Walla, a branch line goes south through Milton Freewater, Oregon, to Smith Frozen Foods in

Weston, Oregon. The former BLMR and now PCC is also owned by Watco, Inc. of Pittsburg, Kansas. The principal commodities hauled by the PCC are grain, forest products, frozen foods, processed foods and other farm products.<sup>18</sup>

#### *Conditions*

This line has approximately 94 miles of track, including 22 miles from the State line to Weston, Oregon.

Because of the light rail used on the segment from Dayton to Walla Walla (75-pound, 80-pound and 85-pound rail) the maximum car weight is 263,000 pounds (short of the 286,000 pound standard that is even now being supplanted in many areas.)<sup>19</sup>

### 3.4.4 Maps

The Railroad Map (following page) shows the short line network for the four Palouse counties within the context of multi-modal freight transportation system in the Palouse region.

There are no severe bottlenecks indicated on this map within the Palouse RTPO. However a railroad bridge located between Colfax and Pullman burned and because of this event this segment of track is out of service. This has impacted rail shippers to the east of Colfax, at Pullman and Moscow ID, particularly those shipping “UP route” cars.

### 3.4.5 Rail Operations in Palouse Region of Eastern Washington

#### **National and International Trade Trumps Local Market Power**

Agriculture is important to the State, and accounts for \$7.4 billion (three percent) of the gross state product and six percent of the employment. This importance is magnified within the Palouse RTPO region. Agricultural products typically

<sup>18</sup> Quote from WUTC website

<http://www.wutc.wa.gov/web1/rail/regional.html>

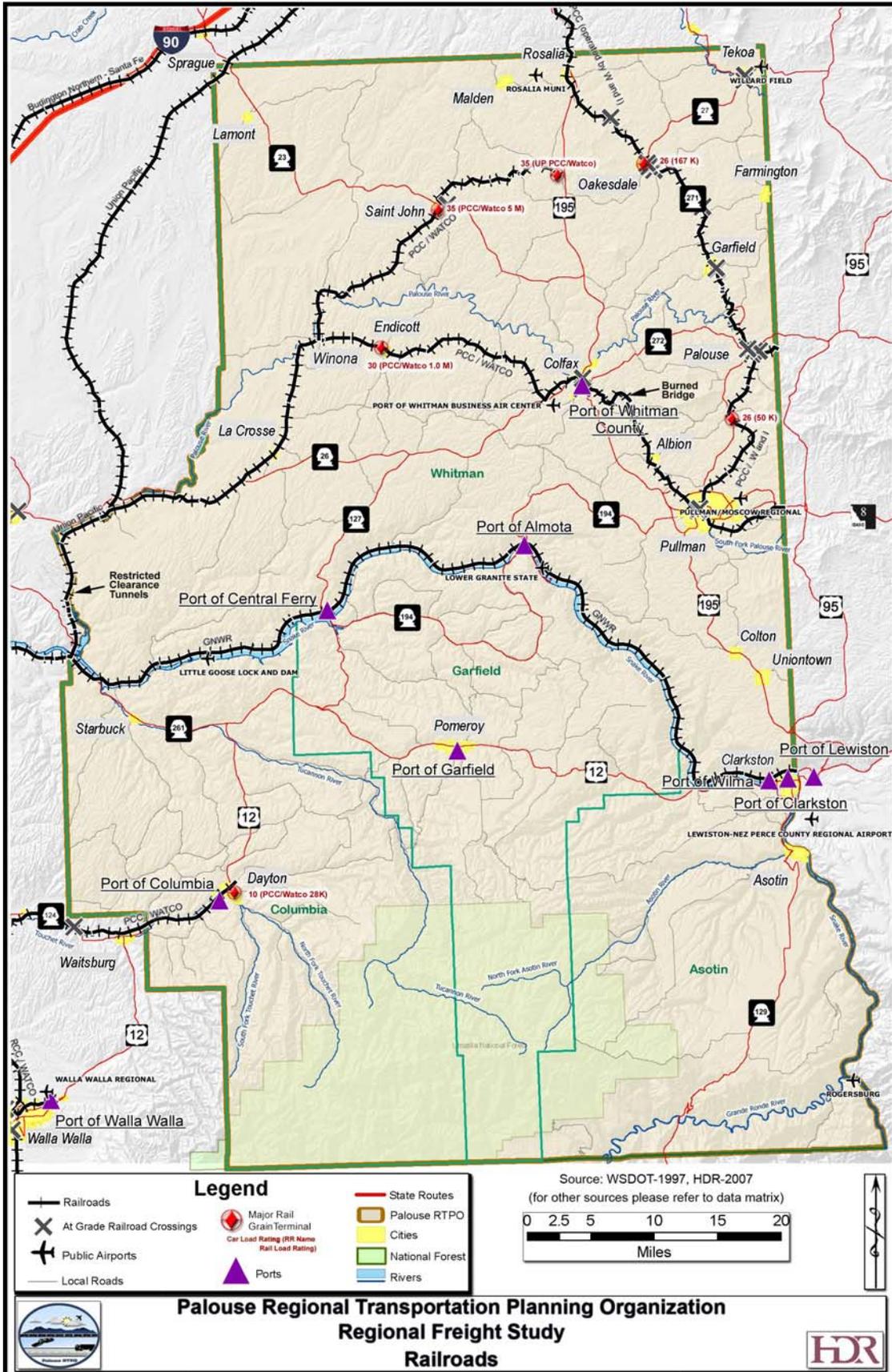
<sup>19</sup> WSDOT, Eastern Washington Grain-Hauling Short-Line Railroads (HDR and Denver Tolliver, February 2003) at [http://www.palouse.org/rtpo/PRTAppendixCgrainhauling\\_rpt.pdf](http://www.palouse.org/rtpo/PRTAppendixCgrainhauling_rpt.pdf) p.6

require low-cost shipping methods such as rail and barge to compete in domestic and export markets.

Grain shippers choose transportation modes based on the total cost from field to consuming point (for the purposes of export grain the consuming point is considered to be the export terminal.) Rail costs are highly influenced by both distance and by initial and final terminal costs, whereas truck costs are almost directly proportional to distance and initial and final terminal costs are relatively minor. Because the Palouse RTPO region is not at a great distance from export terminals, rail costs are unfavorable compared to all-truck and truck-barge costs.

Following deregulation of rail transportation in 1980, BNSF and UP began reducing rates for grain shippers that constructed loading and unloading facilities that loaded and emptied trains much faster than traditional “loose-car” loading facilities. Because these facilities enable the railroad to improve car and locomotive utilization, reduce labor costs, and improve main track utilization, the rate reduction for what is now called “shuttle trains” is substantial. While rail transportation continues to be available for essentially any grain shipper regardless of the size of shipment, the rate for single-car and small-block shipments is such that rail transportation on those terms is increasingly deemed uneconomical for most shippers, who either use truck or truck-barge combinations (if available and if cheaper) or cease shipping,

Moreover, grain shippers are in effect “bidding” for limited track space on main lines, many of which are at or near capacity for the existing infrastructure especially as these main lines approach ports. The space is sold to the highest bidder. Because grain must compete in world markets and is relatively low value compared to high-value rail shipments such as autos, machinery, and consumer goods), grain shippers may not have enough margin to win the auction for scarce main line capacity and still turn a profit.



The result is that grain is increasingly concentrated in the U.S. into shuttle elevators, and branch lines whose service territory does not generate sufficient harvest to justify a shuttle elevator are increasingly uneconomic. The economic capture radius for a shuttle elevator, using a truck haul from the field to the shuttle elevator, may overlap *all* of the branch lines in that radius and eventually divert all of their grain traffic. Remaining traffic of other commodities such as fertilizer, lumber, scrap metal, etc., may be insufficient to carry the operating and maintenance costs of the branch line; the grain traffic on many branch lines is the de facto base load.

### 3.4.6 Rail Conditions and Constraints

On the UP mainline, there are tunnel clearance restrictions that do not allow for containers in the hi-cube double stack configuration to be shipped between Ayer Junction and Hooper Junction. Tunnels were constructed through Columbia River basalt, and are not lined. Thus it would be fairly easy to improve the clearance in this segment.

### 3.4.7 Survey and Interview Responses

Survey respondents used rail facilities as indicated in the table below, to ship and/or receive goods.

**Table 3-5: Rail Facilities Used**

Railroad	Ship	Receive	Ship and Receive
WSDOT Lines (Former Palouse River and Coulee City Railroad) (Whitman County)	2	2	1
Great Northwest Railroad (formerly Camas Prairie Railroad (Garfield/Whitman County Line))	1	3	0
PCC Wallula-Dayton Line (formerly Blue Mountain Railroad (Columbia County))	1	0	1

*Source: HDR 2007 On-Line Shippers Survey, N=7*

A continuing concern, echoed in the written response of one business surveyed, is the lack of rail cars. The comment in question was directed to the PCC rail line. Another comment relative to the PCC was an expressed hope that new WSDOT ownership would bring more reliable service to the line. A third respondent identified poor track conditions on both the PCC and BLM railroads as areas of concern.

### 3.4.8 Experience with WSDOT Grain Train

Four respondents answered an open-ended question asking for a description of shippers' experience with the Grain Train sponsored by WSDOT. Verbatim responses were as follows:

- It has been useful. Use is dependent on state rail ownership and main line rates.
- The program has worked well.
- We are not currently part of the Grain Train program but would like to be.
- When the cars are idle, we have utilized them to shuttle grain from the PRCC Railroad to our port terminal at Wallula, where we transload to barge. It has been useful in expanding the volume of grain we handle. Round trip times are greatly reduced to Wallula vs. the state cars going all the way to the coast as well.

### 3.5 Barge/Ports

#### 3.5.1 Maps

The Ports Map shows the cluster of port facilities on the Snake River within the Palouse RTPO boundaries.

#### 3.5.2 Barge/Port 2007 Data

Slack water shipments were made possible when the system of dams and locks were installed on the Snake River in the 1970s. Notwithstanding problems at the Lower Granite Lock and Dam, and continuing talk of a Snake River drawdown, eastern Washington shippers rely on barges that move up and down at about 7-10 miles per hour, serving the Snake River ports.

**Port of Clarkston**<sup>20</sup> is an operating port located in Clarkston, in southeast Asotin County. It occupies a 120-acre site on the Columbia Snake River. An industrial attraction is its 140-ton Lima crane—one of the largest east of Portland serving a navigable river port—capable of moving logs and containers into and out of barges calling at the Port. The Port leases ready-to-build industrial land with all utilities in place. More than 65,000 square feet of warehousing for industrial uses is also available adjacent to the Port. The Port has 580 feet of dock that accommodates ships from six cruise lines from Portland and Astoria. However, Snake River drawdown has caused water levels to drop to the point where much summer 2007 tourist traffic has been threatened and/or cancelled.

Clarkston Business Park was completed in 2002, and is leased out to three dozen Port tenants that include manufacturers, mills, tourist and transportation-related firms as well as businesses affiliated with the local economy.

**Port of Columbia/Dayton Industrial Park**<sup>21</sup> is located at Lyons Ferry, near Starbuck on the

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<sup>20</sup> Port of Clarkston website, <http://www.portofclarkston.com/>

<sup>21</sup> Port of Columbia website, <http://www.palouse.org/PortOfColumbia.htm>

Snake River in Columbia County. The Port owns the rail line from Dayton via Waitsburg and Prescott to Walla Walla where the UP connects to Wallula. In Wallula, shippers can load barges or load/transfer rail cars heading to the BNSF and UP main lines and points beyond.

Industrial zoned lots and buildings are available.

**Port of Lewiston**<sup>22</sup> in Nez Perce County, Idaho, has been in operation for nearly 50 years.

A January 2007 newspaper account proclaims a rebound in Lewiston Port container business.<sup>23</sup> The article contrasts 2005 containers shipped via barge to Portland, Oregon, with 2006 figures: 10,042 containers vs. 5,735, respectively. The Port ships paper products, grain, peas, lentils and garbanzo beans. Agricultural goods have taken the number one spot away from paper goods, according to the article, and accounted for about 60 percent of the 2006 container shipments. The report notes, however, that the majority of grain shipped from the Port is shipped via bulk barges, not containers, which cost more. Despite this recent growth in shipping, levels are still about 30 percent below the 10-year average for the Port of Lewiston. This is due to Potlatch Corp's decision to relocate a large portion of its business to the Puget Sound area when the Port of Portland could no longer provide direct service to Potlatch's biggest market, Japan.

Approximately 31 tenants reside at the Port, including Swift Transportation, which provides freight hauling to many businesses in the Palouse RTPO region.

Three ports operate under the umbrella of the **Port of Whitman County**<sup>24</sup> the main office of which is located in Colfax, along with the Port's Business Air Center (discussed in section 5.5).

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<sup>22</sup> Port of Lewiston website

<http://www.portoflewiston.com/index2.html>

<sup>23</sup> Lewiston Tribune, January 28, 2007

<http://www.portoflewiston.com/portinfo/News1-07.pdf>

<sup>24</sup> Ports of Almota, Central Ferry and Wilma. Port of Whitman County website, <http://www.portwhitman.com/>

**Port of Almota**<sup>25</sup>

The Port is located four miles downriver of the Lower Granite Lock and Dam. At 11 acres, this is the smallest of the on-water Port of Whitman sites; the Port of Almota is home to Almota Elevator Company and Whitman Terminal Association. There is no vacant land available at present.

**Port of Central Ferry**<sup>26</sup>

This link in the Port of Whitman County chain is located 50 miles downriver from the Port of Wilma, and is built on 147 acres of land (31 acres are developed) divided into 18 industrial lots. It is served by SR 26, rail and barge service. It is the most rural of the ports in this area.

A few of the regionally significant businesses located in proximity to Central Ferry are McGregor, NuChem, Central Ferry Terminal Association, Columbia Grain and Seed, Pomeroy Warehouse and Feed and Wilbur Ellis.

**Port of Wilma**<sup>27</sup> is the Port of Whitman County’s largest on-water port, and is located across the Snake River from Lewiston/Clarkston. A 2003 expansion added 30 acres to the Port site, bringing the total to 250 acres, divided into 24 lots. Approximately half these are leased on 20 developed acres, to regionally significant businesses that include Foss Maritime, Columbia Grain, Longview Fiber, Urban Wood Recycles and Tidewater Barge Lines.

**Port of Garfield**<sup>28</sup> has administrative offices located in Pomeroy, Washington. The Port, which focuses on economic development, controls 80 acres on the Snake River. There is a new access road from Highway 12 into the Port property.

<sup>25</sup> Port of Almota website, <http://www.portwhitman.com/Almota.php?index=3>

<sup>26</sup> Port of Central Ferry website, <http://www.portwhitman.com/CentralFerry.php?index=3>

<sup>27</sup> Port of Wilma website, <http://www.portwhitman.com/Wilma.php>

<sup>28</sup> Port of Garfield website, under reconstruction in April 2007, <http://www.portofgarfield.com/>; information provided by Laura Brazil, Port Manager (personal conversation, April 2007)

No particular transportation deficiencies were noted by the Port Manager.

**3.5.3 Barge Issues**

Attempts to gain insight into barge and port operations from operators themselves focused on the waterway issues. Respondents naturally were concerned that the minimum operating pool of 14 feet be consistently maintained. Deferred maintenance on dredging was an issue. The

Information regarding freight access into and out of the ports was not familiar to the port officials contacted, who suggested speaking with the shippers themselves.

**3.5.4 Waterway Conditions and Issues**

Water-borne commerce on the Columbia-Snake River system enjoys the second-most cost effective mode for transporting goods (behind pipelines) measured as energy and total cost per ton mile.<sup>29</sup> The system of eight locks and dams provides well-integrated water navigation component to the multi-modal freight system in Eastern Washington.

**3.5.5 Survey and Interview Responses**

Nine survey respondents reported using the area Ports as shown in Table 3-6.

**Table 3-6: Port Facilities Used**

Port	Ship	Receive	Ship and Receive
Port of Almota	3	0	1
Port of Central Ferry	3	0	2
Port of Clarkston	0	0	0
Port of Columbia	1	0	0
Port of Garfield	0	0	2
Port of Lewiston	2	0	0
Port of Wilma	1	0	1

*Source: HDR 2007 On-Line Shippers Survey, N=9*

<sup>29</sup> EWITS Report #12, Executive Summary, p. i

Interviews and survey comments were as follows:

- There are siltation issues at Central Ferry, where the minimum operating depth is not always achieved. Other than this, there are no major problems at this Port.
- Problems with access road to Port of Almota (this issue also echoed in the roadway section).
- Where rail exists, the rail service to the ports is good.
- No transportation problems at the Port of Wilma; barging is good there, with the port facilities on the side of the river that scours, so siltation is not an issue.

### 3.6 Air

#### 3.6.1 Air Cargo Still a Niche Mode in Eastern Washington

Although air access has been identified in previous studies as important to community life in rural areas—making urban amenities, services and products accessible to rural residents—air cargo accounts for a small fraction of the freight moving in and out of the Palouse region.

#### 3.6.2 Maps

The following map (Airports) shows six of the seven the airports within or just outside the Palouse RTPO regional boundaries (the map scale does not permit including the Tri-Cities Airport in Pasco). Also indicated is airstrip length, width and lighting conditions.

#### Primary and Commercial Service Airports Pullman-Moscow Regional Airport<sup>30</sup>

Horizon Air (Alaska Airlines) is the only air carrier serving this airport, located two miles east of Pullman and four miles west of Moscow, Idaho. There is one runway, 6,730 feet long and 100 feet wide, with an asphalt surface. The field is equipped with pilot-controlled high-intensity

<sup>30</sup> Airport website, <http://www.pullman-wa.gov/airport>

runway lights. The airport has a general aviation ramp and a fixed base operator (FBO) hanger complex. Fuel, aircraft repair, flight instruction, charter aviation and other services are available.

FAA data indicates that for the 12-month period ending July 1, 2006, approximately 80 aircraft operations take place each day. Of these, 44 percent are transient general aviation; 41 percent local general aviation; 14 percent commercial and one percent is air taxi service. Less than one percent of operations relates to military uses. In 2005, 23,059 passengers departed from the Airport; there were 22,366 arrivals that year.<sup>31</sup>

United Parcel Service (via Spokane) and FedEx Provide air cargo service on a daily basis.<sup>32</sup> In addition, Horizon Air carries freight each day. Figures for the Horizon Air freight volumes are provided in the table below.

**Table 3-7: Horizon Air Freight Shipments from Pullman-Moscow Regional Airport (2000-2005)**

Year	Freight In (lbs)	Freight Out (lbs)
2005	17,469	8,391
2004	23,282	8,220
2003	18,948	6,304
2002	19,932	11,312
2001	46,693	18,033
2000	80,724	30,824

*Source: Pullman-Moscow Regional Airport, 2006*

#### Tri-Cities Airport (Pasco)<sup>33</sup>

Though air cargo services are available at the Tri-Cities Airport, none of the businesses responding to the on-line survey reported use of the Tri-Cities Airport.

<sup>31</sup> Pullman-Moscow Regional Airport Data (2006)

<sup>32</sup> WSDOT Pullman-Moscow Regional Airport Fact Sheet, [http://www.wsdot.wa.gov/NR/rdonlyres/B7C53EA6-5A7E-4F7B-B1AE-950D6CE2C049/0/ER\\_PullmanMoscow.pdf](http://www.wsdot.wa.gov/NR/rdonlyres/B7C53EA6-5A7E-4F7B-B1AE-950D6CE2C049/0/ER_PullmanMoscow.pdf)

<sup>33</sup> Airport website [http://www.portofpasco.org/airport/general\\_info.html](http://www.portofpasco.org/airport/general_info.html)

### Reliever and General Aviation Airports

#### Port of Whitman Business Air Center (POWBAC) (Colfax)<sup>34</sup>

The Port of Whitman Business Air Center lies three miles southwest of Colfax, in Whitman County. Fourteen single-engine aircraft are based at the Airport, where the most recent data indicates 11,000 annual operations. The Airport has one runway, 3,175 feet long and 60 feet wide with an asphalt surface. The Airport is open only to visual control operations. There are no cargo operations, but agricultural operations (crop dusters) are based at this general aviation airport.

#### Rosalia Municipal Airport<sup>35</sup>

Rosalia Municipal Airport is located in Rosalia, Washington, with access to Highway 195. There are no air cargo services from this small general aviation airport. Most recent data available puts annual operations at 7,200. Nine single-engine aircraft are based at the Airport. The sole runway is 2,780 feet long, 45 feet wide, with an asphalt surface and controlled medium intensity runway lights.

#### Willard Field<sup>36</sup>

There are 10 single-engine aircraft based at Willard Field, located two miles northeast of Tekoa in Whitman County. According to latest data, annual operations total 7,800 on the Airports sole runway, which is 2,261 feet long and 25 feet wide, with an asphalt surface. The field has pilot-controlled medium intensity runway lights, and it is a no-instrument runway.

#### Lower Granite Airport<sup>37</sup>

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<sup>34</sup> WSDOT Whitman County Municipal Airport Fact Sheet [http://www.wsdot.wa.gov/NR/rdonlyres/48B61B30-BB1D-42B1-8C77-EDF4FF75A223/0/ER\\_Whitman.pdf](http://www.wsdot.wa.gov/NR/rdonlyres/48B61B30-BB1D-42B1-8C77-EDF4FF75A223/0/ER_Whitman.pdf)

<sup>35</sup> WSDOT Rosalia Municipal Airport Fact Sheet at [http://www.wsdot.wa.gov/NR/rdonlyres/6AA08402-F716-4272-AF0A-2E750F629416/0/ER\\_Rosalia.pdf](http://www.wsdot.wa.gov/NR/rdonlyres/6AA08402-F716-4272-AF0A-2E750F629416/0/ER_Rosalia.pdf)

<sup>36</sup> WSDOT Willard Field Fact Sheet [http://www.wsdot.wa.gov/NR/rdonlyres/742388A0-C2D4-4B58-8122-C7F8593E0726/0/ER\\_WillardField.pdf](http://www.wsdot.wa.gov/NR/rdonlyres/742388A0-C2D4-4B58-8122-C7F8593E0726/0/ER_WillardField.pdf)

<sup>37</sup> WSDOT Lower Granite State Airport fact sheet <http://www.wsdot.wa.gov/aviation/Airports/LowerGranite.htm>

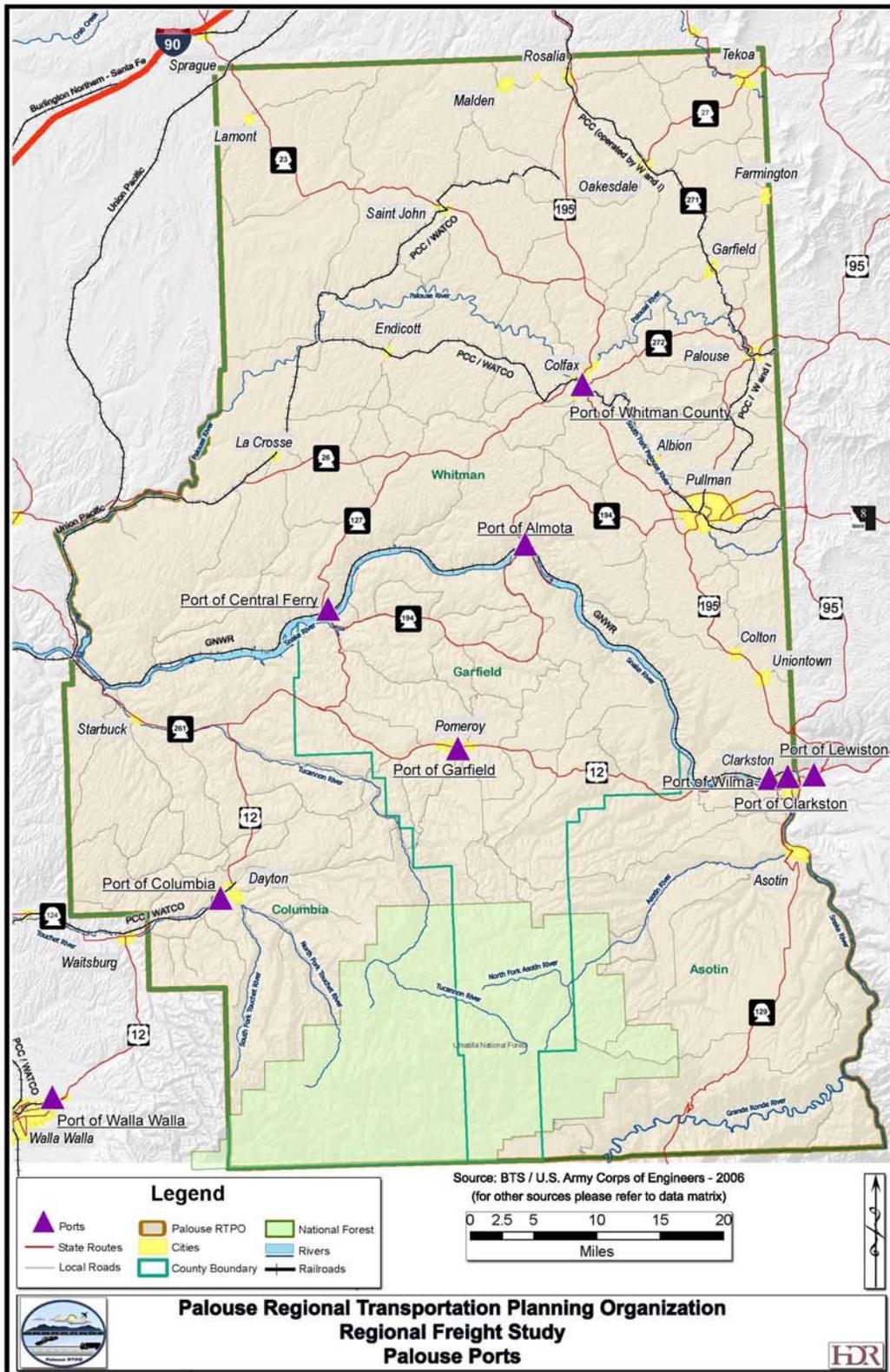
This airport is located at the Lower Granite Lock and Dam site, 14 miles south of Colfax, Washington, and is leased from the US Army Corps of Engineers. It is on the Snake River, and is primarily a recreational destination, generally open from June to October.

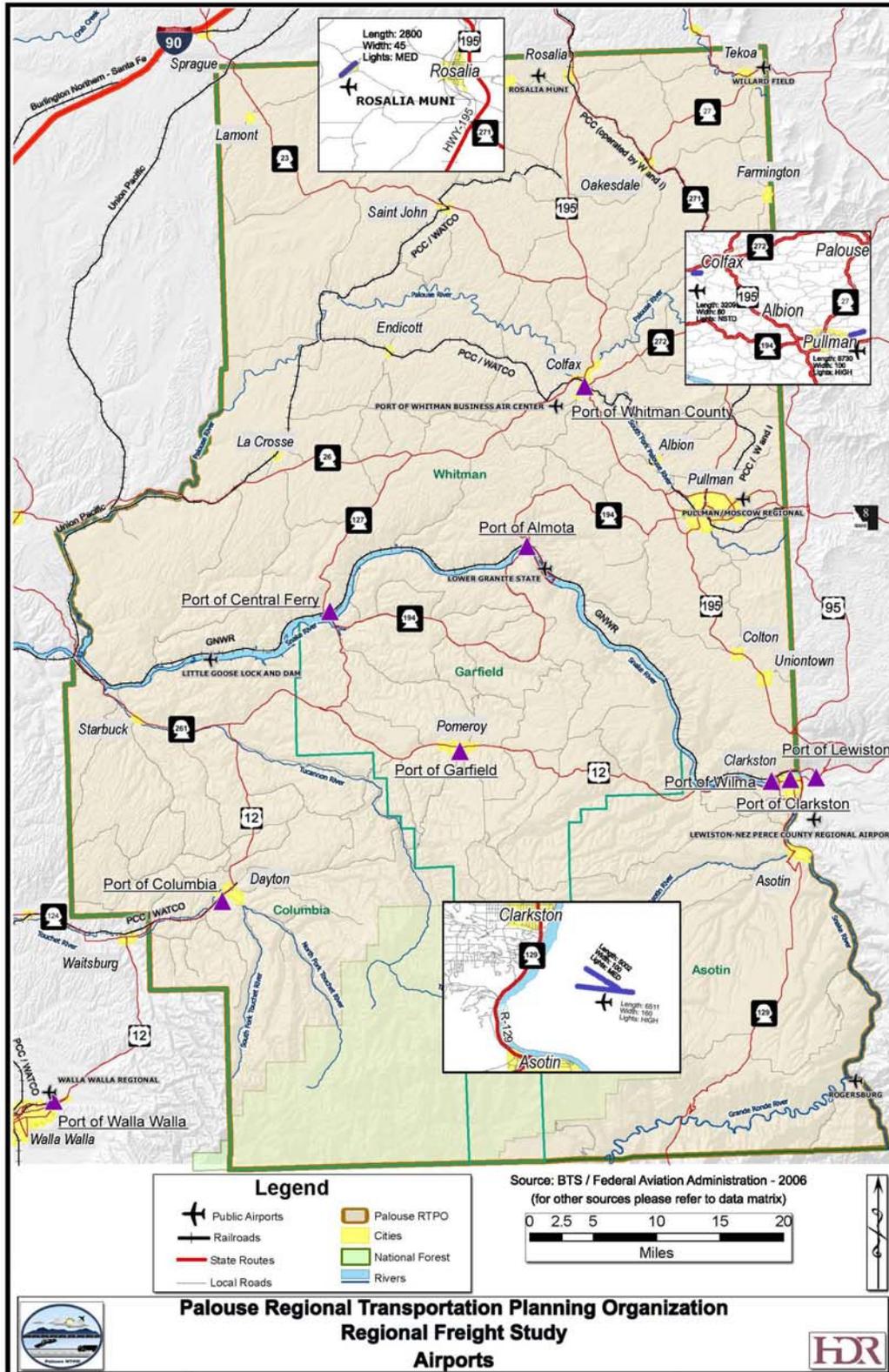
### 3.6.3 Survey and Interview Responses

Two airports are used by respondents to the 2007 on-line survey. Pullman-Moscow Regional Airport is used for both shipping and receiving by one business. Lewiston-Nez Perce County Regional Airport is used by one business for shipping only, and by three for both shipping and receiving goods. Four of 19 respondents indicated they used air cargo services. A Port of Whitman County spokesman confirmed that the only air cargo operations within the Palouse RTPO region are based out of the Pullman-Moscow Regional Airport. Some shippers might make use of Spokane, according to this local expert.

