

Transportation System Plan

# **Gilliam County Transportation System Plan**

Gilliam County, Oregon

**July 2015**

Transportation System Plan

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Gilliam County, Oregon

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The contents of this document do not necessarily reflect the views or policies of the State or Oregon.

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Technical Memorandum #2: Goals and Objectives

Technical Memorandum #3: Existing Transportation Conditions

Technical Memorandum #4: Future Conditions Analysis

Technical Memorandum #5: Alternatives Analysis

Technical Memorandum #6: Preferred Transportation Plan

## Preface

The progress of this plan was guided by the Project Management Team (PMT) and the Project Advisory Committee (PAC). The PMT and PAC members are identified below, along with members of the consultant team. The PAC members devoted a substantial amount of time and effort to the development of Gilliam County Transportation System Plan (TSP), and their participation was instrumental in the development of this document. The Consultant Team and PMT believe that Gilliam County’s future transportation system will be better because of their commitment.

### Project Management Team (PMT)

Michelle Colby <i>Gilliam County Planning Director</i>	Susie Anderson <i>Gilliam County Planning Director</i>	Michael Duncan <i>ODOT</i>
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**Section 1**  
Introduction

# Introduction

## BACKGROUND

The Gilliam County Transportation System Plan (TSP) documents the County, Cities, and ODOT's priority projects, policies, and programs that are carried forward for funding from state and federal agencies over the next 20 years. The TSP builds consensus among Cities, the County, and ODOT on the transportation needs and priority projects for the communities, and is based on input from local citizens, stakeholders, and appointed officials. The TSP is intended to be flexible to respond to changing community needs and revenue sources over the next 20 years and will be updated approximately every 10 years.



The existing TSP was developed in 1999. Since then, Gilliam County's forward vision has substantially changed. The following information provides context and illustrates the challenges, opportunities, and needs tied to the County's evolving transportation system:

- The Cities of Arlington and Condon have exhausted the project lists identified in the 1999 TSP. The current TSP does not properly reflect any revised zoning ordinances nor fully align with the County's Comprehensive Plan.
- The County has prioritized building livable, connected communities. Strategies in this TSP are intended to promote accessibility and connectivity and preserve the local character of the cities of Arlington, Lonerock, and Condon. Safe and more comfortable access to and from schools, and bicycle/pedestrian connections to downtown are important for youth, aging populations, and the overall community. None of the cities have continuous sidewalks and/or bike facilities connecting schools, grocery stores, government buildings, and healthcare facilities. The updated TSP promotes mobility throughout the County, but not at the expense of providing safe, livable, and vibrant communities.
- Since the 1999 TSP, land use patterns have changed. Over the last decade nearly 500 acres of industrial lands were added to the Urban Growth Boundary (UGB) and city limits of the City of Arlington. The County has also become home to a growing wind turbine industry. The ability to transport turbines for both installation and servicing is central to the development of this industry. The County recognizes that transportation system improvements are required to support this and other recent emerging industrial uses. This TSP update considered elements from the Port of Arlington Strategic Plan and the Gilliam County Strategic Plan to better integrate the County's industrial areas with future transportation system improvements.

- The three Cities are widely dispersed and rely on a sizable and remote system of roadways for safe and effective travel. A number of these roadways are aging and could benefit from widened roadbeds, reduced grades, straightened curves, snow fencing, offset intersection/junction realignment or bridge upgrades. These improvements address basic transportation needs of these communities and their industries. Enhancement and preservation projects such as these also bolster the system of emergency routes available in the event of a natural disaster and school bus routes transporting the students.

## **TSP PROCESS**

The Gilliam County TSP was developed through a process that identified transportation needs, developed and analyzed potential alternative approaches for addressing those needs, and developed an improvement and financing plan that best address Gilliam County's forecasted needs. The following steps were involved in this process:

- Reviewing state, regional, and local transportation plans and policies that the Gilliam County TSP must either comply with or be consistent with.
- Providing public open houses to provide project information to, and gather feedback from, the public at key points during the TSP development process, establishing project advisory committees, and developing transportation plan goals and objectives.
- Identifying a detailed inventory of existing transportation facilities and services.
- Evaluating current transportation operations and deficiencies.
- Evaluating transportation needs in the year 2035 if growth occurs as expected and without any additional transportation improvements beyond those already funded.
- Identifying and evaluating improvement alternatives intended to address Gilliam County's future transportation needs.
- Developing a prioritized set of improvements and strategies that meet the plan goals and objectives.
- Estimating the revenue available for transportation projects through the year 2035 assuming reduced, consistent, and increased transportation funding.
- Compiling the results of this work into this TSP document,
- Review and adoption of the TSP by Gilliam County Planning Commission and County Court, as well as the Arlington and Condon City Councils.

## **PUBLIC INVOLVEMENT**

The planning process was guided by a Project Advisory Committee (PAC), which was comprised of key stakeholder agencies and other community representatives. These included Gilliam County Planning Department, Gilliam County Roadmaster, the City of Arlington, the

City of Condon, the Oregon Department of Transportation, the Oregon Department of Land Conservation and Development, Emergency Services, the Port of Arlington, the Sheriff Department, School Districts, the Port of Arlington, and major employers in the County.

The PAC was responsible for reviewing the technical aspects of the TSP. The PAC reviewed several memoranda and convened at a total of four TAC meetings during the process of developing the TSP. The PAC meetings focused on all aspects of the TSP development including existing deficiencies and forecast needs; presentation and review of alternatives; presentation and review of a preferred transportation and funding plan; and, presentation and review of recommended ordinance amendments.

In addition to the established advisory committees, two public meetings were held at key junctures in the process to obtain public comment regarding transportation concerns, future transportation improvement projects, and priorities. These meetings were held in the City of Condon and the City of Arlington. All comments were addressed in the alternatives analysis and final plan development. Finally, the draft plans were discussed with the Planning Commission and County Court at public hearings.

## **PLAN STUDY AREA**

Gilliam County is located in north-central Oregon and includes an area of 1,223 square miles. Figure 1-1 shows a map of Gilliam County, including the city boundaries of each incorporated city within the County. The study area for the Gilliam County TSP consists of all areas of the county, including the incorporated cities.

Based on the requirements of the Transportation Planning Rule, the study of County roadways and intersections is generally limited to those with the highest classifications – collectors and arterials – as well as state highways. However, local street issues such as street connectivity, design standards, and safety are also discussed where appropriate.

## **TSP ORGANIZATION AND METHODOLOGY**

The development of Gilliam County's TSP began with a review of the local and statewide plans and policies that guide land use and transportation planning in the County. The plan and policy review is presented in **Section 2** of this plan. Goals and objectives for the TSP, as developed in collaboration with the Project Advisory Committee (PAC) are presented in **Section 3**.

An inventory of the existing transportation system documented all major transportation-related facilities and services within the County. The transportation system inventory allowed for an objective assessment of the current system's operational performance, safety, and general function, which is summarized in **Section 4**.

Long-term (year 2035) transportation system forecasts were developed based on ODOT future volume estimates. **Section 6** of this report details the development of anticipated long-term (year 2035) future transportation needs.

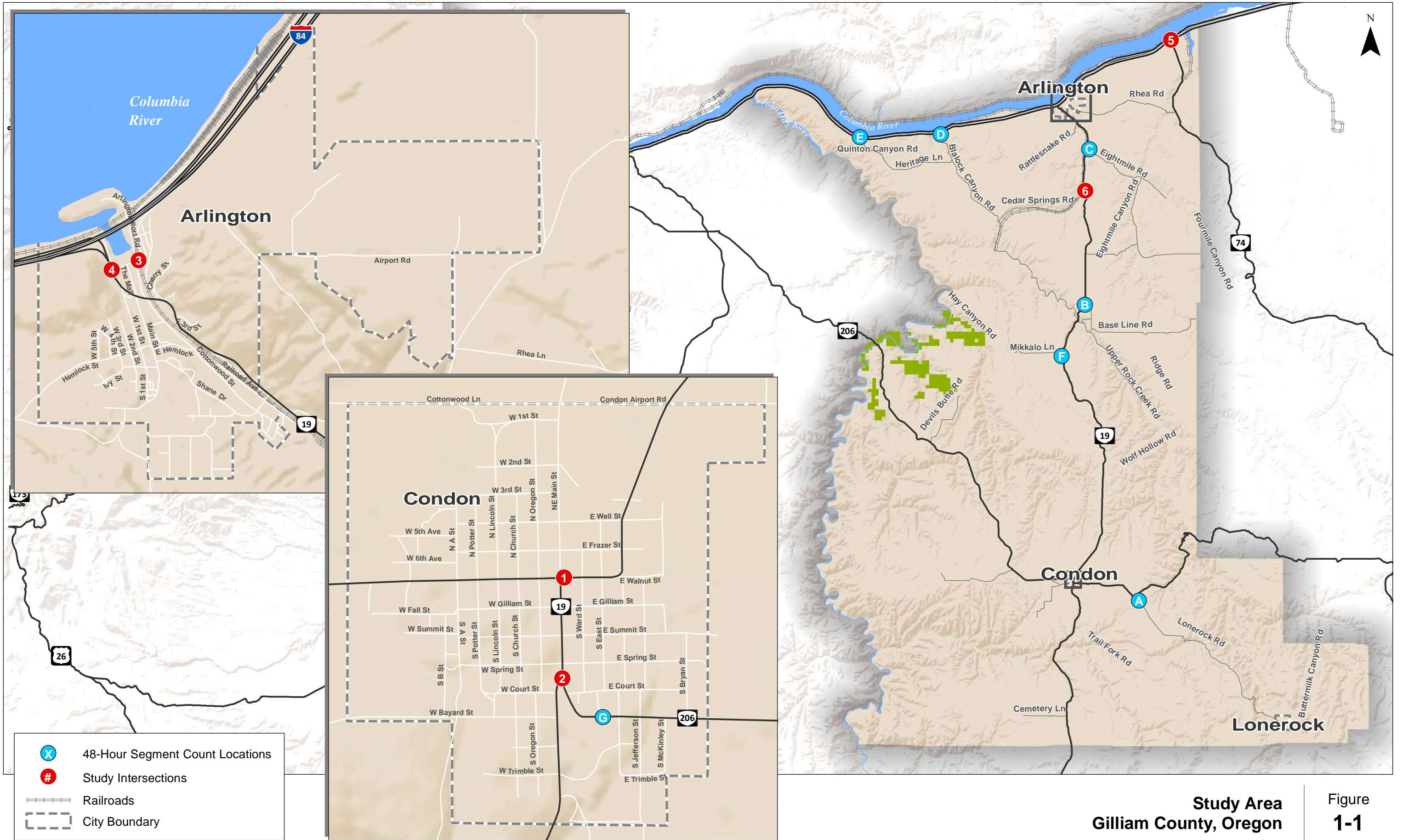


A preferred plan was developed that reflected a consensus on which elements should be incorporated into the County's long-term transportation system. The preferred plan was based on transportation needs summarized in **Section 6**. Transportation needs were identified by the PAC, comments received from the County staff, Gilliam County residents, and ODOT representatives.

Having identified a preferred set of alternatives, the next phase of the planning process involved presenting and refining the individual elements of the TSP through a series of decisions and recommendations leading to the preferred plan. The preferred plan identified in **Section 7**, Transportation System Plan, includes a roadway plan and a pedestrian and bicycle plan, as well as plans for other transportation modes serving Gilliam County.

**Section 8**, Transportation Finance Element, provides an analysis and summary of the alternative funding sources to finance the identified transportation system improvements. The recommended modifications presented in **Section 9**, LUDO Ordinance Modifications and Comprehensive Plan Policy Language, include specific changes in development ordinances to implement the TSP and to achieve compliance with the Oregon Transportation Planning Rule (OAR 660 Division 12).

Sections 1 through 9 comprise Volume 1 of the TSP and provide the main substance of the plan. These are supplemented by Technical Appendices in Volume 2 which contains the technical memoranda documenting the existing conditions analysis, forecast needs, and alternatives analysis.



**Study Area**  
**Gilliam County, Oregon**

**Figure**  
**1-1**

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**Section 2**  
Plans, Policies, and  
Standards Review

## Plans, Policies, and Standards Review

One of the project objectives of the TSP Update is to provide consistency between the County's TSP and local and state transportation policies and standards. To meet these objectives, a review and evaluation of existing plans, policies, standards, and laws that are relevant to the TSP update was conducted. Detailed information from this review, including a complete list of the documents reviewed, can be found in Technical Memorandum #1 located in Volume 2 of the Technical Appendix.

The summary of federal, state, regional, and local documents as they relate to transportation planning in Gilliam County, provided the policy framework for the TSP planning process. State documents and requirements were summarized as they applied to the Gilliam County TSP, as were applicable local city policies and regulations that had potential impacts on the County transportation system.

Given the prominence of the Cities of Arlington and Condon in the County, a number of local documents were also reviewed for policies that could have impacts to the Gilliam County TSP. Reviewed documents include the City of Arlington Comprehensive Plan (2003), the City of Arlington Transportation System Plan (1999), the City of Condon Comprehensive Plan (2011 update), the City of Condon Transportation System Plan (1999), the Condon State Airport Layout Plan (2002), and the City of Condon Buildable Lands Inventory (2001).

This review of plans and policies identified the following key elements of the 1999 TSP that need to be updated to remain consistent with current State, County, and City plans and policies.

- Identify improvements completed since the 1999 TSP and future improvements to the street network needed in order to improve freight mobility, consistent with the Oregon Freight Plan.
- Document public transportation services available to residents of Gilliam County, Oregon that support the goals of the Public Transportation Plan.
- Document pedestrian and bicycle facilities available to residents of Gilliam County, Oregon that support the goals of the Oregon Pedestrian and Bicycle Plan.
- Account for revisions to the Oregon State Rail Plan.
- Include analysis that supports the Transportation Safety Action Plan (TSAP) Emphasis Areas, and identify performance goals consistent with the Oregon Transportation Safety Action Plan.

**Section 3**  
Goals and Objectives

## Goals and Objectives

The goals and objectives presented in this section will guide the development of the transportation system in Gilliam County. The goals relate to: Mobility and Connectivity; Multimodal Users; Safety; Environment; and, Planning and Funding. Objectives for each goal are also provided, which identify the course of action intended to achieve each goal.

### GOAL 1: MOBILITY AND CONNECTIVITY

Promote a transportation system within the County that links all three cities and serves existing and future needs for transporting goods and people throughout the County and within each City.

#### **Objectives**

- Identify the 20-year roadway system needs to accommodate developing or undeveloped areas without undermining the rural nature of the county.
- Promote transportation linkages between the widely dispersed cities of Arlington, Condon, and Lone Rock by promoting an integrated system of principal highways that move people and goods throughout the County and connect to other adjoining Counties; a County road system that facilitates transportation between various areas of the County and between principal highways; and a local road system that serves as access to commercial and residential areas.
- Coordinate with the Oregon Department of Transportation and local cities to identify priority roadway improvements and maintenance needs.
- Improve traffic circulation within the three cities, the Port of Arlington, and I-84 interchanges within the County, while maintaining the local character of each community.
- Promote and plan for future industrial, commercial, and residential growth areas.
- Update roadway performance standards to ensure the efficient movement of people, goods, and commercial waste.
- Update policies and standards that address street connectivity, spacing, and access management.
- Balance local community and state goals for the state highways that run through the cities.

### GOAL 2: ECONOMIC DEVELOPMENT

Provide a transportation system that supports existing industry and encourages economic development in the County.

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## **Objectives**

- Develop and promote a multi-modal transportation network that supports the existing agriculture, waste management, and wind turbine industries and supports economic diversification in the future.
- Promote railroad and waterway freight service when possible and upgrade highways in nexus areas that lack this option.
- Prioritize improving and maintaining the key freight routes of OR 19 between Arlington and Condon, and OR 206 and OR 74 throughout the County.
- Maintain and enhance the 10-mile rail segment between Arlington and the Columbia Ridge Landfill and Recycle Center to serve existing and emerging industrial and commercial uses.
- Identify the 20-year roadway system needs to accommodate developing or undeveloped areas without undermining the rural nature of the county.
- Ensure that the transportation system plan supports planned river port terminal facilities in the Columbia River gorge.
- Coordinate with the Port of Arlington Strategic Plan and the Gilliam County Strategic Plan to better integrate the County's industrial areas with these future transportation system improvements.
- Ensure that the Arlington and Condon Airports are adequately served by the transportation system and that the transportation system supports the development of supporting land uses around the airports.
- Encourage bicycle tourism by promoting and upgrading recreational routes through the County.

## **GOAL 3: SAFETY**

Provide a transportation system that promotes the safety of current and future travel modes for all users.

### **Objectives**

- Promote a transportation system that facilitates the use of state highways for safe and efficient travel and also provides safe, livable, and vibrant multimodal corridors in the downtown neighborhoods and central business districts.
- Ensure that roadways are designed, constructed, and maintained to an appropriate standard for their expected use, vehicle speeds, and vehicle traffic.
- Reduce incidence and severity of motor vehicle crashes.
- Evaluate and respond to crash trends associated with an aging population.

- Provide a transportation system that allows for adequate emergency vehicle access to all land uses.
- Promote railway and highway safety at and near railway/highway intersections.
- Update County access management standards for all county roads.

## **GOAL 4: MULTIMODAL USERS**

Provide a multimodal transportation system that permits the safe and efficient transport of people and goods through active modes.

### ***Objectives***

- Promote alternative modes, transit/dial-a-ride service, and rideshare/carpool programs through community awareness and education.
- Support the development of regional public transit opportunities.
- Promote an interconnected network of bicycle, pedestrian, and transit facilities throughout the County.
- Consider bicycle and pedestrian facility needs during construction of new roads and during upgrades of existing roads.
- Promote a transportation system that includes pedestrian and bicycle facilities within the cities to promote active transportation to and from schools, downtown areas, grocery stores, government buildings, and healthcare facilities.
- Develop plan elements that guide pedestrian and bicycle pathways and facilities to achieve maximum connectivity between bicycle, pedestrian, transit, and vehicle routes and facilities, securing an intermodal network of safety and access for all types of users.

## **GOAL 5: ENVIRONMENT**

Provide a transportation system that balances transportation services with the need to protect the environment.

### ***Objectives***

- Develop a multi-modal transportation system that avoids reliance upon one form of transportation as well as minimizes energy consumptions and air quality impacts.
- Encourage development patterns that decrease reliance on motor vehicles within cities.
- Promote design standards that support acquiring only the minimum roadway width necessary for the roadway, including facilities for all users for the roadway



classification, and maintenance to reduce weed infestation and conserve agricultural land.

## **GOAL 6: PLANNING AND FUNDING**

Maintain the safety, physical integrity, and function of the County's multi-modal transportation network.

### ***Objectives***

- Maintain long-term funding stability for transportation maintenance projects.
- Identify new innovative funding sources for transportation improvements.
- Ensure that the existing transportation network is conserved and enhanced through maintenance and preservation.
- Identify interim, short-term, and long-term transportation solutions that will encourage development within the existing Urban Growth Boundaries.
- Identify areas where refinement plans or interim measures would increase the life of a facility or delay the need for improvements.
- Continue and enhance relationships and improve coordination among Gilliam County, ODOT, the Federal Highway Administration (FHWA), the Port of Arlington, and local jurisdictions.
  - Cooperate with ODOT in the implementation of the Statewide Transportation Improvement Program (STIP);
  - Encourage the improvement of state highways;
  - Work with local jurisdictions in establishing cooperative road improvement programs, funding alternatives, and schedules;
  - Work with the local jurisdictions in establishing the right-of-way needed for new roads identified in the TSP;
  - Leverage federal and state highway funding programs.

**Section 4**  
Existing 2015  
Transportation  
Conditions

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## Existing 2015 Transportation Conditions

Gilliam County's transportation system provides facilities serving many different modes of transportation. This section documents the existing system, including the following modes:

- Road System (auto/truck)
- Pedestrian and Bicycle
- Public Transit
- Rail
- Marine
- Air
- Pipeline and Transmission System



### STREET SYSTEM AND TRAFFIC ANALYSIS

Gilliam County is served by three state highways and a network of highways, arterials, collectors, and local streets maintained by the County. Primary roadway facilities, their characteristics, and existing operational performance are summarized below.

#### ***Street System Overview***

Roadways within Gilliam County fall under the jurisdiction of the state (ODOT), the County, or local cities. The following sections describe the characteristics of the roadways under each jurisdiction.

##### State Roadways

The state facilities within Gilliam County provide interstate, statewide, and regional connectivity. These facilities include Interstate 84 (I-84), Oregon Highway 19 (OR 19), Oregon Highway 206 (OR 206), and Oregon Highway 74 (OR 74). The state facilities serve two of the three cities in Gilliam County. I-84 and OR 19 provide connections to the City of Arlington, and OR 19 and OR 206 provide connections to the City of Condon.

##### County Roadways

Eighty-five roadways, totaling an estimated 406 miles, are under the County's jurisdiction. Sixteen percent of the roadway miles are paved, 14 percent are chip sealed, and 70 percent are gravel roads. The County roads provide connections to the state highway system and serve rural areas and the city of Loneroch.

### City Roadways

The City of Condon is comprised of streets in a grid pattern, with Main Street running north-south through the center of the City. OR 19 and OR 206 meet and share the alignment with Main Street through the downtown area. Blocks in the downtown area are generally 300 feet wide (east-west) and 500 feet long (north-south).

The City of Arlington is located at the interchange of I-84 and OR 19. OR 19 runs north-south through Arlington, crossing the railroad as it enters town, and provides access to the commercial areas of the City on the north end. The remaining streets are primarily residential streets, with the exception of Airport Road which serves as access to the Industrial lands on the bluff above the City.

The City of Lonerock's roadways are maintained by Gilliam County. The city's seven roads form a small grid pattern.

### **Street System Characteristics**

The following set of figures and tables illustrate and summarize the current street characteristics within the County including roadway classifications, roadway standards, and intersection characteristics.

Functional classification levels for roadways are used to establish a hierarchy of roadways based on their primary function (moving people across regions or providing access to local destinations). These classification levels are established by each jurisdiction. The classification levels also determine the recommended roadway cross-section for different facilities. The functional classification of roadways that local agencies typically establish is based on the following hierarchy:

- **Arterials** represent the highest class of roadway (other than Interstates). These roadways are intended to provide mobility by serving high volumes of traffic, particularly through traffic, at higher speeds. They also serve truck movements and should emphasize traffic movement over local land access. In some cases, arterial streets are further designated as "major/principal" or "minor." Major/principal arterials have higher design speed, fewer accesses per mile, and usually do not permit direct private driveway access. Minor arterial provide slightly lower travel speeds and have a few more accesses than major/principal arterials.
- **Collectors** represent the intermediate roadway class. As their name suggests, these roadways collect traffic from the local street system and distribute it to the arterial street system. These roadways provide a balance between traffic movement and land access and should provide extended continuous stretches of roadway to facilitate traffic circulation through the county. Collector streets are sometimes divided into two categories – urban collector/rural major collector and minor collector. Urban collector/rural major collector have the same basic roadway design but are

differentiated by urban features as well as adjacent land use (i.e., the land is inside or outside the Urban Growth Boundary). Minor collectors serve lower volume of traffic and have lower design speeds than the urban collector/rural major collector.

- **Local** roads and streets are the lowest roadway class. Their primary purpose is to provide local land access and to carry locally generated traffic at relatively low speeds to the collector street system. Local streets should provide connectivity through neighborhoods but should be designed to discourage cut-through vehicular traffic.

#### State Facilities

Figure 4-1 shows the ODOT functional classification for state facilities in the County. Table 4-1 summarizes the roadway characteristics of each of these facilities, including posted speed limit and number of lanes. Because Arlington and Condon are bisected by state highways that are classified as minor arterials, the highways must balance carrying through traffic and accommodating access to local destinations.

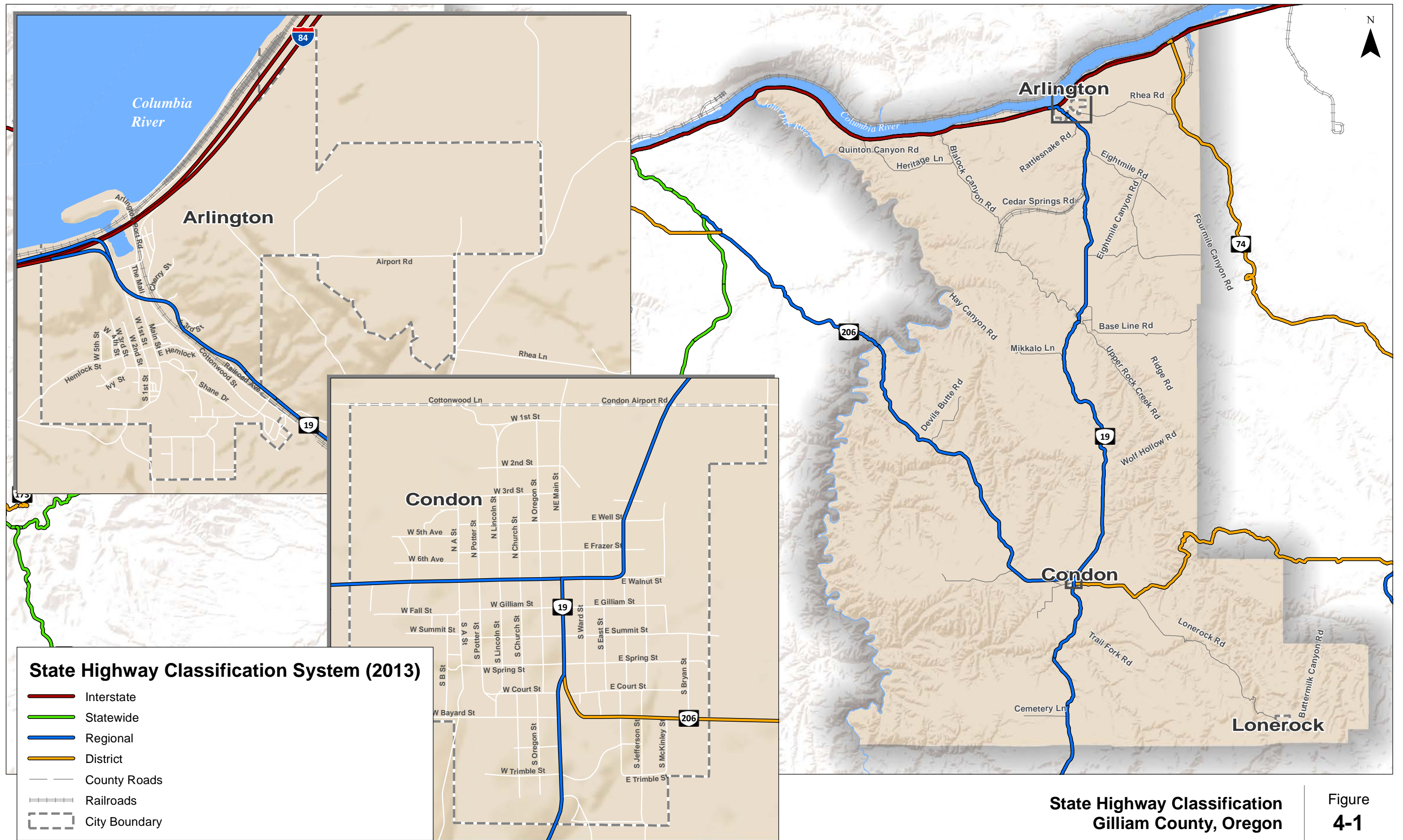


Figure 4-1

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**TABLE 4-1 STATE FUNCTIONAL CLASSIFICATIONS**

State Route	Facility Extents	ODOT Facility Designation	ODOT Functional Classification	Posted Speed Limit	Number of Lanes	Pavement Condition (2012)
Interstate 84	Entire Section within County Limits	Interstate	Interstate	65	4	Good - Very Good
OR 206	West of Condon	Regional Highway	Minor Arterial	55	2	Good
	East of Condon	District Highway	Major Collector	55*	2	Good
OR 19	Entire Section within County Limits	Regional Highway	Minor Arterial	55*	2	Good - Very Good
OR 74	Entire Section within County Limits	District Highway	Minor Arterial	55	2	Good

\*Within the cities of Condon and Arlington, the posted speed limit varies between 20 and 45 miles per hour (mph) along OR 206 and OR 19.

Exhibit 4-1 summarizes the characteristics of the study intersections. Each of the study intersections is under ODOT's jurisdiction. All of the study intersections are unsignalized.

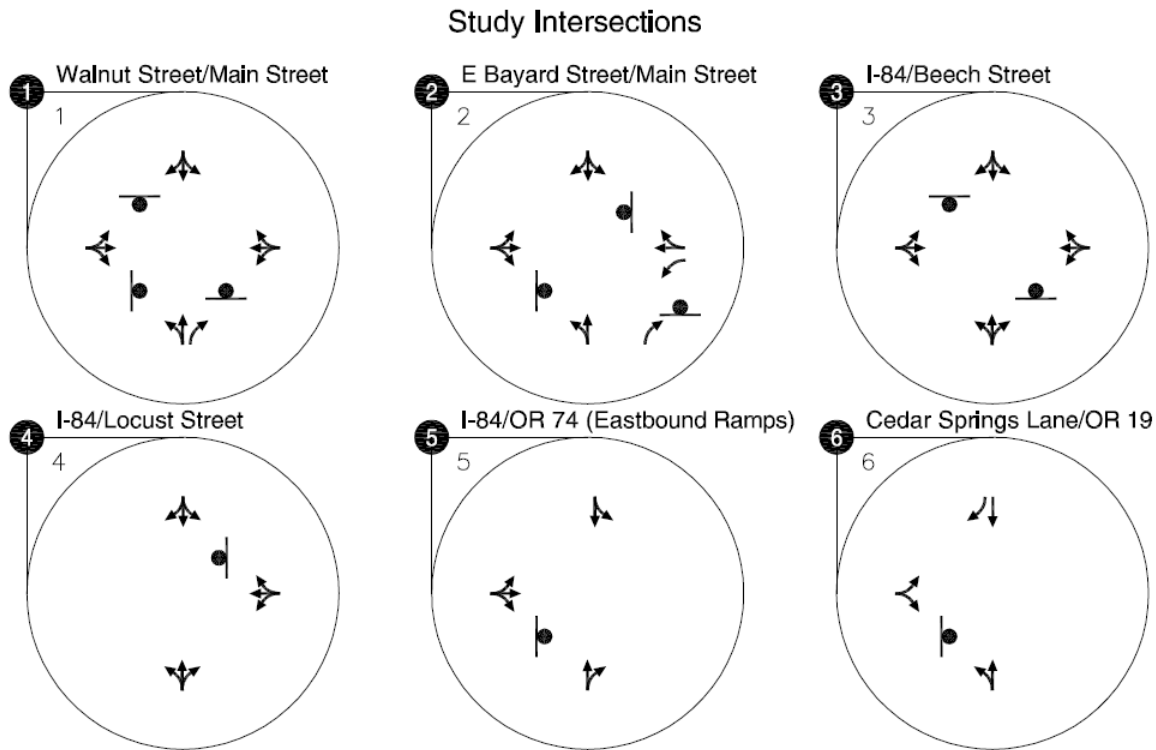


Exhibit 4-1. Study Intersection Existing Lane Configurations and Control

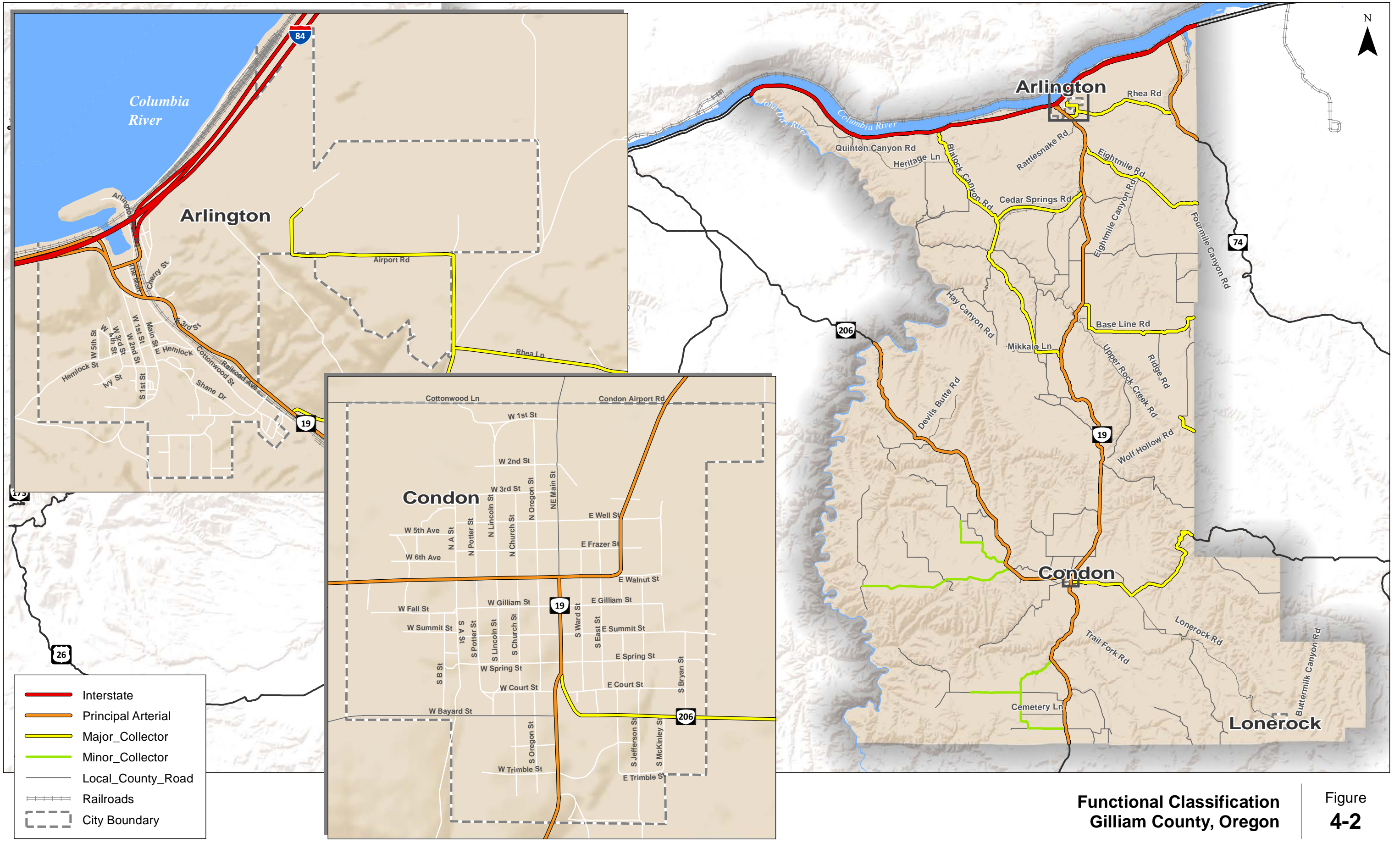
#### County Facilities

Gilliam County follows ODOT's roadway functional classification system by dividing county roads into three levels: urban collector/rural major collector, minor collector, and local roads. The existing functional classification system, as recommended in the 1999 TSP, is summarized in Figure 4-2. Proposed changes to functional classification, summarized in **Section 7**, reflect changes in development patterns and transportation trends since 1999 (increased truck traffic, seasonal influences of the Cottonwood Canyon State Park, etc.).

#### City Facilities

All city roadways are classified as local streets.





Functional Classification Gilliam County, Oregon Figure 4-2

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### Roadway Cross-Section Standards

Recommended roadway cross-section design is influenced by roadway functional classifications. The cross-section standards typically inform new roadways or roadway modification projects. Older roadways are only required to be upgraded to current standards if modified or reconstructed.

#### County Facilities

The County’s previous TSP identified rural roadway design standards, as summarized in Table 4-2. The County also had recommended roadway widths that are intended to serve the forecast future traffic demands in the County, as summarized in Table 4-3.

Rural roadways in the County are not currently required to have bike lanes or marked bicyclist facilities. The roadway design standards indicate that bicyclists shall be accommodated on the shoulder, when appropriate, based on the facility’s traffic volumes. Rural roadways are not required to have separate pedestrian facilities, which reflects the rural nature of the roadway.

**TABLE 4-2 EXISTING GILLIAM COUNTY RURAL ROADWAY DESIGN STANDARDS**

Classification	Right-of-Way Width (ft)	Roadway		Shoulder	
		Width (ft)	Surface	Width (ft)	Surface
Arterial Street	60-120	32-40	Paved	4-8	Paved
Collector Street	60-80	24-32	Paved/gravel	2-4	Paved/gravel
Local Street	60	24-28	Paved/gravel	2-4	Paved/gravel
Radius for cul-de-sac turn-around	50	40	-	-	-

**TABLE 4-3 EXISTING RECOMMENDED SHOULDER WIDTHS ON RURAL ROADS**

Road Use	Local Streets	Major and Minor Collectors	Arterial Streets
ADT under 400	2 ft	2 ft	4 ft
ADT over 400 and DHV & under 100	2 ft	4 ft	6 ft
DHV 100 – 200	4 ft	6 ft	6 ft
DHV 200—400	6 ft	8 ft	8 ft
DHV over 400	8 ft	8 ft	8 ft

\* Design Hour Volume (DHV) is the expected two-way traffic in the peak design hour (usually commuter times), and usually represent 13 to 25 percent of the Average Daily Traffic (ADT)

#### Local Facilities

The City of Condon has recommended street design standards, as summarized in Table 4-4. Most local streets are chip-sealed. Main Street has sidewalks of at least 10-feet in width, while other

streets within the City have occasional, disconnected sidewalks varying between three and five feet in width.

**TABLE 4-4 EXISTING STREET DESIGN STANDARDS FOR THE CITY OF CONDON**

Classification	Pavement Width (ft)	Right-of-Way Width (ft)	Number/Width			Planting, Utility, Sidewalks (ft)
			Travel Lanes	Parking Lanes	Bike Lanes	
General Arterial	36	60	2/12 ft	None	2/6 ft	12
Downtown Arterial	52	80	2/12 ft	2/8 ft	2/6 ft	14
Priority Local	34-36	60	2/10 ft	2/7-8 ft	none	12-13
General Local - Option 1	20	60	2/10 ft	2/8 ft	none	12
General Local - Option 2	34	60	2/10 ft	2/7 ft	none	13
Alley	16	16	2/8 ft	none	none	none

The City of Arlington has recommended street design standards, as summarized in Table 4-5.

**TABLE 4-5 EXISTING STREET DESIGN STANDARDS FOR THE CITY OF ARLINGTON**

Classification	Pavement Width (ft)	Right-of-Way Width (ft)	Number/Width			Planting, Utility, Sidewalks (ft)
			Travel Lanes	Parking Lanes	Bike Lanes	
Arterial - Option 1	36	70	2/12 ft	None	2/6 ft	12
Arterial - Option 2	52	80	2/12 ft	2/8 ft	2/6 ft	14
Arterial - Option 2	48	70-80	3/12 ft	None	2/6 ft	11-16
Collector	36	60	2/10 ft	2/8 ft	none	13
Minor - Option 1	24	50	2/10 ft	None	none	15
Minor - Option 2	34	50	2/12 ft	2/7 ft	none	13
Alley	20	20	2/10 ft	none	none	none

The City of Lonerock has a rural character and therefore follows the County’s rural roadway standards. Lonerock has collector and local streets, although the single collector (Lonerock Road) is a County roadway.

### Access Spacing and Access Management

Providing adequate access to other public roadways, land uses, and destinations is a critical part of an effective transportation system. However, it is necessary to balance access with the need for mobility and safety on the system. Providing access via other public streets and driveways creates friction from a traffic operations perspective thereby reducing mobility and introducing conflict points that increase the potential for crashes.

Access management strategies and implementation require careful consideration to balance access and mobility in a safe and efficient manner. In general, access management is generally more stringent on higher classified roads where mobility is the highest priority. Exhibit 4-2 illustrates the relationship between access and mobility relative to the street classifications in the Gilliam County area. OR 19 and OR 206 bisect the cities of Arlington and Condon and run through the downtown commercial areas of both cities. Therefore, these facilities must balance carrying through traffic and providing access within the downtown cores.

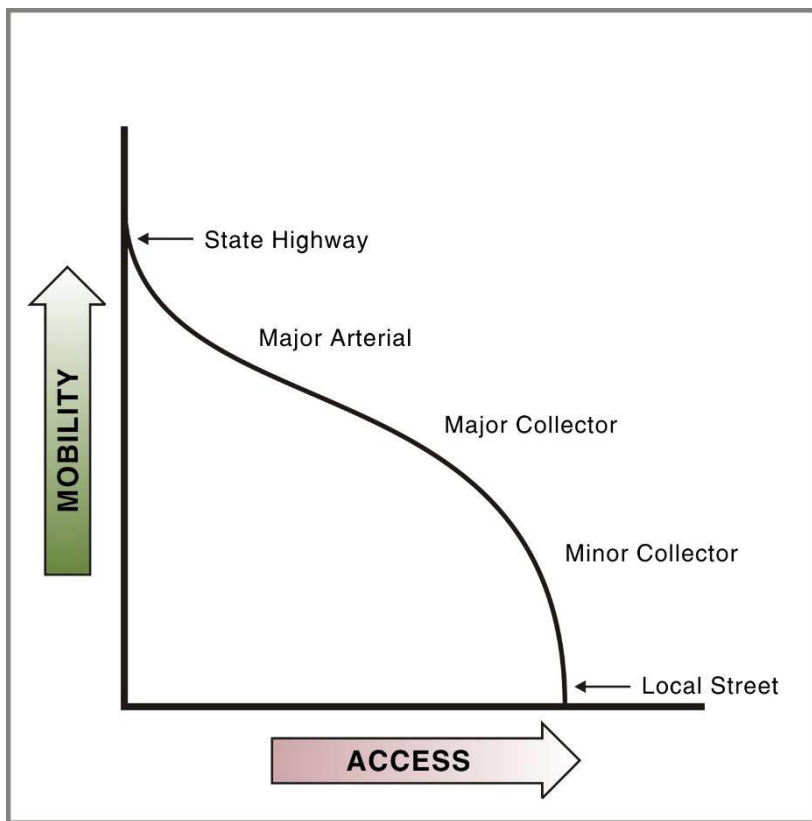


Exhibit 4-2. Relationship between Access, Mobility, and Functional Classification

#### State Facilities

ODOT specifies access management spacing standards for the state facilities in the Oregon Highway Plan. The corresponding access management spacing standards for state facilities within Gilliam County are summarized in Table 4-6. These standards are based on the 2012 AADT (Annual Average Daily Traffic volume), posted speed limit, proximity to urban areas, and functional classification.