### 3.6.4 Airport Conditions and Issues

No issues were reported.





### 3.7 Other Facilities: Intermodal and Terminal Facilities, Storage, Warehouse and Distribution

#### 3.7.1 Previous Studies

##### Facility Conditions and Issues

**Elevator Concentration.** The EWITS and SFTA studies show a reduction in the number and capacity of public grain warehouses from 186,324,700 bushels in 1994 to 166,419,000 bushels in 2002, according to survey information, representing a decline of approximately 11 percent<sup>38</sup>. However, a steeper decline (30 percent) in the number of firms operating such facilities means that there is more volume per firm—27 percent more. Similarly, a decline in the number of elevators (18 percent) over the same period means each elevator is handling four percent more grain. Consolidation in the elevator industry is evident in that the top five firms nearly doubled the number of elevators between 1994 and 2002, increasing their percentage of industry volume from 28.91 to 47.27 percent in that period. The top 20 firms accounted for 71 percent of the volume in 1994; now they handle fully 91 percent of the volume.

The distance that farms have to ship to reach these elevators has changed over time as well, though there is a trade off between farms which must truck their harvest farther (those shipping between 10 to 20 miles doubled from about eight percent to nearly 17 percent in 2002) and those shipping under five miles (from 38 percent to 49 percent). The bulk of these shipments will eventually find their way to Columbia River Ocean elevators (85 percent of the wheat; half the barley). Note that the amount of barley headed for Vancouver, Washington has tripled since 1994, to 32 percent of the shipments in 2002.

<sup>38</sup> *Grain Industry Changes in Washington; Presentation to the Washington Wheat Commission* by Eric Jessup and Ken Casavant, Washington State University, January 8, 2003.

#### 3.7.2 Elevator Location and Capacity

Table 3-8, below<sup>39</sup>, is a compilation of Washington State public grain warehouse data, as well as the grain elevator databases maintained on-line by BNSF and UP. Where information was available, it was included to identify the number of carloads that could be loaded on rail (if applicable). The breakpoints are 26, 52 and 110 carloads. As carload capacity increases (which is a function, itself, of track capacity) the hauling rate declines. Freight hauling costs play heavily into shipping decisions.

**Table 3-8: Rail-Served Grain Elevator Location and Capacity**

Name/City	Serving Railroads Main Line/Short-Line Rail Access/(Track Capacity—Carloads)	Capacity and/or Rail Load Rating
<b>Asotin County</b>		
None in Asotin County; Rail access in Lewiston, Idaho		
<b>Columbia County</b>		
<b>Broughton Land</b>		
Dayton	(UP) PCC/Watco (10)	300 K Bu.
<b>Columbia County Grain Growers</b>		
Dayton	(UP) PCC/Watco (10)	1.2 M Bu. 28 K Bu.
Turner		746 K Bu.
Whetstone		194 K Bu.
Huntsville	(UP) PCC/Watco (8)	367 K Bu.
Longs Siding		369 K Bu.
Alto Siding		191 K Bu.
Starbuck		306 K Bu.
Relief		240 K Bu.
Delaney		232 K Bu.
Lyons Ferry		3 M Bu. 1.5 M Bu.
Lower Whetstone		359 K Bu.

<sup>39</sup> This Table is still in draft form; details of rail and port access are being verified.

**Palouse Regional Transportation Planning Organization – Regional Freight Study**

**Table 3-8: Rail-Served Grain Elevator Location and Capacity**

Name/City	Serving Railroads Main Line/Short-Line Rail Access/(Track Capacity—Carloads)	Capacity and/or Rail Load Rating
<b>Garfield County</b>		
Pomeroy Grain Growers, Inc.		
Pomeroy		302 K Bu. 335 K Bu. 306 K Bu. 338 K Bu.
Zumwalt		180 K Bu.
Central Ferry		2.6 M Bu. 1.5 M Bu.
<b>Whitman County</b>		
Central Ferry Terminal Assn.		
Central Ferry		1.4 M Bu 1.2 M Bu. 1.2 M Bu.
Almota Elevator Company		
Port of Almota		2.6 M Bu.
Union Center		426 K Bu.
Mockonema		457 K Bu.
BNP Lentil Company		
Farmington		452 K Bu
Edens		14 K Bu.
Cooperative Agricultural Producers		
Rosalia	(BNSF) PCC/W&I (3)	168 K Bu. 165 K Bu. 487 K Bu. 64 K Bu. 42 K Bu 296 K Bu.
Balder		448 K Bu.
McCoy		376 K Bu.
Pine City		417 K Bu. 196 K Bu.
Warner Siding		124 K Bu. 10 K Bu.
Oakesdale	(BNSF) PCC/W&I (26) (4) (5)	997 K Bu. 167 K Bu. 50 K Bu. 95 K Bu. 167 K Bu.

**Table 3-8: Rail-Served Grain Elevator Location and Capacity**

Name/City	Serving Railroads Main Line/Short-Line Rail Access/(Track Capacity—Carloads)	Capacity and/or Rail Load Rating
Farmington		146 K Bu. 248 K Bu.
Fairbanks		453 K Bu.
Garfield		245 K Bu. 253 K Bu. 11 K Bu. 49 K Bu.
Grinnel		410 K Bu.
<b>Inland Empire Milling Company</b>		
St. John	(UP) PCC/Watco (8)	139 K Bu. 68 K Bu.
Pleasant Valley		438 K Bu.
Pine City		528 K Bu. 700 K Bu.
<b>Knott Brothers Elevators</b>		
Winona	(UP) PCC/Watco (4)	135 K Bu.
<b>Lamont Grain Growers, Inc.</b>		
Lamont		1.3 M Bu. 121 K Bu.
Revere		401 K Bu.
<b>Nelson Brothers Elevator</b>		
Thornton	UP (10)	401 K Bu.
<b>Palouse Grain Growers, Inc</b>		
Palouse	(BNSF) PCC/W&I (9)	269 K Bu. 569 K Bu. 56 K Bu. 52 K Bu. 14 K Bu.
<b>Prairie Grain, Inc</b>		
Tilma		213 K Bu.
Seltice		118 K Bu.
<b>Ritzville Warehouse Co.</b>		
La Crosse		730 K Bu. 241 K Bu.
Pampa		168 K Bu.
Hay		384 K Bu.
<b>R M K Farms, Inc.</b>		
Oakesdale		204 K Bu. 8 K Bu.

Table 3-8: Rail-Served Grain Elevator Location and Capacity

Name/City	Serving Railroads Main Line/Short-Line Rail Access/(Track Capacity—Carloads)	Capacity and/or Rail Load Rating
		28 K Bu.
<b>Spokane Seed Company</b>		
Colfax	PCC/Watco	333 K Bu.
		19 K Bu.
		135 K Bu.
		2 K Bu.
		100 K Bu.
<b>Stateline Processors, Inc</b>		
Tilma		96 K Bu.
		33 K Bu.
Farmington		31 K Bu.
<b>Step toe Specialty Crop Processing LLC</b>		
Step toe		170 K Bu.
<b>Wallace Grain and Pea Company</b>		
Palouse	(BNSF) PCC/W&I	37 K Bu.
	(4)	65 K Bu.
		98 K Bu.
<b>St. John Grain Growers, Inc</b>		
St. John		668 K Bu.
	(UP)	465 K Bu.
	PCC/Watco (35)	5 M Bu.
Ewan		472 K Bu.
		200 K Bu.
Juno	PCC/Watco	142 K Bu.
Sunset	PCC/Watco	366 K Bu.
Willada	(UP) PCC/Watco (25)	1.2 M Bu.
		787 K Bu.
		1.2 M Bu.
		302 K Bu.
<b>Uniontown Cooperative Assoc.</b>		
Uniontown		1.6 M Bu.
		610 K Bu.
		207 K Bu.
		28 K Bu.
Leon		250 K Bu.
<b>Wheat Growers of Endicott, Inc</b>		
Endicott	(UP)	1.0 M Bu.
	PCC/Watco (30)	1.0 M Bu.
	(8)	750 K Bu.
	(6)	207 K Bu.

Table 3-8: Rail-Served Grain Elevator Location and Capacity

Name/City	Serving Railroads Main Line/Short-Line Rail Access/(Track Capacity—Carloads)	Capacity and/or Rail Load Rating
Thera		745 K Bu.
Winnona		215 K Bu.
		434 K Bu.
<b>Whitman County Growers, Inc.</b>		
Thornton	(UP) PCC/Watco (35)	533 K Bu.
		100 K Bu.
Cashup		216 K Bu.
		100 K Bu.
Step toe		58 K Bu.
		204 K Bu.
		90 K Bu.
		626 K Bu.
Glenwood		463 K Bu.
		98 K Bu.
Manning		140 K Bu.
Colfax		203 K Bu.
	(UP)	611 K Bu.
	PCC/Watco (7)	1.1 M Bu.
Mockonema	(UP)	222 K Bu.
	PCC/Watco (8)	
Fallon	(BNSF) PCC/W&I	1.2 M Bu.
	(26)	50 K Bu.
Albion		196 K Bu.
		211 K Bu.
Ewartsville		481 K Bu.
Pullman	PCC/W&I	189 K Bu.
		74 K Bu.
Almota		687 K Bu.

Sources: BNSF 2005 Grain Elevator Directory; UP Grain Elevator Directory; Public Grain Warehouses/Dealers Licensed with the State of Washington (July 1-2006-June 30, 2007)—Terminal & Sub-Terminal Warehouses

There are a number of important shipping points, grain elevators and intermodal nodes that lie close enough to the Palouse RTPO market to mention, though they are outside the four-county boundary. These include elevators that are part of the UP and BNSF network, as follows:

Union Pacific grain elevators include:

- Northwest Grain Growers has a 1.1 M bushel grain elevator on the PCC/Watco line in Prescott, Washington (Walla Walla County) with a track capacity of 28 carloads.
- Ritzville Warehouse Co.'s 730,000 bushel, 25-carload elevator in Ritzville
- Simplot Feeders, Wallula (100 carload shuttle elevator)

Burlington Northern-Santa Fe grain elevators include:

- Ritzville Warehouse Company 3.7 M bushel, 110-carload elevator in Ritzville
- Templin Terminal, LLC, 762,000 bushel elevator, 110-car Supershuttle

### 3.7.3 Maps

The **Intermodal Freight Facilities Map** (next page) provides more detail on the relationship of all freight modes, with a focus on the non-highway modes. It illustrates the agglomeration of port-dependent businesses that have developed near the Port of Clarkston, the Port of Lewiston and the Port of Central Ferry, as well as the less active ports. Grain elevators and docks are co-located at key points along the Snake River, served by barge, rail and highway. The Map shows grain elevators with more than 1 million bushels of capacity, as well as rail grain terminals with carload ratings of 26 carloads or greater.

### 3.7.4 Survey and Interview Responses

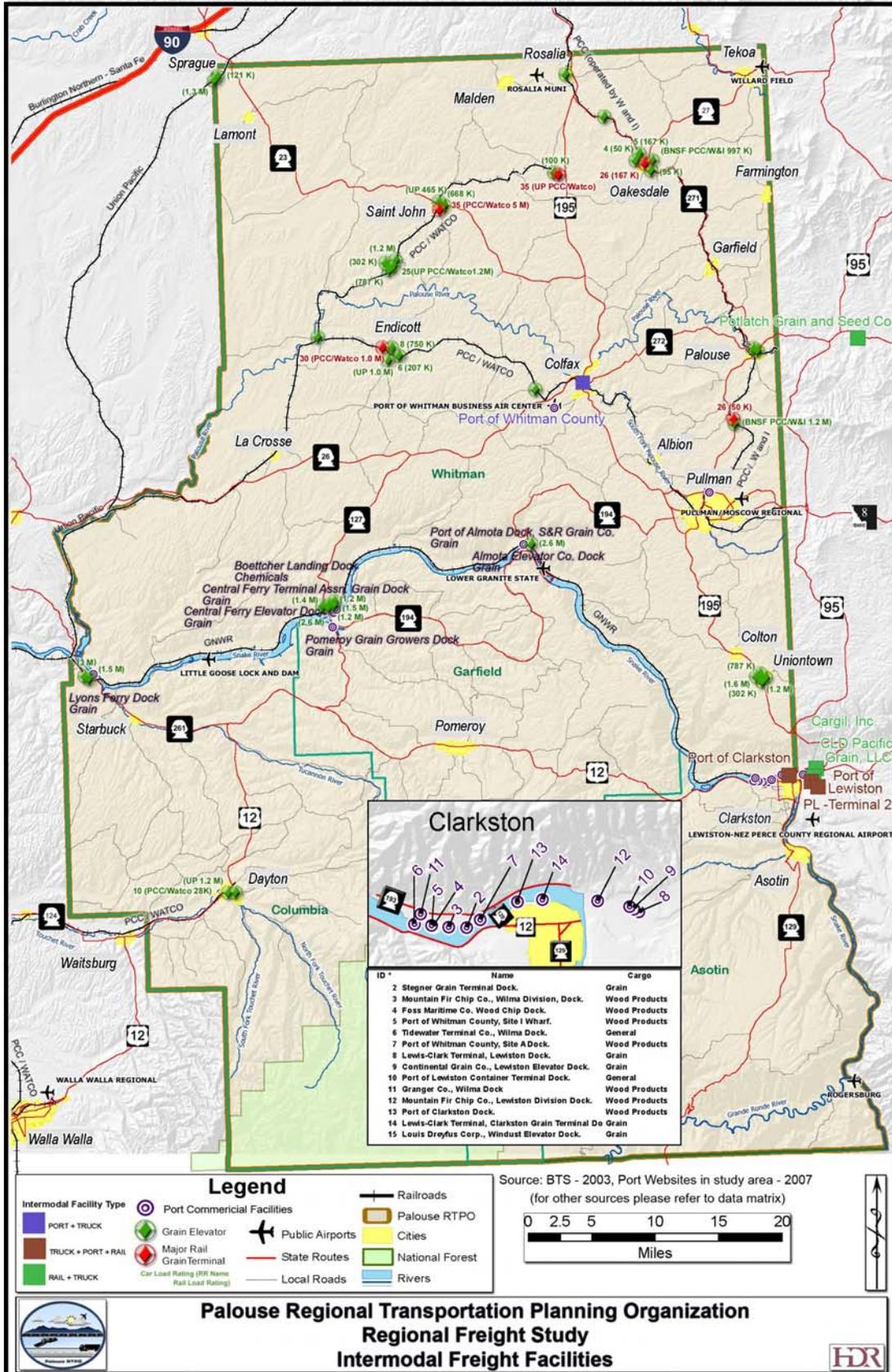
Only three respondents identified the need for more storage space. Responses received were as follows:

- Rollins Warehouse Palouse Bulk Facility is currently sufficient
- Company uses country elevators and river terminals for grain storage. It would need 2 million bushels more storage to hold the entire crop at harvest
- Sufficient space (three respondents)

- Tight but manageable—would like additional capacity.
- Has 16.4 million bushels of storage capacity throughout Walla Walla County
- Respondent uses storage facilities at:
  - Mockonema (Whitman County)
  - Union Center (Whitman County)
    - Port of Almota (Whitman County)
    - Grain facilities
    - Needs would include additional storage at Port of Almota
- Plenty of space—12 grain elevators, including one barge shipping terminal.
  - 7.3 million bushels including 1 million bushel ground storage

### 3.8 Other Issues Not Elsewhere Addressed

- One respondent indicated that US Department of Transportation regulations at state border crossings impeded his company's ability to conduct business.
- Another business faces restrictions not in this country, but in lesser developed nations to which freight is destined, where the some international airports are proving to be too small for the size of the shipments sent.



## Chapter 4: Freight and County Roads

### 4.1 Palouse Regional Perspective

#### 4.1.1 First and Last Mile of Freight Trips Use the County Roads

Freight movement is the backbone of all commerce, and this is especially so for rural economies which rely heavily on forest products and agriculture, as do the four counties of Southeast Washington. While the State highway system provides the critical link to get products to market, efficient, safe and cost-effective freight mobility requires a complete road system that includes both state and local (county) roads. This chapter identifies the top issues on those local roads, for whether it is from the field or from storage to market, the county road system is essential to the regional network of freight infrastructure within the jurisdiction of the Palouse RTPO.

#### Survey Effort Under-Reports County Road Issues

As part of this study, an attempt was made to elicit county-level information from the web-based survey conducted in the spring of 2007. Unfortunately, most of those who responded—including many of the firms and individuals identified by the county engineers—focused on the state highways they used. (Survey responses were summarized in Chapter 3.) Indeed, many of the inter-county connections and region-level freight trips occur on the state highways. However, a number of county road problems were highlighted during the survey, and in follow-up telephone conversations with a dozen or more key road users.

When asked to rank freight issues in general (that is, not associated with a specific roadway) those survey respondents registering “very serious” concerns identified safety as a primary issue. Unsafe passing conditions/truck-vehicle conflicts ranked high among the concerns of survey respondents. That concern is, however, related to

other issues identified, such as poor visibility, lack of shoulders and so on.

A second level of concern is related to specific weight and (to a much lesser degree) height restrictions encountered on roadways and bridges.

Third on respondents’ minds was moderate concern about seasonal congestion on the roads that shippers use most.

To increase the information about usage of county roads, and to get more information on county road problems that are generally known to exist, a second wave of interviews with county staff, key producers, terminals and haulers was performed in July 2007. That information is presented in the sections for each respective county, below.

#### 4.1.2 County Maps

Visual inventories for each county were made to the extent possible, with data provided by the counties. These are in Appendix D, with Asotin, Columbia, Garfield and Whitman maps presented in alphabetical order.

#### 4.1.3 Washington State Freight and Goods Transportation System (FGTS) Road Classification

FGTS classifies all state highways, county roads and city streets based on the average truck tonnage carried per year. WSDOT’s most recent (2005) update of the classification system uses the following designations for five levels of truck routes:

**T1** More than 10 million tons per year

**T2** 4 to 10 million tons per year

**T3** 300,000 to 4 million tons per year

**T4** 100,000 to 300,000 tons per year

**T5** At least 20,000 tons in 60 days (seasonal

The state’s Strategic Freight Corridors include only T1 and T2 routes. Within the project area,

T2 routes include SR 128 (serving the Port of Clarkston); US 195; . In Asotin County, Fleshman Way at the Washington/Idaho state line is designated T2, as is 15<sup>th</sup> Street between Snake River and Bridge Street, in the City of Clarkston.<sup>40</sup>

The State of Washington lists four roadways within the four-county area on its 2007 Highways of Significance: SR 26, SR 127, US Highway 12 and US Highway 195.<sup>41</sup>

#### 4.1.4 County Freight and Goods System (CFGS) Road Classification

In addition to T1 through T5 classifications used in the FGTS, the County Road Administration Board (CRAB) has developed three County Freight and Goods System classifications appropriate to eastern Washington county roads (and identified on some of the county maps in Appendix D):

- T6** Cyclic –Over 100,000 gross tons annually, but not every year
- T7** Missing Link, Over 100,000 gross tons annually if improved
- T8** Over 100,000 gross tons annually if Snake River drawdown occurs

#### 4.1.5 Classification of County Roads

##### Asotin County<sup>42</sup>

The Asotin County freight system is currently classified as listed below:

##### **T2 Routes**

Fleshman Way (MP 0-0.15)

<sup>40</sup> WSDOT Freight and Goods Transportation System 2005 Update  
<http://www.wsdot.wa.gov/freight/FGTS/FGTS%202005%20Final%20Report.pdf>

<sup>41</sup> The 2007 updated map can be accessed at  
<http://www.wsdot.wa.gov/NR/rdonlyres/C4B061B3-9011-4F92-BC90-3CEDE893A539/0/HSSstatewide2007.pdf>

<sup>42</sup> Information provided by Asotin County.

##### **T3 Routes**

13th St. (MP 1.77-2.65)  
15th St. (MP 0-1.48)  
First St. (MP 0-0.8)  
Wilson St. (MP 0.9-0.92)  
Snake River Road (MP 0.92-16.96)  
Peaslee Avenue (MP 0-0.45)  
Scenic Way (MP 1.48-2.12)  
Appleside Blvd. (MP 2.12-3.15)  
Reservoir Rd. (MP 3.15-3.35)  
Fleshman Way (MP 0.15-1.435)  
Evans Rd. (MP 1.22-1.974)

##### **T4 Routes**

5<sup>th</sup> Ave. (MP0.45-1.26)  
6<sup>th</sup> Avenue (MP 3.93-MP4.73)  
Asotin Creek Rd. (MP 0-2.92)  
Evans Rd. (MP 0-1.22; 1.974-2.81)  
Grande Ronde Rd. (MP 0-4.54)  
Ben Johnson Rd. (MP 0-0.96)  
Elm St. (MP 0-1.4)  
Snake River Rd.(MP 16.96-23.8)

##### **T5-3 Routes**

Joseph Creek Rd. (MP 24.45-31.77)  
Grand Ronde Rd. (MP 4.54-10.91)

#### Columbia County

The Columbia County freight system is currently classified as listed below:

##### **T4 Routes**

McKay-Alto Rd. (MP 1.27-12.118)  
Turner Rd. (MP 0.0-3.105)  
Patit Rd. (MP 1.341-6.374)  
Tucannon Rd. (MP 0.0-11.150)  
Main Rd. (MP 0.0-0.163)  
Lyons Ferry Rd. (MP 0.0-0.960)  
Eager Rd. (MP 0.0-0.767)  
North Touchet Rd. (MP 2.397-5.660)  
South Touchet Rd. (MP 0.0-1.651)  
Lower Hogeeye Rd. (MP 0.0-5.67)  
Gallaher Rd. (MP 0.0-0.6)  
Guernsey St. (MP 0.0-0.130)  
Wagon Rd. (0.010-0.090)  
Rose Gulch Rd. (0.0-0.380)

**Garfield County<sup>43</sup>**

***T4 Routes***

Lower Deadman Road (MP 14.15 – 22.18)

***T-3 Routes***

Bell Plain Road (MP 0.0-4.31)  
Ben Day Gulch Road (MP 2.9-7.4)  
Connell Hill Road (MP 4.35-5.71)  
Dutch Flat Road (MP 8.27-9.15)  
Gould City-Mayview Road (MP 0.0-2.9)  
Iron Springs Road (MP 0.0-2.52)  
Kirby Mayview Road (MP 0.0-3.33 and 5.7-7.88)  
Kuhl Ridge Road (MP 2.56-8.86)  
Ledgerwood Road (MP 0.32-2.27)  
Ledgerwood Spur Road (MP 0.0-0.145)  
Linville Gulch Road (MP 0.0-5.29)  
Lynn Gulch Road (MP 0.0-3.13)  
Mayview City Road (MP 7.88-8.51)  
Mayview Road (nearly all from MP 0.0-21.97)  
Meadow Creek Road (MP 0.0-9.66)  
Mountain Road (MP 0.0-7.49)  
North Deadman Road (MP 1.63-6.81)  
Peola Road (MP 0.57-7.84 and 10.83-13.45)  
Ping Gulch Road (MP 0.0-8.11)  
Sweeney Gulch Road (MP 0.0-8.3)  
Tatman Mountain Road (MP 5.29-6.45)  
Valentine Ridge Road (MP 0.0-2.51)

**Whitman County<sup>44</sup>**

***T3 Routes***

Central Ferry Road (MP 0.0-1.35)  
Wilma Port Road West (MP 0.0-1.54)

***T4 Routes***

Almota Road (MP 3.08-11.56)  
Dry Creek Road (MP 0.0-10.504)  
Endicott-5<sup>th</sup> Street (MP 0.13-0.39)  
Farmington Road (MP 11.49-16.61)  
Luft Road (MP 0.0-4.19)  
Sommers Road (MP 0.0-4.2)

<sup>43</sup> 2002 FGTS Garfield County data can be accessed at <http://www.wsdot.wa.gov/freight/images/FGTS/GarfieldCo.pdf>

<sup>44</sup> 2002 FGTS Whitman County data can be accessed at <http://www.wsdot.wa.gov/freight/images/FGTS/WhitmanCo.pdf> Additional data from Whitman County.

Union Flat Creek Road (MP 7.76-8.43)

***T5-3 Routes***

Albion Road (MP 0.0-3.336)  
Almota Road (MP 0.09-3.08)  
Big Alkali Road (MP 0.0-10.59)  
Chambers Road (MP 0.0-0.02)  
Church Hill Road (MP 0.0-2.78)  
Colfax Airport Road (0.0-0.63)  
Colfax-Fairview Street (MP 0.54-0.97)  
Country Club Road (MP 0.0-2.14)  
Duncan Springs Road (MP 0.0-1.97)  
Dusty Road (MP 0.67-0.76)  
Endicott Road (MP 6.18-29.21)  
Endicott-St. John Road (MP 0.5-14.9)  
Esser Road (MP 0.0-0.32)  
Fairbanks Road (MP 4.42-7.64)  
Fairgrounds Road (MP 0.0-0.45)  
Fallon Road (MP 0.0-0.44)  
Farmington Road (MP 0.63-10.79)  
Flat Road (MP 0.0-1.5)  
Garfield-Farmington Road (MP 0.0-10.43)  
Glenwood Road (MP 2.64-4.08)  
Green Hollow Road (MP 0.0-10.08)  
Hamilton Hill Road (MP 0.0-4.24)  
Hardy Cutoff Road (MP 0.0-0.18)  
Hay-Lacross Road (MP 0.0-9.72)  
Juno Elevator Road (MP 0.0-0.24)  
Lamont Road (MP 0.0-0.72)  
Lancaster Road (MP 0.19-18.16)  
Leon Road (MP 0.0-1.63)  
North Palouse Road (MP 0.0-4.25)  
Old Thornton Highway (MP 3.89-6.04)  
Old Wawawai Road (MP 0.18-1.69)  
Palouse Cove Road (MP 0.29-4.07)  
Pine City-Malden Road (MP 6.46-18.65)  
Pullman Airport Road (MP 3.4-6.11)  
Pullman-Albion Road (MP 0.0-5.04)  
Rock Lake Road (MP 0.0-12.62)  
Rosalia Road (MP 0.49-0.91 and 2.23-3.73)  
Scott Road (MP 0.43-1.99)  
Seabury Road (MP 0.0-3.65)  
Selbu Church Road (MP 0.0-1.77)  
Tekoa-Leslie Street (MP 0.45-0.63)  
Thorn Creek Road (MP 0.0-8.25)  
Uniontown East Road (MP 1.04-3.55)  
Uniontown-East Blair Street (MP 0.63-1.04)  
Viola Road (MP 0.0-0.07)

W R Damrell Road (MP 0.0-0.29)  
 Warner Road (MP 0.0-7.11)  
 Wawawai Road (MP 8.12-36-573)  
 Wawawai-Pullman Road (MP 0.0-7.34)  
 Wells Road (MP 0.0-2.38)  
 Winona South Road (MP 0.0-11.15)  
 Young Road (MP 0.0-2.96)  
 Zaring Cutoff Road (MP 0.0-3.25)

#### 4.1.6 Regional Areas of Concern

##### All-Weather Roads = All Season Roads

Although each county differs slightly in both its experience with and approach to managing freeze/thaw restrictions on county roads, the need for improvements to key freight routes is a common thread that unites them. The sections below identify instances of localized heavy truck usage in order to target road improvement dollars, regardless of the county’s approach used to protect roads throughout the year. More investigation is warranted, to uncover more roadway segments subject to heavy freight volumes that have gone undetected as yet. Area experts suspect such an effort would lead to an increase in the number of miles of FGTS classified roads, such as classifying the Peola and/or Cloverland roads as T-5 Routes in Asotin County.

##### Roadway Maintenance

Rural roads require regular maintenance, but this need is not being addressed evenly across the Palouse RTPO region due to variations in available resources and funding priorities amongst the local area agencies. For example, providing funding to cover essential law and justice expenses depletes traditional revenues that would be available for road maintenance purposes. Additional road maintenance funding assistance is especially needed in Whitman County, with more road miles to maintain than its neighbors.

##### County vs. State Freight Infrastructure Funding

The 2006 state gasoline tax increase is being funneled to the state, with little or no benefit to local roads. A key intent of this report is to

identify those county projects which are most needed, and to move them off the “wish list” and onto programmed project lists. The County Road Administration Board estimates for county road funding (2006) are shown in Table 4-1.<sup>45</sup>

**Table 4-1: 2006 (Anticipated) County Road Fund Revenue**

County	2006 Budget from All Sources
Asotin	\$8,460,000
Columbia	\$3,665,000
Garfield	\$4,023,000
Whitman	\$13,123,000

*Source: County Road Administration Board (CRAB) 2006 Annual Report, Table C*

##### Maintaining the Lower Snake River Dams

Virtually everyone who commented on the possible removal of Snake River dams agreed that such action would be devastating to both the local roads and highways. Both the local roads and state highway system would be inundated with diverted freight no longer able to access the Port of Portland via barge or to use the long abandoned rail.

##### Weather and Climate Issues

The freight impacts from snow, ice and fog are of greatest concern to the 17 survey respondents who answered a weather-related question. However, more important than driving conditions are road closures and/or road damage caused by putting weight on non-engineered or structurally inadequate roads that are more subject to damage during freeze/thaw cycles. Both haulers and those responsible for the roads expressed the need for all-weather roads in the Palouse RTPO region.

##### County Bridges

County bridge data from the CRAB 2006 Annual Report is as follows:

<sup>45</sup> The Washington State County Road Administration Board 2006 Annual Report can be accessed at <http://www.crab.wa.gov/AnnualReport/2006%20Annual%20Report/AnnualReport.pdf>

Table 4-1: County Bridge Data-November 2006

County	County Bridges Owned	Federal Aid Route Bridges Posted or Needing Posting	Non-Federal Aid Route Bridges Posted or Needing Posting
Asotin	18	0	0
Columbia	64	0	4
Garfield	35	2	0
Whitman	246	7	18

Source: CRAB 2006 Annual Report, Table A

CRAB estimates replacement cost at \$460 per square foot for deficient bridges, defined as those that are either structurally deficient or functionally obsolete. That would equate to nearly \$16 million to replace the Whitman County bridges that are structurally deficient i.e., now posted or that require posting. Columbia County needs \$1.4 million and Garfield County faces \$1.18 million in bridge reconstruction costs to replace their structurally deficient bridges according to the CRAB report.