**TABLE 4-6 EXISTING ACCESS MANAGEMENT SPACING STANDARDS FOR HIGHWAY SEGMENTS**

Route Name	Description	Functional Classification	2012 AADT	Posted Speed (MPH)	Access Spacing Standard (Feet)
Interstate 84	Entire Section within County Limits	Interstate	>5,000	65	10,560
OR 206	West of Condon	Regional Highway	<5,000	55	650
	East of Condon	District Highway	<5,000	55	650
	Within Condon City Limits	Regional/District Highway	<5,000	40/30/20	360/250/150
OR 19	Entire Section within County Limits, Outside of Cities	Regional Highway	<5,000	55	650
	Within Arlington City Limits		<5,000	55/45/25	650/360/150
	Within Condon City Limits		<5,000	40/30/20	360/250/150
OR 74	Entire Section within County Limits	District Highway	<5,000	55	650

AADT = Average Annual Daily Traffic  
 MPH = miles per hour

County Facilities

The County has rural access spacing standards for their roadways. These standards are intended to be applied as new development occurs, rather than to be used to eliminate existing driveways. The access spacing standards for County facilities are summarized in Table 4-7.

**TABLE 4-7 EXISTING ACCESS MANAGEMENT SPACING STANDARDS FOR RURAL GILLIAM COUNTY SEGMENTS**

Functional Classification	Intersection			
	Public Road		Private Drive	
	Type	Spacing	Type	Spacing
Collector	At grade	¼ mile	Lt/Rt Turns	1,200 ft
Local Street	At grade	200-400 ft	Lt/Rt Turns	Vary

City Facilities

The majority of streets, other than state highways, within the City of Condon function as local streets, which are intended to provide access to local destinations and serve relatively low traffic volumes. The City of Condon has minimum connection spacing for its roadways, depending on functional classification, as summarized in Table 4-8.

**TABLE 4-8 EXISTING MINIMUM SPACING REQUIREMENTS FOR THE CITY OF CONDON**

Functional Classification	Public Road Spacing	Private Drive Spacing
Arterial: OR 19 in Condon (Well St – Trimble St)	300 ft	150 ft
Arterial: OR 19: Other Urban Areas	¼ mile	500 ft
Arterial: OR 206 (6 <sup>th</sup> Ave-Bryan St)	300 ft	150 ft
Arterial: OR 206 (Other urban areas)	¼ mile	500 ft
Local	300 ft	Each lot

The City of Arlington has minimum connection spacing for its roadways, depending on functional classification, as summarized in Table 4-9.

**TABLE 4-9 EXISTING MINIMUM SPACING REQUIREMENTS FOR THE CITY OF ARLINGTON**

Functional Classification	Public Road Spacing	Private Drive Spacing
Arterial: I-84	2-3 mi.	NA
OR 19: I-84 – Dahlia St	300 ft	150 ft
Other Urban Areas	¼ mi.	500 ft
Other arterials in UGB	600 ft	300 ft
Collector	300 ft	150 ft
Minor Street	300 ft	Each Lot

The City of Lonerock follows the County’s TSP and therefore does not have its own access spacing standards.

**On-Street Parking Inventory**

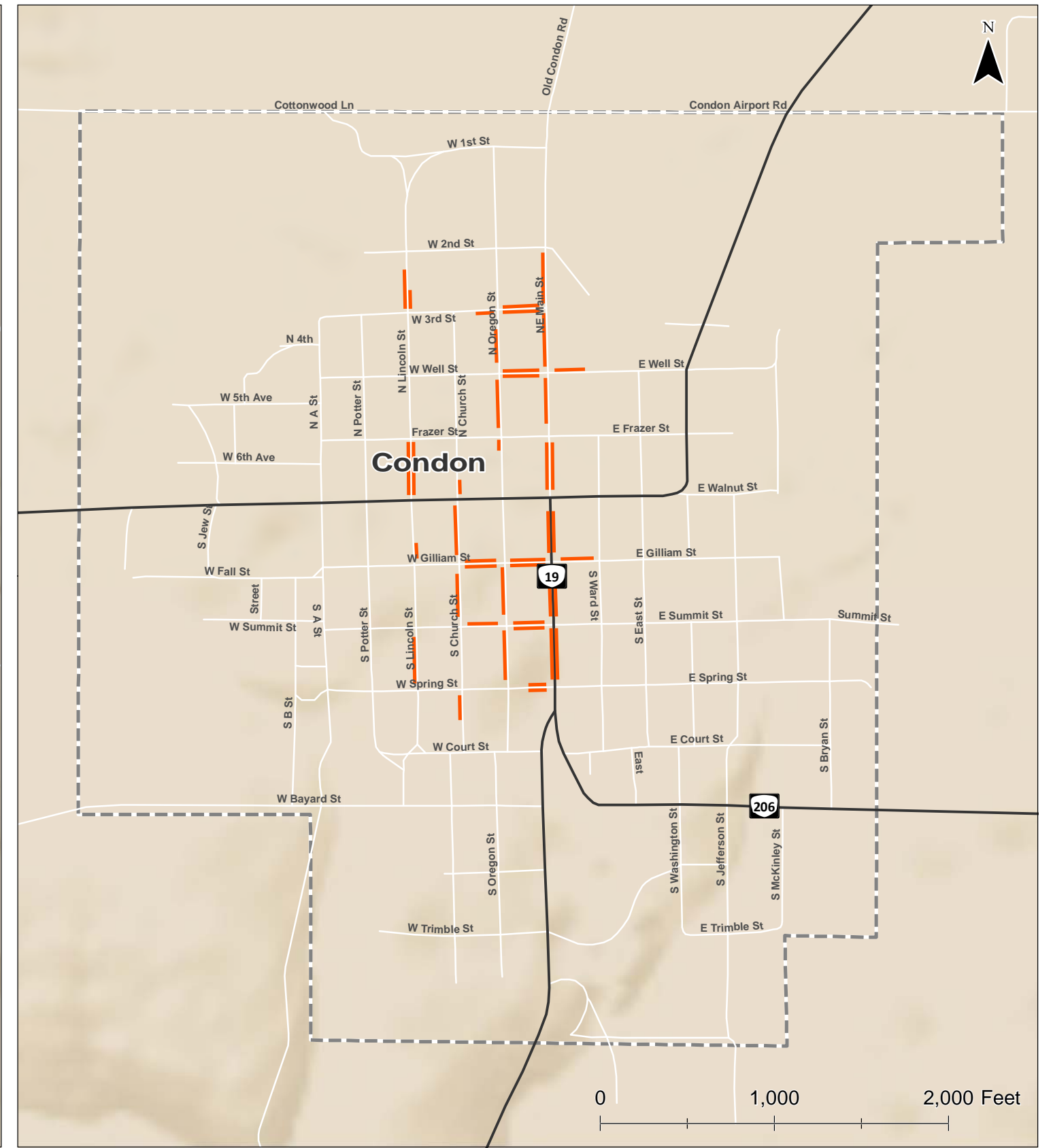
Figure 4-3 shows the inventory of on-street parking in the downtown areas of Arlington and Condon. Arlington accommodates all of its downtown parking with off-street lots within the commercial area and across the street, adjacent to Earl Snell Memorial Park.

Although Condon does not have marked on-street parking spaces, the roadway cross-section accommodates on-street parking along Main Street in downtown, alongside streets that abut Main Street, and around the Courthouse. There is also parking available next to the Courthouse in parallel on-street spaces and an off-street lot on Church Street.

Based on observations, parking demand does not generally exceed available capacity in Condon or Arlington during typical use. However, Arlington hosts several large events during the

summer months. During these events, there is inadequate parking which leads to people parking illegally throughout the City.





- Parking
- Railroads
- City Boundary

**On-Street Parking Inventory  
Gilliam County, Oregon**

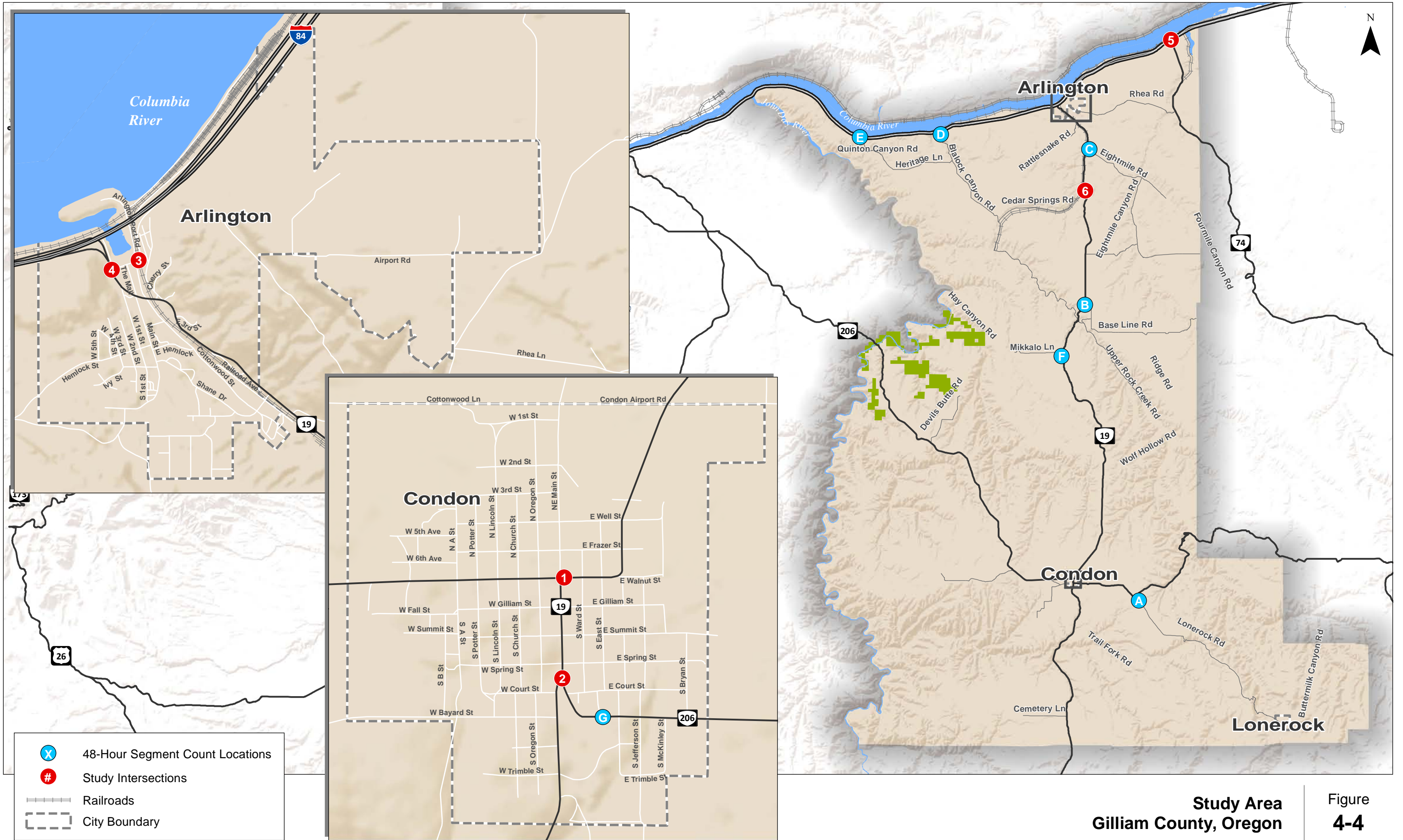
**Figure  
4-3**

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### **Street System Traffic Analysis**

A number of roadway segments and intersections were identified for study, as shown in Figure 4-4. The operational conditions of the identified components of the existing roadway system were evaluated to identify potential capacity constraints within Gilliam County and the cities of Arlington, Condon, and Lonerock. The traffic volumes used in this analysis were developed from a compilation of count data obtained from ODOT in 2014.



**Study Area**  
**Gilliam County, Oregon**

**Figure**  
**4-4**

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#### Analysis Methodology and Performance Standards

All operations analysis were performed in accordance with the procedures in the *2010 Highway Capacity Manual*.

Per the Methodology Memorandum (included in Technical Memorandum #3, in Technical Appendix Volume 2) and the ODOT *Analysis Procedures Manual* (APM), intersection operational evaluations were conducted based on the peak 15-minute flow rate observed during the weekday peak hour. Using the peak 15-minute flow rate ensures this analysis is based on a reasonable worst-case scenario. For this reason, the analysis reflects conditions that are likely to occur for 15 minutes out of each average weekday peak hour. The transportation system will likely operate under conditions better than those described in this report during other typical time periods.

The operational results for study intersections and segments were compared with their corresponding mobility targets, summarized in Table 4-10 and Table 4-11, to assess performance and identify potential areas for improvement. Gilliam County does not have operational standards for roadway facilities. ODOT operational targets are identified in the Oregon Highway Plan and are summarized below for the state highways within the County.

**TABLE 4-10 VOLUME TO CAPACITY RATIO TARGETS FOR PEAK HOUR OPERATION CONDITIONS**

Route Name	Facility Extents	Facility Designation	Inside UGB			Outside UGB	
			Posted speed <= 35 mph	Posted speed > 35 mph but <45 mph	Posted speed limit >= 45 mph	Unincorporated Communities	Rural Lands
Interstate 84	Entire Section within County Limits	Interstate	N/A	N/A	0.70	0.70	0.70
OR 206	West of Condon	Regional Highway	N/A	N/A	N/A	0.75	0.70
	East of Condon	District Highway	N/A	N/A	N/A	0.80	0.75
	Within Condon City Limits	Regional Highway	0.85	0.80	0.75	N/A	N/A
	Within Condon City Limits	District Highway	0.90	0.85	0.80	N/A	N/A
OR 19	Entire Section within County Limits, Outside of Cities	Regional Highway	N/A	N/A	N/A	0.75	0.70
	Within Arlington City Limits		0.90	0.85	0.80	N/A	N/A
	Within Condon City Limits		0.90	0.85	0.80	N/A	N/A
OR 74	Entire Section within County Limits	District Highway	N/A	N/A	N/A	0.80	0.75

**TABLE 4-11 INTERSECTION PERFORMANCE STANDARDS**

<b>Intersection Name</b>	<b>Location</b>	<b>Jurisdiction</b>	<b>Type of Intersection Control*</b>	<b>Performance Standard (v/c ratio)**</b>
Walnut Street/Main Street	Condon	ODOT	TWSC	0.90 for all approaches
E Bayard Street/Main Street	Condon	ODOT	TWSC	0.90 for Main Street approaches; 0.95 for E Bayard Street approaches
I-84/Beech Street	Arlington	ODOT	TWSC	0.80 for interstate ramp approaches; 0.90 for Beech Street approaches
I-84/Locust Street	Arlington	ODOT	TWSC	0.80 for interstate ramp approaches; 0.90 for Locust Street approach
I-84/OR 74 (Eastbound Ramps)	County	ODOT	TWSC	0.70 for all movements
Cedar Springs Lane/OR 19	County	ODOT	TWSC	0.75 for Cedar Springs Lane approach movements; 0.70 for OR 19 approach movements

\*TWSC = Two-way stop-controlled intersection

\*\* v/c = volume-to-capacity ratio

**Roadway Segment Analysis**

Seven study segments were identified throughout the County. Traffic volumes were collected for 48 hours between Tuesday, July 29, 2014 and Thursday, July 31, 2014. These traffic volumes were used to conduct capacity analysis to determine how the facility operates under peak hour conditions. Based on the 48-hour counts, the hour with the highest traffic volume was identified as the peak hour for that facility. Two-lane highway capacity analysis was conducted for each roadway segment based on the peak hour traffic volumes. Table 4-12 summarizes the peak hour, traffic volumes, and volume-to-capacity ratio for each study segment. Although the County does not have operational targets for County facilities, the peak hour analysis reveals that all of the roadways currently operate well below capacity.

**TABLE 4-12 ROADWAY SEGMENT OPERATIONS ANALYSIS**

ID	Roadway	ADT from 2014 Traffic Counts (veh/day)	Peak Hour Time Period	Seasonally-Adjusted Peak Hour Count (pc/h)	PHF*	Two-Way Demand Flow (pc/h)	Critical Flow Rate (pc/h)	Calculated V/C Ratio
A	Lonerock Road, South of OR 19	173	5:00 - 6:00 p.m.	19	0.68	29	3,200	0.009
B	Baseline Road, east of OR 19	240	9:30-10:30 am, 1:30-2:30 pm	26	0.93	29	3,200	0.009
C	Fourmile Road, SE of OR 19	192	1:45 - 2:45 pm	28	0.65	45	3,200	0.014
D	Blalock Canyon Road, South of I-84	142	5:15 - 6:15 pm	19	0.86	23	3,200	0.007
E	Quinton Canyon Road, South of I-84	67	8:45 - 9:45 am	10	0.59	18	3,200	0.005
F	Mikkalo Lane west of OR 19	145	11:45 am - 12:45 pm	16	0.78	22	3,200	0.006
G	East Bayard Street, East of OR 19	576	10:45 - 11:45 am	55	0.68	85	3,200	0.026

\*PHF = peak hour factor

### Intersection Analysis

Six study intersections were identified throughout the County and Cities. Traffic counts at the six study intersections were completed on Wednesday, November 19, 2014 between the hours of 5:00 a.m. and 9:00 p.m. Each intersection count was seasonally adjusted based on ODOT's methodology to obtain 30<sup>th</sup> highest hour volumes (additional detail regarding these adjustments can be found in Technical Appendix Volume Two). The existing conditions traffic operational analysis was conducted based on the 30<sup>th</sup> highest hour traffic volumes at each study intersection. Exhibit 4-3 shows the existing intersection traffic control and lane configurations. Exhibit 4-4 summarizes the 2014 30<sup>th</sup> highest hour traffic volumes, and Table 4-13 summarizes the 2014 operational analysis results at the study intersections. As shown in Table 4-13, all intersections were found to operate at level-of-service "A" and with volume-to-capacity (v/c) ratios of less than 0.10. The 95<sup>th</sup> percentile queue lengths reflect the maximum expected during the peak 15 minutes. As shown in the table, the 95<sup>th</sup> percentile queue lengths do not exceed two vehicles at all study intersections.

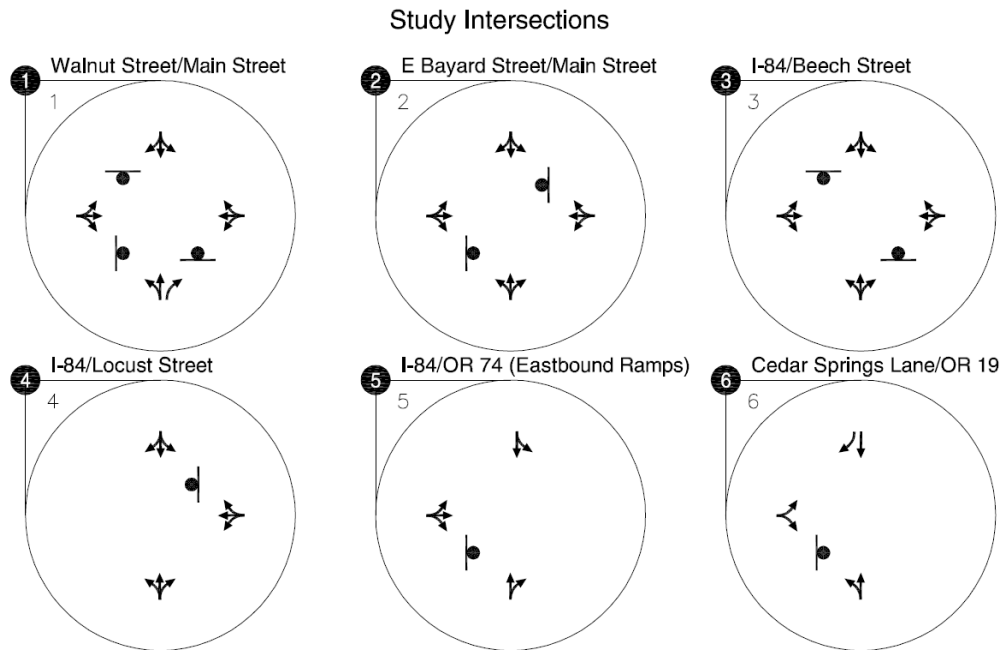


Exhibit 4-3. Study Intersection Traffic Control and Lane Configurations

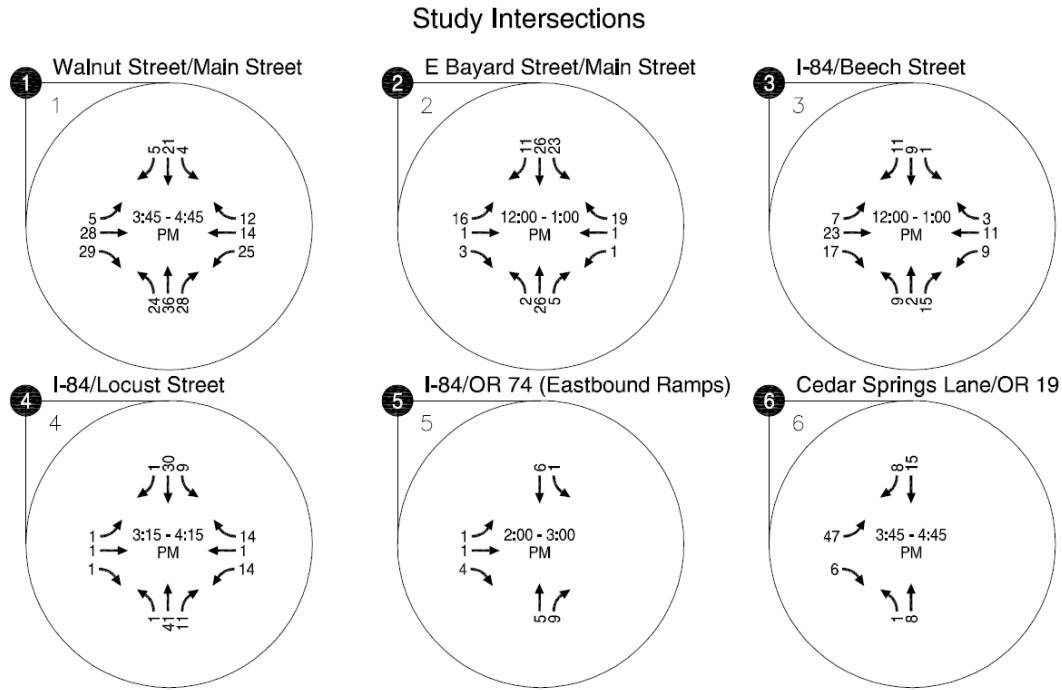


Exhibit 4-4. 2014 30th Highest Hour Traffic Volumes

**TABLE 4-13 INTERSECTION OPERATIONAL ANALYSIS RESULTS**

ID	Name	Critical Movement	V/C Ratio	LOS	Delay (sec)	95 <sup>th</sup> % Queue (# vehicles)	Performance Standard (v/c ratio)
1	Walnut St/ Main St	WB	0.09	A	9.5	1	0.90
2	E Bayard St/ Main St	EBL	0.03	A	4.2	2	0.95
3	I-84 Ramp/ Beech St	SBT	0.02	A	4.8	1	0.90
4	I-84 Ramp/ Locust St	EBT	0.01	A	3.0	1	0.90
5	I-84 EB Ramp/ OR 74	WBL	0.00	A	2.1	1	0.70
6	Cedar Springs Ln/ OR 19	EBL	0.06	A	5.9	2	0.75

v/c = volume-to-capacity

## ROAD SAFETY

Crash data from the latest five years (January 1, 2009 through December 31, 2013) was obtained from ODOT for all roadways within Gilliam County. Figure 4-5 illustrates reported crash locations throughout the county. As shown in Figure 4-5, the majority of reported crashes are located along state highways.



### County Crash Patterns

A total of 228 crashes were reported in Gilliam County between 2009 and 2013. The majority of reported crashes (147 crashes, 65%) occurred on I-84. 0 summarizes the reported crashes by severity.

Almost half of the reported crashes involved an injury, and one crash involved a fatality. The fatal crash was reported as a fixed object, overturned crash on a curve on Lonerock Road, approximately nine miles north of the City of Lonerock. The crash report indicates speed was a contributing factor. The weather and light conditions at the time of the crash were not reported.

Of the 13 reported severe injury crashes, several trends were noted:

- Seven involved a vehicle collision with a fixed object.
- Excessive speed was reported in at least six.
- Alcohol was indicated as a factor in two.
- Eleven occurred during daylight and on dry road surface.

The severe injury crashes were located throughout the County on the interstate, state highways, and County and local roads.

**TABLE 4-14 REPORTED CRASHES BY SEVERITY IN GILLIAM COUNTY (2009 – 2013)**

	Crash Severity					Total
	Fatal	Injury A	Injury B	Injury C	PDO	
Number of Reported Crashes	1	13	56	38	120	228
Percentage of Total Crashes	<1%	6%	24%	17%	53%	100%

Exhibit 4-5 shows the number of crashes reported by month.

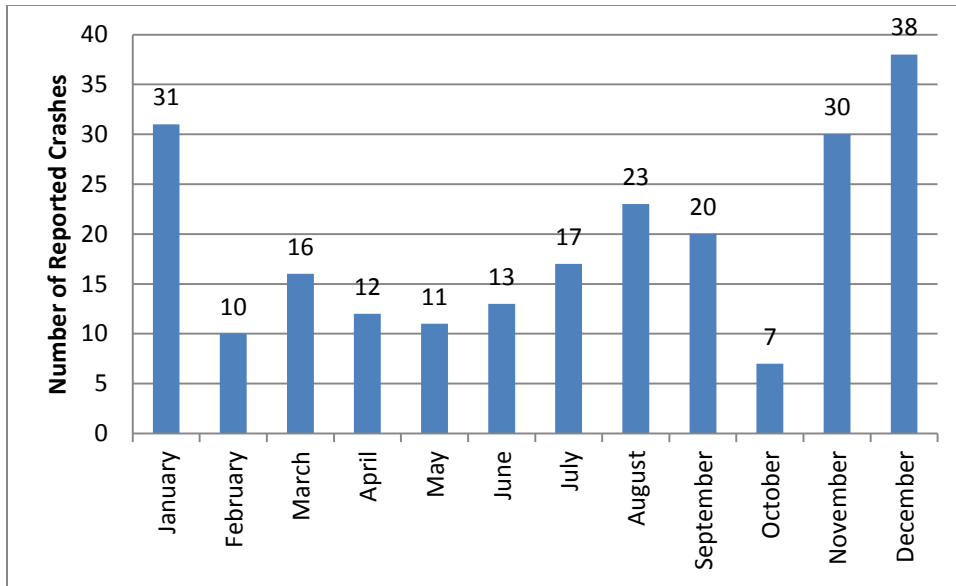
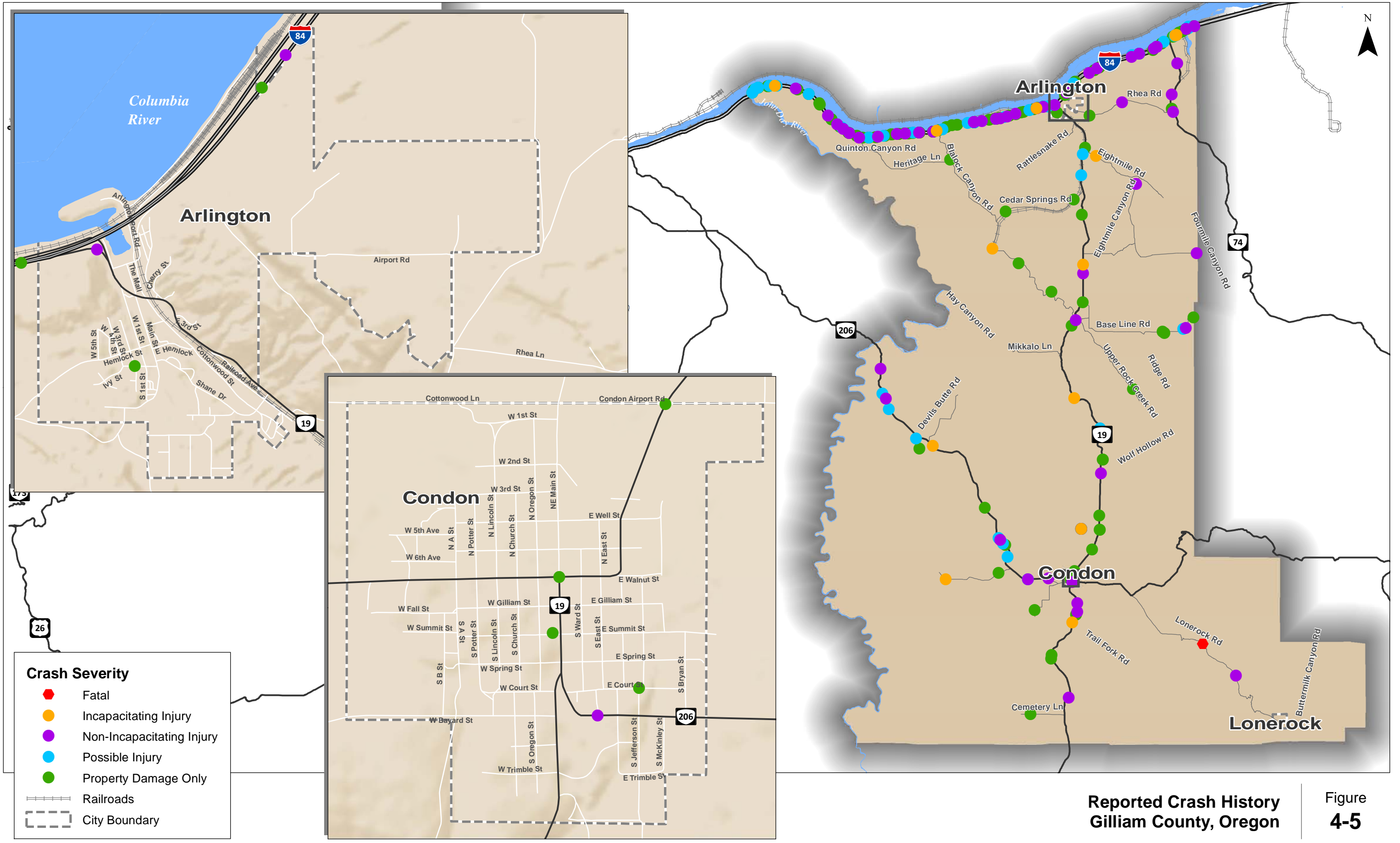


Exhibit 4-5. Reported Crashes by Month (2009-2013)

As shown in **Exhibit 4-5**, the highest crash frequency occurred during winter months, from November through January. Winter months in Gilliam County can include inclement weather conditions producing wet, icy, and/or snowy conditions. Further review of crashes in November, December, and January (99 crashes) indicate that 80% (79 crashes) occurred on roadway surfaces that were wet, icy, or snow-covered. Just over 50% (51 crashes) occurred in dark, dawn, or dusk lighting conditions.



Reported Crash History  
Gilliam County, Oregon

Figure  
4-5

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Over the study period, almost 70% of crashes (156 crashes) were reported as fixed object or non-collision crashes. Over 41% (94 crashes) occurred on roadway surfaces that were wet, icy, or snow-covered. The same number (94 crashes) occurred in dark, dawn, or dusk lighting conditions. One reported crash on I-84 involved a pedestrian in the western end of the County during icy roadway conditions.

Of the 81 crashes that occurred on non-interstate facilities, 47 crashes (58%) occurred on rural minor arterials, 14 crashes (17%) occurred on rural major collectors, 2 crashes (3%) occurred on rural minor collectors, and 18 crashes (22%) occurred on rural local streets or roads.

### ***Intersection and Segment Crash Analysis***

Study intersections and segments were analyzed individually and compared to statewide averages for similar facilities, when possible.

Reported crashes at study intersections are summarized in Table 4-15. Several of the study locations did not experience any crashes during the five-year study period. Intersection exposure was measured in terms of total entering vehicles (TEV), derived from the peak hour volumes used in the intersection operational analysis. The peak hour was assumed to be ten percent of the daily volume. ODOT identifies 90<sup>th</sup> percentile crash rates in the Analysis Procedures Manual, Exhibit 4-1. These crash rates are presented in Table 4-15. The ODOT APM indicates that intersections that exceed the 90<sup>th</sup> percentile should be further analyzed. None of the study intersections in Gilliam County exceed their corresponding 90<sup>th</sup> percentile crash rates.

**TABLE 4-15 REPORTED CRASHES AT STUDY INTERSECTIONS**

Intersection Name	# of Crashes	TEV	Crash Rate	90 <sup>th</sup> Percentile Crash Rates	Crash Type					Severity		
					Angle	Rear-End	Turning	Fixed-Object	Other	PDO	Injury	Fatality
Walnut Street/Main Street	1	230	0.238	0.408	1	0	0	0	0	1	0	0
E Bayard Street/Main Street	0	135	0	0.293	0	0	0	0	0	0	0	0
I-84/Beech Street	0	118	0	0.408	0	0	0	0	0	0	0	0
I-84/Locust Street	0	125	0	0.293	0	0	0	0	0	0	0	0
I-84/OR 74 (Eastbound Ramps)	0	28	0	0.475	0	0	0	0	0	0	0	0
Cedar Springs Lane/OR 19	0	86	0	0.475	0	0	0	0	0	0	0	0

<sup>1</sup>TEV = Total entering vehicles

<sup>2</sup>PDO = Property damage only

<sup>3</sup>Crash Rate = Crashes per million entering vehicles

Reported crashes along study roadway segments are summarized in Table 4-16. Exposure on the segments was measured based on ADT calculated from 2014 24-hour volume counts. ODOT publishes statewide average roadway segment crash rates for the past five years for urban and rural areas, by functional classification. The statewide average roadway segment crash rates for rural minor collectors are provided in Table 4-16 for comparison to calculated crash rates for highways in Gilliam County.

**TABLE 4-16 REPORTED CRASHES AT STUDY ROADWAY SEGMENTS**

ID	Segment Name	Segment Boundaries	Segment Length (miles)	Number of Crashes	ADT	Crash Rate (2009 – 2013 average)	State Average	Crash Type		Severity		
								Fixed-Object	Other	PDO	Injury	Fatality
A	Lonerock Road	Between OR 206 and Lone Rock	14.5	2	173	0.437	1.586	1	1 (Non-Collision)	0	1	1
B	Baseline Road (including Lone Road)	Upper Fourmile Road	10.5	6	240	1.305	1.586	4	2 (Non-Collision)	4	2	0
C	Fourmile Road	Between OR 19 and Eightmile Canyon Road	4.7	1	192	0.607	1.586	0	1 (Non-Collision)	0	1	0
D	Blalock Canyon Road	I-84 to Heritage Lane	2.5	1	142	1.544	1.586	1	0	1	0	0
E	Quinton Canyon Road	I-84 to Heritage Lane	1.25	1	67	6.543	1.586	0	1 (Non-Collision)	0	1	0
F	Mikkalo Lane	OR 19 to Mikkalo	2.0	0	145	0.000	1.586	0	0	0	0	0
G	E Bayard Street	OR 19 to East City Limit	0.5	1	576	1.903	1.586	0	1 (Head-On)	0	1	0

Although two segments (Quinton Canyon Road and E Bayard Street) exceed the statewide average, these are both short segments with only one crash reported during the most recent five years.

### **Statewide Priority Index System (SPIS)**

ODOT developed the Safety Priority Index System (SPIS) to identify and prioritize sites where countermeasures could be implemented to potentially reduce the number of crashes. No segments or intersections within Gilliam County were identified in the top ten percent of the 2012 and 2013 SPIS lists (which use crash data from 2009 to 2011, and 2010 to 2012, respectively). The 2011 SPIS list includes one site on I-84, east of the interchange with OR 74, in the 90<sup>th</sup> – 95<sup>th</sup> percentile list.

Based on the 2009 to 2013 crash data, eight crashes were reported on I-84 along the approximately one-mile long segment between the interchange with OR 74 and the eastern County border. Four of the crashes occurred in the eastbound direction, and four crashes occurred in the westbound direction. The road character for three of the crashes in the eastbound direction was reported as a vertical curve. Six of the crashes were reported as fixed object crashes, one was a rear-end crash, and one was an animal crash. One crash occurred on a wet roadway, one occurred in snow conditions, and the remaining six crashes occurred on dry pavement in clear weather. The crash reports indicated that driver fatigue contributed to three crashes, inattention and improper driving contributed to two crashes, speed too fast for conditions contributed to one crash, tire failure contributed to one crash, and following too closely contributed to one crash. Five crashes were logged at milepost 148.0, including a fatal crash that involved drugs. These five crashes likely contributed to the location making the SPIS list; ODOT proposed to monitor the site in the future.

### **Observed Safety Issues**

The following locations were identified by the Project Advisory Committee (PAC) as having existing safety issues:

- Walnut Street/Main Street intersection in Condon: The four-way intersection is 3-way stop-controlled. Confusion among drivers has been observed by residents; drivers at the intersection do not always realize one leg of the intersection is not stop-controlled.
- Sight distance is a concern at three intersections in the County: Main Street/Walnut Street in Condon (northbound approach), Main Street/Gilliam Street in Condon, and Quinn Road/OR 19 in Mayville.
- Drivers have been observed entering the I-84 westbound on-ramp when they intend to go eastbound, leaving Arlington as they enter I-84; the signage will be reviewed at this location.
- Railroad crossings in Arlington cause traffic to back-up on the interstate ramps and within Arlington. The trains have been observed stopping on the tracks for relatively long periods of time. During this time, emergency vehicles cannot access I-84.

- The intersection of Lone Rock Road/OR 206 is located on a curve and at an angle, which has caused concern that there is limited sight distance. The PAC advised that drivers may drive on the wrong side of the road at times to increase sight distance around the curve.
- Snow drifting is a concern on OR 206 near milepost 22, where vehicles have been trapped in snow drifts in the past.

## **PEDESTRIAN AND BICYCLIST SYSTEM**

The pedestrian and bicycle modes serve a variety of needs including relatively short trips to major attractors, recreational trips, and circulation within parklands. Bicycle travel can be a viable commuting option, particularly in areas where bicycle lanes, paved shoulders and other amenities (such as: secure bicycle parking, work-place showers, and bus-mounted bicycle racks) are provided. Walking is also a viable choice for commute trips in areas with residential neighborhoods adjacent to employment centers; pedestrians are common in the downtown areas of Arlington and Condon. In rural areas of the County, walking and bicycling mainly serves as a form of recreation or exercise, rather than to serve as a viable mode of transportation for commerce due to the relatively long distances between originations and destinations.

The pedestrian and bicyclist system for Gilliam County are summarized in Figure 4-6 and Figure 4-7, respectively. The inventory was completed based on ODOT's data for state facilities and a review of the downtown areas using Google Earth aerial imagery. No sidewalks or bicycle facilities are located within the City of Lonerock.