### Regional Mapping and Information Sharing

Consistent and upgraded mapping capability throughout the Palouse RTPO region would enhance the ability of County Engineers and the RTPO staff to monitor the freight network and identify inter- and intra-county issues over time. Asotin and Whitman counties use CAD for their mapping; Columbia and Garfield counties are using GIS. The CAD data isn't structured to allow the maps to be migrated to GIS and/or attach different data sets to them, therefore requiring much hand manipulation of data. Mileposts and road names cannot be associated with the freight data except manually. The CAD data is not in a common coordinate system, which again, means that to bring the information together with other GIS data in the region and/or from the state requires a manual process to move, rotate and scale the CAD data; a process which has to be repeated manually every time this data is brought together. It is recommended that a GIS based road network be built for all four counties

that include the road number, road name, and beginning and ending mileposts so that future updates of studies like these can be completed in a cost-efficient manner.

### 4.1.7 Specific Areas of Concern

Survey respondents and interviewees were asked to identify the specific problems they experienced on roads, at ports, on the regional rail corridors as well as the intermodal connections between those modes. The following is a county by county summary of the responses.

## 4.2 Asotin County

### 4.2.1 County Priorities

Asotin County priorities were determined through discussions with the Asotin County Engineer and his staff<sup>46</sup> as well as other stakeholders

#### All-weather roads—Not an Asotin Priority

The problem of all-weather roads is not as prominent in Asotin County as it is in neighboring Whitman County due primarily to soil types and lower precipitation in the lower lying areas of the County. Asotin County Public Works practice is to have the County Road Supervisor work individually with shippers to schedule hauling for periods when the paved roads are more completely frozen (and thus not as susceptible to the freeze/thaw damage of heavy trucks).

#### High Priority- Rural Roads

**Peola Road** This road, which serves area agriculture, is mostly BST<sup>47</sup>. The road provides interconnectivity with Garfield County, and through Garfield it connects with the Umatilla National Forest. The needs of logging operations do not impact the Asotin portion of Peola Road significantly, though there is some log hauling toward Clarkston out of the timbered area in

<sup>46</sup> Appreciation for Joel Ristau, John Guillotte and Carl Flynn for providing data, references and insight.

<sup>47</sup> BST, or Bituminous Surface Treatment, is a roadway treatment reserved for low-volume roads.

Garfield County (toward Port of Clarkston and Port of Wilma.)

Peola Road is challenged with less than desirable horizontal and vertical curve issues, and has narrow shoulders.

**Troy/Grand Ronde River Road** Local timber and cattle move over this road, which holds inter-county and interstate importance, as it is the road to Oregon from the southwest portion of the county. A good portion of the road is paved, but that poses its own set of all-weather issues. The Asotin County Road Supervisor works closely with local freight haulers during freeze/thaw periods, so that haulers are on the road only during the colder, early morning hours when weight on the pavement will cause no or less damage. Grand Ronde/Troy Road is also subject to summer weight restrictions due to high road surface temperatures causing paved surface failure.

Portions of the road have experienced a couple of serious accidents. However, there is no firm data to suggest that the road is more dangerous than other two-lane country roads.

There is a question about the optimal road surface for Grand Ronde/Troy Road—there is an engineering report that recommends testing cement stabilized gravel surface, but the County Road Supervisor prefers BST, and is willing to trade more upfront capital costs for less ongoing maintenance. Investigation into engineering standards, life-cycle costing, safety and driver preferences could result in a better solution for the road.

**East/West Mountain Road** Also high in county priority are the two main roads in the Anatone area—East Mountain Road and West Mountain Roads—which are used heavily for logging. A major log hauler using that road estimates that his operation alone accounts for 55,000 tons per year, spread out over approximately 400 truck trips per year. These roads can become impassable and/or are closed during winter and spring months.

Although these roads are currently being improved, section by section, with the focus for the next two to four years being on the western end of West Mountain Road, there is still a concern. The last four miles before the Forest Service boundary are extremely rough. The traveled-way is a natural surface which is described by a hauler as “half boulders and a little bit of dirt.” The large rocks need to be removed and the road redesigned and brought up to County specifications, with drainage ditches on either side. Currently, the road has some gravel sections, located in spots where Asotin County staff was relatively sure the gravel would remain on the roadbed.

The condition of the road has meant that log haulers must wait until winter to use the road, when the snow packs down to create a more even surface. Even so, truck and equipment damage is significant, with weekly losses of tires and a lot of undercarriage damage.

- **Gravel, not Paved:** The primary user recommends against paving these last four miles. This log hauler would rather have the County reconstruct it so that it has a good rock base and then gravel it. Asphalt in this mountain area could be a detriment to freight traffic because the cost to provide an all-weather surface for lower volume traffic probably could not be justified and seasonal closures would be required.

**Snake River Road** This road is important up to Grande Ronde River Bridge. The road exhibits a number of horizontal/vertical curves and narrow alignment problems. On this road, as well as on the gravel sections of the Asotin Creek Road and a one mile on Cloverland Road, the County annually applies road stabilization/dust suppressants to reduce maintenance and improve safety. The Asotin County Road Supervisor recommends that these roads be upgraded to BST paved surfaces rather than graveled. This would mean that the County would need to go back only every seven years to chip seal.

**Joseph Creek Road** This road was mentioned by stakeholders in connection with freight

movements, because it intersects with the Snake River Road. There has been some timber moved on this road, and so it might warrant a closer look to determine whether it should be a designated truck route. Most timber would go the other direction, however, toward Enterprise.

Washington Department of Fish and Wildlife owns a lot of the land adjacent to Joseph Creek Road, so that prevents development that could add to freight movements in the area over the foreseeable future.

**Cloverland Road** This route ships some cattle, but freight volumes are likely to remain flat, unless the Forest Service opens new logging contracts. From Asotin to the end of the existing pavement, the road is a fairly narrow two lane road. The paved section is not all-weather and haulers must coordinate with the County. The rest of the road, to the forest service boundary is wide enough for truck traffic, but it is gravel from the Cloverland Grade.

#### 4.2.2 Maintenance

Asotin County is currently on a seven-year cycle for paved road (BST) maintenance, which the county engineer believes is satisfactory.

#### 4.2.3 High Priority-Urban Roads (Clarkston)

Asotin County differs from the other Palouse RTPO counties, in that they have an urban roadway system in Clarkston, in addition to the rural road network. Although truck drivers have to slow down to negotiate turns within the City of Clarkston, by and large, turns can be made safely and do not appear to be an issue, according to a local hauler. However, there were couple of corners identified as problematic, including the turn from 13<sup>th</sup> Street to Fleshman Way eastbound, the SR 129 overpass onto Fleshman Way (sharp corner plus periodic congestion) and the turns heading north on SR 129 and west onto 13<sup>th</sup> Street, which involves a steep incline.

In addition to US 12 and SR 129, high freight volume local streets including **13<sup>th</sup> Street** and **15<sup>th</sup>**

**Street** were identified as primary truck routes through Clarkston.

**Fleshman/SR 129 interchange:** Redesign of the interchange is programmed, but construction funds (previously estimated by Asotin County to exceed eight million dollars) remain to be identified and committed.

#### 4.2.4 Asotin County Bridge Priorities

**Grand Ronde River Bridge.** This bridge, though in good condition, is Asotin County's highest priority for investment, in order to reduce the current high maintenance costs and to address horizontal and vertical curves. There is one mile of gravel surface adjacent to it that requires different treatment. This bridge is identified as number 12 on the Asotin County Bridges map in Appendix D.

**Wenatchee Creek Bridge.** This narrow, one-lane bridge also has a problematic approach that requires redesign.

### 4.3 *Columbia County*

#### 4.3.1 County Priorities

##### All-Weather Roads

With the exception of North Touchet Road—a major logging road—all Columbia County roads are subject to seasonal load limits designed to prevent damage from heavy vehicles.

##### Connecting to the Port of Columbia<sup>48</sup>

**Kellogg Road, Alto Road and Smith Hollow connect Dayton to Lyons Ferry.** An average of five million bushels of wheat per year, weighing 150,000 tons, are hauled on Columbia County roads (Kellogg Road, Alto Road and Smith Hollow) as well as state highways (SR 12 and SR 261), as they head north to the Snake River and Lyons Ferry terminals. Approximately 60-70 percent of that volume is hauled on SR 12 and SR 261. A good portion of that wheat travels on

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<sup>48</sup> Port of Columbia Executive Director Gene Turner provided information in a telephone interview (July 2007).

Alto Road from Walla Walla Road down to Kellogg, then on to Highway 261 and Lyons Ferry. Weight restrictions limit each truck to 30-35 tons per load. Haulers would like to haul more.

**Umatilla National Forest Access Routes**

**Touchet Road** continues to be of strategic importance for logging and recreational needs; it is an all-weather road from Dayton into the Forest boundaries. **Tucannon River Road**—A second priority for maintaining adequate access to the National Forest is Tucannon River Road, from Highway 12 south, accessing the Umatilla National Forest to the west of Peola Road. Tucannon River Road is old, is highly used by logging trucks, and is showing signs of wear. **Mountain Road/Mill Road** is a third access point connecting the National Forest to SR 129.

**Waitsburg (Walla Walla County) to Lyons Ferry Terminal** Haulers would use McKay Alto Road and Kellogg Hollow Road to make this trip.

**Columbia County Wind Farm Complex** requires local county road access to Route 12 along county roads.



42 -Ton Wind Turbine Leaving Port of Vancouver Destined for Columbia County Roads. (PSE Photos)

**Whetstone Road** This former state highway (now a county road) is part of the route used to

ship the large and very heavy windmills have taken a toll on local roads.<sup>49</sup>

Other access roads to the area wind farms include **Turner Road, McGee Road and Lewis Gulch Road**. Lewis was a gravel road; the County put tons of gravel on it, but it just disappears into the soil.

**4.3.2 At-Grade Rail Crossing Needs**

Rail is important to Columbia County, which is reflected in the public ownership of the former Blue Mountain Railroad from Dayton to Walla Walla and maybe soon from Walla Walla to Wallula. Seven at-grade crossings need attention along this route, due to wear and tear, and lack of maintenance. This is due to non-windmill related freight.

**4.4 Garfield County**

**4.4.1 County Priorities**

Garfield County priorities were determined through discussions with the Garfield County Engineer and his staff<sup>50</sup> as well as other stakeholders. Here, economic development was identified as a key driver for interest in rural road investment. This concern is borne out by many studies that document the economic payoff of improving access to markets and regional centers in order to maintain viable rural economies and communities in which agricultural workers and families can live.<sup>51</sup> Economic development and land development are important to the Port of Garfield, which has a facility across from Central Ferry on the Snake River. Pomeroy Grain

<sup>49</sup> Windmill towers weigh 159 tons each, for example. A bond underwritten by the hauler guarantees \$2 million to repair damage done.

<sup>50</sup> County information was supplied through discussions with Grant Morgan, County Engineer, and through interviews with shippers, Port of Garfield and US Forest Service personnel and facility operators identified by Mr. Morgan.

<sup>51</sup> FHWA’s 2001 Freight Benefit/Cost Study compiles the literature in this area. The study is available at [http://ops.fhwa.dot.gov/freight/documents/freight\\_bca\\_study.pdf](http://ops.fhwa.dot.gov/freight/documents/freight_bca_study.pdf).

Growers depends on US 12, SR 127 and Lower Deadman Rd/North Deadman Creek Road, as well as Meadow Creek Road., and the Gould City-Mayview Road, all of which connect to the Port of Garfield.

#### 4.4.2 High Priority-Rural Roads

**All-weather roads** on strategic freight corridors are important to Garfield County. The roads identified below should be prioritized to receive necessary improvements to permit all-season use.

##### Umatilla National Forest Access

Forest access is critical to Garfield County; its access roads are identified below.

**Peola Road** Peola Road, from Pomeroy directly south to the nation forest boundary, is a first priority for forest access. There are pavement quality and road width problems cited by those interviewed, as well as reports of above-average fatalities on this road.

The road provides interconnectivity with Asotin County, and serves the Umatilla National Forest. The needs of logging operations impact the Garfield portion of Peola Road significantly.

**Gould City –Mayville road.** According to the main user of this road, Pomeroy Grain Growers, this paved road is not as narrow as a mountain road, but it is significantly rougher. Pomeroy Grain Growers estimates that they haul approximately 150,000 tons on that road each year, and given this utilization, it should be considered as a first priority for improvements.

**Meadow Creek.** This road has just received some attention from the County. Pomeroy Grain Growers ships approximately 25,000 tons annually on this road.<sup>52</sup>

**Mountain Road.** This road connects with Gould City-Maryville Road, and though not in as poor condition, it is narrower than the latter.

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<sup>52</sup> According to Mr. Bob Cox at Pomeroy Grain Growers, within Garfield County another 50,000 tons per year is hauled primarily on state highways.

**Bell Plain** The poor pavement quality on Bell Plain was noted, as were the inadequate shoulders.

## 4.5 Whitman County

### 4.5.1 County Priorities

Whitman County priorities were determined through discussions with the Whitman County Engineer and his staff<sup>53</sup> as well as other stakeholders.

#### All Weather Roads Needed to Reduce Weight Restrictions

In Whitman County, the issue of all-weather roads (or, more precisely, all-season roads) is critical. Most roads in the Palouse are not all-weather roads. Freight restrictions may last two and a half months per year. Addressing the needs of all-weather roads by providing adequate base for structural support and frost protection is the top priority for Whitman County.

**Dry Creek Road**, connecting SR 27 and SR 195, is constructed on several feet of rock, making it suitable for truck traffic in all seasons. Other roads that are *not* closed during the winter include Palouse Cove, Endicott Road (from SR 26 to the Town of Endicott), Pullman Airport Road, Pullman Albion Road, Colfax Airport Road and Farmington Road (from Farmington to Belmont).

Virtually all other county roads are narrow, with little or no shoulder, and typically have little or no structural subgrade or base. These windy two-lane roads often have no more than six inches to one foot of crushed rock supporting the paved roadbed. Many have simply been converted from gravel roads with minimal structural treatment, and they cannot sustain truck traffic during freeze/thaw conditions without damage.

Weight restrictions were cited by survey respondents on the following Whitman County roads: **Ringo Road., Palouse Cove Road,**

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<sup>53</sup> This section of the report is in debt to Mark Storey, who provided data, references and insight into the Whitman County freight context.

**Green Hollow, North Palouse River Road, Almota Road<sup>54</sup>, and Sommers Road.**

Poor pavement conditions were also noted by survey respondents on Palouse Cove Road.

**Maintenance Program**

The chip sealing program in Whitman County has slipped from a 10-year cycle to nearly 15 years and more. Currently, the County can seal about 30 miles of local roadways per year, out of a total of 430 paved miles within the jurisdiction. This maintenance deferral is occurring at the same time that trucking advocates are pushing for heavier loads—creating a combined threat to the integrity of county roads that must be addressed with a long-term funding commitment that includes state assistance.

**Railroad Trestle Replacement**

A burned train trestle between Colfax and Pullman needs to be replaced. Currently it causes a major chokepoint for interstate shippers who are forced to use Sommers Road.

**4.5.2 High Priority-Rural Roads**

**Heavy Truck Diversion** Whitman County issues quite a few permits from trucks en route from Minnesota to Seattle that are restricted along I-90, and are thus diverted through Whitman County with 7 axles. These heavy through trips take a toll on the county roads. Roadways that are impacted by that traffic and other inter- and intra-county freight movements are identified below.

**Almota Road** Approximately 11 miles of this road has been identified as needing reconstruction, and is listed as fiscally constrained in the STIP, according to the current Palouse RTPO Regional Transportation Plan. Surveys

and interviews confirmed the freight usage and need for improvement on Almota Road.

**Sommers Road** This substandard gravel road is the east-west route for oversize and overweight loads.

**Upper Union Flat** road between Almota and Hamilton Hill Road is a priority for Whitman County, and provides access between Pullman and the Port of Almota.

**Belmont-Farmington Road.** This is an all-weather road like Dry Creek., with approximately nine inches of asphalt.

**Green Hollow** This scenic road provides access to wheat fields, making its inadequate shoulders and poor visibility a special problem. Green Hollow was also identified in interviews and survey responses as being weight-restricted.

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<sup>54</sup> According to the most recent (2000) Port of Whitman County Comprehensive Plan, “Almota Road, which all traffic must use, includes a 7% grade dropping 1,250 feet. The steepness of the grade causes several truck accidents each year. The road is also used a great deal by recreational traffic traveling to Boyer Park, Lower Granite Dam or the dunes recreation area, which adds to the danger of the road. Each year, during the spring thaw, the road is closed to truck traffic, which causes

## Appendix A: Data Sources



Name	Data Source	Additional Processing	Data Source Date (Content and/or Publish Data)	Notes
County Outlines	WSDOT*	Downloaded from WSDOT web site 3/2007	Published 11/2/1997	Maintained by county; obtained for Asotin, Columbia, Garfield, and Whitman Counties.
Palouse Regional Transportation Planning Organization Outline	WSDOT*	Downloaded from WSDOT web site 3/2007	Published 6/20/2005	
Rivers	Washington Department of Ecology***	Downloaded from Department of Ecology web site 3/2007.	Published 8/6/2003, last update 2/8/2007	Part of 100K Hydro Framework Data
Topography	National Elevation Dataset	HDR generated GRID from ASCII data	Published: 7/2003	
Cities	WSDOT*	Downloaded from WSDOT web site 3/2007	Published 12/23/2004	City names provided by Washington State Office of Financial Management
State and US Routes, state of Washington	WSDOT*	Downloaded from WSDOT web site 3/2007	Published 5/18/2001; Spatial Adjustment 7/2003	Washington State Highways that are part of the Freight and Goods Transportation System
State and US Routes, Idaho and Oregon	BTS**	Downloaded from BTS website 3/2007	2006	National Highway Performance Monitoring highway network for Region 10.
Local Roads	WSDOT*	Downloaded from WSDOT web site 3/2007	Published: 1/1/1996	Roads that are functionally classified as arterial and collectors. Maintained by county; obtained for Asotin, Columbia, Garfield, and Whitman Counties.
Interstate	ESRI Street Map Data	n/a	Unknown	
National Forest Boundaries	WSDOT*	Downloaded from WSDOT web site 3/2007	Published 12/1996	USFS Boundaries
Railroads	WSDOT*	Downloaded from WSDOT web site 3/2007	Published 1/17/1997	

Name	Data Source	Additional Processing	Data Source Date (Content and/or Publish Data)	Notes
Airports	BTS**	Downloaded from BTS website 3/2007, names manually adjusted.	2006	Data source: Federal Aviation Administration
Airport Runways	BTS**	Downloaded from BTS website 3/2007	2006	Data source: Federal Aviation Administration
Collision Data	WSDOT*	Downloaded from WSDOT web site 3/2007		
Intermodal Facility Type	BTS**	Downloaded from BTS website 3/2007, manually edited per individual port websites in the study area	2003	
Port Commercial Facilities	BTS**	Downloaded from BTS website 3/2007, manually edited per individual port websites in the study area.	2006	Data Source: U.S. Army Corps of Engineers. Contains physical information on commercial facilities at the principal U.S. Coastal, Great Lakes and Inland Ports. The data consists of listings of port area's waterfront facilities, including information on berthing, cranes, transit sheds, grain elevators, marine repair plants, fleeting areas, and docking and storage facilities. Collection of data is performed on a rotational basis to ensure on-site accuracy at each facility
Ports	Various	Created from composite of Intermodal Facility Type Data, Port Commercial Facilities,	2007	

Name	Data Source	Additional Processing	Data Source Date (Content and/or Publish Data)	Notes
		and individual port websites in the study area		
Shoulder Deficiency	WSDOT*	Downloaded from WSDOT web site 3/2007. Shoulder deficiencies determined as unpaved or paved and less than 4 feet on a state route or paved and less than 8 feet on a U.S route	Published: 10/2006. Road data as of 12/31/2005	
Lane Width Deficiency, Number of Lanes	WSDOT*	Downloaded from WSDOT web site 3/2007. Deficiencies determined from lane widths less than 12 feet.	Published: 10/2006. Road data as of 12/31/2005	
Bridge Locations	WSDOT*	State Route GIS Road Log Bridge locations were generated based on State Route segment and mileposts. Downloaded from WSDOT web site 3/2007	Published 12/31/2005	
Bridge Restrictions	WSDOT*	Downloaded bridge restrictions from WSDOT web site 3/2007 and located by segment and milepost.	Last updated 3/15/2007	
Road Restrictions	WSDOT*	Downloaded road restrictions from WSDOT web site 3/2007 and located by segment and milepost.	Last updated 3/15/2007	
Vertical Grade Deficiency	WSDOT*	Downloaded from WSDOT web site 3/2007	Published: 10/2006. Road data as of 12/31/2005	
Horizontal Grade Deficiency	WSDOT*	Downloaded from WSDOT web site 3/2007	Published: 10/2006. Road data as of 12/31/2005	

<b>Name</b>	<b>Data Source</b>	<b>Additional Processing</b>	<b>Data Source Date (Content and/or Publish Data)</b>	<b>Notes</b>
Traffic Counts	WSDOT*	Downloaded from WSDOT web site 3/2007	2005	
Asotin County Winter Road Closures	Asotin County	Provided in AutoCAD format. Converted to ESRI format and spatially adjusted to match coordinate system.	2007	
Asotin County Rural Truck Routes	Asotin County	Provided in AutoCAD format. Converted to ESRI format and spatially adjusted to match coordinate system.	2007	
Asotin County Road Surface Type	Asotin County	Provided in AutoCAD format. Converted to ESRI format and spatially adjusted to match coordinate system.	2007	
Road Names	Various	Composite from 2000 U.S Census Bureau Tiger data and Washington Department of Natural Resources Road Centerline information	various	
Weigh Stations	WSDOT**	Downloaded from WSDOT web site 3/2007	Published: 9/2004	TRIPS state road data
Railroad Crossings	WSDOT**	Downloaded from WSDOT web site 3/2007	Published: 10/2006. Road data as of 12/31/2005	Railroad crossings that are at grade with Washington state routes.
Undercrossings	WSDOT**	Downloaded from WSDOT web site 3/2007	Published: 10/2006. Road data as of 12/31/2005	TRIPS state road data; undercrossings along state routes.
Federal Functional Classification	WSDOT**	Downloaded from WSDOT web site 3/2007	Published: 10/2006. Road data as of 12/31/2005	
Ports (Garfield)	Garfield County	Received from Garfield County – port facilities	2007	No information included to identify type of port facility
Truck Terminals (Garfield)	Garfield County		2007	No information included to

Name	Data Source	Additional Processing	Data Source Date (Content and/or Publish Data)	Notes
				identify type of truck terminal
County Bridges (Garfield)	Garfield County		2007	Bridge locations and sufficiency ratings
Roads (Garfield)	Garfield County		2007	Roads with names, type of road surface and traffic count.
Whitman County	Whitman County		2007	Map provided with road surface types, grain elevators, bridges, bridge restrictions, and culverts, along with base roads, water features, and cities.

- \*WSDOT = Washington State Department of Transportation. Web address - <http://www.wsdot.wa.gov/mapsdata/tdo/default.htm>
- \*\*BTS = Bureau of Transportation Statistics North American Atlas Transportation Data (United States Department of Transportation) . Web address - [http://www.bts.gov/publications/north\\_american\\_transportation\\_atlas\\_data/](http://www.bts.gov/publications/north_american_transportation_atlas_data/)
- \*\*\*Washington Department of Ecology Website -- <http://www.ecy.wa.gov/services/gis/data/data.htm>



## Appendix B: Survey Results



1. Business name/address

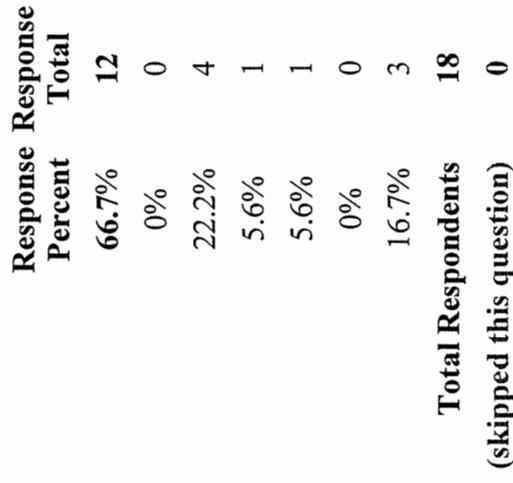
	Response Percent	Response Total
<b>Business Name</b>	100%	18
Business Address	94.4%	17
City	94.4%	17
County	88.9%	16
State	94.4%	17
Zip Code	94.4%	17
Name of Owner	94.4%	17
Title of Owner	72.2%	13
Main Telephone Number (area code)	94.4%	17
<b>Number of Full-Time Employees</b>	100%	18
Number of Seasonal or Part- Time Employees	72.2%	13
<b>Total Respondents</b>	<b>18</b>	<b>18</b>
(skipped this question)	0	0

2. (ANSWER REQUIRED) Your Name (as the survey respondent--in case we need to clarify an answer)

	Response Percent	Response Total
<b>Name</b>	100%	18
<b>Title</b>	100%	18
<b>Best Phone Number (area code)</b>	100%	18
<b>Total Respondents</b>	<b>18</b>	<b>18</b>

(skipped this question) 0

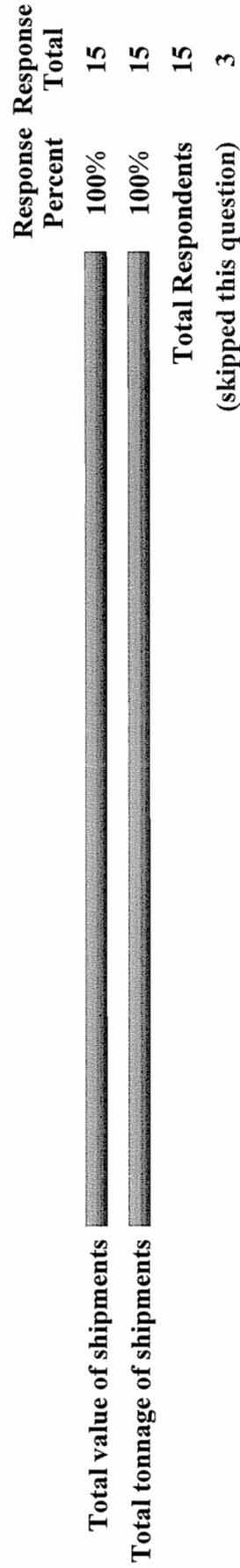
3. What best describes the business you conduct?