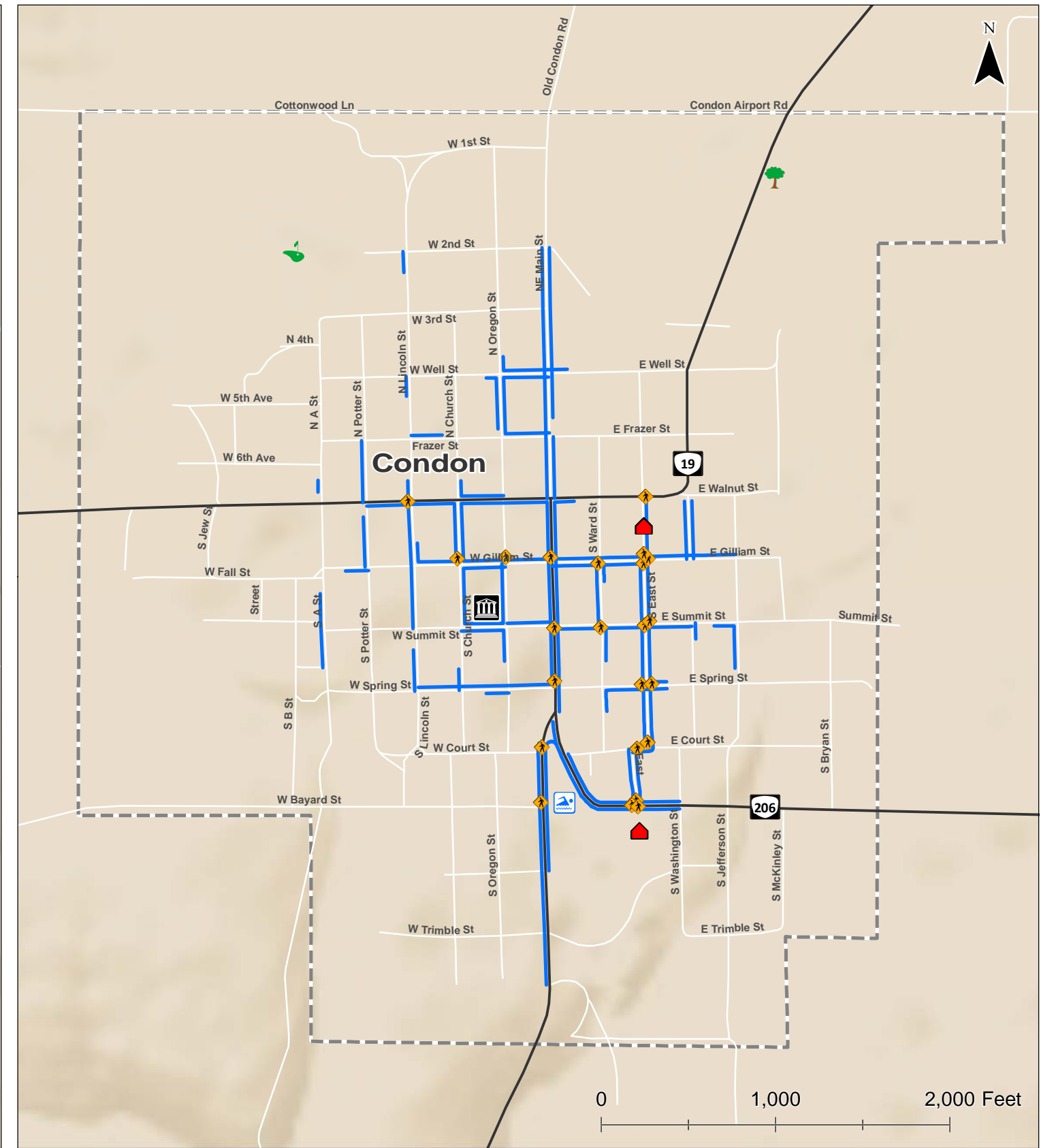
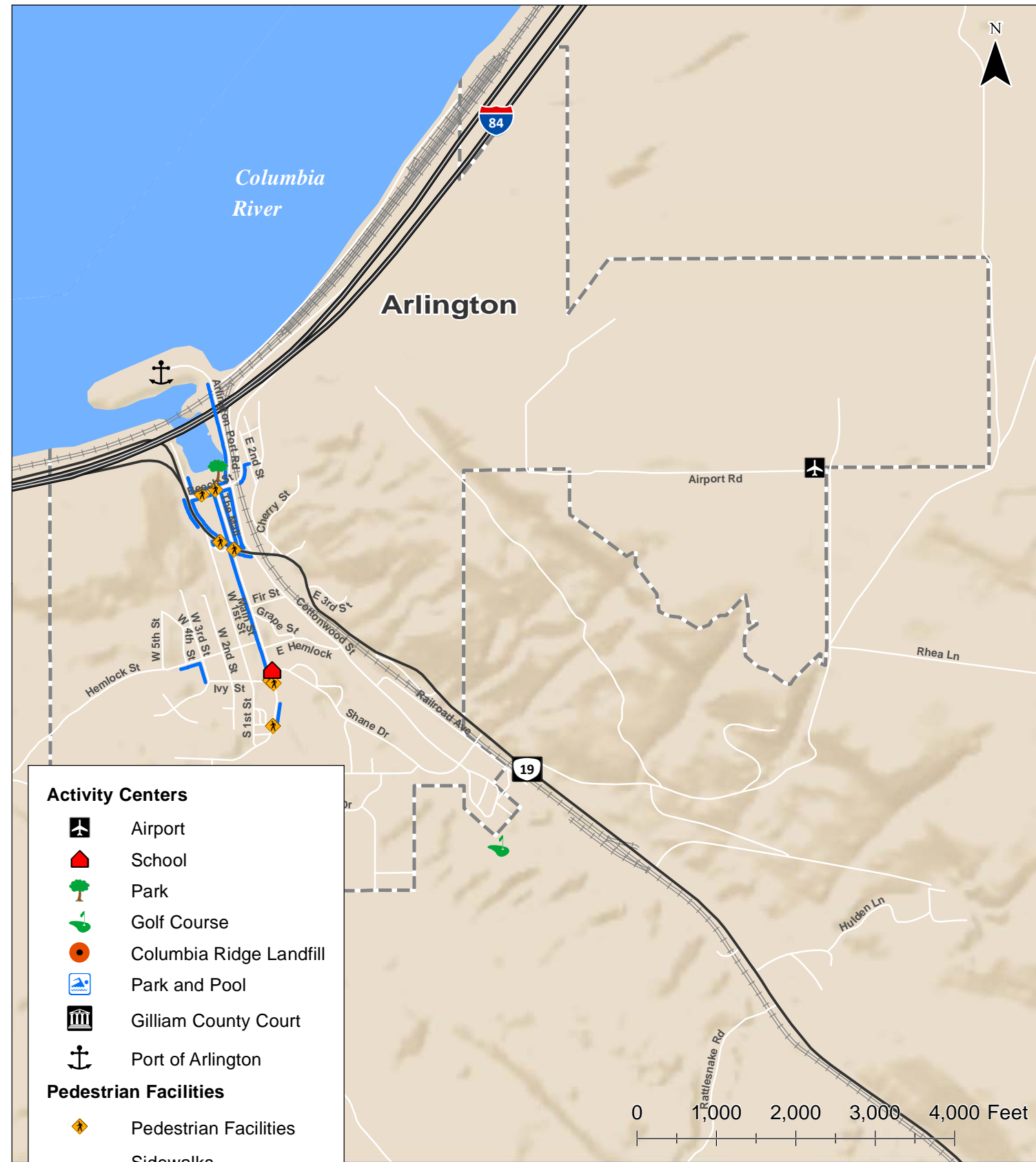
The pedestrian facilities inventory map in Figure 4-6 shows the location of existing sidewalks and crosswalks within the downtown areas of Condon and Arlington. As shown in the figure, sidewalks are located along the downtown commercial cores of both cities, but the sidewalks are discontinuous beyond the downtown cores. Schools in both cities are connected to the downtown commercial cores by continuous sidewalks and crosswalks. In Condon, the elementary school and high school locations are also connected by sidewalks and crosswalks. Residential areas are not connected to schools and commercial areas by continuous sidewalks.

The bicyclist facilities shown in Figure 4-7 were obtained from ODOT's inventory of bicycle facilities. In Arlington, these facilities are primarily striped shoulders that can be used by bicyclists. In Condon, the roadways are wide and provide adequate space for bicyclists, although no marked bicycle lanes are present. Within the downtown areas, no bicyclist facilities are provided on non-state facilities. The local streets are typically not marked for bicyclists, consistent with recommendations in the Oregon Bicycle and Pedestrian Design Guide, that urban and suburban roadways with posted speeds below approximately 20 miles per hour (mph) operate as shared facilities in which bicyclists share the road with vehicles.

Gilliam County is also a popular recreational bicycling location for bicyclists from around the state who are attracted by the scenery and low traffic roads. The John Day River Territory is a popular attraction. Many of the roadways are low volume, gravel roadways and scenic roadways. Popular recreational routes include OR 19 south of Condon to Fossil, OR 206 west of



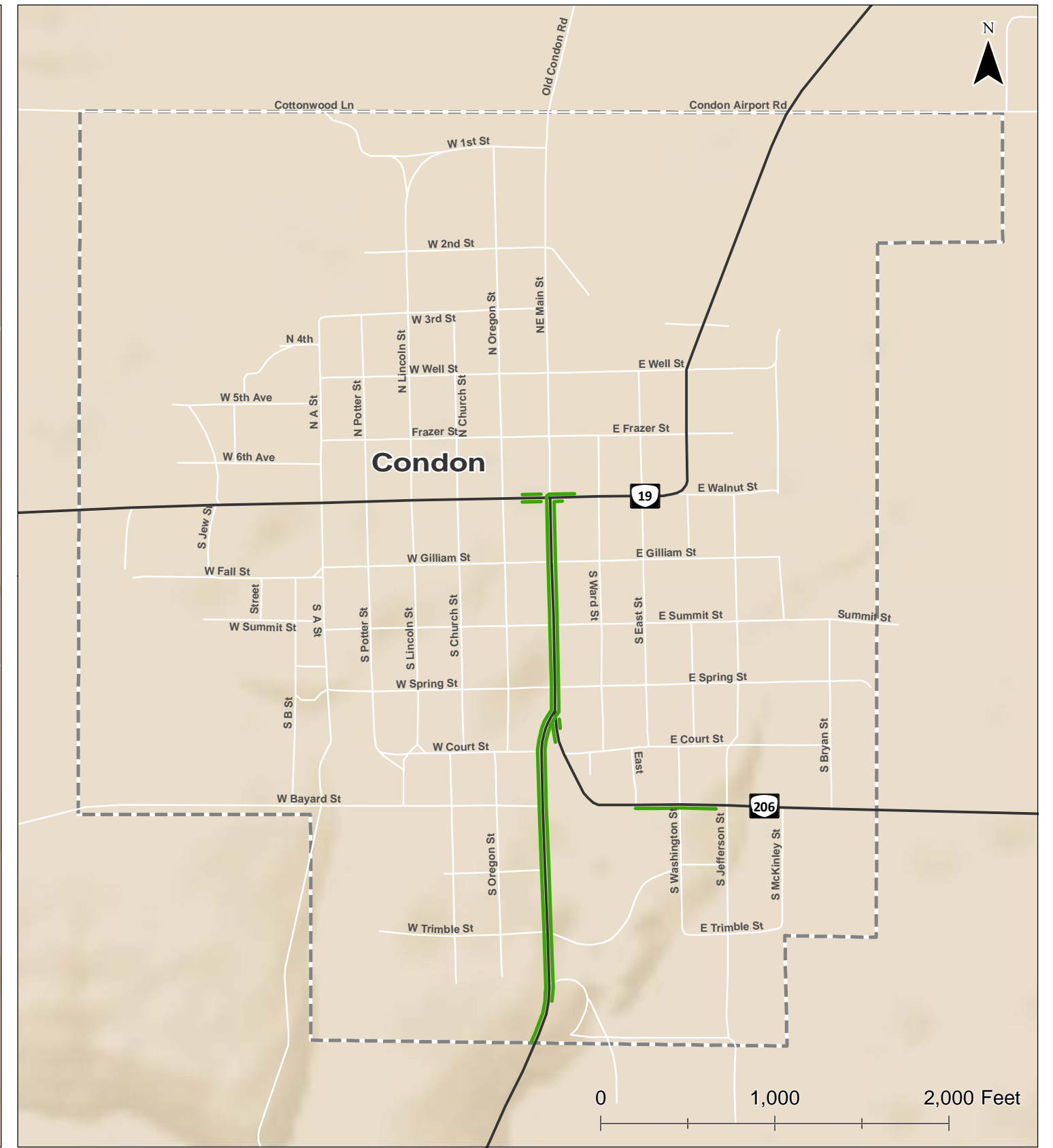
Condon to Wasco, and OR 206 east of Condon to Heppner. The majority of these routes have minimal shoulders and rough pavement conditions. In addition, there are no commercial or public locations on these routes for bicyclists to stop and hydrate, with the exception of the new Cottonwood State Park located off of OR 206.






**Pedestrian System Inventory  
Gilliam County, Oregon**

**Figure  
4-6**

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-  Bicycle Facilities
-  Railroads
-  City Boundary

**Bicycle System Inventory  
Gilliam County, Oregon**

**Figure  
4-7**

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## **PUBLIC TRANSPORTATION SYSTEM**

Gilliam County Special Transportation (GCST) operates dial-a-ride transit service for the County. The service provides approximately 10,000 trips each year. No fixed route service exists within the County.

GCST operates eight vehicles, with five in Condon and three in Arlington. Service was recently expanded to include a vehicle in Lonerock. The County sold one ADA bus due to expensive repairs and needs to replace the bus with a smaller vehicle that includes an easy-to-operate wheelchair device that does not require the assistance of volunteers, who are often elders. Two of the remaining vehicles are accessible, and all vehicles are driven by a team of 21 volunteers. Two additional volunteers live in Lonerock and provide rides between Lonerock and Condon, where residents can catch another vehicle going to their final destination. When drivers are unavailable, the GCST director is sometimes required to drive the vehicles. There are no part-time dispatch staff currently available to cover these occasions when the director, who also functions as the dispatcher, must leave. The County has expressed interest in a carport at the Lonerock community center to protect the vehicle year-round and an expanded garage or similar facility in Condon to keep vehicles clear year-round.

The dial-a-ride service may be used by the general public for any purpose. About 80 percent of the trips serve seniors or people with disabilities. Residents are asked to call 36 hours in advance to schedule their trip. Rides are available Monday through Friday from 7:00 a.m. to 6:00 p.m., although some longer distance medical trips extend beyond these hours. Most trips are for medical purposes (90 percent), shopping, social, or business purposes. There is often a need for volunteer caregivers to ride along with passengers to provide assistance to the passengers traveling to medical appointments. The nearest medical facilities are located in either The Dalles or Hermiston. Frequent trips are also made to Portland for OHSU.

GCST is funded through grants, donations, and medical mileage reimbursement programs. GCST has expressed the need for more maintenance money to cover tires, snow tires, brake repairs, etc. There is currently no funding for training for the defensive driving passenger assistance training required for volunteers by the transportation brokerage. The Gilliam County Transportation Services Director is interested in becoming certified to provide this training to volunteers from Gilliam County and other nearby counties. Riders are not charged a fee, but suggested donations are recommended and vary from \$2 to \$30 depending on the length of the trip, purpose of the trip, and type of vehicle used. Veterans often must travel longer distances for their services and are not asked to provide donations for their ride. The County lacks existing funding for drivers to take veterans to hospitals and wait until the following day to bring veterans back from procedures.

## **TRUCK FREIGHT ROUTES**

I-84 is the only state facility in Gilliam County designated as a state truck freight route, as shown in Figure 4-8. National and regional truck freight movements are intended to occur via I-84, which is part of the National Highway System. Although not designated as a state truck

freight route, OR 19 also carries local and regional truck traffic, particularly between the landfill and I-84 in Arlington. Other roadways within the County that were noted as carrying high truck traffic included Ridge Road and Fourmile Canyon Road.

A project was implemented to straighten sections of OR 19 between Condon and Arlington so that trucks carrying large loads such as wind turbines could traverse the corridor, but the project stopped short of completing the section between approximately milepost 16 and milepost 19. Therefore, there remains a two-to-three mile section of OR 19 immediately south of Upper Rock Creek Road that requires roadway closure for large agriculture and wind turbine loads to pass through it.

## **RAIL SYSTEM**

Union Pacific (UP) provides freight rail service through Gilliam County. There is currently no passenger rail service in the County. UP Rail lines follow I-84 and the Columbia River and provide access to Portland and the Hinkle Railyard in Hermiston.

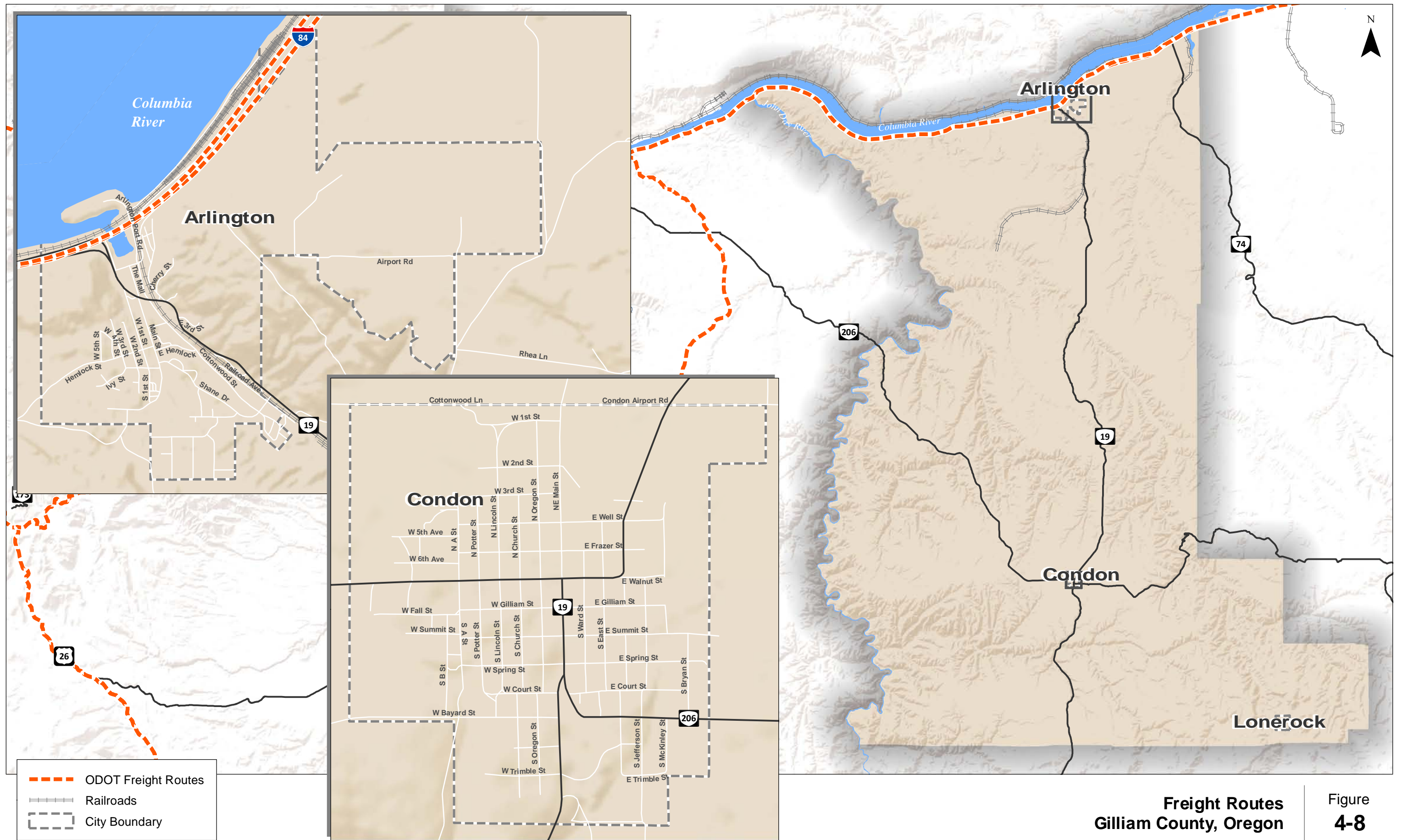
Rail service is also available between Arlington and the Columbia Ridge Landfill and Recycling Center, located approximately 10 miles south of the primary Columbia River line in Arlington. The landfill receives solid waste by rail from major metropolitan areas up and down the west coast, and that traffic keeps operations over the remnant of the line healthy. All trains on the branch are operated by Watco through their Palouse River and Coulee City Railroad. The Watco line is a Class III or short-line railroad which has an annual operated revenue of less than 20 million dollars (1991 dollars). Class III railroads are typically local short-line railroads serving a small number of towns and industries or hauling cars for one or more larger railroads. The only materials shipped by rail currently are solid waste from metro areas. Six unit trains run on this branch per week. The train speed from I-84 to the end of the line at the Columbia Ridge Landfill and Recycling Center is 25 mph. The track is in good condition with regular maintenance conducted.

There are two crossings within the City of Arlington that are associated with issues. When the trains cross the roadways, there are times when the train is stopped or traveling at slow speeds, prohibiting emergency vehicles from accessing OR 19 and I-84. Additionally, traffic entering Arlington westbound can back up on the I-84 exit to the interstate.

Additional rail connections were abandoned in 1993. The 44-mile railroad between Arlington and Condon was completed in 1905 from a junction with the mainline at Arlington south to the agricultural town of Condon. The Columbia River & Oregon Central Railroad built the line with the financial backing of the Union Pacific, who assumed ownership of the line after it was completed. Traffic over the line was primarily agricultural until 1928, when the Condon Kinzua & Southern completed its line from Condon south to Kinzua, OR. Forest products off of the CK&S became the primary source of traffic handled until 1978, when the big sawmill in Kinzua closed and the short line was abandoned. The decline of carloadings received from the CK&S prompted UP to close the Condon depot in 1975.







**Freight Routes  
Gilliam County, Oregon**

**Figure  
4-8**

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Agricultural traffic, primarily grain, kept the trains running to Condon through the late 1980's. By the early 1990's operations over the line were non-existent, and UP applied to abandon the line. The only remaining shipper on the line, Condon Grain Growers, argued against the abandonment, stating that UP's inability to guarantee a certain number of cars during the past two years prevented it from loading any cars. The ICC rejected this argument with the comment that a problematic car supply did not explain why nothing had been shipped over the railroad in 18 months. UP's last run to Condon took place in late summer 1992, when some light engines made the long run up the branch to retrieve a cut of grain hoppers ordered but never loaded by Condon Grain Growers. The ICC granted permission to abandon the line in September 1992, and the rails were removed in 1993. A little over eleven miles of the branch remains in place today, from Arlington to Columbia Ridge Landfill.

The 33 miles of abandoned railroad may be reviewed and considered for rails-to-trail opportunities to create shared-use paths for pedestrian and bicyclist travel in the County, if connections can be created for the 11-mile section to Arlington that is still served by active rail.

The County prioritizes maintaining the 10-mile connection to the Columbia Ridge Landfill and Recycling Center. If the railroad that allows unit-trains to haul solid waste to Columbia Ridge Landfill and Recycle Center were to be discontinued, the adverse impacts to I-84, OR 19 and Cedar Springs Road would be substantial. The average intermodal rail container carrying solid waste from Seattle to CRLRC has a large tonnage capacity. With six unit trains currently operated per week, many trucks would be added to the road system with the potential for increased wear and tear on the roadways, increased air pollution, and increased risk for crashes involving trucks.

## **AIR TRANSPORTATION SYSTEM**

Gilliam County has two general aviation airports. One airport is located in Arlington, and the other is in Condon.

### ***Arlington Airport***

Arlington Municipal Airport (FAA LID: 1S8) is a non-towered public airport located one mile northeast of the central business district of Arlington. It is owned by the City of Arlington and was activated in December 1943. Arlington Municipal Airport covers an area of 80 acres (32 ha), including one runway with a gravel and dirt/turf surface measuring 5,000 x 50 feet (1,524 x 15 m). The gravel runway is difficult to maintain for the City. The runway was reported in poor condition in 2013, due to bunchgrass growth. In the longer term (20 years or more), the airport is likely to need a paved runway. The elevation at the Arlington Airport is 890 feet/271.3 meters. There are no general aviation services at the Arlington Municipal Airport with the exception of parking tie downs for aircraft. The Arlington Municipal Airport has municipal water and sewer available on adjacent Arlington Mesa Industrial Park along with Fiber Optic Conduit.