4. Please briefly list the products and volumes you shipped out in 2006.

Total Respondents 16  
(skipped this question) 2

5. Approximately, what were your 2006 figures for...



6. Approximately how much of your business shipments are destined for locations...

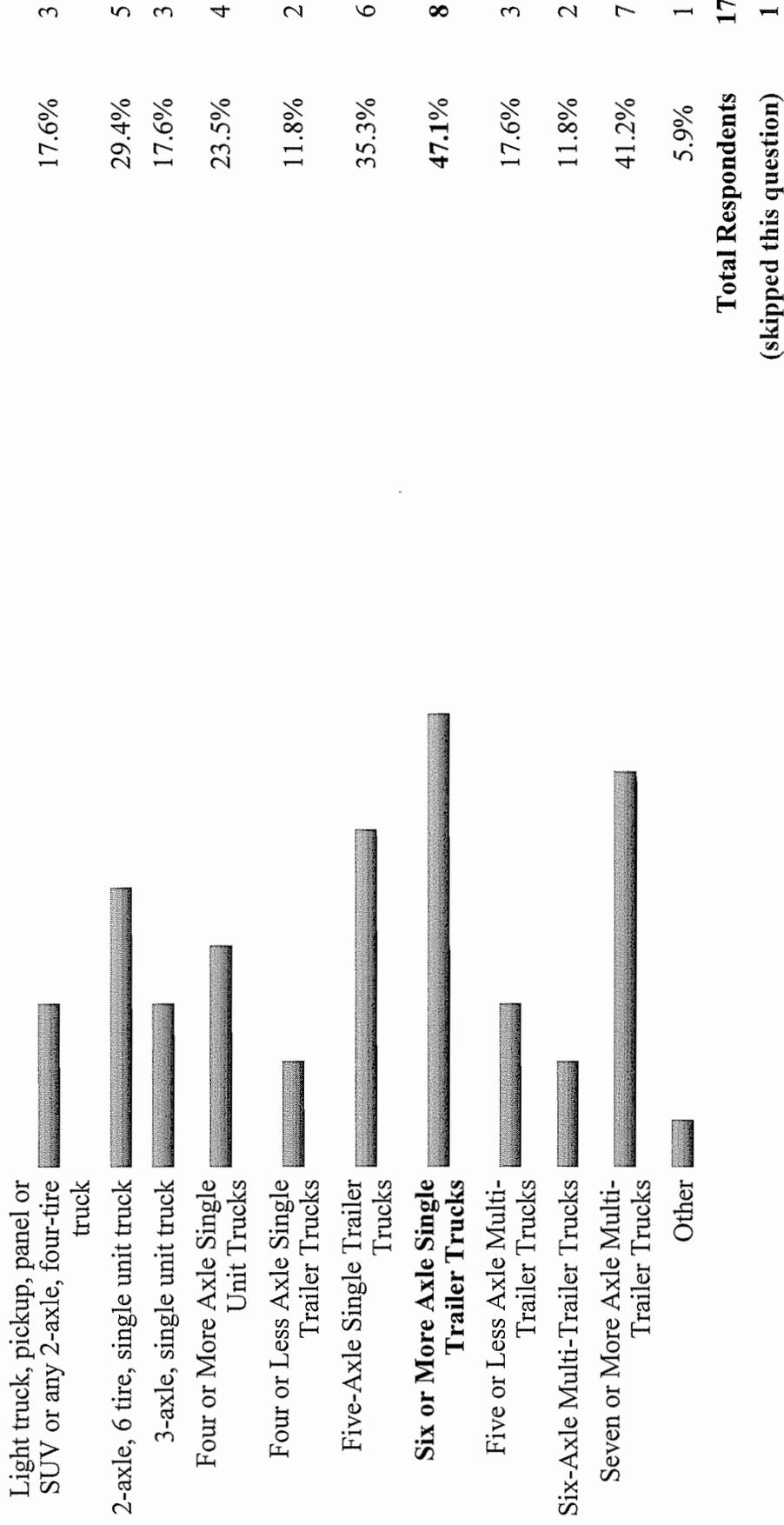
	0%	Less than 10%	11-20%	21-40%	41-60%	61-80%	81-100%	Response Total
WITHIN the four-county region that includes Asotin, Columbia, Garfield and Whitman counties?	24% (4)	35% (6)	12% (2)	0% (0)	18% (3)	12% (2)	0% (0)	17
Within the State of Washington?	0% (0)	33% (5)	7% (1)	20% (3)	13% (2)	20% (3)	7% (1)	15
Outside Washington, but inside the US?	0% (0)	13% (2)	13% (2)	20% (3)	13% (2)	13% (2)	27% (4)	15
International destinations?	27% (4)	27% (4)	0% (0)	7% (1)	7% (1)	13% (2)	20% (3)	15
							<b>Total Respondents</b>	17
							(skipped this question)	1

7. Do you handle your own shipping needs internally?

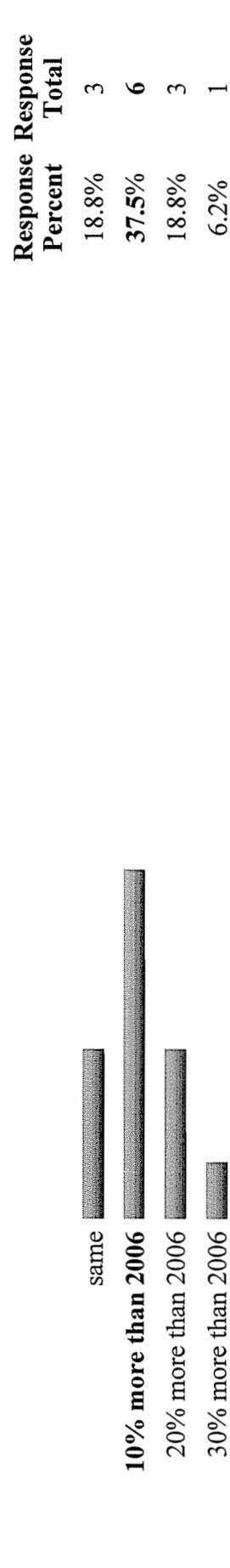
	Response Percent	Response Total
Yes	52.9%	9
No	5.9%	1
Most of the time	29.4%	5
Who is your contract shipper, if you use one?	11.8%	2
	<b>Total Respondents</b>	17
	(skipped this question)	1

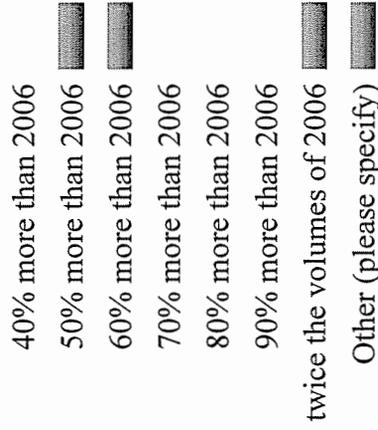
8. What kind of trucks do you typically use to ship your goods? (check all that apply)

	Response Percent	Response Total



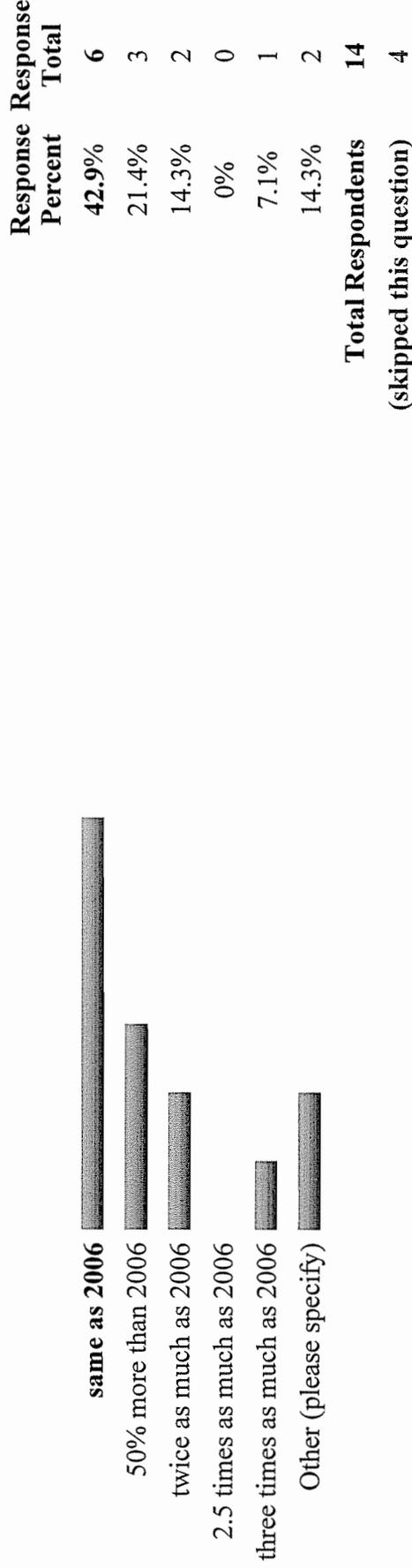
9. Please estimate the volumes you will ship out in 2010





**Total Respondents** 16  
(skipped this question) 2

10. Please estimate the volumes you will ship out in 2015 (give it your best guess, based on past experience and your knowledge of industry trends).

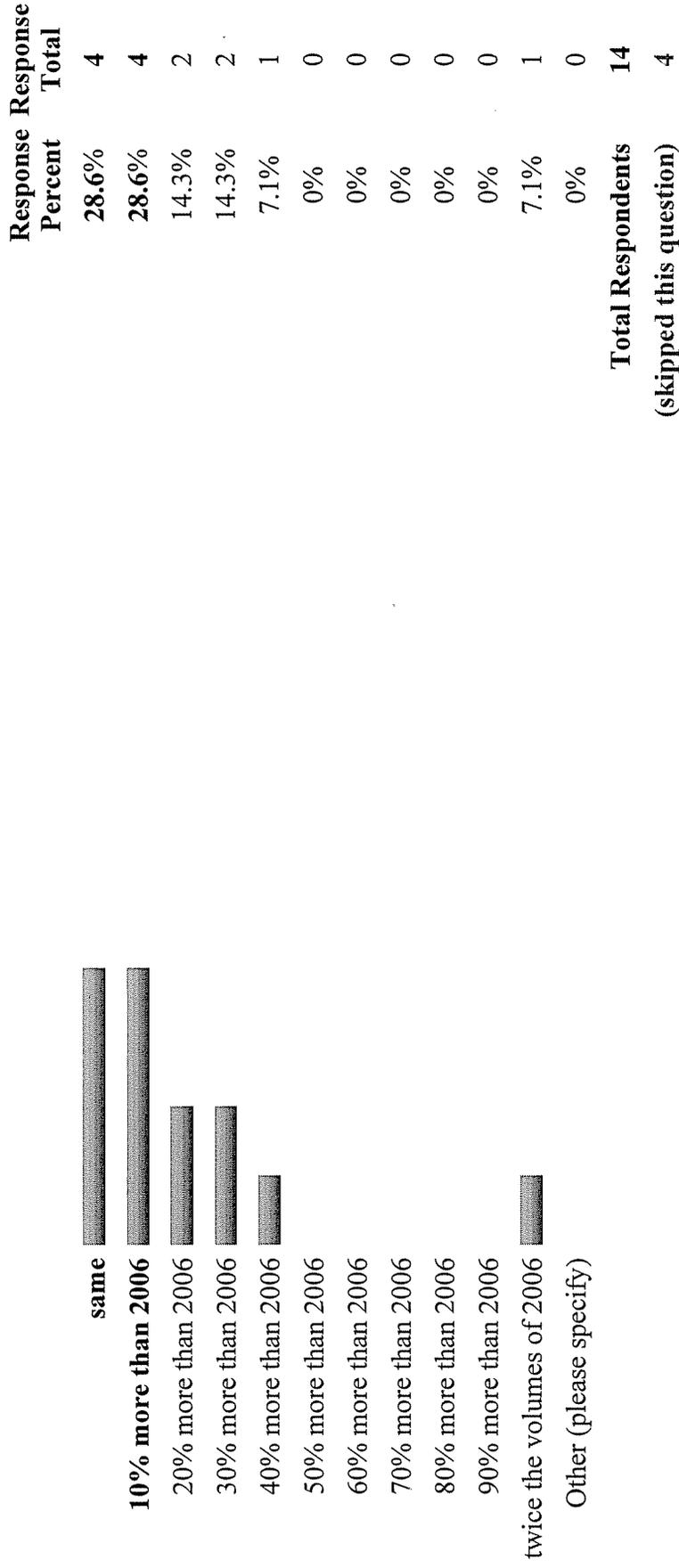


**Total Respondents** 14  
(skipped this question) 4

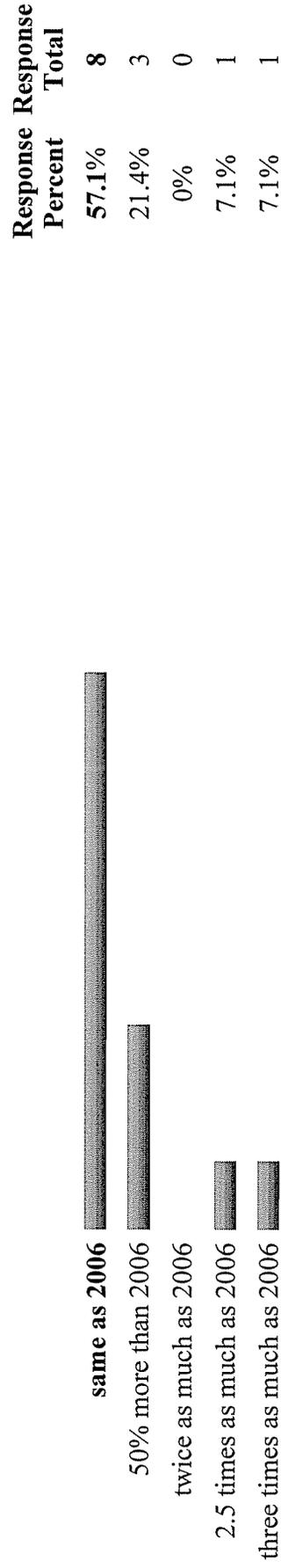
11. Please describe the raw materials, products and volumes you received in 2006.

**Total Respondents** 13  
(skipped this question) 5

12. Please estimate the volume of goods or supplies you will RECEIVE in 2010



13. Please estimate the volume of goods or supplies you will RECEIVE in 2015 (give it your best guess, based on past experience and your knowledge of industry trends).



Other (please specify)

7.1% 1

**Total Respondents** 14  
(skipped this question) 4

14. How do you get the supplies you need for your business? (For rail, barge and air, if you need a truck to make the last leg of the trip to your worksite, check the second column as well.)

	Majority of trip	Majority of trip, but last leg via truck	Respondent Total
Truck	92% (12)	23% (3)	13
Rail	67% (2)	67% (2)	3
Barge	75% (3)	50% (2)	4
Air	100% (1)	0% (0)	1
		<b>Total Respondents</b>	<b>14</b>
		(skipped this question)	4

15. Please identify any storage or warehouse facilities you use. Do you have sufficient storage or warehouse space? If not, describe your needs.

**Total Respondents** 12  
(skipped this question) 6

16. Please identify all port facilities you use to ship goods or receive supplies.

	Ship goods	Receive supplies	Ship and Receive	Response Total
Port of Almota	75% (3)	0% (0)	25% (1)	4
Port of Central Ferry	60% (3)	0% (0)	40% (2)	5
Port of Clarkston	0% (0)	0% (0)	0% (0)	0
Port of Columbia	100% (1)	0% (0)	0% (0)	1
Port of Garfield	0% (0)	0% (0)	0% (0)	0

Port of Lewiston	<b>100% (2)</b>	0% (0)	0% (0)
Port of Wilma	<b>50% (1)</b>	0% (0)	<b>50% (1)</b>
			<b>Total Respondents</b>
			<b>(skipped this question)</b>
			<b>7</b>
			<b>11</b>

17. Please identify all airport facilities you use to ship goods or receive supplies.

	<b>Ship goods</b>	<b>Receive supplies</b>	<b>Ship and Receive</b>	<b>Response Total</b>
Walla Walla Airport	0% (0)	0% (0)	0% (0)	<b>0</b>
Tri-Cities Airport	0% (0)	0% (0)	0% (0)	<b>0</b>
Pullman-Moscow Regional Airport	0% (0)	0% (0)	<b>100% (1)</b>	<b>1</b>
Whitman County Memorial Airport (Colfax)	0% (0)	0% (0)	0% (0)	<b>0</b>
Rosalia Municipal Airport	0% (0)	0% (0)	0% (0)	<b>0</b>
Willard Field	0% (0)	0% (0)	0% (0)	<b>0</b>
Lower Granite Airport	0% (0)	0% (0)	0% (0)	<b>0</b>
Lewiston-Nez Perce County Regional Airport	25% (1)	0% (0)	<b>75% (3)</b>	<b>4</b>
Rogersburg State Airport	0% (0)	0% (0)	0% (0)	<b>0</b>
Little Goose State Airport	0% (0)	0% (0)	0% (0)	<b>0</b>
Other	0% (0)	0% (0)	0% (0)	<b>0</b>
			<b>Total Respondents</b>	<b>4</b>
			<b>(skipped this question)</b>	<b>14</b>

18. Please identify all rail facilities you use to ship goods or receive supplies.

	<b>Ship goods</b>	<b>Receive supplies</b>	<b>Ship and Receive</b>	<b>Response Total</b>
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Blue Mountain Railroad (Columbia County)	<b>50% (1)</b>	0% (0)	<b>50% (1)</b>	<b>2</b>
Palouse River and Coulee City Railroad (Whitman County)	<b>40% (2)</b>	<b>40% (2)</b>	20% (1)	<b>5</b>
Camas Prairie Railroad (Whitman County)	<b>50% (1)</b>	<b>50% (1)</b>	0% (0)	<b>2</b>
Great Northwest Railroad (Garfield/Whitman Co. Line)	0% (0)	<b>100% (2)</b>	0% (0)	<b>2</b>
			<b>Total Respondents</b>	<b>7</b>
			<b>(skipped this question)</b>	<b>11</b>
			<b>Total Respondents</b>	<b>6</b>
			<b>(skipped this question)</b>	<b>12</b>

19. If you are part of WSDOT's Grain Train program, please describe your experience. Has it been useful? Would you like to see it expanded or changed? How?

20. In general, which of the following issues that affect road operations do you think are the most serious?

	<b>Very serious</b>	<b>Moderately serious</b>	<b>Not an issue of concern</b>	<b>Response Average</b>
Weight restrictions on roadways	27% (3)	<b>45% (5)</b>	27% (3)	<b>2.00</b>
Weight restrictions on bridges	0% (0)	<b>55% (6)</b>	45% (5)	<b>2.45</b>
Height restrictions	0% (0)	10% (1)	<b>90% (9)</b>	<b>2.90</b>
Poor pavement quality	33% (4)	<b>58% (7)</b>	8% (1)	<b>1.75</b>
Inadequate shoulders	17% (2)	<b>75% (9)</b>	8% (1)	<b>1.92</b>
Poor visibility (hills or curves)	17% (2)	<b>58% (7)</b>	25% (3)	<b>2.08</b>
Grades	0% (0)	45% (5)	<b>55% (6)</b>	<b>2.55</b>
Dangerous passing conditions	<b>33% (4)</b>	<b>33% (4)</b>	<b>33% (4)</b>	<b>2.00</b>

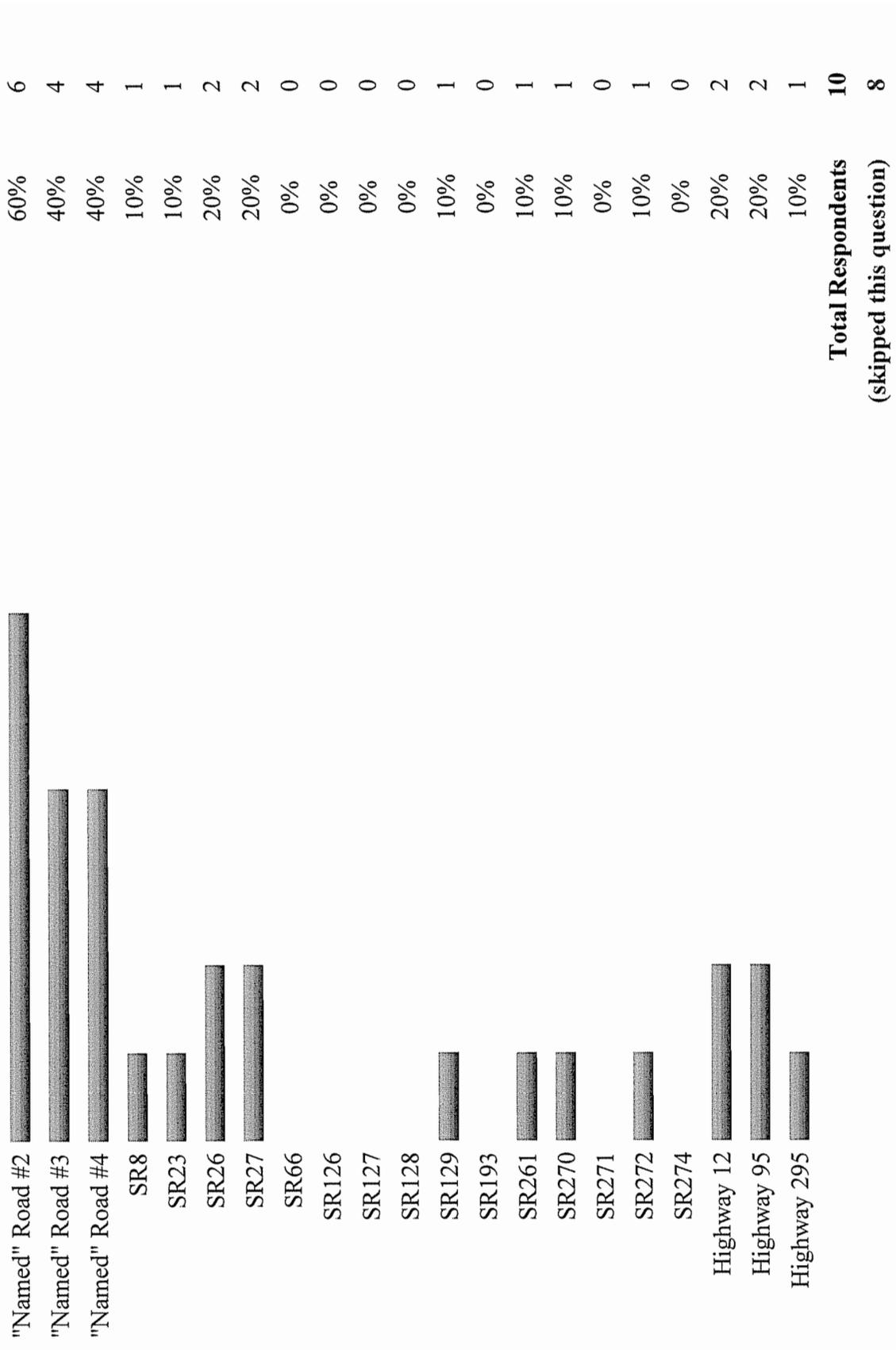
Truck/vehicle conflicts	9% (1)	<b>64% (7)</b>	27% (3)	<b>2.18</b>
Morning or evening peak period traffic levels	0% (0)	<b>67% (8)</b>	33% (4)	<b>2.33</b>
Seasonal high traffic volumes	8% (1)	<b>67% (8)</b>	25% (3)	<b>2.17</b>
		<b>Total Respondents</b>	<b>13</b>	
		<b>(skipped this question)</b>	<b>5</b>	

21. In general, describe how serious you feel the following weather-related issues are for your business operations.

	<b>Very serious</b>	<b>Moderately serious</b>	<b>Not an issue of concern</b>	<b>Response Average</b>
Snow	8% (1)	<b>83% (10)</b>	8% (1)	<b>2.00</b>
Ice	8% (1)	<b>83% (10)</b>	8% (1)	<b>2.00</b>
Fog	9% (1)	<b>82% (9)</b>	9% (1)	<b>2.00</b>
Rain	0% (0)	27% (3)	<b>73% (8)</b>	<b>2.73</b>
Flooding	0% (0)	18% (2)	<b>82% (9)</b>	<b>2.82</b>
Debris	0% (0)	27% (3)	<b>73% (8)</b>	<b>2.73</b>
Rockslides	0% (0)	30% (3)	<b>70% (7)</b>	<b>2.70</b>
Mud	0% (0)	27% (3)	<b>73% (8)</b>	<b>2.73</b>
Sinkholes	0% (0)	18% (2)	<b>82% (9)</b>	<b>2.82</b>
		<b>Total Respondents</b>	<b>12</b>	
		<b>(skipped this question)</b>	<b>6</b>	

22. Consider your primary roadway route to point of use, sale, storage or transfer to rail/barge/air. How many ONE-WAY miles do your shipments travel on the roads identified below for each typical trip? For "named" roads (non-numbered local or county roads)--please also insert the name of each road and how many ONE-WAY miles your goods travel on it. E.g., "Shumaker Road -- 6"

	<b>Response Percent</b>	<b>Response Total</b>
<b>"Named" Road #1</b>	<b>90%</b>	<b>9</b>



**Response Percent**      **Response Total**

23. How often do you ship goods on the roads you identified in the previous question (Q22)?



If you checked "Seasonal" or "Other" please define.

Total Respondents 12  
(skipped this question) 6

24. Consider the route for shipments you described in Question 22. For all roads you identified, please check the columns for those issues that are of moderate to high concern to you. For "named" roads--assume the same name and order that you used in Q22.

	Weight restrictions on roadways	Weight restrictions on bridges	Height restrictions	Poor pavement quality	Inadequate shoulders	Poor visibility (hills or curves)	Grades	None/Not Applicable	Respondent Total
"Named" Road #1	62% (5)	25% (2)	0% (0)	38% (3)	38% (3)	38% (3)	25% (2)	25% (2)	8
"Named" Road #2	100% (5)	40% (2)	0% (0)	60% (3)	60% (3)	60% (3)	0% (0)	0% (0)	5
"Named" Road #3	100% (2)	50% (1)	0% (0)	100% (2)	100% (2)	100% (2)	0% (0)	0% (0)	2
"Named" Road #4	100% (2)	0% (0)	0% (0)	50% (1)	100% (2)	0% (0)	0% (0)	0% (0)	2
SR8	100% (1)	0% (0)	0% (0)	100% (1)	0% (0)	0% (0)	0% (0)	0% (0)	1
SR23	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0
SR26	100% (1)	0% (0)	0% (0)	100% (1)	0% (0)	0% (0)	0% (0)	0% (0)	1
SR27	50% (1)	0% (0)	0% (0)	50% (1)	50% (1)	0% (0)	0% (0)	0% (0)	2
SR66	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0

SR126	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0
SR127	<b>100% (1)</b>	<b>100% (1)</b>	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	<b>1</b>
SR128	<b>100% (1)</b>	<b>100% (1)</b>	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	<b>1</b>
SR129	0% (0)	0% (0)	0% (0)	0% (0)	<b>100% (1)</b>	0% (0)	0% (0)	0% (0)	0% (0)	<b>1</b>
SR193	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	<b>0</b>
SR261	<b>100% (1)</b>	<b>100% (1)</b>	0% (0)	0% (0)	<b>100% (1)</b>	<b>100% (1)</b>	<b>100% (1)</b>	<b>100% (1)</b>	0% (0)	<b>1</b>
SR270	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	<b>100% (1)</b>	<b>100% (1)</b>	0% (0)	0% (0)	<b>1</b>
SR271	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	<b>0</b>
SR272	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	<b>0</b>
SR274	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	<b>0</b>
Highway 12	<b>50% (1)</b>	<b>50% (1)</b>	0% (0)	0% (0)	<b>50% (1)</b>	<b>50% (1)</b>	<b>50% (1)</b>	0% (0)	0% (0)	<b>2</b>
Highway 95	50% (1)	0% (0)	0% (0)	0% (0)	<b>100% (2)</b>	50% (1)	0% (0)	0% (0)	0% (0)	<b>2</b>
Highway 295	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	<b>1</b>
										<b>9</b>
										<b>9</b>
										<b>(skipped this question)</b>

25. Consider the route for shipments you described in Question 22. For all roads you identified, please check the columns for those issues that are of moderate to high concern to you. For "named" roads--assume the same name and order that you used in Q22.

	Dangerous passing conditions	Truck/vehicle conflicts	Morning or evening peak period traffic levels	Seasonal high traffic volumes	Inadequate fueling opportunities	Lack of Emergency Response capability	None/Not Applicable	Respondent Total
"Named" Road #1	<b>25% (2)</b>	<b>25% (2)</b>	<b>25% (2)</b>	<b>25% (2)</b>	0% (0)	0% (0)	<b>25% (2)</b>	<b>8</b>
"Named" Road #2	<b>40% (2)</b>	20% (1)	20% (1)	<b>40% (2)</b>	0% (0)	0% (0)	20% (1)	<b>5</b>
"Named" Road #3	<b>50% (1)</b>	0% (0)	0% (0)	<b>50% (1)</b>	0% (0)	0% (0)	0% (0)	<b>2</b>



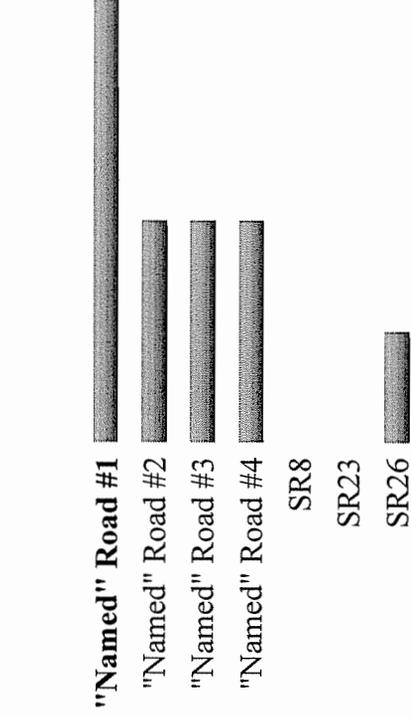
"Named" Road #2	<b>100%</b> <b>(5)</b>	<b>100%</b> <b>(5)</b>	60% <b>(3)</b>	40% <b>(2)</b>	20% (1)	0% (0)	20% (1)	0% (0)	0% (0)	0% (0)	<b>5</b>
"Named" Road #3	<b>100%</b> <b>(2)</b>	<b>100%</b> <b>(2)</b>	50% <b>(1)</b>	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	<b>2</b>
"Named" Road #4	<b>100%</b> <b>(2)</b>	<b>100%</b> <b>(2)</b>	50% <b>(1)</b>	50% <b>(1)</b>	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	<b>2</b>
SR8	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	<b>0</b>
SR23	<b>100%</b> <b>(1)</b>	<b>100%</b> <b>(1)</b>	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	<b>1</b>
SR26	<b>100%</b> <b>(1)</b>	<b>100%</b> <b>(1)</b>	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	<b>1</b>
SR27	<b>100%</b> <b>(1)</b>	<b>100%</b> <b>(1)</b>	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	<b>1</b>
SR66	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	<b>0</b>
SR126	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	<b>0</b>
SR127	<b>100%</b> <b>(1)</b>	<b>100%</b> <b>(1)</b>	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	<b>1</b>
SR128	<b>100%</b> <b>(1)</b>	<b>100%</b> <b>(1)</b>	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	<b>1</b>
SR129	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	<b>100% (1)</b>	<b>1</b>
SR193	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	<b>0</b>
SR261	<b>100%</b> <b>(1)</b>	<b>100%</b> <b>(1)</b>	<b>100%</b> <b>(1)</b>	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	<b>1</b>
SR270	<b>100%</b> <b>(1)</b>	<b>100%</b> <b>(1)</b>	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	<b>1</b>
SR271	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	<b>0</b>

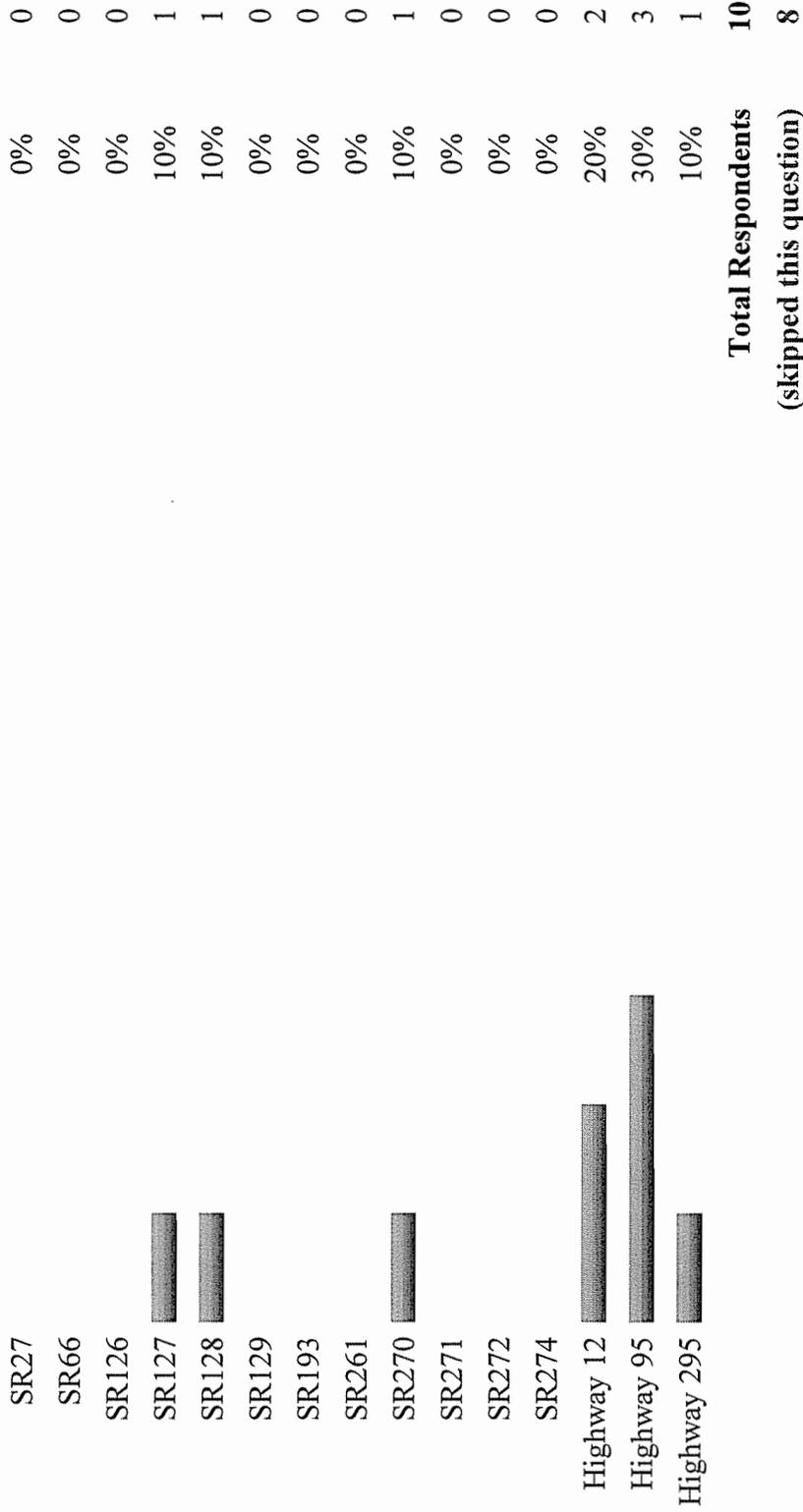
SR272	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0
SR274	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0
Highway 12	50% (1)	100% (2)	100% (2)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	2
Highway 95	100% (2)	100% (2)	50% (1)	50% (1)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	2
Highway 295	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	100% (1)	1
<b>Total Respondents</b>										<b>9</b>
<b>(skipped this question)</b>										<b>9</b>

27. What specific constraints or problems do you have in moving freight today?

**Total Respondents** 10  
(skipped this question) 8

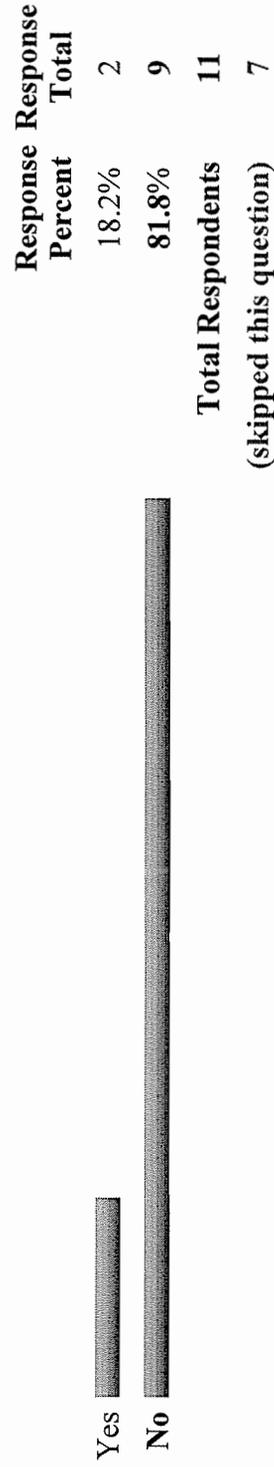
28. Which of the following roads would you most like to see improved? (choose up to 3)





(skipped this question) 8

29. Considering all the pros and cons connected with your current primary mode (truck, rail, barge or air) would you be inclined to switch to another mode, if it were available?