Aircraft operations averaged 76 per month for a 12 month period ending May 20, 2014 and consisted of 55% local general aviation, 44% transient general aviation, and 1% air taxi. Insitu uses the airport as a testing location for Unmanned Aerial Vehicles (UAVs) and has a dedicated



structure on Airport property. According to the 2007 Oregon Aviation Plan, the Arlington Municipal Airport is considered a *Category V – Remote Access/Emergency Service Airport*.

The Arlington Municipal Airport is located in the Enterprise Zone within the City Limits of Arlington and is Zoned M1 and M2 (industrial) with an Airport Development (AD) overlay zone (AD). The Airport is adjacent to the Arlington Mesa Industrial Park. The surrounding uses in the immediate area are agricultural and industrial nature with residential uses in the City of Arlington and I-84 within one mile but separated by steep terrain.

### **Condon Airport**

Condon State Airport (Pauling Field) is located approximately one-mile northeast of the City of Condon. Regionally, the Airport is located approximately 150 miles east of Portland and 140 miles north of Bend. OR 19 provides access to the Airport and also provides a critical ground transportation link to eastern Oregon and to the rest of the state.

Condon State Airport was constructed by the Board of Aeronautics in 1953. The Airport is owned and operated by the State of Oregon Department of Aviation (ODA) and is included in the National Plan of Integrated Airport Systems (NPIAS), making this airport eligible for federal funding. Condon State – Pauling Field, designated by the airport code 3S9, occupies approximately 103 acres of land. According to the 2007 Oregon Aviation Plan, the Condon Airport-Pauling Field is considered a *Category IV – Local General Aviation Airport*. The airport is located at an elevation of 2,911 feet/887.3 meters.

The Condon State Airport plays a supportive role in the current system, providing geographic coverage and access to the state's airport system. The airport also serves as a base for agricultural spraying operations. Aircraft operations averaged 76 per week in the 12 month period ending February 05, 2013. Of these, 76% were transient general aviation, 22% were local general aviation, and 2% were air taxi.

The airfield consists of many components that are required to accommodate safe aircraft operations. This consists of runways, taxiways, and an apron network; the visual and electronic navigational aids associated with runways; runway protection zones; and general aviation facilities.

With assistance from the FAA in 1986, the Aeronautics Division rebuilt the airport with improved runway alignment. The airport has a single paved runway, Runway 07-25. The runway is 3,500 feet long and 60 feet wide with a concrete surface. The Airport currently has an Airport Reference Code (ARC) of B-I. The existing taxiway system at the Airport consists of two connecting taxiways from the hangar and apron areas to the runway. Aircraft turnarounds are located on both runway ends. There is one apron used for aircraft parking. The apron has 10 small aircraft tie down spaces. The apron is constructed of asphalt.

There are no general aviation services nor fueling facilities at the Airport. Hangar space at the Airport is comprised of limited T-Hangars located adjacent to the apron area. There are 13 hangar facilities at the Airport. Vehicle parking is located adjacent to the apron area. There are

approximately 10 parking spaces in this location. In addition, there are vehicle parking spaces available next to each hangar. The County and City have been would like to bring the airport into the City's Urban Growth Boundary and serve it with water and sewer access.

The Airport's lighting and navigational systems extend the Airport's usefulness into night and/or poor visibility. Pavement edge lighting consists of light fixtures located near the edge of the runway/taxiway to define the lateral limits of the pavement. This lighting is essential for the safe and efficient movement of aircraft during periods of darkness or poor visibility. Runway 07-25 is equipped with medium intensity runway lighting (MIRL). A four-light precision approach path indicator (PAPI) is installed on both runway ends. A PAPI is a system of either two or four identical light units that provide pilots with either red, white, or a combination of red/white lights which indicate whether a pilot is below, above, or on the glide path to the runway. Runway end identifier lights (REILs) consist of two synchronized flashing lights located near the runway threshold which provide rapid and positive identification of the approach end of a runway. REILs help pilots identify the end of a runway especially when other light sources obscure other runway lighting. REILs are installed on both runway ends.

## **INTERMODAL CONNECTIONS**

Intermodal connections for passenger service exist in the form of transit, pedestrian and bicycle, and automobile connections. Intermodal connections for freight exist in the form of rail, truck, air, and water transport connections.

### ***Freight Transportation***

Industrial activities are important economic catalysts in Gilliam County, with energy, waste management, and agriculture being key industries in the County. Therefore, the intermodal connections for freight are important for the County.

The Port of Arlington supports economic development and intermodal transportation connections that include rail, highway, and marine transportation. The Port owns 30 acres located at the Arlington Mesa Industrial Park and provides a Barge Facility for river access. The Port of Arlington does not have capability to transfer containers to/from barges, and the Port would like more efficient grain handling from truck to barge. The industrial park at Willow Creek (Heppner Junction) had a barge dock, and its use is transitioning.

With the expected increase in activity at the Arlington Mesa Industrial park around the airport, the roadways that provide access to the airport may need upgrades. Currently there are no shoulders on the roads and some steep drop-offs just beyond the edge of the roadway.

The landfill site and several industrial sites south of Arlington are connected to the rail line that runs between Arlington and the landfill. In addition, OR 19 serves these industrial sites south of the City. OR 19 and the rail service connect up to the Port of Arlington. Shutler Station (located at the intersection of OR 19/Cedar Spring Lane) needs rail crossovers that would make movement of rail cars within the park easier. Additionally, the City has developed an industrial zoned area around the airport to encourage supporting land uses in this area.

In Condon, rail service no longer exists. However, the City's industrial lands are primarily located in the northeast area of the City, in close proximity to OR 19 for freight transportation and the Condon airport.

### **Passenger Transportation**

The ODOT Region 4 Park and Ride Plan reviewed existing park and ride lots throughout the Region and recommended priority locations for new lots and/or upgrades to existing lots. There are no formal park and ride lots in the County, but there are several informal lots located in the County:

- Earl Snell Park, Arlington: The lot is used for some carpooling for commuters and for medical or shopping trips. There is unpaved, unused area on the west side of the park that could be developed as a park and ride lot. This area is also adjacent to the downtown core of Arlington, which contains connected sidewalks for pedestrians.
- Gravel pull-out lot at Clem-Mikkalo Road and OR 19: This lot serves people traveling from Condon to Arlington and The Dalles.
- Bus Barn in Condon
- St. Johns Catholic Church in Condon
- United Church of Christ in Condon
- Bank of Eastern Oregon in Arlington

The demand for park and ride lots was determined to be medium to low based on stakeholder interviews conducted as part of the plan. The lower priority designation is due to the fact that the area is relatively rural and there is abundant parking available to be used informally as a park and ride lot.

The interviews revealed that the highest demand for park and ride lots in the County is for travel to the Arlington area by employees of Waste Management and the Shepherds Flat Wind Farm. The interviewees indicated that the west end of Earl Snell Park in Arlington had the greatest potential for becoming a park and ride lot. Beyond upgrading existing informal park and ride lots, the interviewees indicated there is no need for additional park and ride lots. Carpooling, vanpooling, and transit can also be used to serve the demand. Upgrades to existing informal lots should consider pedestrian and bicycle connectivity to support bike tourism in the County.

## **BRIDGE CONDITIONS**

ODOT maintains an inventory of bridge conditions for State, County, and City owned facilities within the County. One bridge on Lonerock Road currently has a load restriction posted, and one bridge on Cayuse Canyon Road is currently closed to all traffic, causing an estimated 18-mile detour. Previous work estimated the cost of repairing or replacing that bridge to be \$2 million.

Sufficiency rating is a measure between 0 and 100 calculated by the Federal Highway Administration (FHWA), based on factors such as condition, materials, load capacity, and geometry (i.e., dimensions). FHWA uses the rating as a tool to prioritize the allocation of funds for bridge repairs. In general, bridges with a sufficiency rating of less than 50 are given priority. The sufficiency rating is used to identify deficiencies, which may include structural issues or functional issues. For example, older bridges may be narrow and not designed to the same width or height clearance of today's standards. Therefore, a sufficiency rating does not necessarily indicate a structural issue.

There are two bridges with sufficiency ratings below 50 within Gilliam County: the Cayuse Canyon Road bridge over Rock Creek, which is currently closed to traffic, and the I-84 Eastbound bridge over Willow Creek at milepost 148.6. Although the Lonerock Road bridge is posted for load, it has a sufficiency rating of 57. The I-84 bridge is a state owned facility, while the Cayuse Canyon Road bridge is a County facility. The I-84 bridge is too narrow to accommodate the adjacent highway facilities, which is why the bridge is given a low sufficiency rating. However, the bridge is structurally sufficient. The closed County bridge on Cayuse Canyon Road is structurally deficient and may need repairs or replacement before it could be reopened. In addition to ODOT's records, the County Roadmaster indicated another bridge, located on Eightmile Canyon Road, needs replacement.

## **MARINE TRANSPORTATION SYSTEM**

Gilliam County is located on the Columbia River, a major water transportation route. The Port of Arlington manages river cargo and marina operations. The Port has a Barge Facility available for river access and a grain silo. Farmers in the region use the Port to export grain, which is an important economic activity for the County. From the Columbia River, the grain can travel to Portland and be exported internationally.

The marina also serves as access to the river for recreational purposes, although it lacks a good beach or location for recreational users such as kite boarders and wind surfers to access the water. The marina is in the process of adding a fuel dock to its amenities.

## **PIPELINE TRANSPORTATION SYSTEM**

Pipeline transportation within the Gilliam County area includes numerous substations and transmission lines, which are currently being upgraded. These transmission lines are maintained by Pacific Gas Transmission provide access to the main power grid at multiple locations.

**Section 5**  
Future 2035  
Transportation  
Conditions

## Future 2035 Transportation Conditions

This section provides a summary of 2035 future transportation conditions and identifies transportation needs and subsequent impact on the transportation system based on future land uses, and projected population and employment demographics. Transportation needs were identified for multimodal elements of the transportation system including: auto/truck, pedestrian, bicycle, transit, rail, marine, air, and pipeline/transmission modes.



### POPULATION AND EMPLOYMENT PROJECTIONS

Reporting on population and employment projections is important in understanding the demand and impact that projected growth may have on transportation facilities over the next 20 years. The Gilliam County 2010 population of 1,871 is forecast to grow by more than 25% to a future population of 2,378 in 2035 according to the Portland State University Center for Population Research. Thirty-four percent of the population is located in unincorporated areas of the County, 39 percent in the City of Condon, 26 percent in the City of Arlington, and one percent in the City of Lonerock.

Based on the State of Oregon Employment Department's Labor Trends summary report from November 2014, Gilliam County lost a total of 111 jobs in 2013, some of which can be attributed to the completion of wind farm construction projects. The only industry that experienced an increase in jobs in 2013 was the Natural Resources and Mining industry, which grew by nine jobs.

Gilliam County is working to increase economic activity by developing new industrial parks. The growth in traffic volumes reflects this potential for economic growth and the need for transportation infrastructure to support industrial growth in the County.

### FUTURE TRAFFIC CONDITIONS AND NEEDS

An analysis of the forecast 2035 transportation system capacity of study intersections and segments was conducted to identify improvements needed to meet State and County operational standards for each respective functional class in 2035.

#### **Year 2035 Forecast Traffic Volumes**

Annual growth rates were applied to existing 2014 volumes to estimate 2035 traffic volumes. Future (2035) traffic volumes were developed using Oregon Department of Transportation's (ODOT's) historical trends method, which relies on historic traffic volumes to develop an annual growth rate. ODOT maintains Future Volumes Tables that summarize current and

future year traffic volumes for state roadways. Based on guidance from ODOT’s Analysis Procedure Manual (APM), the projected average annual growth is 1.25 percent for all Gilliam County roadways (see Technical Memorandum #4 in Volume 2 of the TSP for more information). No historic volume data was available for County roadways. Therefore, the same growth rate was used on state and county roadways.

The projected 1.25 percent annual growth rate was applied to existing 2014 volumes to estimate forecast year 2035 traffic volumes. Exhibit 5-1 shows the added traffic at the study intersections and segments.

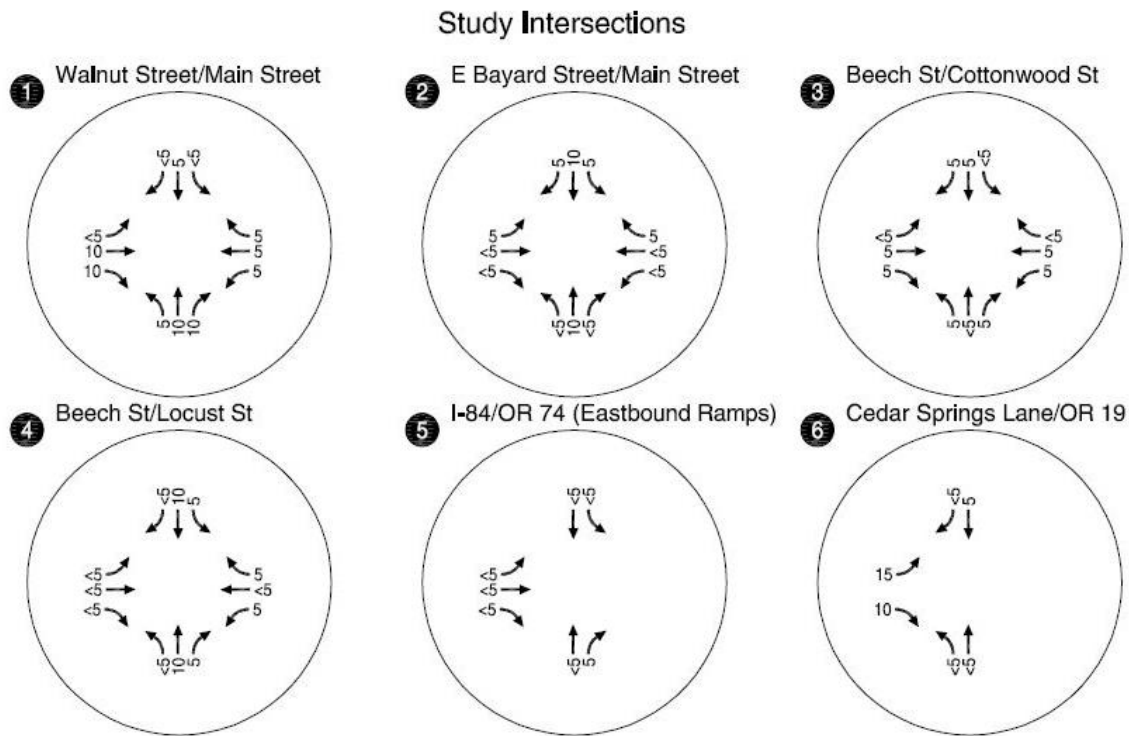


Exhibit 5-1. Forecasted 2014 – 2035 Study Intersection Volume Growth

**Year 2035 Forecast Intersection Operations**

Forecast 2035 transportation system capacity analysis was conducted based on forecast traffic volumes. The operational results indicate that no operational improvements are anticipated to meet State, County, or City operational standards for each respective facility in 2035.

The future conditions operational analysis was conducted based on the peak 15-minute period of traffic flow at each study intersection. Exhibit 5-2 illustrates the lane configurations and traffic control devices used in the future conditions analysis. No changes to the existing lane configurations and traffic control devices were incorporated in this analysis because there are no planned improvements at the intersections.

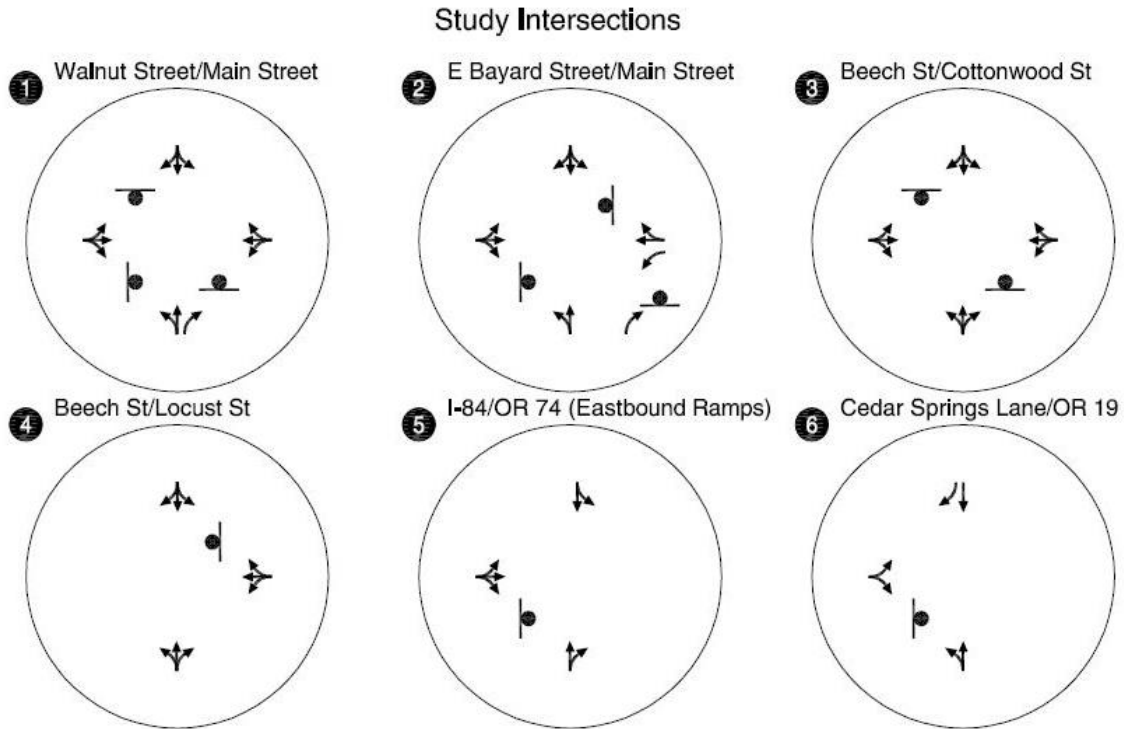


Exhibit 5-2. 2035 Study Intersection Lane Configurations

Exhibit 5-3 summarizes the 2035 30<sup>th</sup> highest hour traffic volumes and the resulting intersection operations. All study intersections are expected to operate with volume-to-capacity (v/c) ratio of less than 0.10 and level-of-service "B" or better. All intersections are expected to meet their performance standard in 2035.



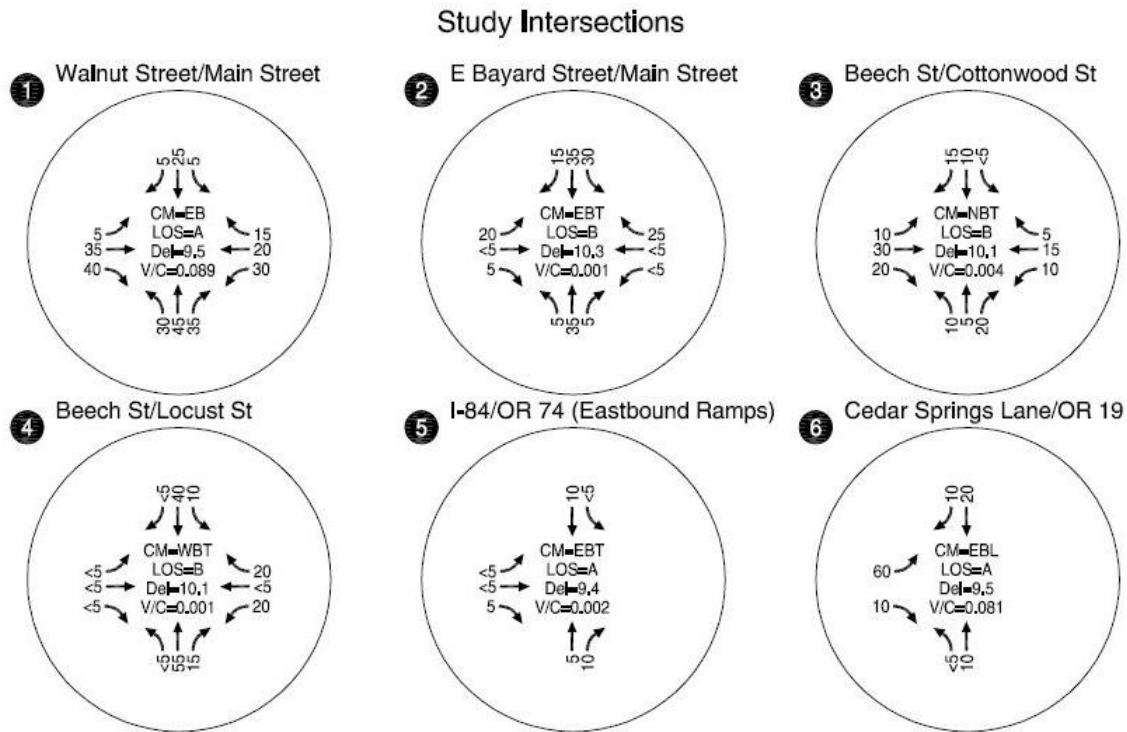


Exhibit 5-3. Forecasted 2035 Intersection Traffic Volumes and Operations

### Year 2035 Forecast Roadway Segment Operations

Using the forecast volumes, the seven study roadway segments were analyzed to determine how they are expected to perform in 2035. Table 5-1 summarizes the forecasted 2035 traffic volumes and resulting operations. None of the roadway segments are expected to experience traffic growth that would result in over capacity conditions.

**TABLE 5-1 2035 ROADWAY SEGMENT OPERATIONS**

ID	Roadway	ADT* for 2035	Peak Hour Time Period	Seasonally- Adjusted Peak Hour Count	PHF <sup>^</sup>	Two- Way Demand Flow	Critical Flow Rate (pc/h)	Calculated V/C Ratio
A	Lonerock Road, south of OR 19	225	5:00 - 6:00 p.m.	25	0.85	31	3,200	0.01
B	Baseline Road, east of OR 19	312	9:30-10:30 am, 1:30-2:30 pm	34	0.90	40	3,200	0.01
C	Fourmile Road, SE of OR 19	249	1:45 - 2:45 pm	36	0.90	43	3,200	0.01
D	Blalock Canyon Road, south of I-84	184	5:15 - 6:15 pm	25	0.90	29	3,200	0.01
E	Quinton Canyon Road, south of I-84	87	8:45 - 9:45 am	13	0.85	17	3,200	0.01
F	Mikkalo Lane, west of OR 19	188	11:45 am - 12:45 pm	21	0.90	25	3,200	0.01
G	East Bayard Street, east of OR 19	748	10:45 - 11:45 am	71	0.95	80	3,200	0.03

\*ADT = Average Daily Traffic volume

<sup>^</sup>PHF = Peak Hour Factor, a ratio of the total hourly traffic volumes to the peak 15-minute traffic flow

pc/h = passenger cars per hour

V/C = volume-to-capacity

DRAFT

**Section 6**  
Future 2035  
Transportation  
Needs &  
Alternatives

## Future 2035 Transportation Needs & Alternatives

This section identifies the future multimodal transportation needs in Gilliam County. As noted in the 2035 Future Conditions summary, there are no forecast capacity deficiencies identified for any of the major highway or roadway facilities serving the County. As such, the identification of future transportation needs and alternatives primarily focused on improving roadway and intersection operations from a safety, maintenance, and modernization perspective. From these needs, a list of projects was developed, refined, and finalized as part of the formal TSP (see Section 7).

### **Roadway Needs**

Although the study roadways and intersections in Gilliam County are anticipated to operate acceptably, the County expects growth in industrial areas, in Arlington, in Condon, and in areas surrounding the Port of Arlington. To accommodate this new growth, these industrial areas need adequate connectivity to key highways. The lane width, curve radii, shoulder width, and shoulder type along these key industrial routes should be designed to accommodate freight traffic. Known connectivity needs include:

- Pave shoulders and strengthen roadbed on Airport Road and Rhea Lane in Arlington to accommodate larger trucks accessing Arlington Mesa Industrial Park;
- Reclassify Ridge Road, Fourmile Road, and Lonerock Road to Major Collectors and upgrade roadway to match Major Collector design standards to accommodate agriculture truck traffic;
- Reclassify Quinton Canyon Road, Rattlesnake Road, Eightmile Canyon Road, Cemetery Road, and Heritage Lane from local streets to Minor Collectors and upgrade roadway to Minor Collector design standards to accommodate existing and forecast volume.
- Reclassify Devils Butte Road, Mikkalo Lane, and Hay Canyon Road to Minor or Major Collectors and upgrade roadway to match Major Collector design standards. These roads provide access to Cottonwood Canyon State Park.
- Reclassify Wolf Hollow Road and Upper Rock Creek Road from Major Collectors to Minor Collectors due to the decline in usage of these roads associated with changing agriculture uses.
- Reclassify Buttermilk Canyon Road and Trail Fork Road from Minor Collectors to Local Roads due to the decline in use of the roads.
- Improve Lower Rock Creek Road by widening the roadway, adding shoulders, and adding curve signage to serve the recreational traffic using the road for river access.

## **Transportation Safety Needs**

Although no locations with safety deficiencies were identified from the historical crash analysis documented in **Section 4**, there are several locations within the County where countermeasures could reduce crash potential. Input from the Project Advisory Committee and the existing crash trend analysis identified the following needs:

- Weather-related crashes
  - A high percentage of crashes on I-84 were associated with adverse weather and roadway conditions. Intelligent Transportation Systems (ITS) treatments could be considered to address weather-related crashes.
  - Observations from local residents indicate the need for treatments to prevent snow drifts that frequently occur on OR 206 near milepost 22.
- Single-vehicle and speed-related crashes
  - A high percentage of crashes in the County were single-vehicle run-off-road crashes and crashes associated with speed. Options for reducing these crash types using systemic countermeasures such as shoulder widening, rumble strips, and additional curve warning signage will be considered. Priority locations for systemic treatments include: OR 19 between milepost (MP) 40 and 42, OR 206 between MP 33.4 and 35.2, OR 206 between MP 17.6 and 20.2, Baseline Road between MP 8.9 and 9.3, OR 19 between MP 15.9 and 22.2, and OR 206 between MP 30.68 and 31.25.
- Intersection geometry/traffic control deficiencies
  - Safety concerns were identified at several intersections due to sight distance concerns, intersection design, and traffic control, including: Walnut/Main Street; E Bayard Street/Main Street (Exhibit 6-1); Lonerock Road/OR 206 (Exhibit 6-2); OR 19/Cedar Springs Road; Blalock Canyon Road/Cedar Springs Road; Blalock Canyon Road/Heritage Lane; OR 19/Eightmile Road; OR 19/Baseline Road.



Exhibit 6-1. Restricted Sight Distance at E Bayard Street/Main Street in Condon



Exhibit 6-2. Restricted Sight Distance at OR 206/Lonerock Road

- Directional signage
  - Drivers have been observed entering the I-84 ramps in the wrong direction in Arlington. Options to modify directional signage at the I-84 ramps in Arlington to reduce the number of wrong-way vehicles on ramps included larger signs, pavement markings, and relocation of signs.
- Railroad crossings
  - There is concern about emergency vehicle access in Arlington during periods when trains block the railroad crossings and prevent vehicles from accessing the interstate. Strategies to allow emergency vehicle access during these times included coordination with the Union Pacific and Watco to minimize train length and increase train power for traveling uphill through this area, continued communication between the City and Union Pacific, coordination of train schedules with special events, and alternate emergency vehicle access using opposite direction ramps during emergencies if needed.

## **Pedestrian Needs**

Although the cities of Arlington and Condon have an existing limited network of connected sidewalks, both cities have gaps and deficiencies in their respective pedestrian systems. Prioritizing these pedestrian routes will inform funding decisions.

In Arlington, no sidewalks exist along Ivy Street, between W 3<sup>rd</sup> Street and Main Street. This route connects the Columbia Hills Manor Independent Living Center to the sidewalk along Main Street. Other priority gaps in the system include Cottonwood Street, Shane Drive, and W 1<sup>st</sup> Street, all of which lack sidewalks.

In Condon, residential areas in both cities are not connected to schools and commercial areas by continuous sidewalks. The sidewalks on the east side of Main Street between W 2<sup>nd</sup> Street and Walnut Street are in poor condition and need improvement. Within this section, the sidewalks on the east side of Main Street between Walnut Street and Well Street are higher priority for improvement due to their existing condition. OR 19 lacks sidewalks from Main Street east to the edge of the City limits. OR 19, between Main Street and S East Street, should be highest priority for installing new sidewalks along this stretch of road due to the businesses located along this section of roadway, and to create a connected network of sidewalks by connecting to the existing sidewalk on S East Street. Additionally, pedestrians have been observed crossing OR 19 in Condon at S Ward Street, although the marked crossing exists at S East Street.

On the south side of Condon, there are no sidewalk connections to the baseball fields on the corner of E Spring Street and Jefferson Street. Constructing sidewalks on E Spring Street between S East Street and Jefferson Street would provide a connected pedestrian system to the baseball fields from the schools and Main Street. There is also a gap in sidewalk connections on the east side of OR 206 between OR 19 and E Court Street, as shown in Exhibit 6-3, which connects the high school with the downtown Main Street corridor.



Exhibit 6-3. Sidewalk gap on OR 206 at Main Street in Condon

In Condon, residents have expressed a desire for more continuous sidewalk or paths for recreational purposes. Currently, residents use the school track to walk due to the limited

sidewalks, but they would prefer a route around the City. One potential route (the inner loop) follows W Bayard Street west of downtown, turns north on Potter Street, and connects back to Main Street on OR 206. Another potential route (the outer loop) would follow W Bayard Street to the west of the City, connect north just outside of the City and along the edge of the golf course, and connect with Cottonwood Lane to the north to provide a longer loop.

### **Bicycle Needs**

There are no marked bicycle facilities in Gilliam County. Some of the state highways have shoulders that can accommodate bicyclists. On local/residential streets, bicyclists share the roadway with the slower vehicles. This practice is consistent with recommendations in the Oregon Bicycle and Pedestrian Design Guide, that urban and suburban roadways with posted speeds below approximately 20 miles per hour (mph) operate as shared facilities in which bicyclists share the road with vehicles. The Design Guide also recommends that urban and suburban roadways with average daily traffic volumes below approximately 1,500 vehicles per day have shared facilities rather than separated bicycle lanes regardless of the posted speed limit. County roads in Gilliam County currently carry less than 1,500 vehicles per day. Exhibit 6-4 illustrates an example of a shared roadway marking in Cottonwood Canyon State Park.



Exhibit 6-4. Example of shared roadway in Cottonwood Canyon State Park

Several recreational routes attract bicyclists from around the state. Popular recreational routes include OR 19 south of Condon to Fossil, OR 206 west of Condon to Wasco, and OR 206 east of Condon to Heppner. Bicyclists are not frequently observed riding OR 19 between Condon and Arlington. The majority of these routes have minimal shoulders and rough pavement conditions. In addition, there are no commercial or public rest areas on these routes for bicyclists to stop and hydrate on the ride. As recreational riding increases, strategic locations for these rest areas will be useful. The downtown areas of Condon and Arlington also lack bicycle parking for cyclists that would like to stop in town.



## **Transit Needs**

There are several needs to improve the County's dial-a-ride system in the future, including additional staff, vehicles, and funding. These needs are further explained below:

- When drivers are unavailable, the GCST director is sometimes required to drive the vehicles. There are no part-time dispatch staff currently available to cover these occasions when the director, who also functions as the dispatcher, must leave. The County is interested in additional staff.
- The County has expressed interest in a carport at the Lonerock community center to protect the vehicle year-round and an expanded garage or similar facility in Condon to keep vehicles clean year-round.
- Most trips (90 percent) are for medical purposes. Shopping, social, or business trips are other common reasons for trips. There is often a need for volunteer caregivers to ride along with passengers to provide assistance to the passengers traveling to medical appointments. The nearest medical facilities are located in either The Dalles or Hermiston. Frequent trips are also made to Portland area hospitals.
- GCST is funded through grants, donations, and medical mileage reimbursement programs. GCST has expressed the need for more maintenance money to cover tires, snow tires, brake repairs, etc. GCST also lacks funding for the defensive driving passenger assistance training, which is required for volunteer drivers. The Gilliam County Transportation Services Director is interested in becoming certified to provide this training to volunteers from Gilliam County and other nearby counties. Riders are not charged a fee for rides, but suggested donations are recommended and vary from \$2 to \$30 depending on the length of the trip, purpose of the trip, and type of vehicle used. Veterans often must travel longer distances for their services and are not asked to provide donations for their ride. The County lacks existing funding for drivers to take veterans to hospitals and wait until the following day to bring veterans back from procedures.

## **Downtown Parking Needs**

During the large events held in Arlington in summer months there is inadequate parking available with the limited on-street parking and parking lots in the commercial areas, which has led to illegal parking throughout the City. Few members of the PAC indicated a desire to address this deficiency given the limited time periods when these events occur. If the City desires, they could require traffic control and parking management plans for special events to alleviate the issues.

## **Freight Needs**

Although I-84 is the only facility in the County that is designated as a state truck freight route, several County and State roads are heavily relied on for transporting agricultural or other industrial goods to I-84 and the Port of Arlington. Some of these routes are local roads that need upgrades to accommodate larger freight loads. The routes that carry freight traffic or are expected to carry freight traffic and may be considered for upgrade include:

- OR 19 between I-84 and Condon, as illustrated in Exhibit 6-5;
- Cedar Springs Road between OR 19 and the Columbia Ridge Landfill;
- Ridge Road between Baseline Road and Flett Road;
- Fourmile Canyon Road;
- Airport Road and Rhea Lane, connecting the Arlington Mesa Industrial Park to OR 19.



Exhibit 6-5. Truck turning from OR 19 onto Cedar Springs Road

### **Aviation Needs**

The two airports and port also serve an important role in freight transportation. The Arlington airport currently has an unpaved runway. As the surrounding industrial park grows, the runway will need to be paved.

### **Rail Needs**

Rail service between the Columbia Ridge landfill and Arlington serves an important role for transporting waste and should be maintained. At Shutler Station, there is a need for rail crossovers for more efficient movement of railcars within the station.

### **Bridge Needs**

The bridge conditions inventory, summarized in **Section 4**, identified one County bridge on Cayuse Canyon Road at Rock Creek (MP 4.0) that is closed due to structural reasons. This requires an 18-mile detour to get around the closure. The road is passable during summer months without a bridge. Another County bridge, on Lonerock Road at Lonerock Creek, is posted with load restrictions. The Lonerock Road bridge serves the primary access into the City of Lonerock.

In addition, the I-84 eastbound bridge over Willow Creek at MP 148.6 has a low sufficiency rating due to the width of the structure, which is narrower than current standards require.

DRAFT

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**Section 7**  
Transportation System  
Plan

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## Transportation System Plan

This section outlines the draft preferred transportation system plan for Gilliam County, which includes TSP elements consistent with OAR 660-12-020 and goals of OAR 660-12-025. The preferred plan includes recommendations for the County's transportation system, including:

- Roadway System Plan
- Access Management Plan
- Pedestrian and Bicycle System Plan
- Public Transportation System Plan
- Air/Marine/Rail/Pipeline/Transmission System Plan



The transportation components presented in this section were developed in accordance with the requirements of Oregon's Transportation Planning Rule (TPR). Each modal plan has been developed concurrent with the findings presented in the existing and future forecast conditions analysis. The plan also conveys the interests of the citizens, business owners, and governmental agencies within Gilliam County, as expressed by the Project Advisory Committee (PAC).

The preferred plan applies to the entire county, including areas within the incorporated cities of Condon and Arlington and the unincorporated community of Lonerock.

### ROADWAY SYSTEM PLAN

The Gilliam County roadway system plan reflects the anticipated operations and circulation needs through the year 2035 and provides guidance on how to facilitate vehicular and freight traffic over the next 20 years. The plan focuses on the City and County owned and maintained roadway system. All state highways residing within the County are identified for coordination purposes.

#### ***Functional Classifications***

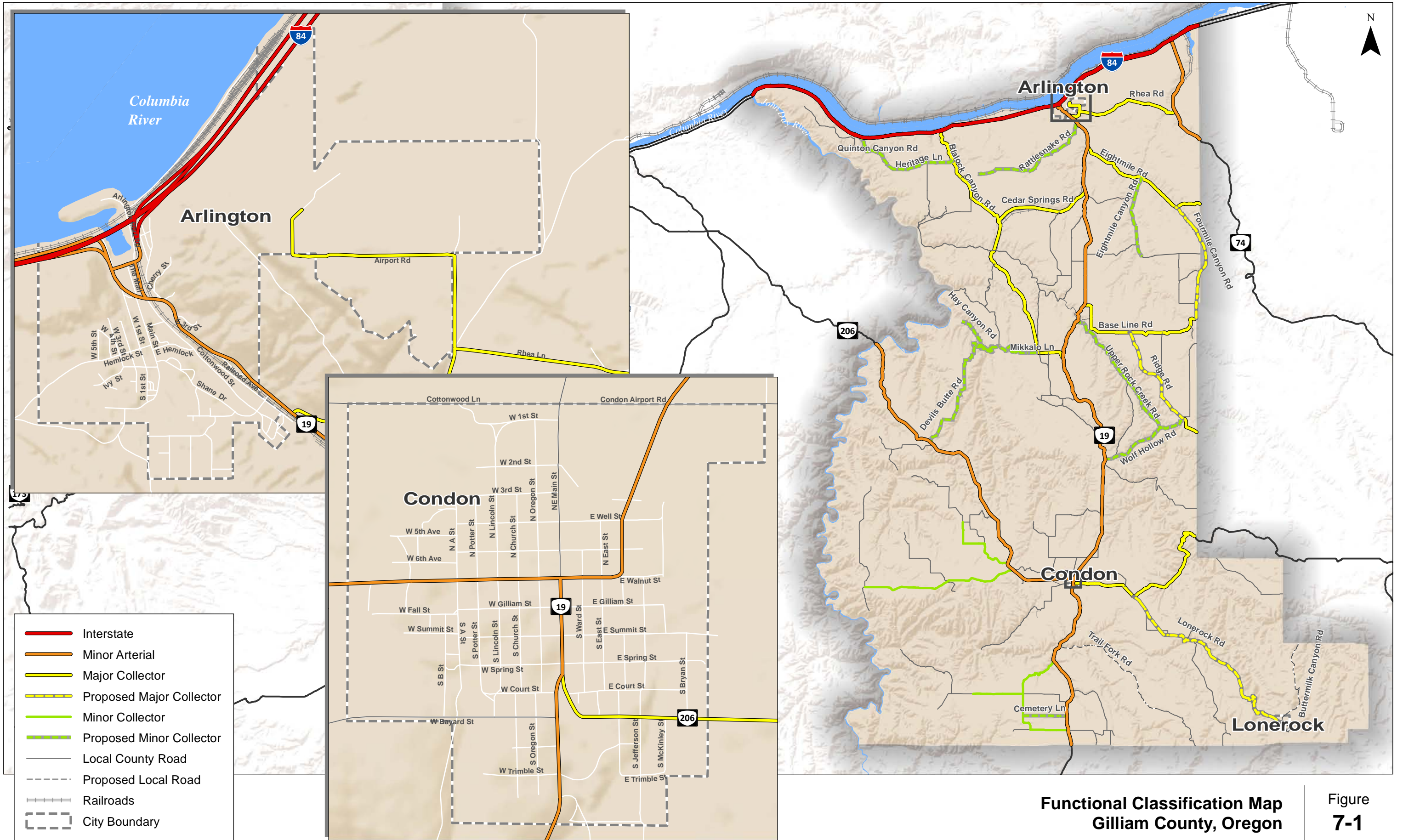
Functional classification of a roadway characterizes the intended purpose, amount and type of vehicular traffic it is expected to carry, provisions for non-auto travel, and the roadway's design standards. The classification considers access to adjacent land uses and the transportation modes to be accommodated.

The preferred functional classification system in Gilliam County includes: Minor Arterial, Major Collector, Minor Collector, and Local Road. Table 7-1 provides a detailed description of each classification. Figure 7-1 presents the preferred functional classifications for all existing and planned County roadways.

**TABLE 7-1 GILLIAM COUNTY FUNCTIONAL CLASSIFICATION DESCRIPTIONS**

<b>Functional Classification</b>	<b>Description</b>
Interstate	Primary function is mobility and to serve long-distance travel. These roadways are high-speed, divided roadways with limited access. Interstates link urban areas across the United States.
Minor Arterial	Primary function is to carry high levels of regional vehicular traffic at high speeds. These roads connect the collector road system to freeways, provide access to other cities and communities, and serve major traffic movements. Access is limited but can be accommodated with at-grade intersections.
Major Collector	<p>Primary function is to serve traffic from local roads and move them to arterials. These roads provide some degree of access to adjacent properties, while maintaining circulation and mobility for all users. Major Collectors carry lower traffic volumes at slower speeds than arterials. Major Collectors are often longer in length and have lower driveway density, higher speed limits, higher traffic volumes, and may have more travel lanes than Minor Collectors.</p> <p>Major Collectors can be located in urban or rural environments. In rural environments, Collectors generally serve intra-county travel. In rural areas, traffic volumes and spacing may be the most significant designation factors between Major and Minor Collectors. In urban areas, these roads serve both access and traffic circulation in higher dense residential, commercial, and industrial areas. They typically have higher speeds and more signalized intersections.</p>
Minor Collector	Primary function is to serve traffic from local roads and connect traffic to arterials. These roads can be urban or rural. In urban areas, they serve both access and traffic circulation but in lower density areas than Major Collectors. They also penetrate neighborhoods, but often for a shorter distance than Major Collectors. They typically have lower speeds and fewer signalized intersections. In rural areas, they serve to bring traffic from local roads to developed areas or connections to those areas. They provide service to smaller communities not served by a higher class facility and link locally important traffic generators with rural areas.
Local Road	Local roads account for the largest percentage of all roadways in terms of mileage. Their primary function is to provide direct access to adjacent land uses. They are characterized by short roadway distances, slow speeds, and low volumes. Local roads offer a high level of accessibility, serves passenger cars, pedestrians, and bicycles, but not through trucks.