(skipped this question) 7

30. What mode would you switch to and why? (check all that apply)

	Lower Cost	Predictable Cost	Better Service	More convenient	Better access at trip origins	Better access to destination	Quicker delivery	More reliable delivery	Better intermodal access	Respondent Total
Truck	0% (0)	0% (0)	100% (1)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	1
Rail	50% (1)	0% (0)	0% (0)	100% (2)	50% (1)	0% (0)	0% (0)	0% (0)	0% (0)	2
Barge	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0
Air	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0
										<b>3</b>
										<b>Total Respondents</b>
										<b>15</b>
										<b>(skipped this question)</b>

1. Business name/address

	Response Percent	Response Total
<b>Business Name</b>	100%	6
<b>Business Address (Operations)</b>	100%	6
<b>City</b>	100%	6
<b>County</b>	100%	6
<b>State</b>	100%	6
<b>Zip Code</b>	100%	6
<b>Main Telephone Number (area code)</b>	100%	6
<b>Number of Full-Time Employees</b>	100%	6
<b>Number of Seasonal or Part- Time Employees</b>	66.7%	4
<b>Total Respondents</b>		6
<b>(skipped this question)</b>		0

2. (ANSWER REQUIRED) Your Name (as the survey respondent--in case we need to clarify an answer)

	Response Percent	Response Total
<b>Name</b>	100%	6
<b>Title</b>	100%	6
<b>Best Phone Number (area code)</b>	100%	6
<b>Total Respondents</b>		6
<b>(skipped this question)</b>		0

3. What best describes the business you conduct?

	Response Percent	Response Total
Agriculture	33.3%	2
Timber	0%	0
<b>Manufacturing</b>	<b>66.7%</b>	<b>4</b>
Distribution and Logistics	0%	0
Professional Service	0%	0
Tourism	0%	0
Other (please specify)	0%	0
<b>Total Respondents</b>		<b>6</b>
<b>(skipped this question)</b>		<b>0</b>

4. Please briefly describe your business operation--what do you make, grow or ship?

<b>Total Respondents</b>	<b>6</b>
<b>(skipped this question)</b>	<b>0</b>

5. Approximately how much of your business shipments are destined for locations...

	0%	Less than 10%	11-20%	21-40%	41-60%	61-80%	81-100%	Response Total
WITHIN the four-county region that includes Asotin, Columbia, Garfield and Whitman counties?	0%	50% (3)	17% (1)	17% (1)	0% (0)	17% (1)	0% (0)	6
Within the State of Washington?	0% (0)	33% (2)	17% (1)	33% (2)	0% (0)	0% (0)	17% (1)	6
Outside Washington, but inside the US?	0% (0)	0% (0)	0% (0)	40% (2)	20% (1)	40% (2)	40% (2)	5

International destinations?	<b>40% (2)</b>	20% (1)	0% (0)	0% (0)	0% (0)	<b>5</b>
						<b>Total Respondents</b>
						<b>6</b>
						<b>(skipped this question)</b>
						<b>0</b>

6. How do you SHIP the goods you sell? (For rail, barge and air, if you need a truck to make the last leg of the trip to your worksite, check the second column as well.)

	Majority of trip	Majority of trip, but last leg via truck	Respondent Total
Truck	<b>80% (4)</b>	20% (1)	<b>5</b>
Rail	0% (0)	0% (0)	<b>0</b>
Barge	<b>100% (2)</b>	50% (1)	<b>2</b>
Air	0% (0)	0% (0)	<b>0</b>
			<b>Total Respondents</b>
			<b>5</b>
			<b>(skipped this question)</b>
			<b>1</b>

7. If applicable, please tell us what kind of trucks you typically use to ship your goods. (check all that apply)

	Response Percent	Response Total
Light truck, pickup, panel or SUV or any 2-axle, four-tire truck	20%	1
2-axle, 6 tire, single unit truck	20%	1
3-axle, single unit truck	0%	0
Four or More Axle Single Unit Trucks	0%	0
Four or Less Axle Single Trailer Trucks	0%	0
<b>Five-Axle Single Trailer Trucks</b>	<b>80%</b>	<b>4</b>

Six or More Axle Single Trailer Trucks	0%	0
Five or Less Axle Multi-Trailer Trucks	0%	0
Six-Axle Multi-Trailer Trucks	20%	1
Seven or More Axle Multi-Trailer Trucks	20%	1
Other	0%	0
<b>Total Respondents</b>		<b>5</b>
	<b>(skipped this question)</b>	<b>1</b>

8. How do you RECEIVE the supplies you need for your business? (For rail, barge and air, if you need a truck to make the last leg of the trip to your worksite, check the second column as well.)

	Majority of trip	Majority of trip, but last leg via truck	Respondent Total
Truck	80% (4)	20% (1)	5
Rail	0% (0)	0% (0)	0
Barge	100% (1)	100% (1)	1
Air	0% (0)	100% (1)	1
	<b>Total Respondents</b>		<b>5</b>
		<b>(skipped this question)</b>	<b>1</b>

9. Please identify any storage or warehouse facilities you use. Do you have sufficient storage or warehouse space? If not, describe your needs.

<b>Total Respondents</b>	<b>5</b>
<b>(skipped this question)</b>	<b>1</b>

10. Please identify all port facilities you use to ship goods or receive supplies.

	Ship goods	Receive supplies	Ship and Receive	Response Total
Port of Almota	0% (0)	0% (0)	0% (0)	0
Port of Central Ferry	0% (0)	0% (0)	0% (0)	0
Port of Clarkston	0% (0)	0% (0)	0% (0)	0
Port of Columbia	0% (0)	0% (0)	0% (0)	0
Port of Garfield	0% (0)	0% (0)	100% (2)	2
Port of Lewiston	0% (0)	0% (0)	0% (0)	0
Port of Wilma	0% (0)	0% (0)	0% (0)	0
			<b>Total Respondents</b>	<b>2</b>
			(skipped this question)	4

11. Please identify all airport facilities you use to ship goods or receive supplies.

	Ship goods	Receive supplies	Ship and Receive	Response Total
Walla Walla Airport	0% (0)	0% (0)	0% (0)	0
Tri-Cities Airport	0% (0)	0% (0)	0% (0)	0
Pullman-Moscow Regional Airport	0% (0)	0% (0)	0% (0)	0
Whitman County Memorial Airport (Colfax)	0% (0)	0% (0)	0% (0)	0
Rosalia Municipal Airport	0% (0)	0% (0)	0% (0)	0
Willard Field	0% (0)	0% (0)	0% (0)	0
Lower Granite Airport	0% (0)	0% (0)	0% (0)	0
Lewiston-Nez Perce County Regional Airport	0% (0)	0% (0)	100% (2)	2
Rogersburg State Airport	0% (0)	0% (0)	0% (0)	0
Little Goose State Airport	0% (0)	0% (0)	0% (0)	0

Other 0% (0) 0  
**Total Respondents** 2  
 (skipped this question) 4

12. Please identify all rail facilities you use to ship goods or receive supplies.

	Ship goods	Receive supplies	Ship and Receive	Response Total
Blue Mountain Railroad (Columbia County)	0% (0)	0% (0)	0% (0)	0
Palouse River and Coulee City Railroad (Whitman County)	0% (0)	0% (0)	0% (0)	0
Camas Prairie Railroad (Whitman County)	0% (0)	0% (0)	0% (0)	0
Great Northwest Railroad (Garfield/Whitman Co. Line)	0% (0)	0% (0)	0% (0)	0
			<b>Total Respondents</b>	<b>0</b>
			(skipped this question)	6

13. In general, which of the following issues that affect road operations do you think are the most serious?

	Very serious	Moderately serious	Not an issue of concern	Response Average
Weight restrictions on roadways	0% (0)	40% (2)	60% (3)	2.60
Weight restrictions on bridges	0% (0)	40% (2)	60% (3)	2.60
Height restrictions	0% (0)	20% (1)	80% (4)	2.80
Poor pavement quality	20% (1)	80% (4)	0% (0)	1.80
Inadequate shoulders	0% (0)	100% (4)	0% (0)	2.00
Poor visibility (hills or curves)	50% (2)	25% (1)	25% (1)	1.75

Grades	0% (0)	75% (3)	25% (1)	2.25
Dangerous passing conditions	50% (2)	25% (1)	25% (1)	1.75
Truck/vehicle conflicts	50% (2)	25% (1)	25% (1)	1.75
Morning or evening peak period traffic levels	0% (0)	25% (1)	75% (3)	2.75
Seasonal high traffic volumes	0% (0)	100% (4)	0% (0)	2.00
		<b>Total Respondents</b>	<b>5</b>	<b>5</b>
			<b>(skipped this question)</b>	<b>1</b>

14. In general, describe how serious you feel the following weather-related issues are for your business operations.

	Very serious	Moderately serious	Not an issue of concern	Response Average
Snow	20% (1)	80% (4)	0% (0)	1.80
Ice	20% (1)	80% (4)	0% (0)	1.80
Fog	0% (0)	100% (4)	0% (0)	2.00
Rain	0% (0)	25% (1)	75% (3)	2.75
Flooding	0% (0)	25% (1)	75% (3)	2.75
Debris	0% (0)	50% (2)	50% (2)	2.50
Rockslides	0% (0)	50% (2)	50% (2)	2.50
Mud	0% (0)	25% (1)	75% (3)	2.75
Sinkholes	0% (0)	25% (1)	75% (3)	2.75
		<b>Total Respondents</b>	<b>5</b>	<b>5</b>
			<b>(skipped this question)</b>	<b>1</b>

15. Which of the following roads would you most like to see improved? Please put an "X" in the box next to the road OR identify what improvement you'd like (e.g., add passing lanes, widen shoulders, remove weight restrictions, etc.) For "NAMED ROADS" please identify the name of the local road that you would like to see improved.

**Response**

**Response**

	Percent	Total
<b>"Named" Local Road #1</b>	<b>25%</b>	<b>1</b>
"Named" Local Road #2	0%	0
"Named" Local Road #3	0%	0
"Named" Local Road #4	0%	0
SR8	0%	0
SR23	0%	0
<b>SR26</b>	<b>25%</b>	<b>1</b>
<b>SR27</b>	<b>25%</b>	<b>1</b>
SR66	0%	0
SR126	0%	0
SR127	0%	0
SR128	0%	0
SR129	0%	0
SR194	0%	0
SR261	0%	0
SR270	0%	0
SR271	0%	0
SR272	0%	0
SR274	0%	0
<b>Highway 12</b>	<b>25%</b>	<b>1</b>
<b>Highway 95</b>	<b>25%</b>	<b>1</b>
Highway 295	0%	0
<b>Total Respondents</b>	<b>4</b>	<b>4</b>
(skipped this question)		<b>2</b>

16. What specific constraints or problems do you have in moving freight today?

<b>Total Respondents</b>	<b>5</b>
(skipped this question)	<b>1</b>

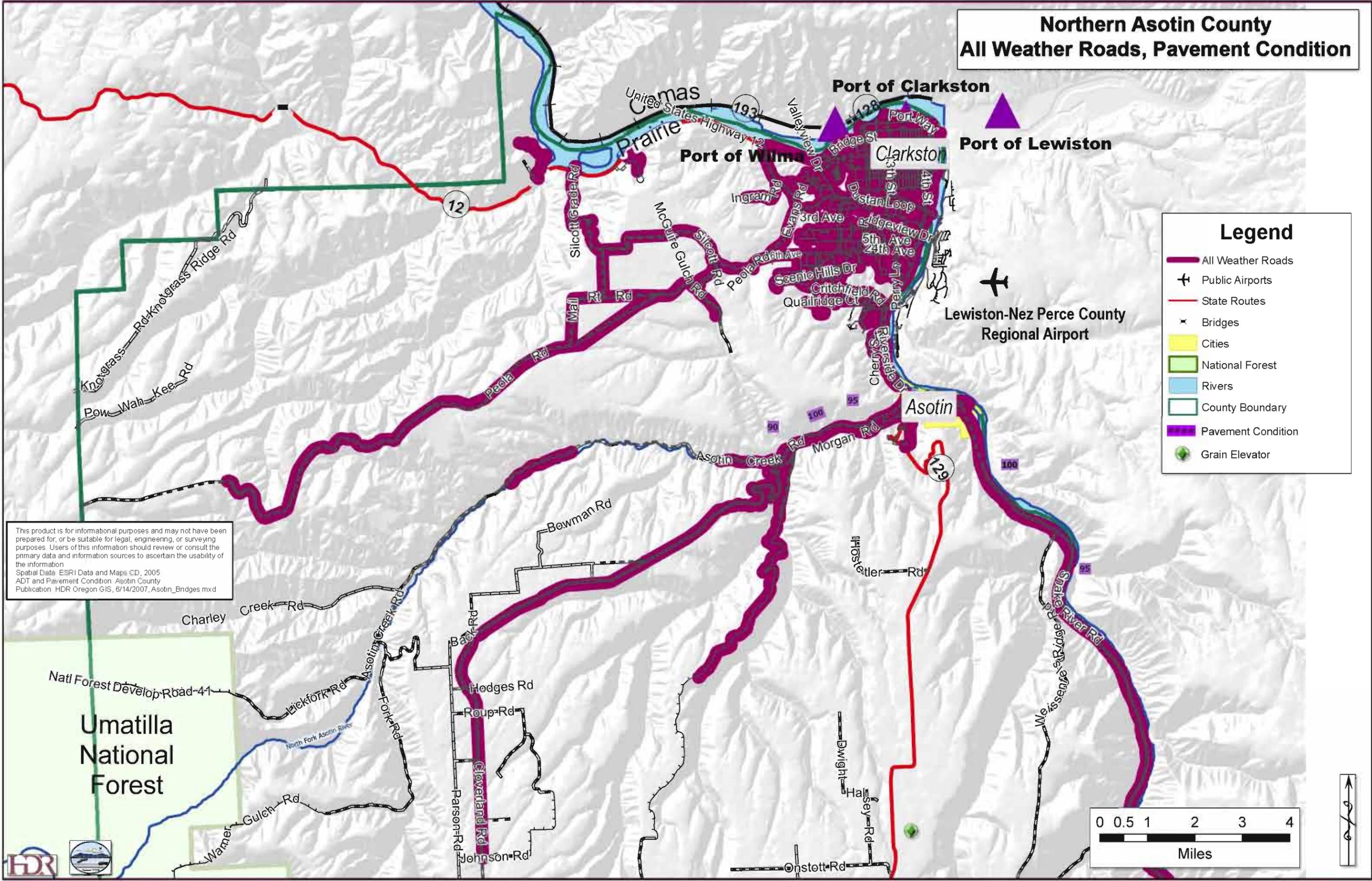


## Appendix C: County Road Maps

Northern Asotin County All Weather Roads, Pavement Condition  
Southern Asotin County All Weather Roads, Pavement Condition  
Northern Asotin County Truck Routes, ADT, Road Surface, Winter Closures  
Southern Asotin County Truck Routes, ADT, Road Surface, Winter Closures  
Asotin County Bridges  
Asotin County 2006 Bridge Report  
City of Clarkston  
Northern Columbia County  
Southern Columbia County  
Columbia County Roads  
Northern Garfield County, All Weather Roads and Pavement Condition  
Southern Garfield County, All Weather Roads and Pavement Condition  
Northern Garfield County ADT and Road Surface  
Southern Garfield County ADT and Road Surface  
Whitman County – Northwest All Weather Roads, Road Surface  
Whitman County – Northeast All Weather Roads, Road Surface  
Whitman County – Southwest All Weather Roads, Road Surface  
Whitman County – South Central All Weather Roads, Road Surface  
Whitman County – Southeast All Weather Roads, Road Surface  
Whitman County – Northwest Freight and Goods System  
Whitman County – Northeast Freight and Goods System  
Whitman County – Southwest Freight and Goods System  
Whitman County – South Central Freight and Goods System  
Whitman County – Southeast Freight and Goods System



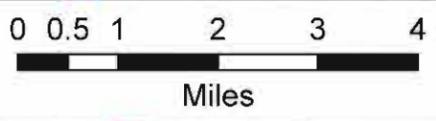
# Northern Asotin County All Weather Roads, Pavement Condition



### Legend

- All Weather Roads
- Public Airports
- State Routes
- Bridges
- Cities
- National Forest
- Rivers
- County Boundary
- Pavement Condition
- Grain Elevator

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.  
 Spatial Data: ESRI Data and Maps CD, 2005  
 ADT and Pavement Condition: Asotin County  
 Publication: HDR Oregon GIS, 6/14/2007, Asotin\_Bridges.mxd



Umatilla  
National  
Forest

Lewiston-Nez Perce County  
Regional Airport

Port of Clarkston

Port of Wilma

Port of Lewiston

Asotin

United States  
Highway 12

Prairie

129

12

100

90

95

100

100

95

Charley Creek Rd

Liebförk Rd

Asotin Creek Rd

North Fork Asotin River

Forik Rd

Warner Gulch Rd

Hodges Rd

Roup Rd

Cleveland Rd

Parson Rd

Johnson Rd

Bowman Rd

McGuire Gulch Rd

Silcott Rd

Peola Rd

Mail Rd

Peola Rd

Scenic Hills Dr

Quailridge Ct

Critchfield Rd

Cherry St

Peola Rd

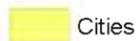
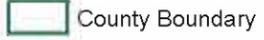
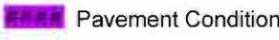
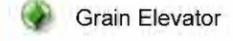
Asotin Creek Rd

Morgan Rd

Asotin Creek Rd

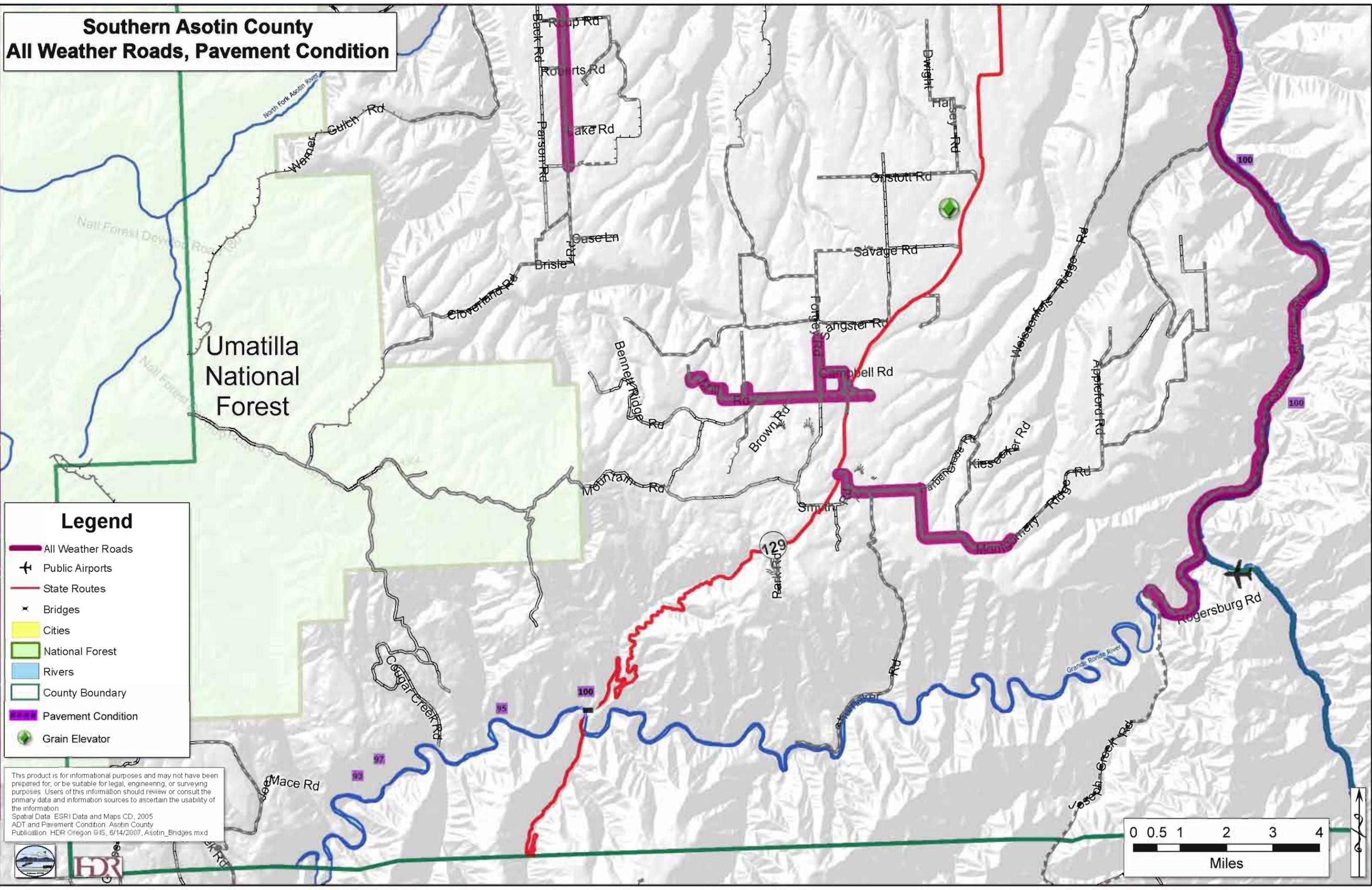
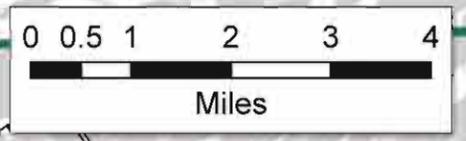
# Southern Asotin County All Weather Roads, Pavement Condition

### Legend

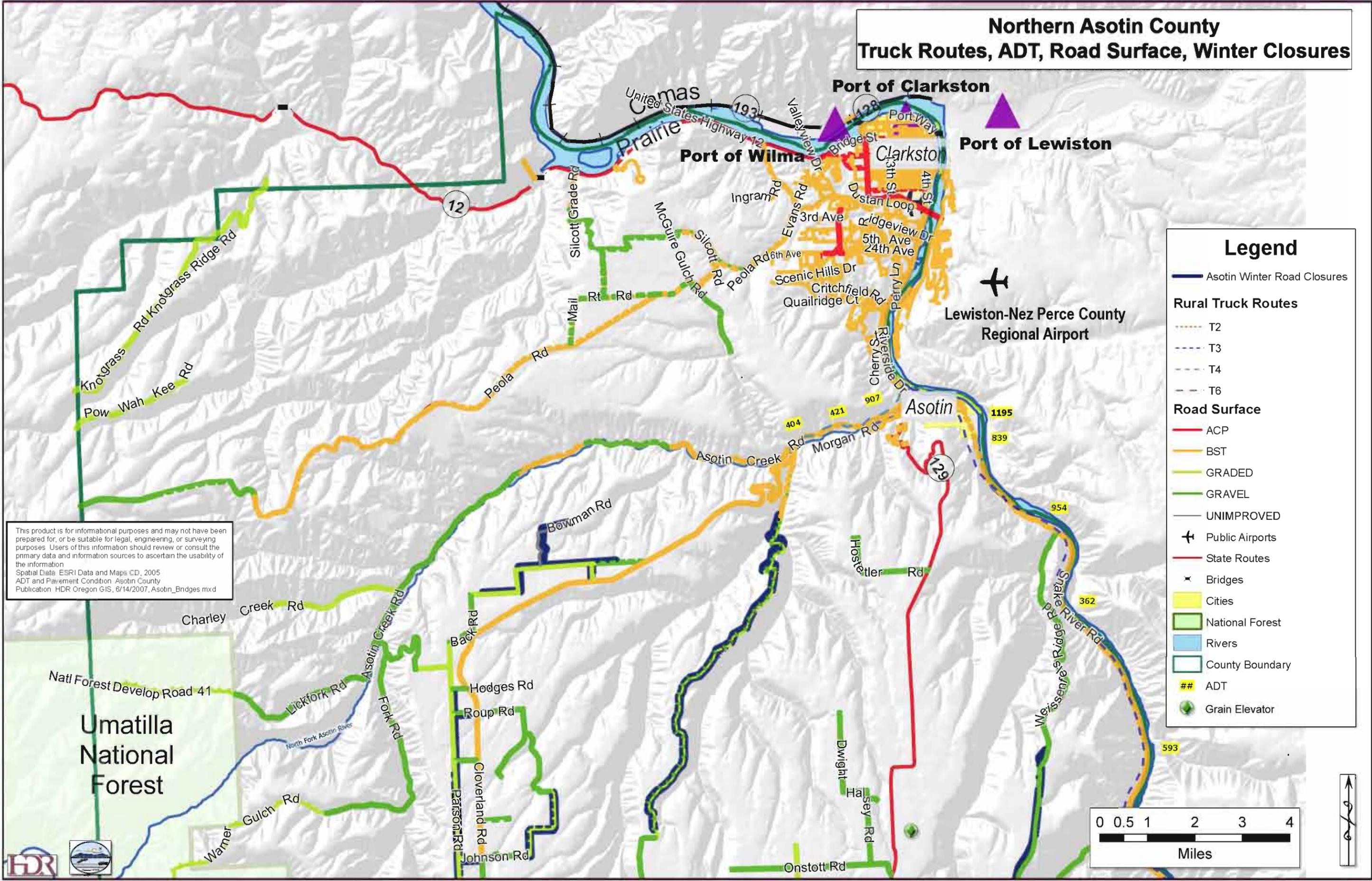
-  All Weather Roads
-  Public Airports
-  State Routes
-  Bridges
-  Cities
-  National Forest
-  Rivers
-  County Boundary
-  Pavement Condition
-  Grain Elevator

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

Spatial Data: ESRI Data and Maps CD, 2005  
 ADT and Pavement Condition: Asotin County  
 Publication: HDR Oregon GIS, 6/14/2007, Asotin\_Eldiges.mxd



# Northern Asotin County Truck Routes, ADT, Road Surface, Winter Closures



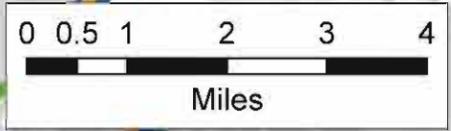
**Port of Clarkston**  
**Port of Wilma**  
**Port of Lewiston**

**Lewiston-Nez Perce County  
Regional Airport**

### Legend

- Asotin Winter Road Closures
- Rural Truck Routes**
  - T2
  - T3
  - T4
  - T6
- Road Surface**
  - ACP
  - BST
  - GRADED
  - GRAVEL
  - UNIMPROVED
- Public Airports
- State Routes
- Bridges
- Cities
- National Forest
- Rivers
- County Boundary
- ADT
- Grain Elevator

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 Spatial Data: ESRI Data and Maps CD, 2005  
 ADT and Pavement Condition: Asotin County  
 Publication: HDR Oregon GIS, 6/14/2007, Asotin\_Bridges.mxd



**Umatilla  
National  
Forest**

Charley Creek Rd  
Warner Gulch Rd  
Lickfork Rd  
Fork Rd  
Asotin Creek Rd  
North Fork Asotin River

Hodges Rd  
Roup Rd  
Cleveland Rd  
Parson Rd  
Johnson Rd

Dwight Rd  
Hailey Rd  
Onstott Rd

Asotin  
Morgan Rd  
Hostler Rd  
907  
421  
404  
1195  
839  
954  
362  
593

Knotgrass Rd  
Pow Wah Kee Rd  
Knotgrass Ridge Rd

Peola Rd  
Mail Rd  
McGuffe Gulch Rd  
Silcott Rd  
Silcott Grade Rd

Clarkston  
Valleyview Dr  
Bridge St  
3rd St  
4th St  
5th Ave  
24th Ave  
Dustan Loop  
Ridgeview Dr  
6th Ave  
Evans Rd  
Ingram Rd  
Peola Rd  
Scenic Hills Dr  
Critchfield Rd  
Quailridge Ct  
Cherry St  
Perry Ln  
Riverside Dr

United States Highway 12  
1934

12

Asotin

29

Asotin Creek Rd

Bowman Rd

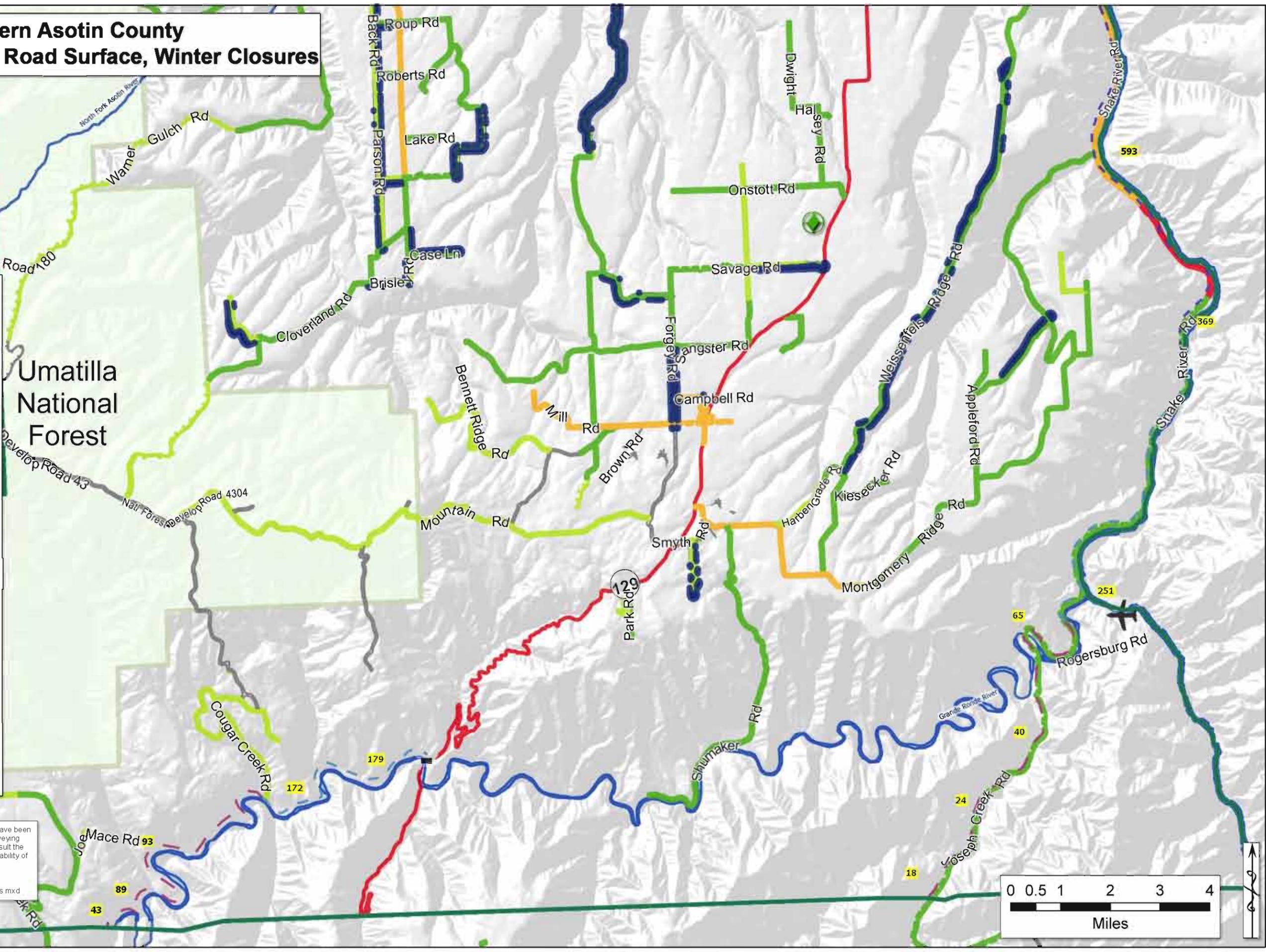
Back Rd

Snake River Rd  
Weissenfels Rd  
362  
954  
593

# Southern Asotin County Truck Routes, ADT, Road Surface, Winter Closures

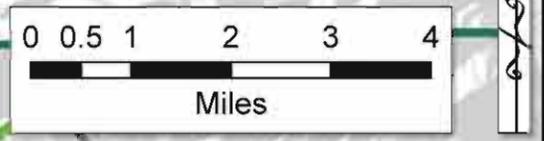
### Legend

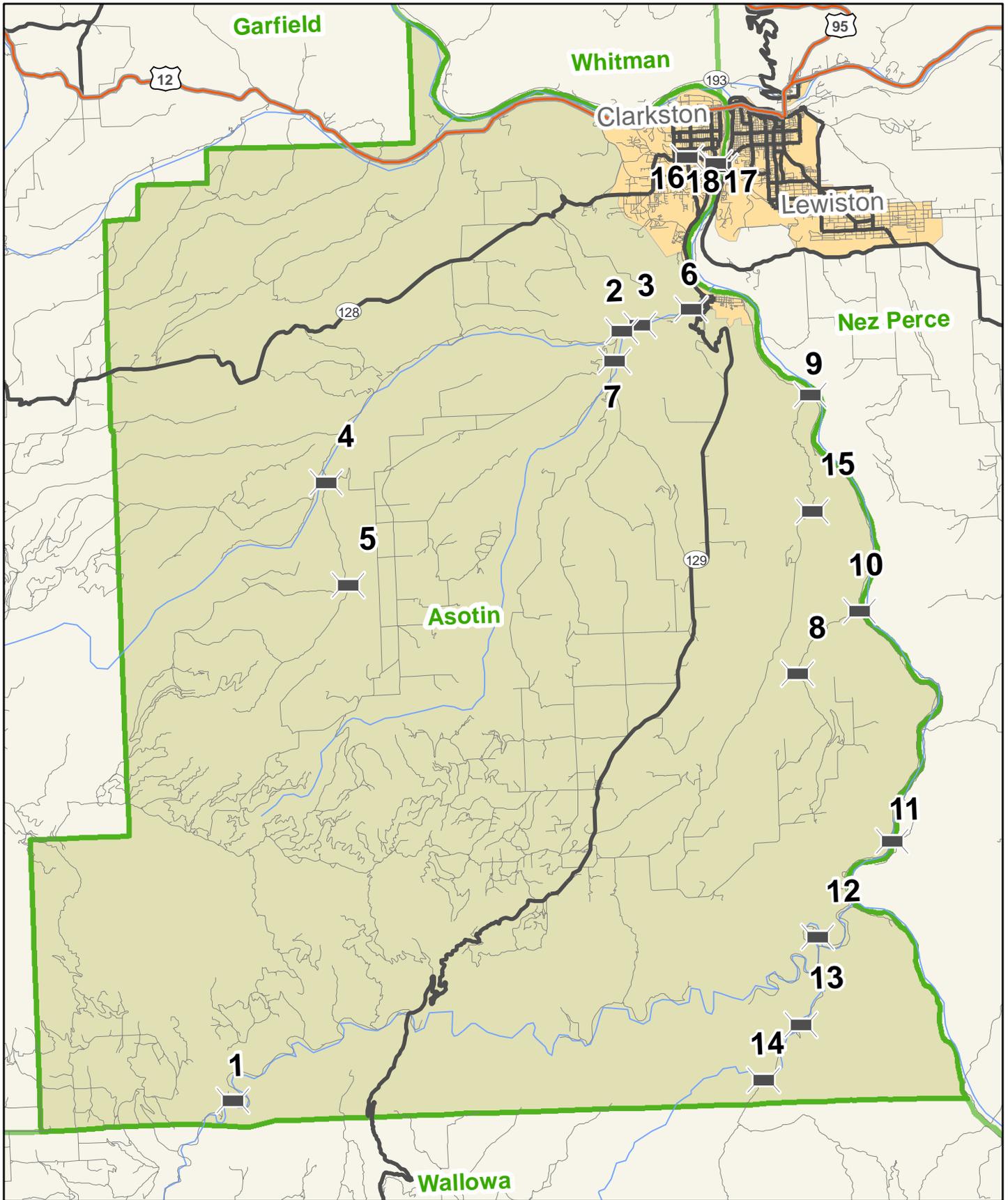
- Asotin Winter Road Closures
- Rural Truck Routes**
  - T2
  - T3
  - T4
  - T6
- Road Surface**
  - ACP
  - BST
  - GRADED
  - GRAVEL
  - UNIMPROVED
- Public Airports
- State Routes
- Bridges
- Cities
- National Forest
- Rivers
- County Boundary
- ADT
- Grain Elevator



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Spatial Data: ESRI Data and Maps CD, 2005  
 ADT and Pavement Condition: Asotin County  
 Publication: HDR Oregon GIS, 6/14/2007, Asotin\_Bridges.mxd

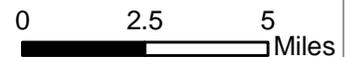




This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.  
 Spatial Data: ESRI Data and Maps CD, 2005.  
 Bridge Data: Asotin County maps. Visual reference only  
 Publication: HDR Oregon GIS, 6/14/2007, Asotin\_Bridges.mxd

### Asotin County Bridges

-  Bridges
-  Highway
-  Major Road
-  Street
-  County
-  City





## ASOTIN COUNTY 2006 BRIDGE REPORT

The following bridge report is based on inspections completed in the fall of 2006. Bridges are assigned (generated automatically) a sufficiency rating (SR) between 0 and 100, after inspections are completed. The sufficiency rating is a numeric value which indicates a bridges relative ability to serve its intended purpose. A bridge can be found to be functionally obsolete (FO) if the deck geometry, load carrying capacity, clearance, or approach roadway alignment has reduced its ability to adequately meet traffic needs below accepted design standards.

1. **Bridge#1000-1 Wenatchee Creek Bridge.** No noticeable changes were discovered during the last inspection. The steel I-beam, concrete deck bridge still provides adequate service. **(SR) 79.43**
2. **Bridge # 1050-1 Jerry Bridge.** This is a concrete T-beam bridge with cantilevered abutments. No new deficiencies were discovered. **(SR) 75.12**
3. **Bridge #1100-1 Maguire Gulch Bridge.** This concrete T-beam bridge remains in good condition. The inward rotation of the right wingwall of abutment #1 has stabilized at 1 3/8". **(SR) 72.85**
4. **Bridge # 1100-2 Asotin Creek Bridge.** This concrete T-beam bridge was built in 1992. As the bridge ages more and more hairline cracks are being discovered in the T-beams, deck and abutments. These cracks are no cause for concern at all as concrete bridges develop them over time. No new cracks were discovered during this year's inspection. **(SR) 98.51**
5. **Bridge # 1750-1 South Fork Bridge.** This structure has steel I-beam girders and a cattle guard deck. The rip rap placed around the abutments after the 1996 flood is holding up well. One section of 6"x6" wood wheel guard section should be replaced and the delineator signs need some attention. **(SR) 80.71**
6. **Bridge #1950-1 Johnson Bridge.** This is another concrete T-beam bridge. This bridge is considered functionally obsolete. The creek is beginning to channel in the middle, away from gabion wall supporting ababutment #2. A couple of the cracks in the gabion basket wall have widened a little. **(SR) 68.59 and (FO)**
7. **Bridge #2010-1 George Creek Bridge.** This concrete T-beam bridge was constructed in 1992 under the same contract as the Asotin Creek Bridge. This bridge is also beginning to show a few more hairline cracks in the abutments and wing walls as it ages. No new cracks were found. **(SR) 98.91**

8. **Bridge #2060-1 Couse Creek #2 Bridge.** This steel I-beam bridge with a metal rib deck covered with HMA. A 3.7" x 1.4" spall in the HMA indicates some of the rib deck may be coming loose. (SR) 76.76
9. **Bridge #2090-1 Ten Mile Creek #1 Bridge.** This bridge is considered functionally obsolete because of its narrow deck. The steel pony truss with a acattle guard deck has also been determined to be scour critical pending further investigation. WSDOT has taken over all high-cost bridge inspections for local agencies. Under this policy WSDOT preformed both the routine and fracture include tightening loose belts and the replacing a section of lattice type bridge rail missing off the southwest corner of the bridge. The rail was destroyed by a car wreck and never replaced. The state has not inspected this bridge since 2002. (SR) 45.93 and (FO)
10. **Bridge #2090-2 Couse Creek #1 Bridge.** This short concrete T-beam bridge has eight of the 20 elastomeric bearing pads showing some curled edges. Some water leaks through the deck keyways. The small spalls at the ends of some of the girders have not changed. (SR) 89.06
11. **Bridge #2090-3 Fisher Gulch Bridge.** This bridge is constructed of steel I-beams with channel iron welded flange-down to form the deck. The weld on the last channel iron has broken causing a great deal of noise as traffic passes over the structure, a repair report is being generated. Another concern is missing rip rap on the down stream side of the bridge creating a scour problem. The crew will also install more rip rap if they feel it is needed. Scour does not seem to be a problem as indicated by the sounding measurements. (SR) 93.51
12. **Bridge #2090-4 Grande Ronde River Bridge.** As expected, more and more hairline cracks are showing in the abutments, girders, and deck. Some of the elastomeric bearing pads have slight bulges and one has a 3" split. Overall the bridge remains in very good condition. The south approach slab has remained relatively stable since the 2004 inspection. The only appreciable movement is a ¼" drop in elevation on the right side. (SR)93.51
13. **Bridge #2090-5 Joseph Creek Bridge #1.** This structure is the same age as the Grande Ronde Bridge and has many of the same ailments. It also is in very good condition. One new crack has developed in abutment #2 and the gap between the bridge deck and the #1 approach slab has widened 0.03-0.04 feet. (SR) 91.86
14. **Bridge #2090-6 Joseph Creek Bridge #2.** This steel I-beam bridge has a metal rib deck with an HMA overlay. Nine of the twenty bearing pads are crushing and have curled edges. This bridge was deemed scour critical, which means it may require counter measures to be taken. The soundings are basically identical to the 2004 measurements. (SR) 91.86
15. **Bridge #2850-1. Ten Mile Creek #2 Bridge.** The concrete multi-web girder bridge itself is in fine shape. However, the main force of the creek continues to

- run against the I-beam piles supporting abutment #1. A void under the approach to abutment #1 was discovered during the inspection. The road crew removed the HMA and filled the void. **(SR) 90.2**
16. **Bridge #5030-1 Fleshman Way Overpass.** This concrete T-beam structure was built in 1997. Some fine vertical cracks have developed in both abutments and three of the wing walls. The underside of the deck shows some minor calcium stains. The north-end of girder #2 has developed a very fine 13" long crack along the center of the bottom flange. The number of hairline deck cracks has increased substantially. Almost all of the 8' long concrete bridge rail sections have at least one hairline crack mainly near the center of the rail. On the southwest corner the off-bridge pedestrian rail has settled 3/8". The off-bridge sidewalk on the northeast corner has also settled approximately 3/8". The pedestrian rail SE terminus has been damaged by a vehicle. No new cracking was noted. **(SR) 81.57**
17. **Bridge #5700-1 Southway Bridge.** This concrete box girder bridge is inspected by IDOT as per agreement with Asotin County. Other than the normal hairline cracks in the girder webs, few other defects are noted by the inspectors. Bridge was inspected on October 1, 2006 with no major changes recorded. This bridge is considered scour critical as a 15' deep scour hole has developed at pier #2. The deck was seal coated in 2006. **(SR) 76.72**
18. **Bridge #5700-2 SR 129 Overpass.** This bridge is also a concrete box girder. Both outside traffic lanes are cantilevered off the box girder. All four corners of the bridge show some settlement. The worst of the four is the southwest corner with a difference in bridge rail heights of 2 5/16". This is unchanged since 2000. The deck was seal coated in 2006. **(SR) 95.00**





# Northern Columbia County

Port of  
Starfield

Umatilla  
National  
Forest

**Legend**

**Surface Type**

- BST
- GRAVEL
- Bridges (Bridge Number)

**TruckRoutes**

**Freight**

- Logging
- Wheat
- Windmill
- Windmill/Wheat

All Weather Roads

Public Airports

State Routes

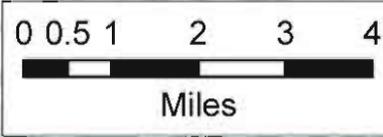
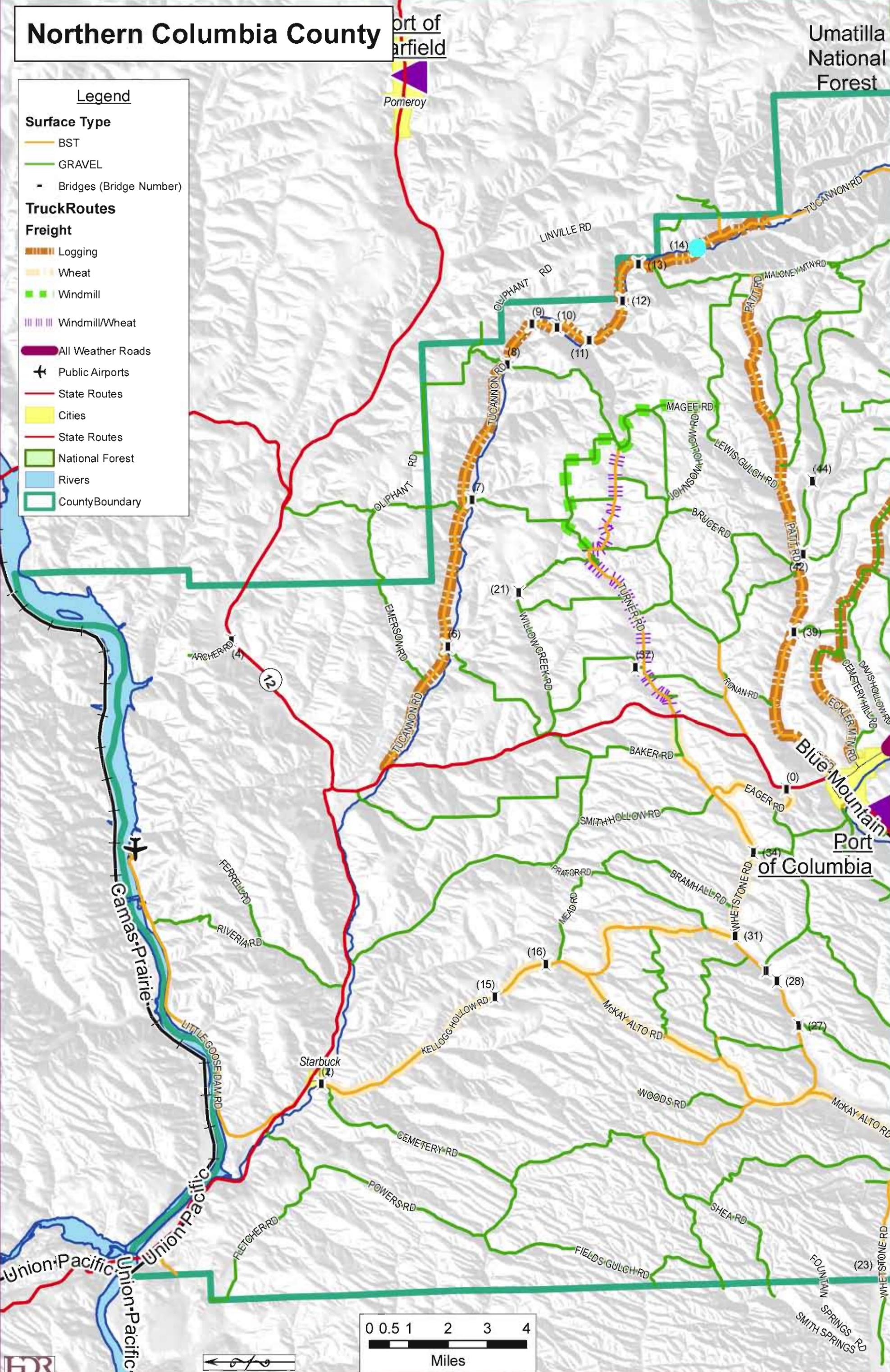
Cities

State Routes

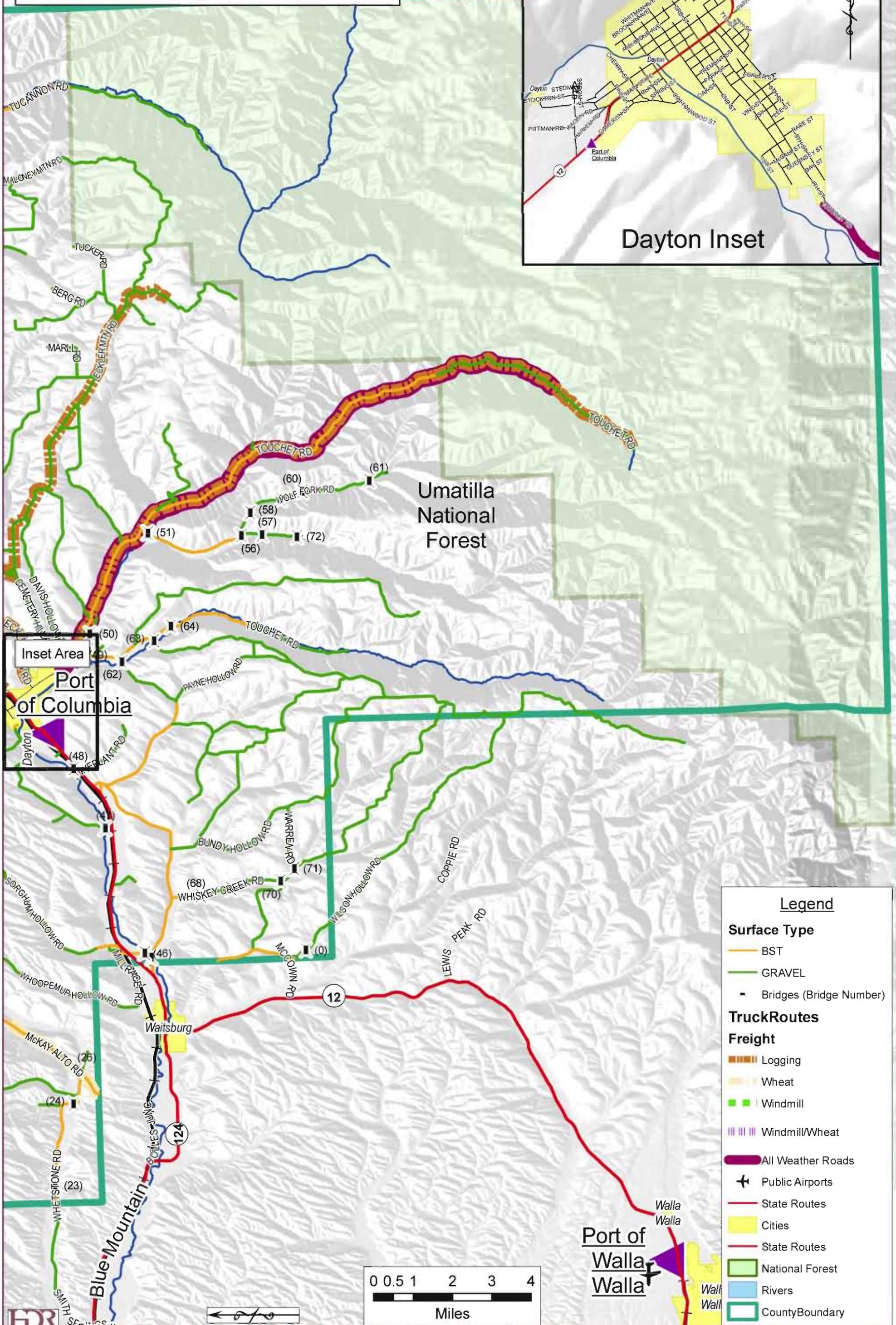
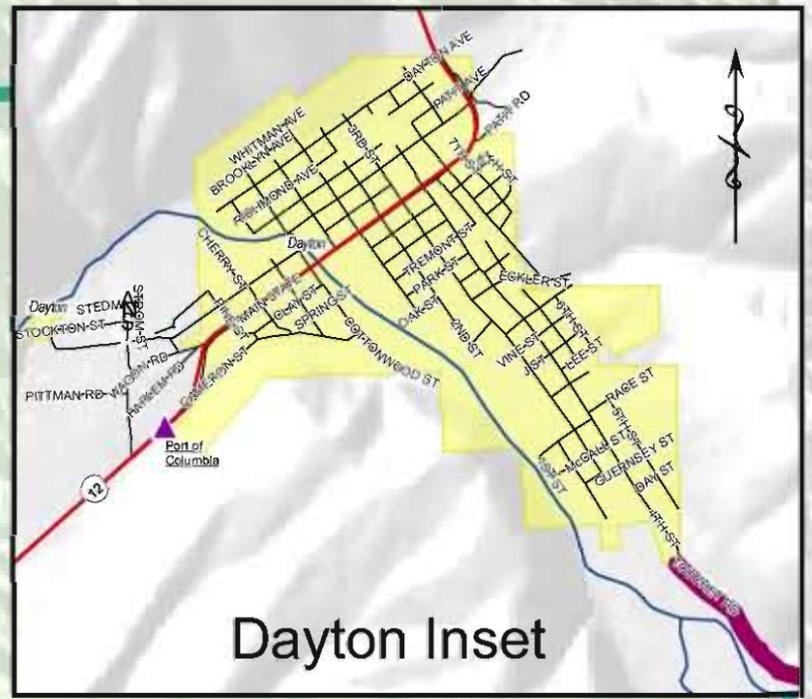
National Forest

Rivers

County Boundary



# Southern Columbia County

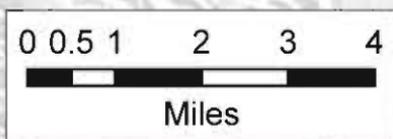


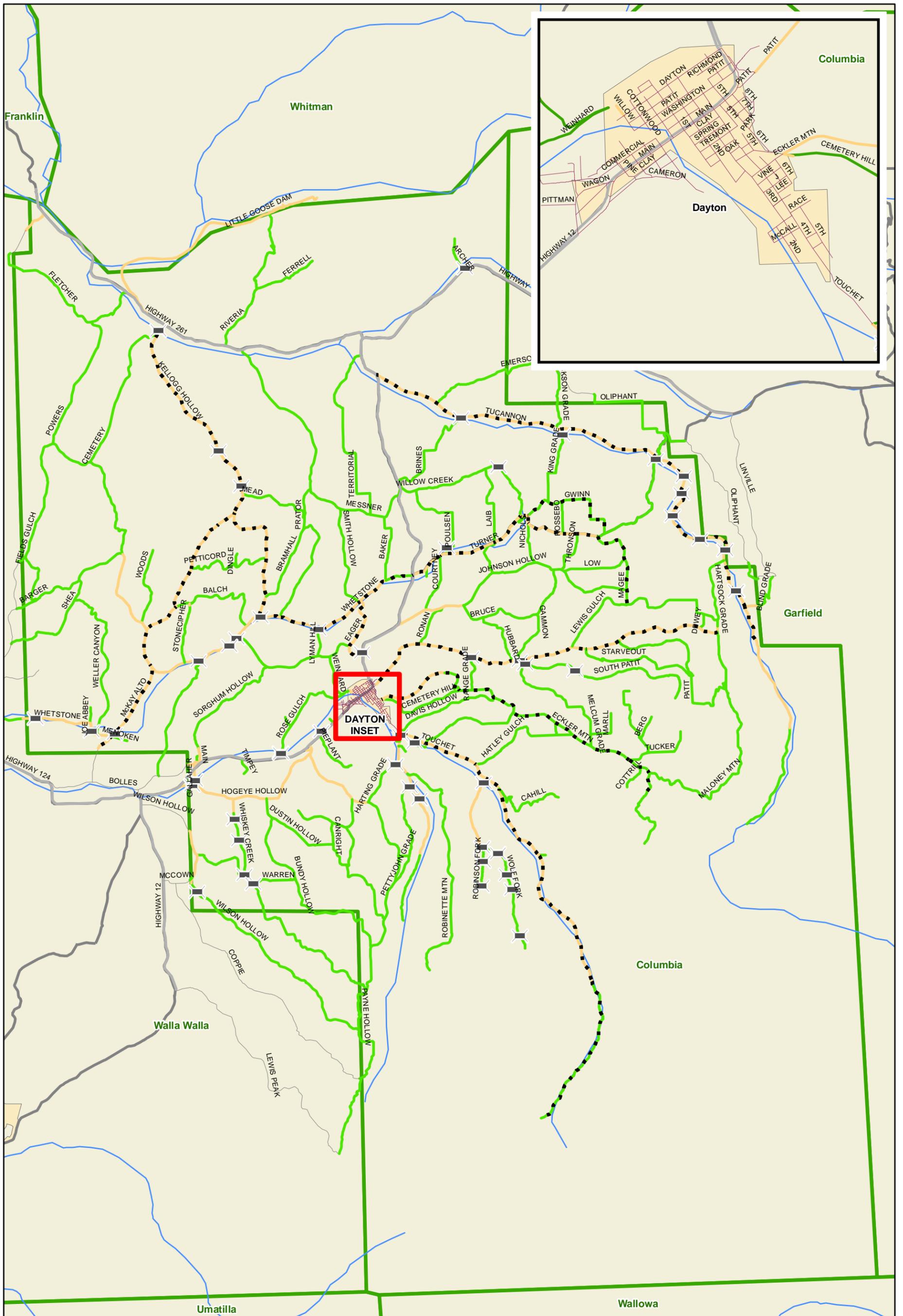
Inset Area  
**Port of Columbia**  
 Dayton

Umatilla National Forest

Port of Walla Walla

- Legend**
- Surface Type**
    - BST
    - GRAVEL
  - Bridges (Bridge Number)
  - TruckRoutes**
    - Freight
      - Logging
      - Wheat
      - Windmill
      - Windmill/Wheat
    - All Weather Roads
  - Public Airports
  - State Routes
  - Cities
  - State Routes
  - National Forest
  - Rivers
  - County Boundary





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Spatial Data: Columbia County, ESRI Data 2005  
 Publication: HDR GIS, 6-20-2007, ColumbiaCounty.mxd

# Columbia County Roads

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li> Bridges</li> <li> Dayton Roads</li> <li> Freight Roads</li> <li> State and Other Roads</li> </ul> | <p><b>Pavement Type</b></p> <ul style="list-style-type: none"> <li> BST</li> <li> GRA</li> <li> POM</li> </ul> |
|---|--|



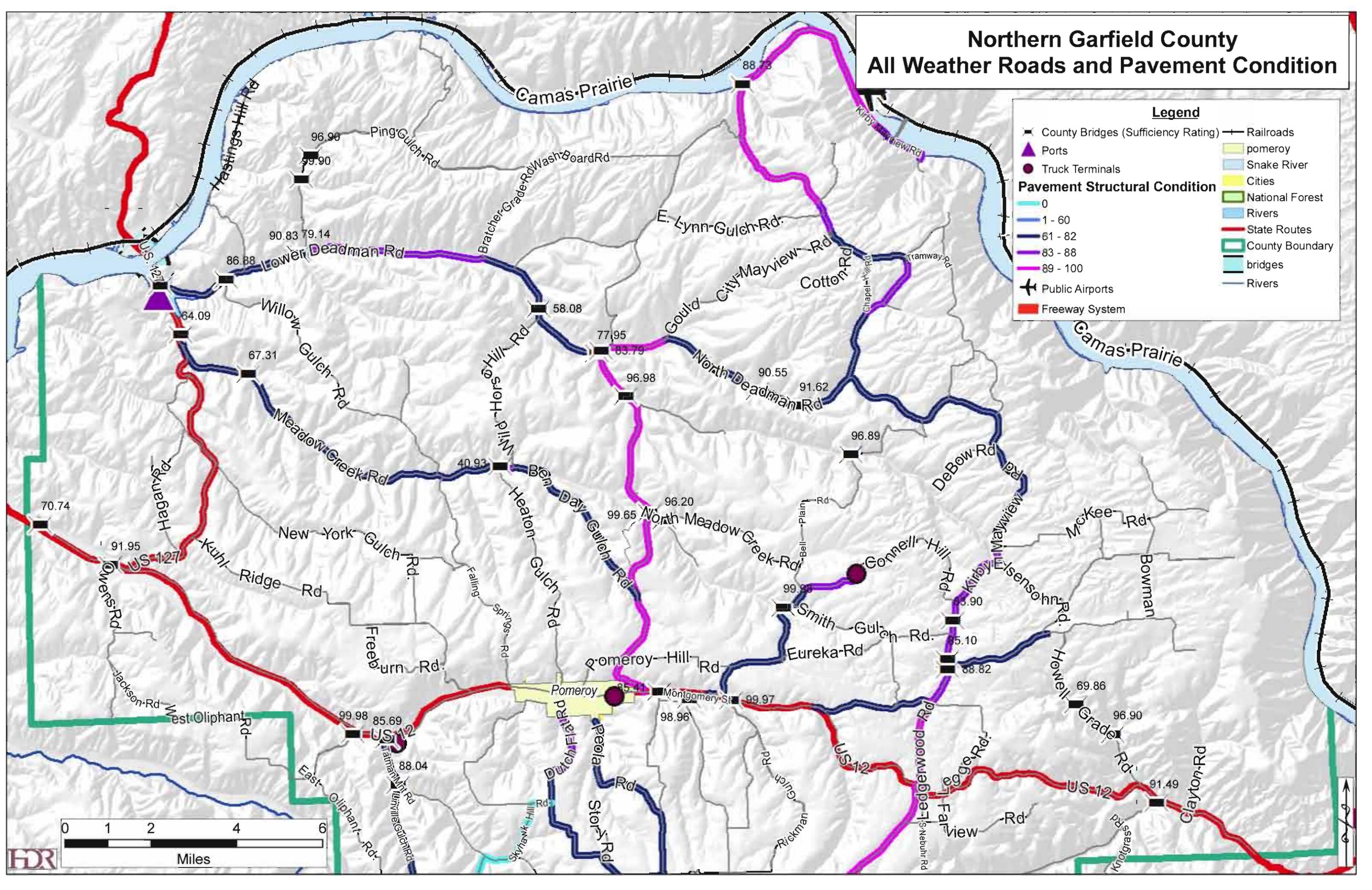
# Northern Garfield County All Weather Roads and Pavement Condition

**Legend**

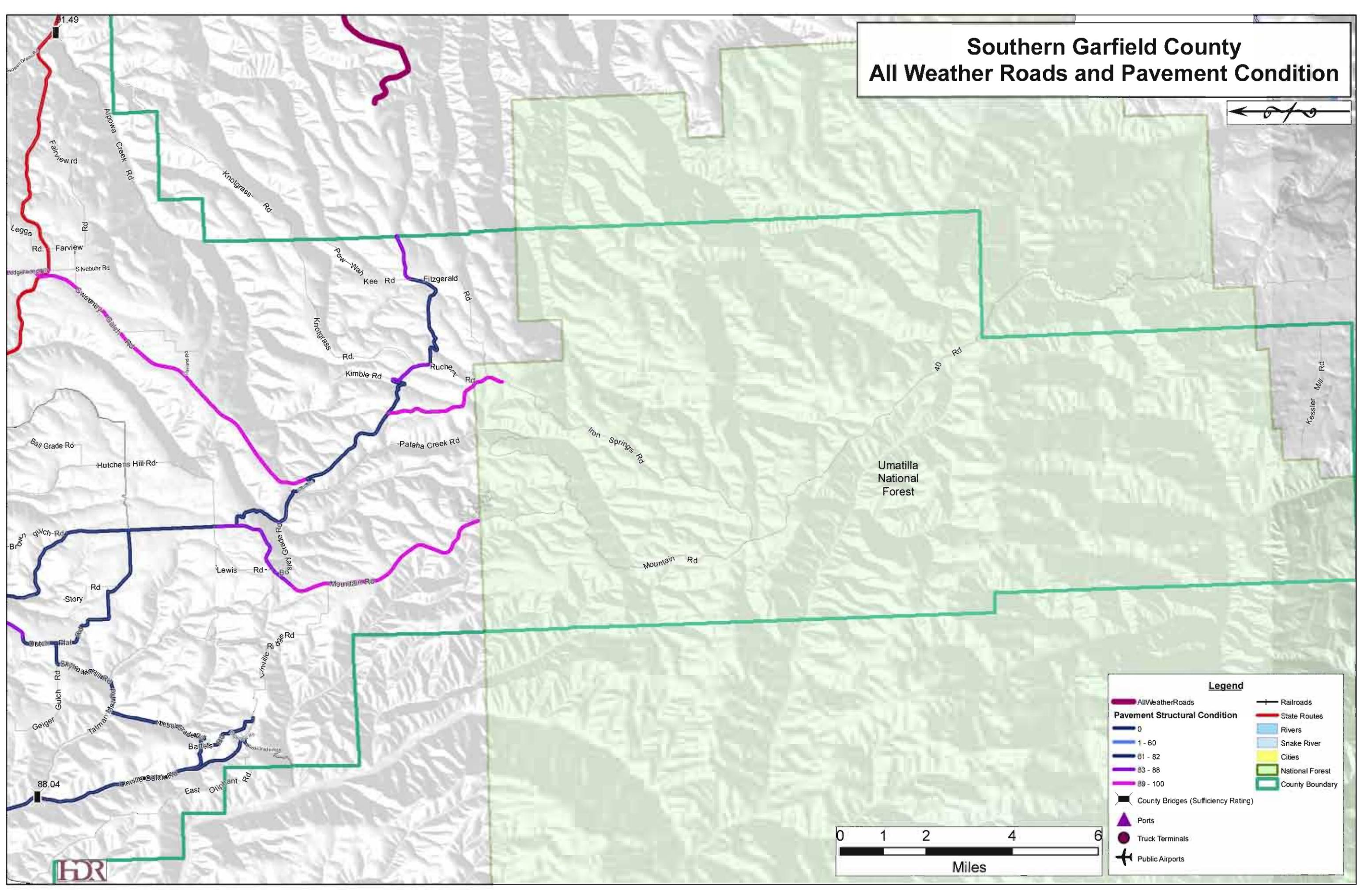
- County Bridges (Sufficiency Rating)
- Ports
- Truck Terminals
- Railroads
- pomeroy
- Snake River
- Cities
- National Forest
- Rivers
- State Routes
- County Boundary
- bridges
- Rivers
- Public Airports
- Freeway System

**Pavement Structural Condition**

- 0
- 1 - 60
- 61 - 82
- 83 - 88
- 89 - 100



# Southern Garfield County All Weather Roads and Pavement Condition



**Legend**

All Weather Roads	Railroads
<b>Pavement Structural Condition</b>	State Routes
0	Rivers
1 - 60	Snake River
61 - 82	Cities
83 - 88	National Forest
89 - 100	County Boundary
County Bridges (Sufficiency Rating)	
Ports	
Truck Terminals	
Public Airports	



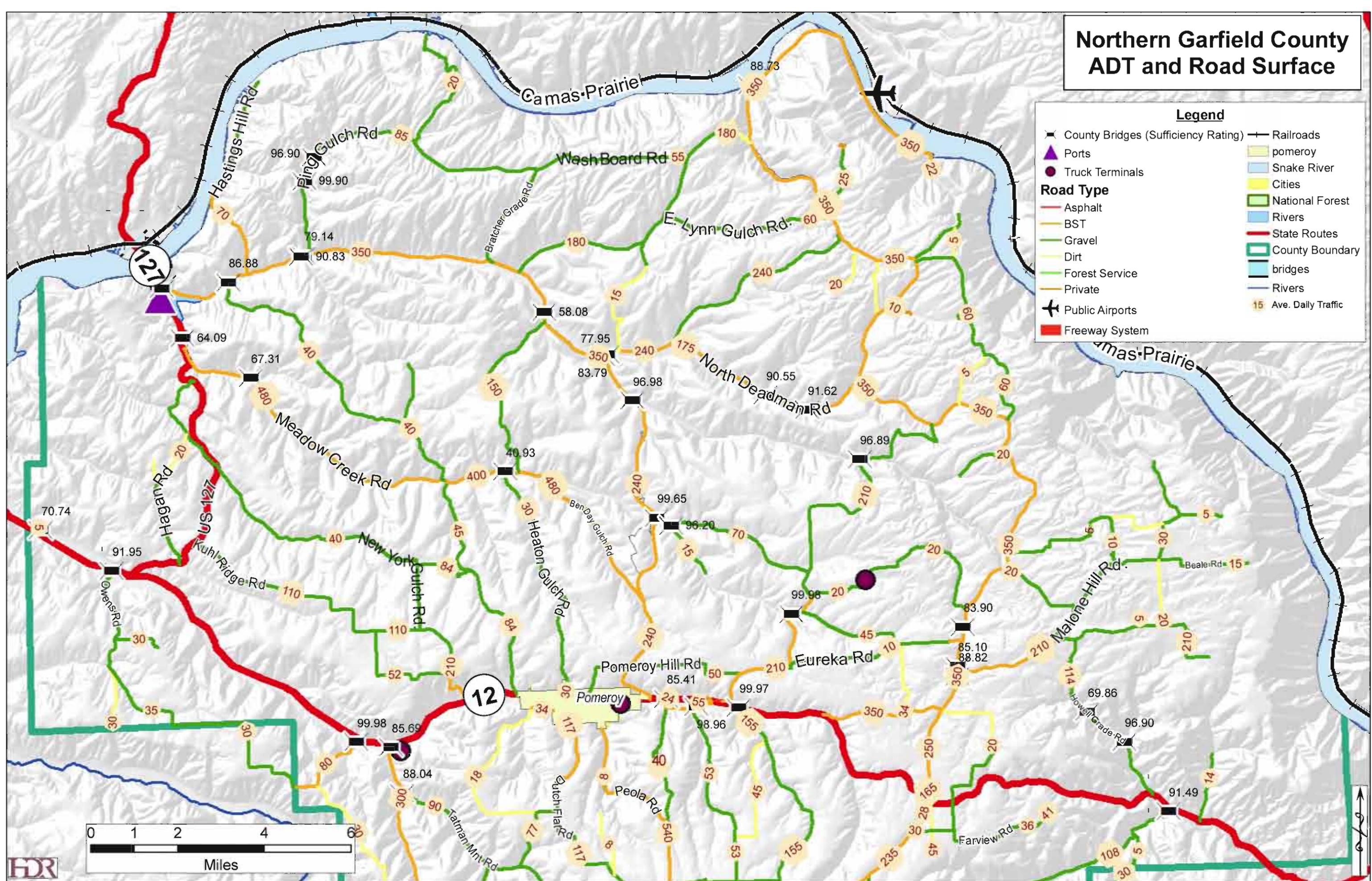
# Northern Garfield County ADT and Road Surface

**Legend**

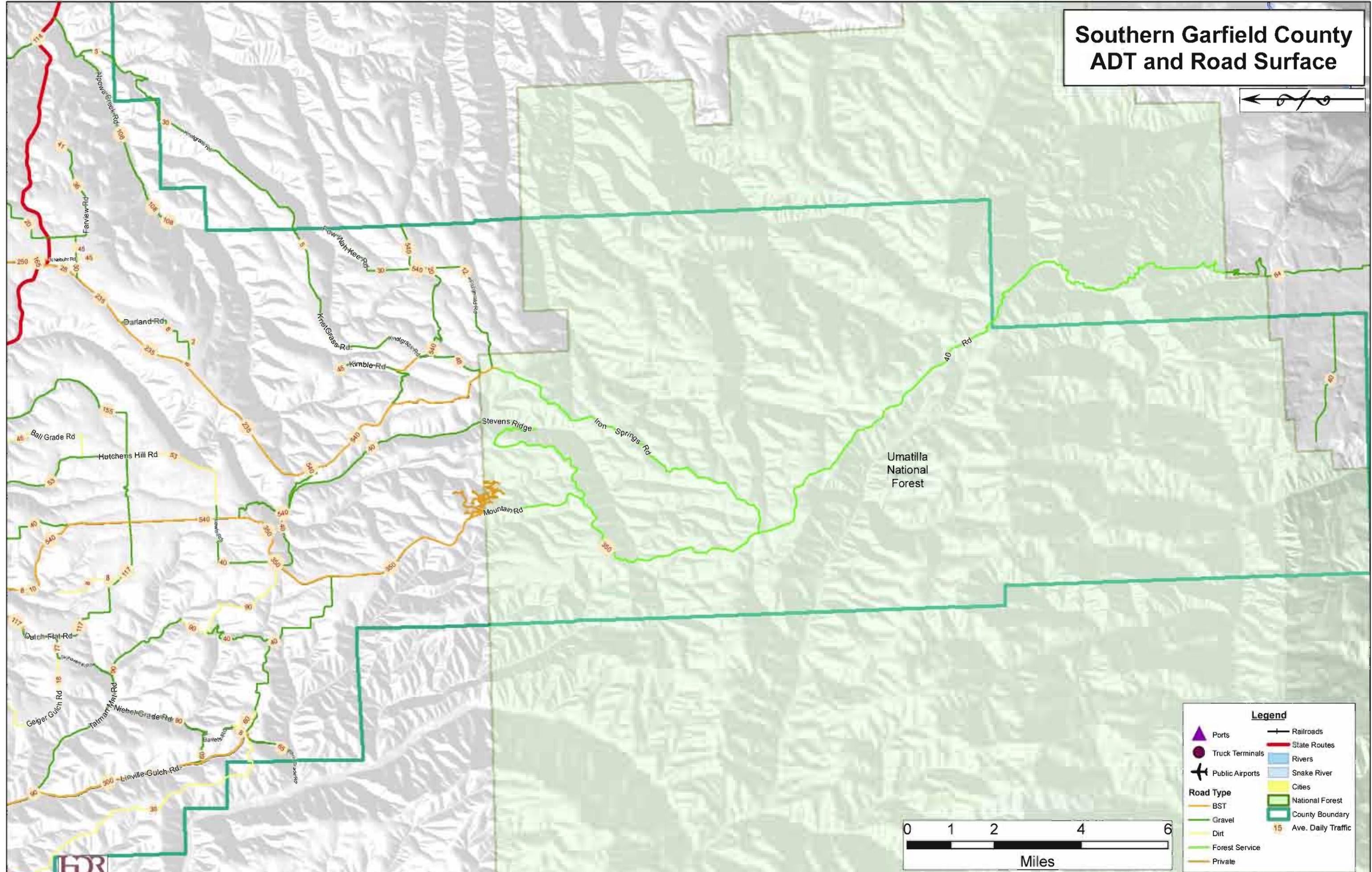
- ✶ County Bridges (Sufficiency Rating)
- ▲ Ports
- Truck Terminals
- ✈ Public Airports
- Freeway System
- Railroads
- pomeroy
- Snake River
- Cities
- National Forest
- Rivers
- State Routes
- County Boundary
- bridges
- Rivers
- Ave. Daily Traffic

**Road Type**

- Asphalt
- BST
- Gravel
- Dirt
- Forest Service
- Private



# Southern Garfield County ADT and Road Surface

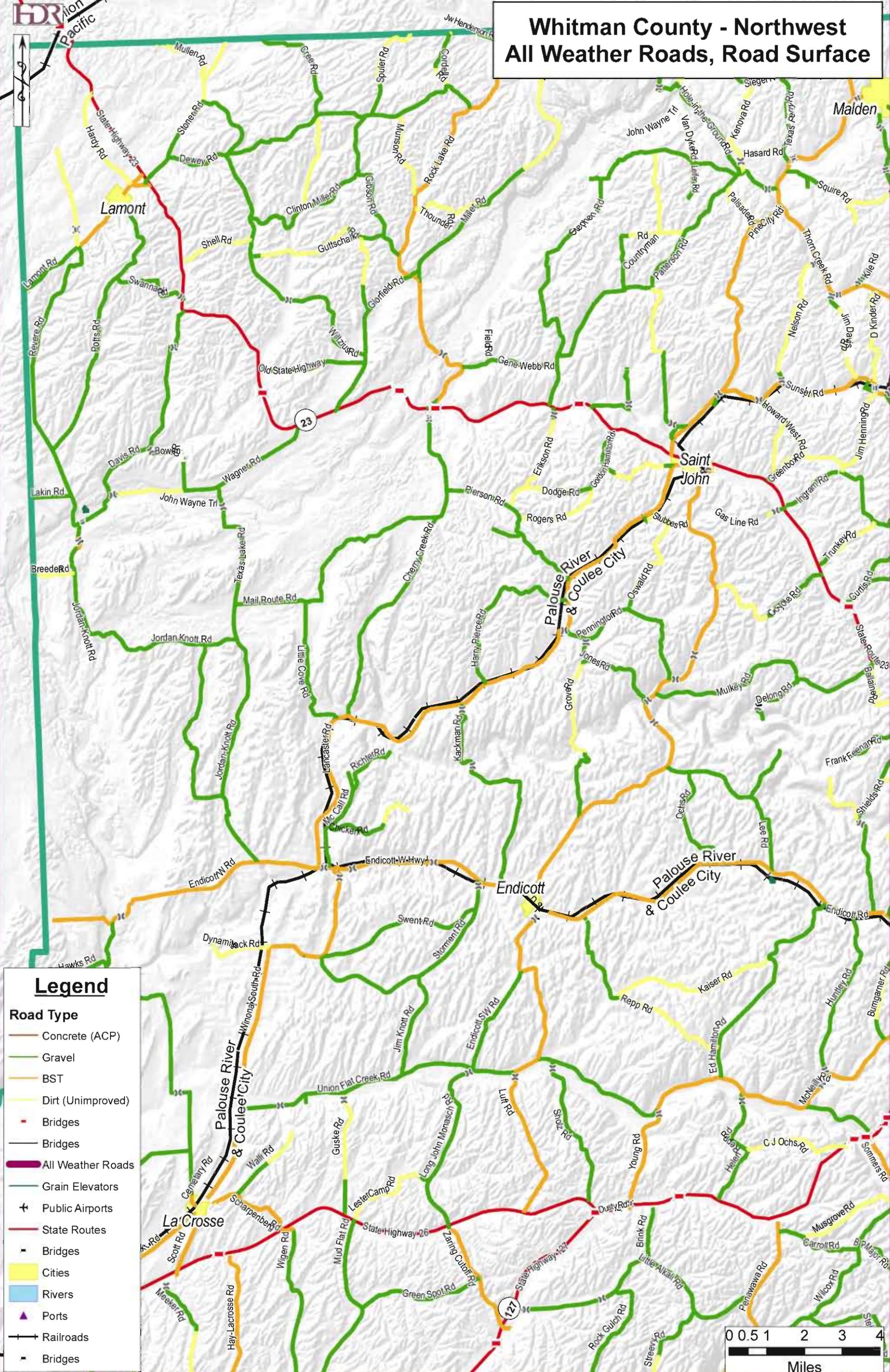


**Legend**

Ports	Railroads
Truck Terminals	State Routes
Public Airports	Rivers
	Snake River
	Cities
<b>Road Type</b>	National Forest
BST	County Boundary
Gravel	Ave. Daily Traffic
Dirt	
Forest Service	
Private	



# Whitman County - Northwest All Weather Roads, Road Surface

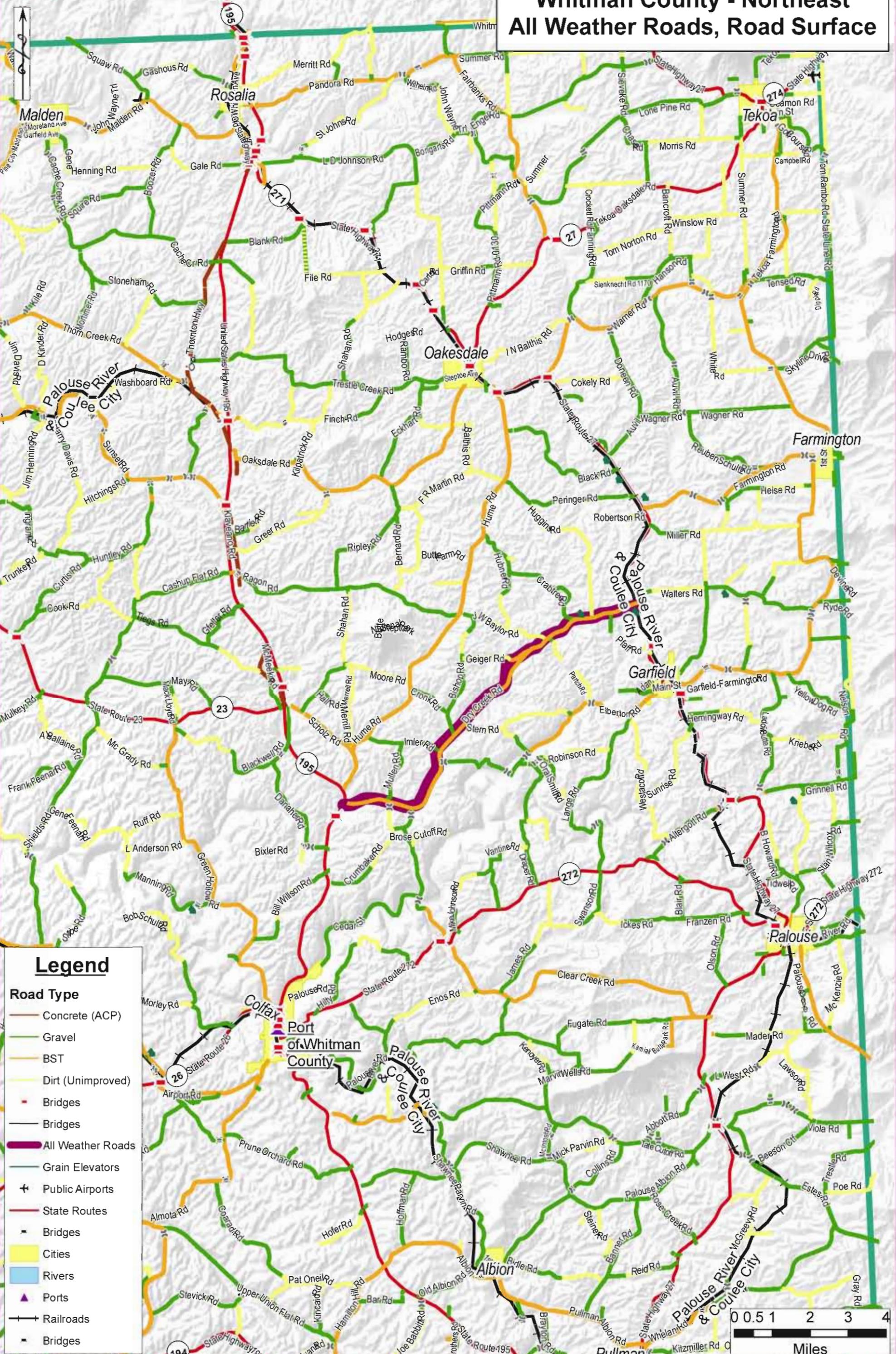


**Legend**

- Concrete (ACP)
- Gravel
- BST
- Dirt (Unimproved)
- Bridges
- Bridges
- All Weather Roads
- Grain Elevators
- + Public Airports
- State Routes
- Bridges
- Cities
- Rivers
- ▲ Ports
- Railroads
- Bridges

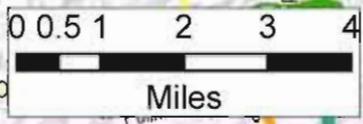


# Whitman County - Northeast All Weather Roads, Road Surface



**Legend**

- Concrete (ACP)
- Gravel
- BST
- Dirt (Unimproved)
- Bridges
- Bridges
- All Weather Roads
- Grain Elevators
- Public Airports
- State Routes
- Bridges
- Cities
- Rivers
- Ports
- Railroads
- Bridges

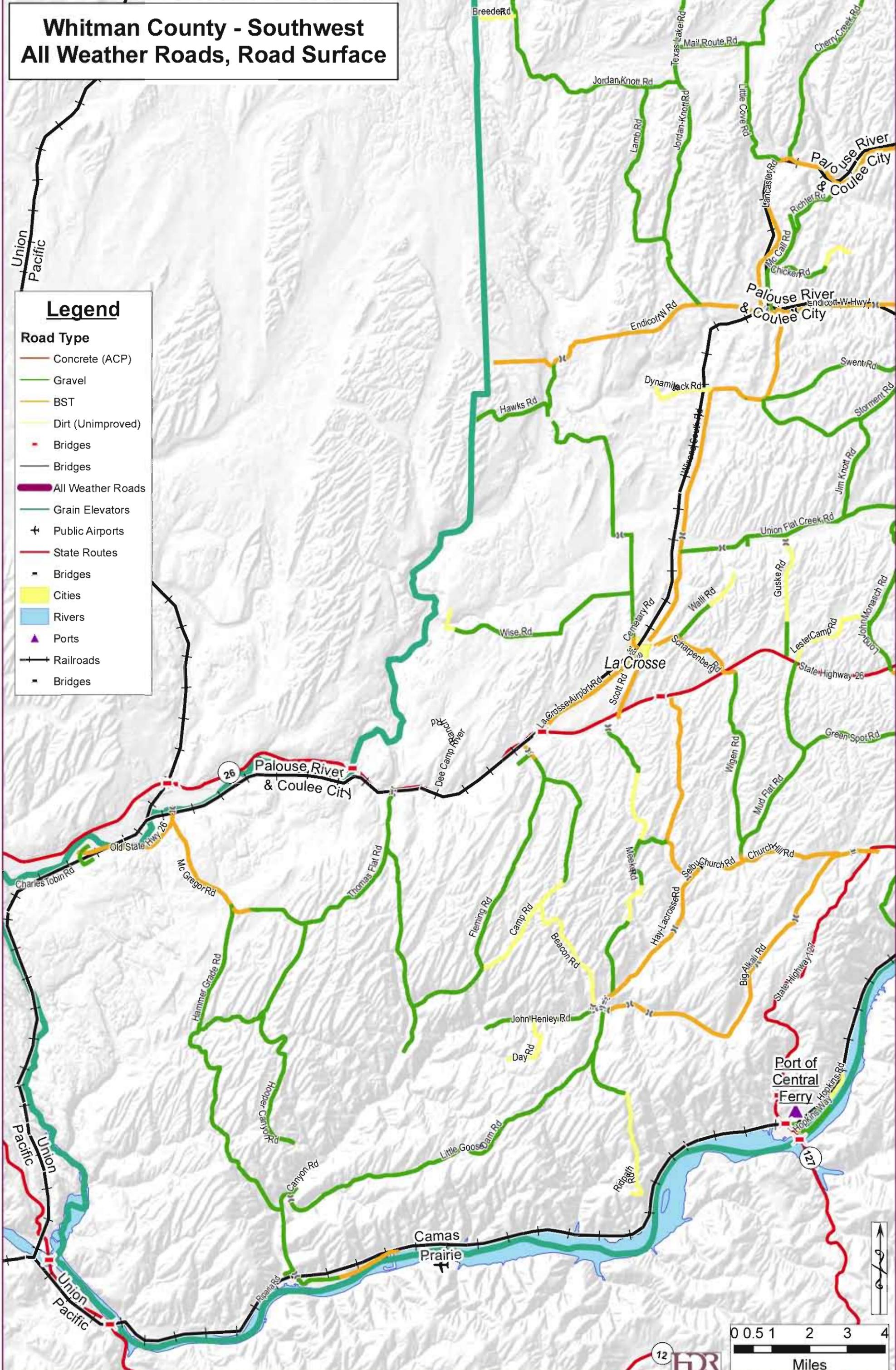


# Whitman County - Southwest All Weather Roads, Road Surface

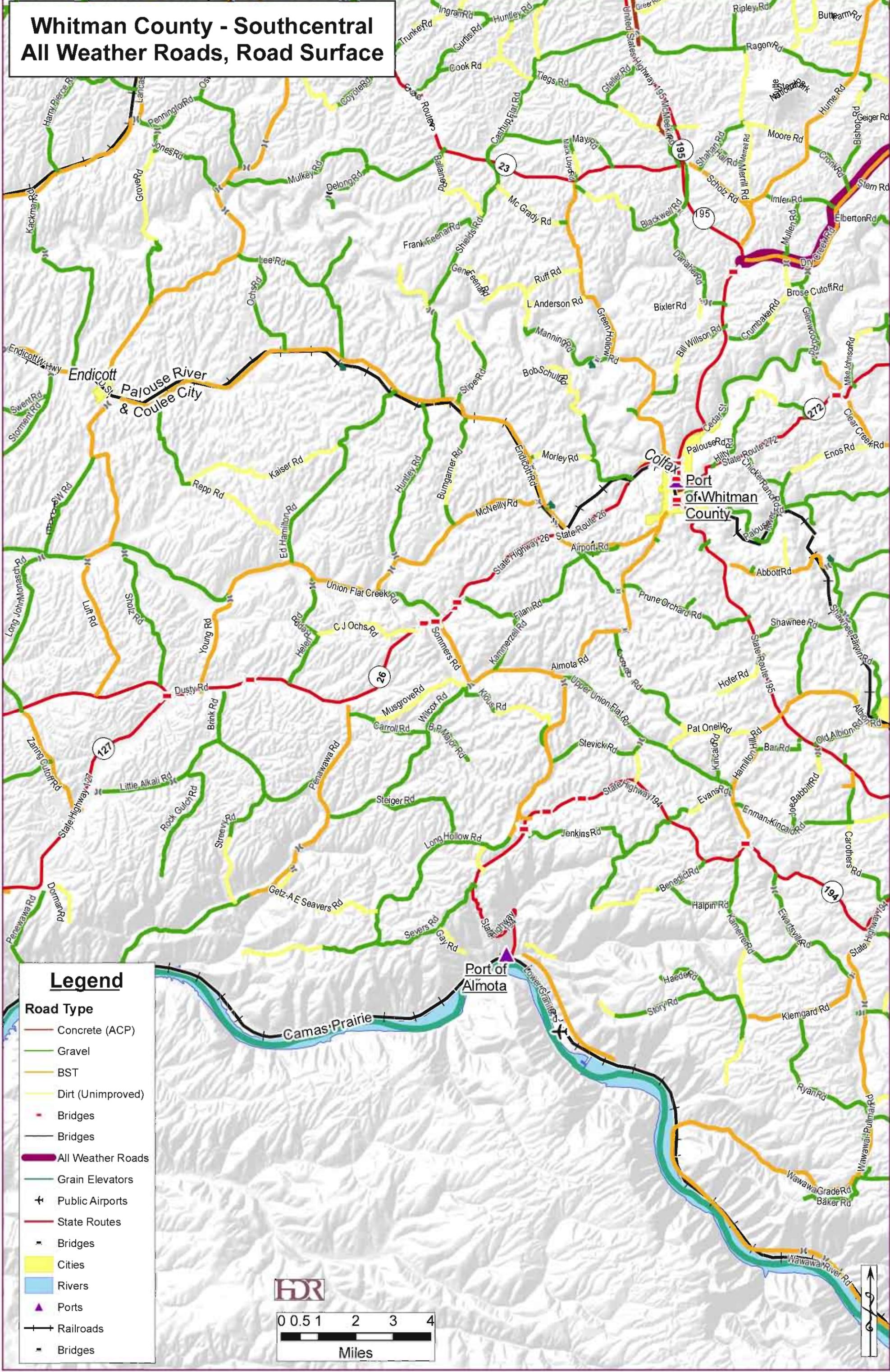
### Legend

**Road Type**

- Concrete (ACP)
- Gravel
- BST
- Dirt (Unimproved)
- Bridges
- Bridges
- All Weather Roads
- Grain Elevators
- Public Airports
- State Routes
- Bridges
- Cities
- Rivers
- Ports
- Railroads
- Bridges

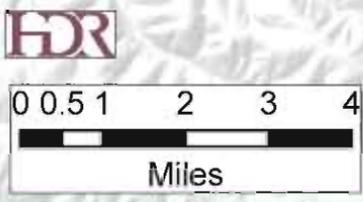


# Whitman County - Southcentral All Weather Roads, Road Surface

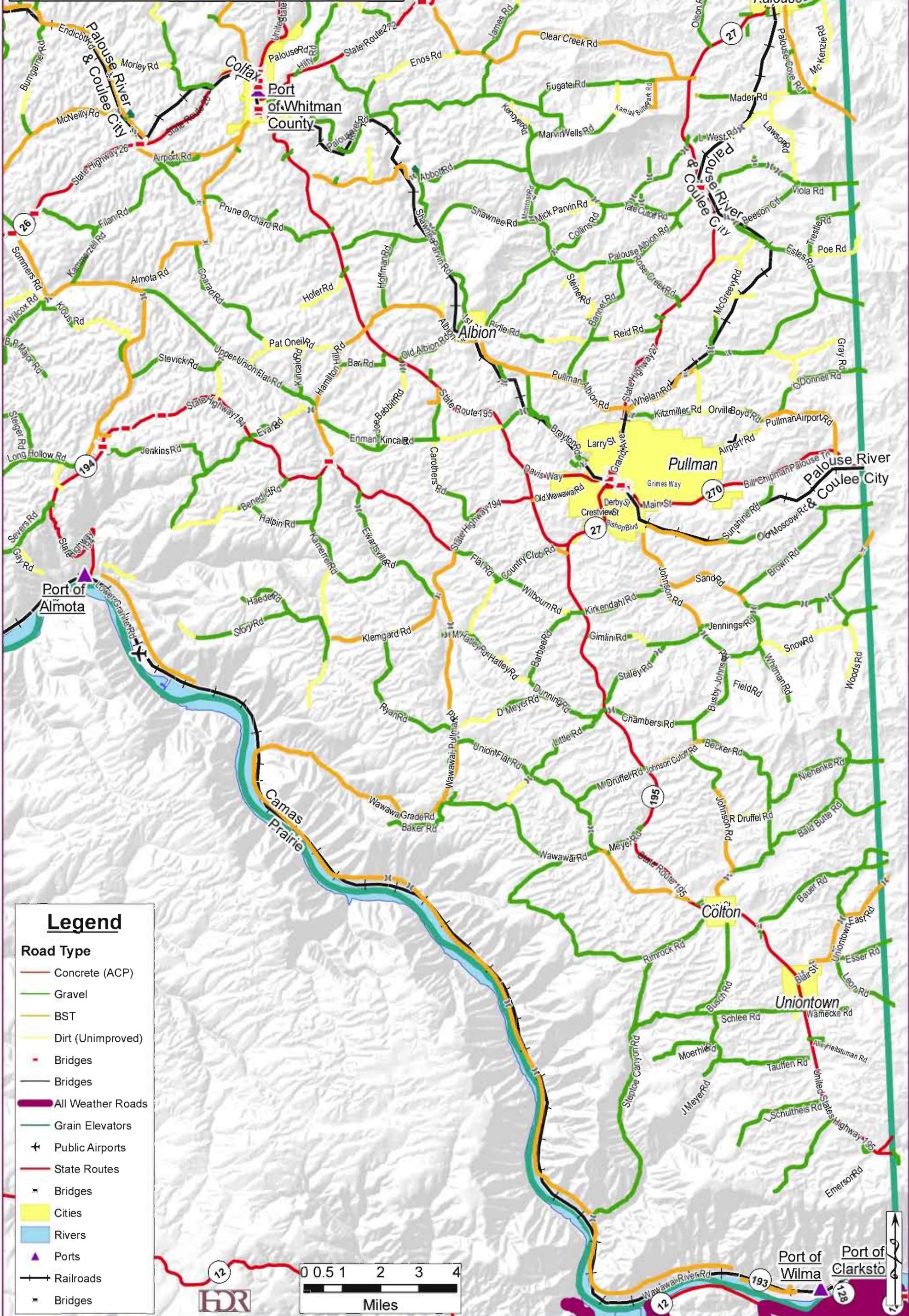


## Legend

- Road Type**
- Concrete (ACP)
  - Gravel
  - BST
  - Dirt (Unimproved)
  - Bridges
  - Bridges
  - All Weather Roads
  - Grain Elevators
  - Public Airports
  - State Routes
  - Bridges
  - Cities
  - Rivers
  - Ports
  - Railroads
  - Bridges



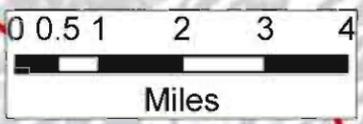
# Whitman County - Southeast All Weather Roads, Road Surface



### Legend

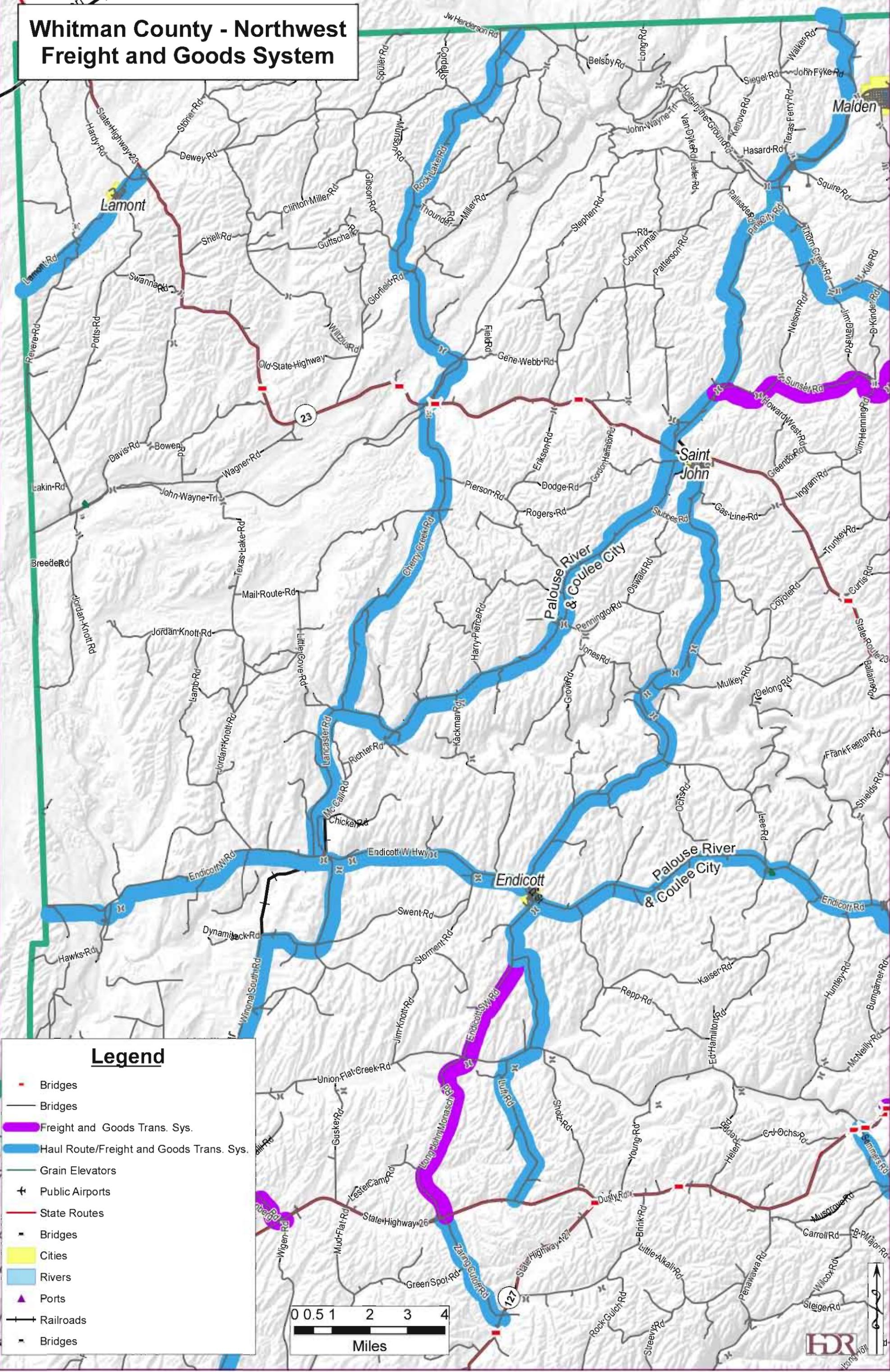
**Road Type**

- Concrete (ACP)
- Gravel
- BST
- Dirt (Unimproved)
- Bridges
- Bridges
- All Weather Roads
- Grain Elevators
- Public Airports
- State Routes
- Bridges
- Cities
- Rivers
- Ports
- Railroads
- Bridges



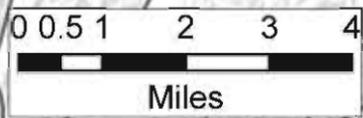
Port of Wilma  
Port of Clarksto

# Whitman County - Northwest Freight and Goods System

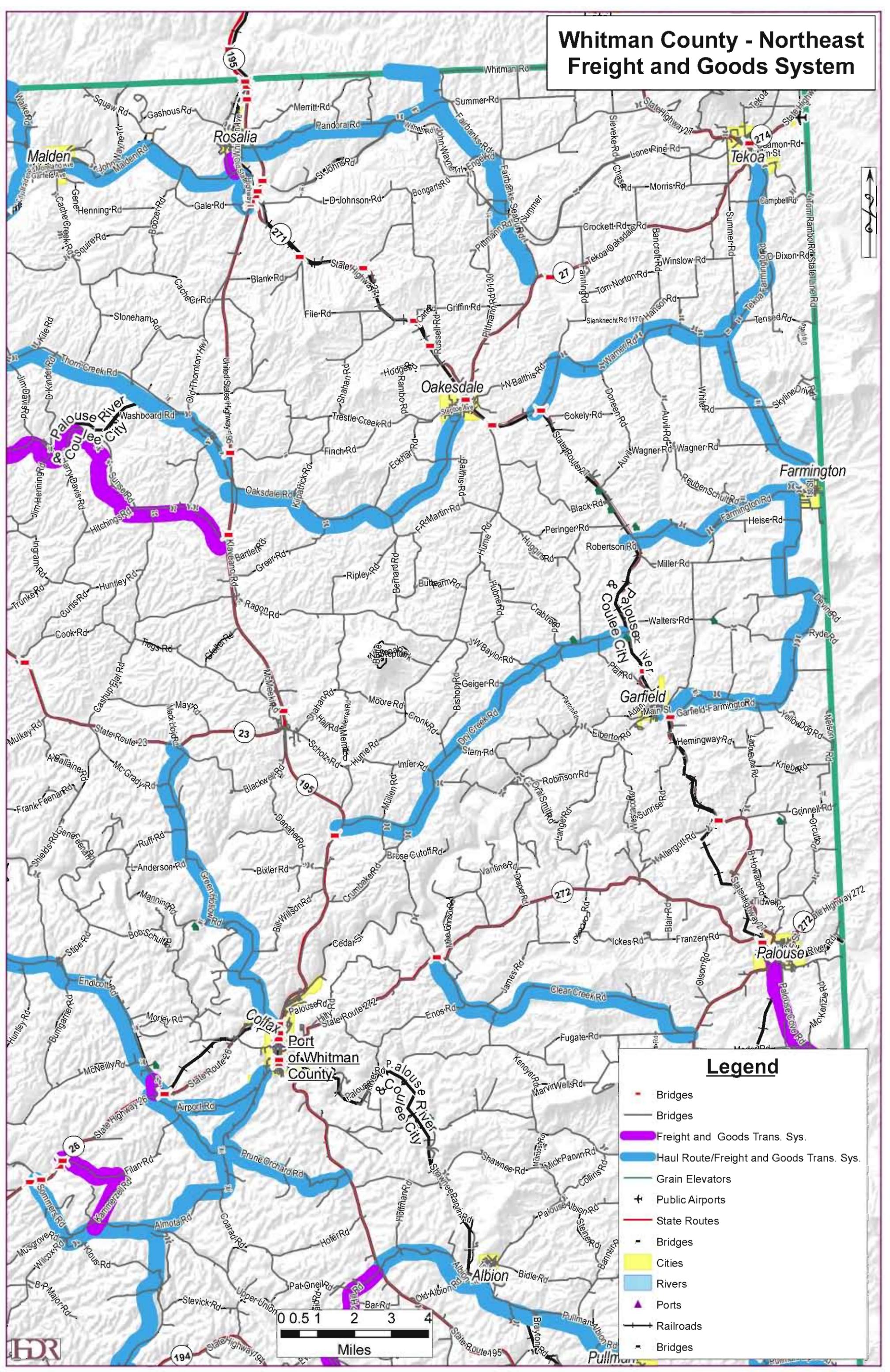


## Legend

- Bridges
- Bridges
- Freight and Goods Trans. Sys.
- Haul Route/Freight and Goods Trans. Sys.
- Grain Elevators
- + Public Airports
- State Routes
- Bridges
- Cities
- Rivers
- ▲ Ports
- Railroads
- Bridges



# Whitman County - Northeast Freight and Goods System



### Legend

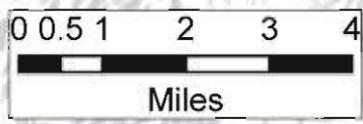
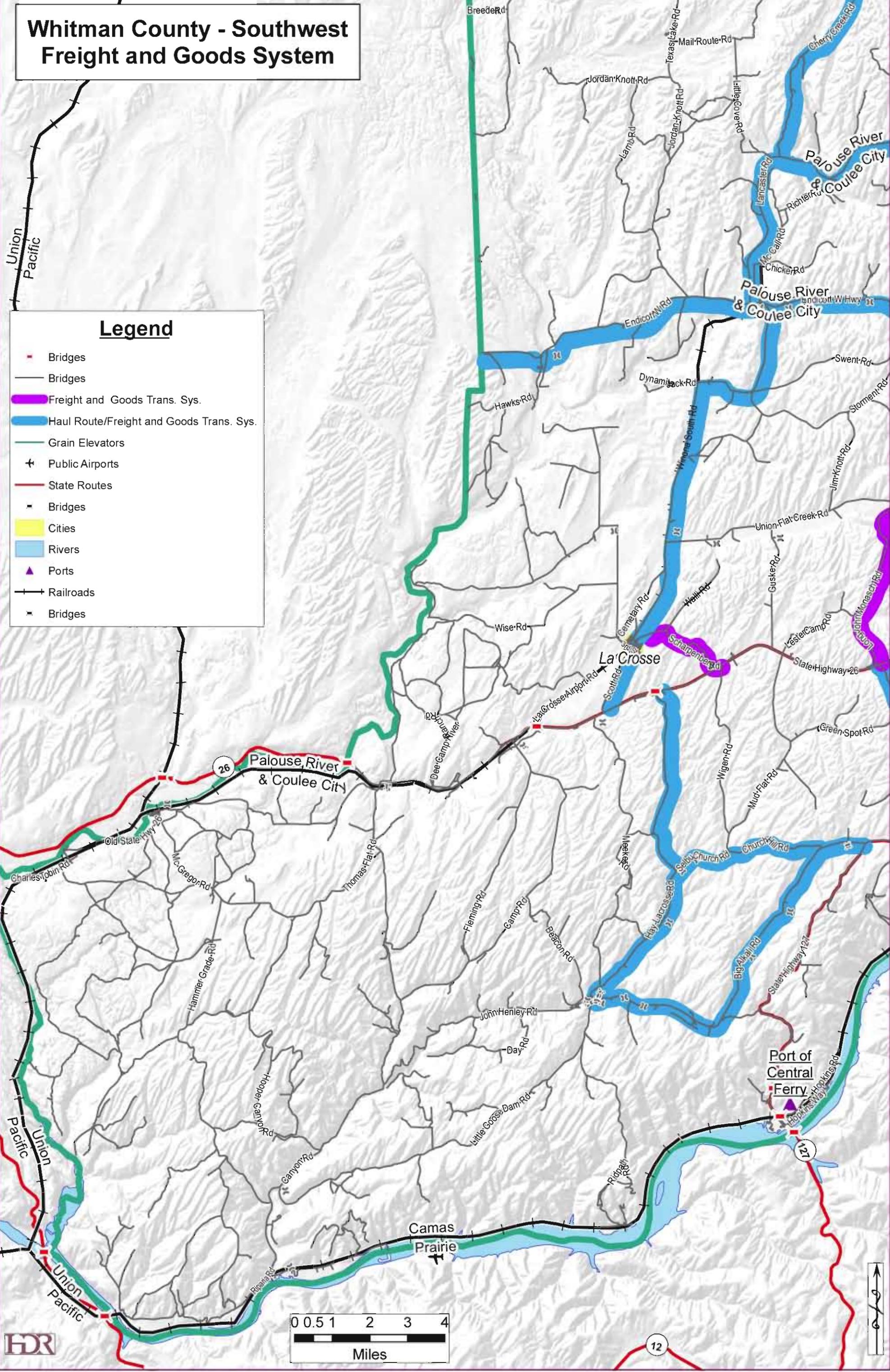
- Bridges
- Bridges
- Freight and Goods Trans. Sys.
- Haul Route/Freight and Goods Trans. Sys.
- Grain Elevators
- ✈ Public Airports
- State Routes
- Bridges
- Cities
- Rivers
- ▲ Ports
- Railroads
- Bridges



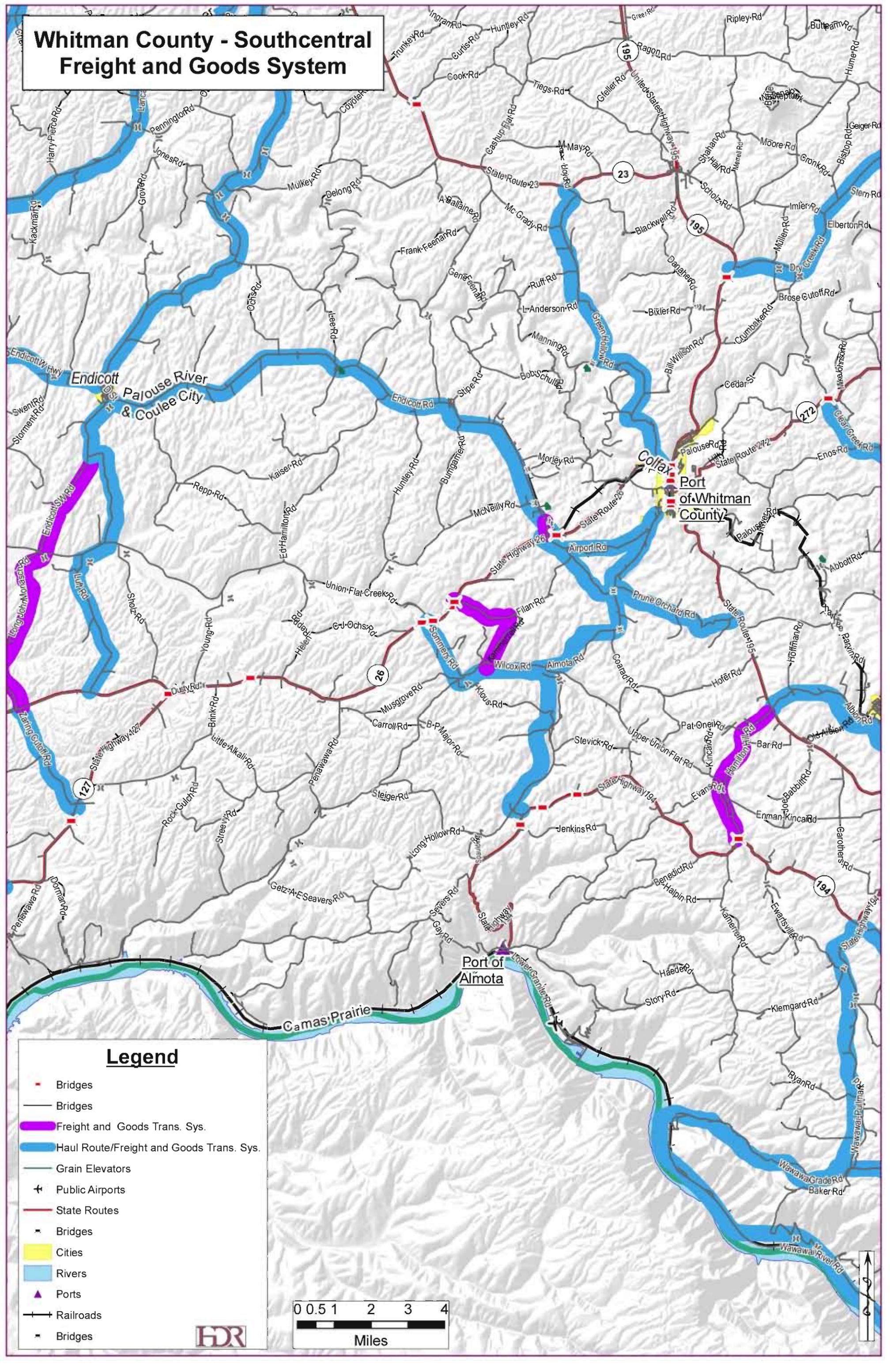
# Whitman County - Southwest Freight and Goods System

## Legend

- Bridges
- Bridges
- ▬ Freight and Goods Trans. Sys.
- ▬ Haul Route/Freight and Goods Trans. Sys.
- ▬ Grain Elevators
- + Public Airports
- ▬ State Routes
- ▬ Bridges
- Cities
- ▬ Rivers
- ▲ Ports
- +— Railroads
- ▬ Bridges

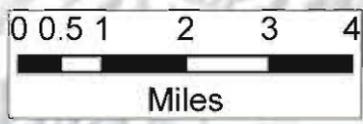


# Whitman County - Southcentral Freight and Goods System

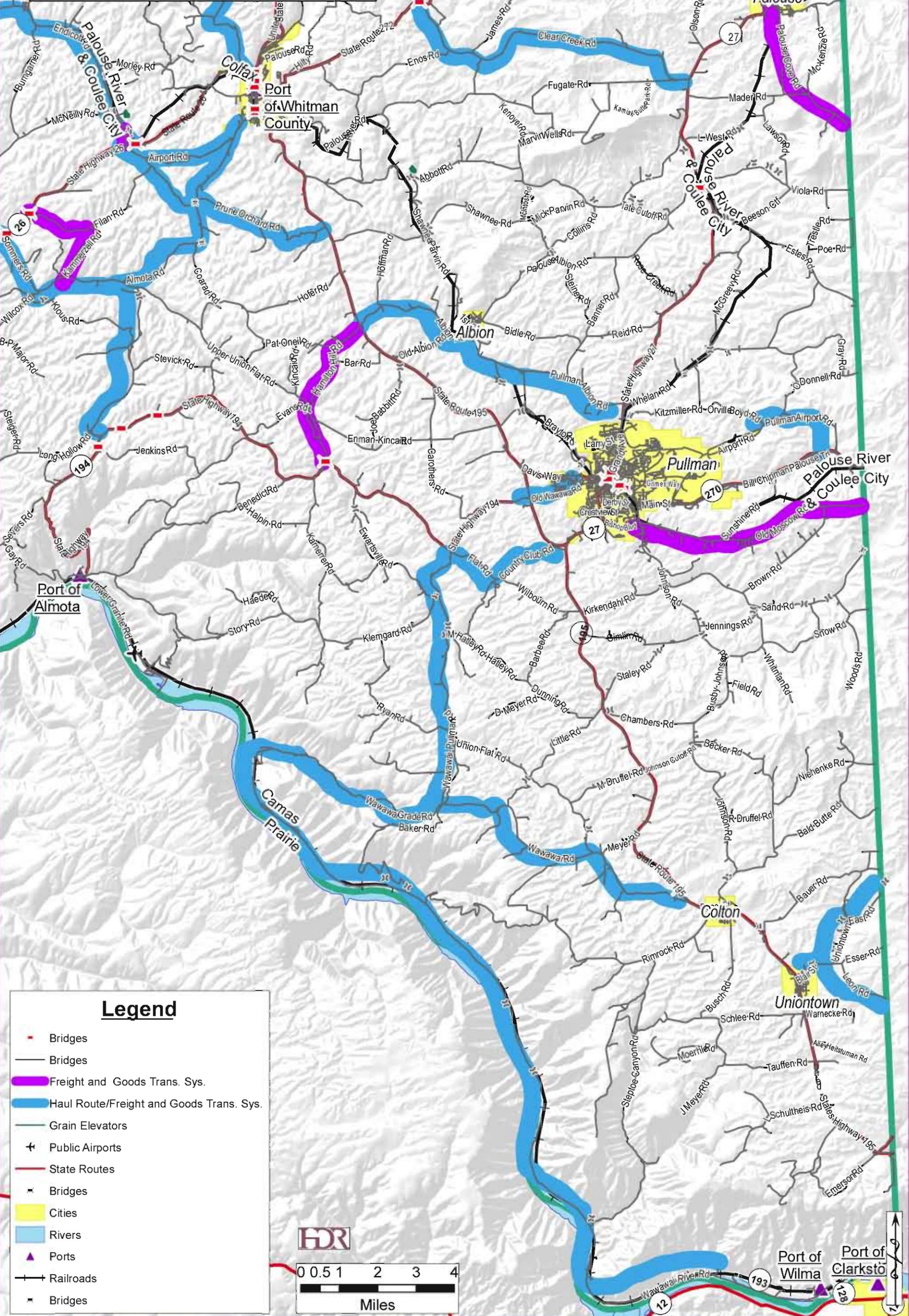


## Legend

- Bridges
- Bridges
- Freight and Goods Trans. Sys.
- Haul Route/Freight and Goods Trans. Sys.
- Grain Elevators
- + Public Airports
- State Routes
- Bridges
- Cities
- Rivers
- ▲ Ports
- +— Railroads
- Bridges



# Whitman County - Southeast Freight and Goods System



## Legend

- Bridges
- Bridges
- Freight and Goods Trans. Sys.
- Haul Route/Freight and Goods Trans. Sys.
- Grain Elevators
- ✈ Public Airports
- State Routes
- Bridges
- Cities
- Rivers
- ▲ Ports
- Railroads
- Bridges



Port of Wilma  
Port of Clarkston