**Functional Classification Map  
Gilliam County, Oregon** | **Figure 7-1**

K:\H\_Perland\proj\17679 - Gilliam County TSP\fig\final TSP - section 717-1 Proposed Functional Classification.mxd - openbird - 9:20 AM 6/25/2015

## Design Standards

Roadway design standards were established for rural and urban conditions. The design standards take into consideration roadway function and operational characteristics, including traffic volume, capacity, operating speed, and safety. The design standards are necessary to ensure that as the road system develops, it will be capable of safely and efficiently serving the traveling public, while also accommodating orderly development of adjacent lands.

While not specifically outlined in this plan, improvements on state highways must meet ODOT design and operating standards provided in the ODOT Highway Design Manual.

### Rural Design Standards

Rural roadway design standards for all County-owned and maintained facilities are shown in Exhibit 7-1, Exhibit 7-2, and Exhibit 7-3. Deviations from these design standards should be pursued through the managing agency.

Sidewalks have not been included in the roadway design standards because the majority of County roadways are rural in nature and sidewalks are not typically provided. Bicyclists are expected to share the travel lane with vehicles in rural areas, consistent with guidance provided in the Oregon Bicycle and Pedestrian Design Guide.

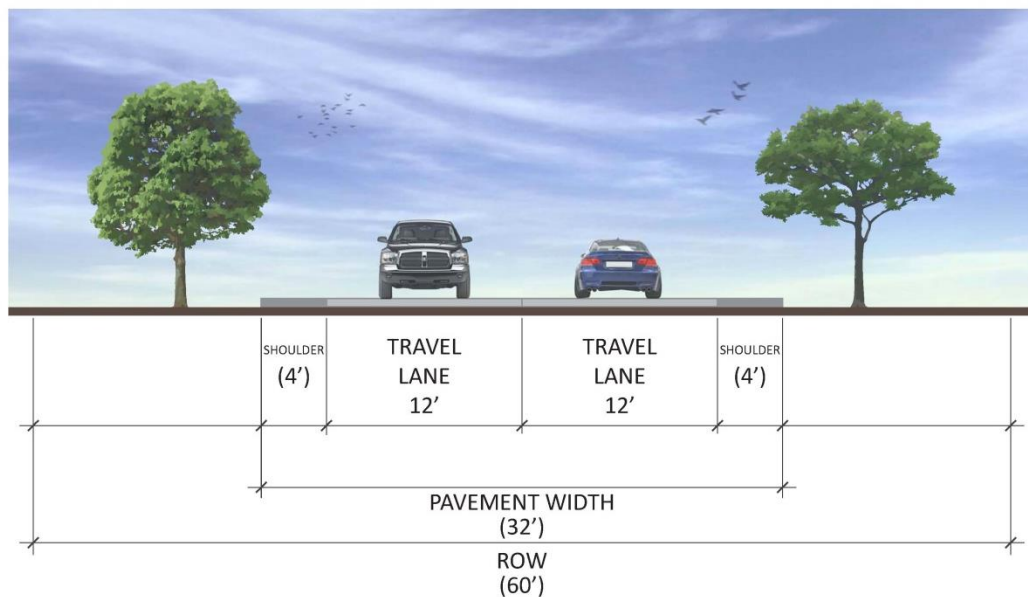


Exhibit 7-1. Rural Arterial Street Cross-Section



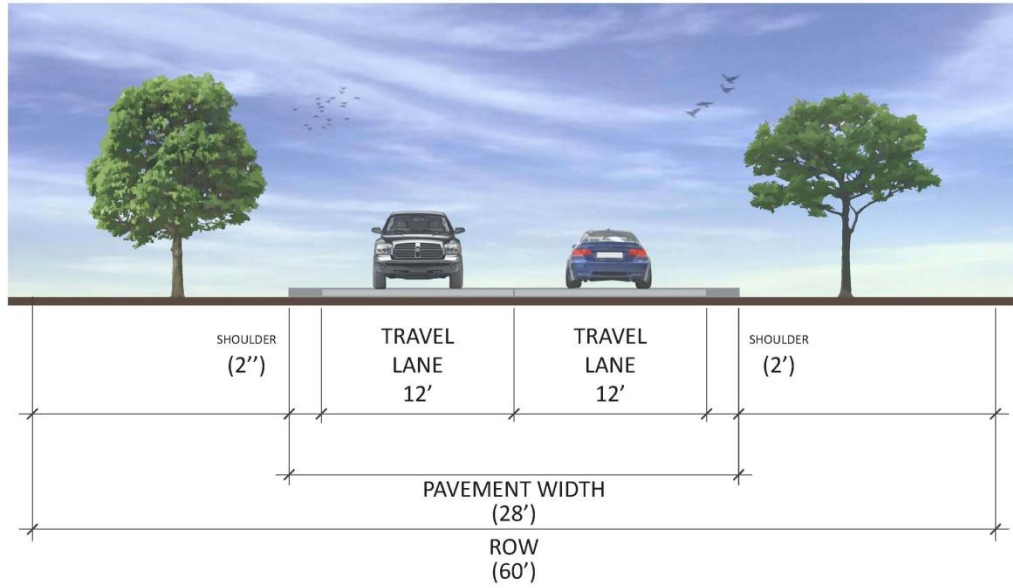


Exhibit 7-2. Rural Major and Minor Collector Street Cross-Section

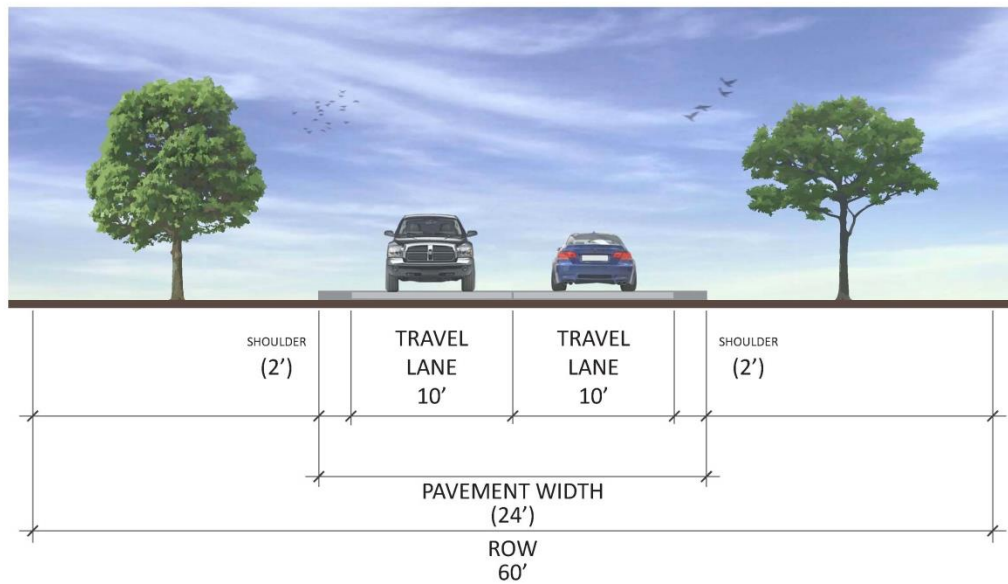


Exhibit 7-3. Rural Local Street Cross-Section

#### Urban Design Standards

Design standards for City roadways within urban areas (incorporated cities) are provided in Exhibit 7-4, Exhibit 7-5, and Exhibit 7-6.

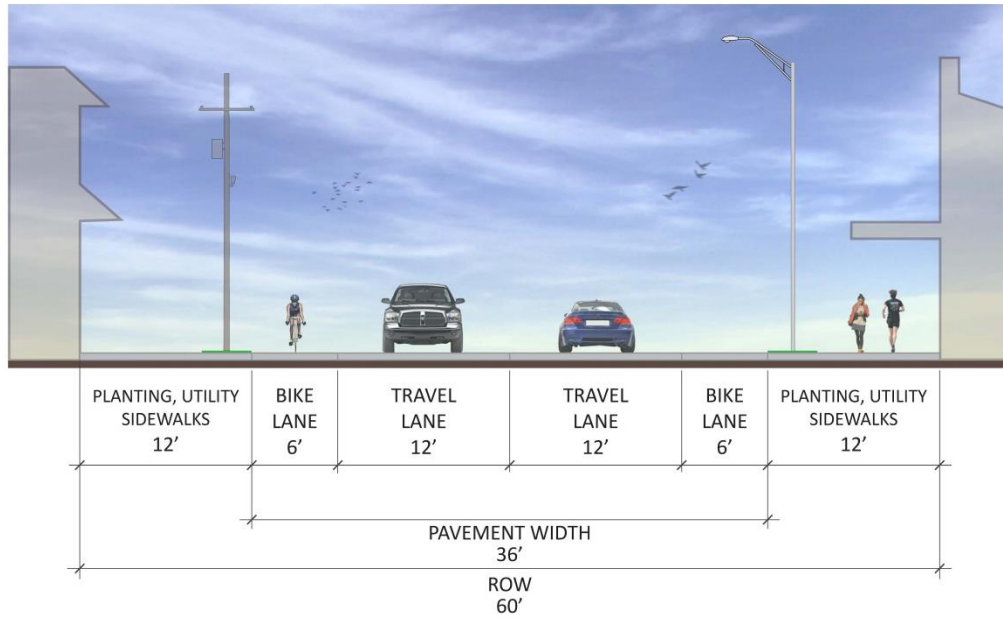


Exhibit 7-4. Urban Arterial Street Cross-Section

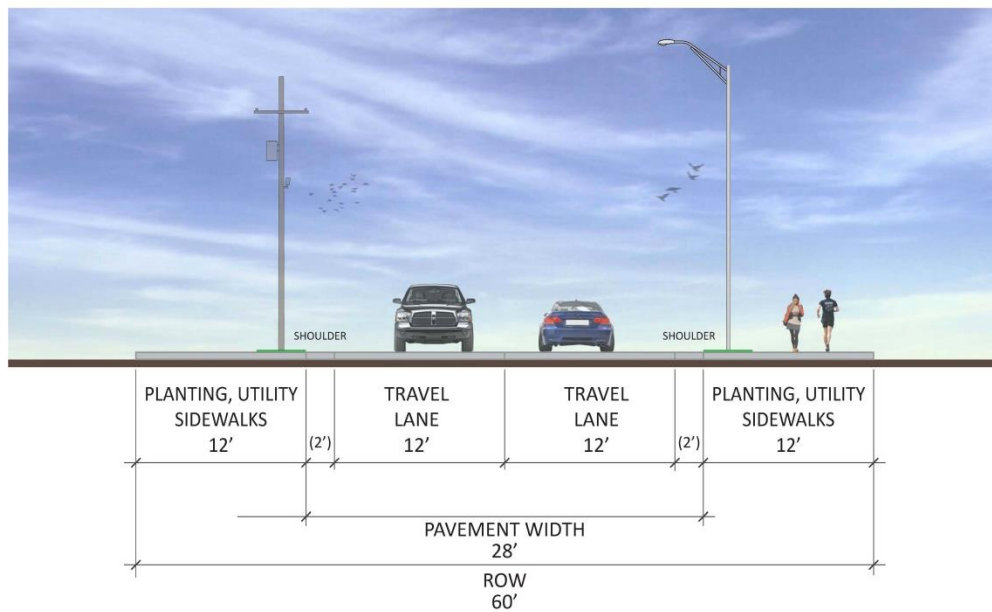


Exhibit 7-5. Urban Major and Minor Collector Street Cross-Section

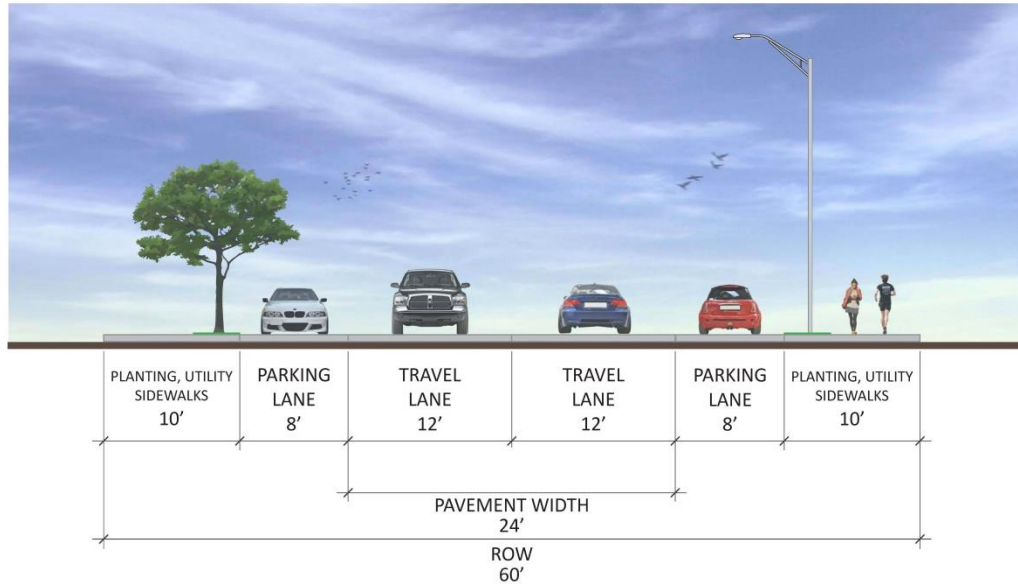


Exhibit 7-6. Urban Local Street Cross-Section

**Access Management Policy**

Managing access to the County’s road system is necessary to preserve capacity and maintain safety of the County’s arterial and collector system. Capacity is preserved by minimizing the number of points where traffic flow may be disrupted by traffic entering and exiting the roadway. Access management also enhances safety along roadways by minimizing the number of potential conflict points.

Access spacing standards for all driveways and private roads accessing County collector and arterial roadways are provided in Table 7-2 (rural) and Table 7-3 (urban).

Access to state facilities is governed by ODOT’s access management standards provided in the most current version of the 1999 Oregon Highway Plan and in Oregon Administrative Rule 734-051. ODOT’s standards also apply to access spacing on County facilities located within the management area of a freeway or expressway interchange, as defined by OAR 734-051.

The Oregon Transportation Planning Rule (TPR) defines access management as a set of measures regulating access to streets, roads, and highways, from public roads and private driveways. The TPR requires that new connections to arterials and state highways be consistent with designated access management categories. This TSP includes an access management policy that maintains and enhances the integrity (i.e., capacity, safety, and level of service) of Gilliam County’s roadways.

**TABLE 7-2 ACCESS MANAGEMENT SPACING STANDARDS FOR RURAL GILLIAM COUNTY ROADWAYS**

Functional Classification	Public Road Spacing	Private Drive Spacing
Collector	¼ mile	1,200 ft
Local Street	200-400 ft	Vary

**TABLE 7-3 ACCESS MANAGEMENT SPACING STANDARDS FOR URBAN ROADWAYS**

Functional Classification	Public Road Spacing	Private Drive Spacing
Collector	300 ft	150 ft
Local Street	300 ft	Each Lot

These standards apply to new development or redevelopment; existing accesses are allowed to remain as long as the land use does not change. As a result, access management is a long-term process in which the desired access spacing to a street slowly evolves over time as redevelopment occurs.

**Traffic Operations Standards**

Gilliam County has an obligation to maintain a safe, convenient, and economical transportation system. A maximum volume-to-capacity (v/c) ratio of 0.85 during a typical weekday peak hour should be maintained for all City- and County-owned or maintained intersections. At intersections with an ODOT facility, ODOT standards shall apply. For unsignalized intersections, the v/c ratio should be based on the intersection’s critical movement. For signalized intersections, the ratio is based on the overall intersection operation.

**Systemic Safety Plan**

Several projects were identified in **Section 6** to address safety concerns and reduce potential for crashes in Gilliam County. The projects have been categorized as hot spot or systemic projects, consistent with the ODOT All Roads Transportation Safety (ARTS) program project classifications.

Background

ODOT allocates Oregon’s Highway Safety Improvement Program (HSIP) funds through the ARTS program. The program currently splits funding between hot-spot and systemic safety projects. Hot spot safety projects are individual locations where a unique countermeasure could be applied to reduce the frequency and severity of crashes. Systemic safety projects include multiple locations where many low-cost countermeasures can be applied.

ARTS project funding will be allocated through the Statewide Transportation Improvement Program (STIP). The project locations are selected based on reported history of fatal and severe injury crashes. The draft ODOT Region 4 2017-2021 Hotspot Safety project list does not include any projects in Gilliam County. Similarly, the draft Systemic Safety project list in Region 4 does not include any projects in Gilliam County.

County Systemic Safety Prioritization Methodology

A set of objective criteria were established to identify and prioritize systemic safety projects that could be considered for funding through future STIP updates.

A list of projects was generated based on a review of county-wide crash trends, including:

- Projects developed by the consultant team to address safety concerns identified by the PAC;
- Projects identified in ODOT’s Roadway Departure, Intersection, and Pedestrian/Bicycle Safety Implementation Plans;
- Projects identified at locations with geometric and traffic control characteristics where low-cost, systemic countermeasures could reduce risk of roadway departure or intersection crash types.

Roadway Departure and Intersection safety projects were prioritized based on a set of objective criteria outlined in Table 7-4. Table 7-5 and Table 7-6 summarize the projects in priority order based on these criteria. Given the limited history of pedestrian and bicycle crashes in the County, no systemic pedestrian and bicycle safety projects were identified.

**TABLE 7-4 OBJECTIVE CRITERIA FOR IDENTIFYING AND PRIORITIZING SYSTEMIC SAFETY PROJECTS**

	Roadway Departure Projects	Intersection Projects
Criteria for Identifying Locations for Systemic Projects	<ul style="list-style-type: none"> <li>▪ ≥1 Fatal or Injury A Crash</li> <li>▪ ≥2 Injury B or C Crashes</li> <li>▪ ≥3 PDO Crashes</li> <li>▪ Presence of Roadway Departure Crashes</li> <li>▪ Presence of a Horizontal Curve</li> <li>▪ Higher ADT (or Functional Classification)</li> </ul>	<ul style="list-style-type: none"> <li>▪ ≥1 Fatal or Injury A Crash</li> <li>▪ ≥2 Injury B or C Crashes</li> <li>▪ ≥3 PDO Crashes</li> <li>▪ Restricted intersection sight distance</li> <li>▪ Skewed intersection approach</li> <li>▪ Presence of a high-speed uncontrolled approach</li> <li>▪ Higher Minor Street ADT (or Functional Classification if ADT is unavailable)</li> </ul>

**TABLE 7-5 SYSTEMIC SAFETY ROADWAY DEPARTURE PROJECTS**

Road	Start MP	End MP	Number of Reported Crashes (2009-2013)					Number of Roadway Departure Crashes	Presence of a horizontal curve?	ADT* / Functional Class
			Fatal	Inj A	Inj B	Inj C	PDO			
OR 19	40	42	0	1	2	0	1	4	Yes	570 / Arterial
OR 206	33.4	35.2	0	0	1	3	1	5	Yes	360 / Arterial
OR 206	17.6	20.2	0	0	1	2	0	2	Yes	490 / Arterial
Baseline Road	8.9	9.3	0	0	1	1	0	2	Yes	240 / Major Collector
OR 19	15.9	22.2	0	0	1	0	1	1	Yes	170 / Arterial
OR 206	30.6 8	31.25	0	0	0	0	0	0	No	360 / Arterial

\*2013 AADT Obtained from ODOT's Traffic Volume Tables. ADT for County roads was obtained from 24-hour counts conducted in 2014 when possible.

**TABLE 7-6 SYSTEMIC SAFETY INTERSECTION PROJECTS**




Major Road	Minor Road	Number of Reported Crashes (2009-2013)					Restricted intersection sight distance?	Does the intersection have skewed approach?	High speed uncontrolled approach?	ADT / Functional Class	
		Fatal	Inj A	Inj B	Inj C	PDO				Major Road*	Minor Road
OR 19 (Main St)	OR 206 (Walnut St)	0	0	0	0	1	Yes (NB)	No	No	1600 Arterial /	690 Arterial /
OR 19	Eightmile Rd	0	0	0	0	1	No	No	Yes	860 Arterial /	192 / Major Collector
OR 19	Baseline Rd	0	0	0	0	1	No	No	Yes	250 Arterial /	240 / Major Collector
Blalock Canyon Rd	Heritage Ln	0	0	0	0	1	No	Yes	Yes	142 / Major Collector	Minor Collector
OR 206	Lonerock Rd	0	0	0	0	0	Yes (NB)	Yes	Yes	190 Arterial /	173 / Major Collector
OR 19	Cedar Springs Rd	0	0	0	0	0	No	No	Yes	660 Arterial /	Major Collector
Blalock Canyon Rd	Cedar Springs Rd	0	0	0	0	0	Yes (EB)	No	Yes	142 / Major Collector	Major Collector

\*2013 AADT Obtained from ODOT's Traffic Volume Tables. ADT for County roads was obtained from 24-hour counts conducted in 2014 when possible.


Systemic countermeasures that may be applied for the Roadway Departure projects include centerline rumble strips, edgeline rumble strips, and curve warning signs, as summarized in Table 7-7. Intersection treatments may include additional signage, pavement markings, and mountable raised medians, as shown by the concept in Table 7-8.

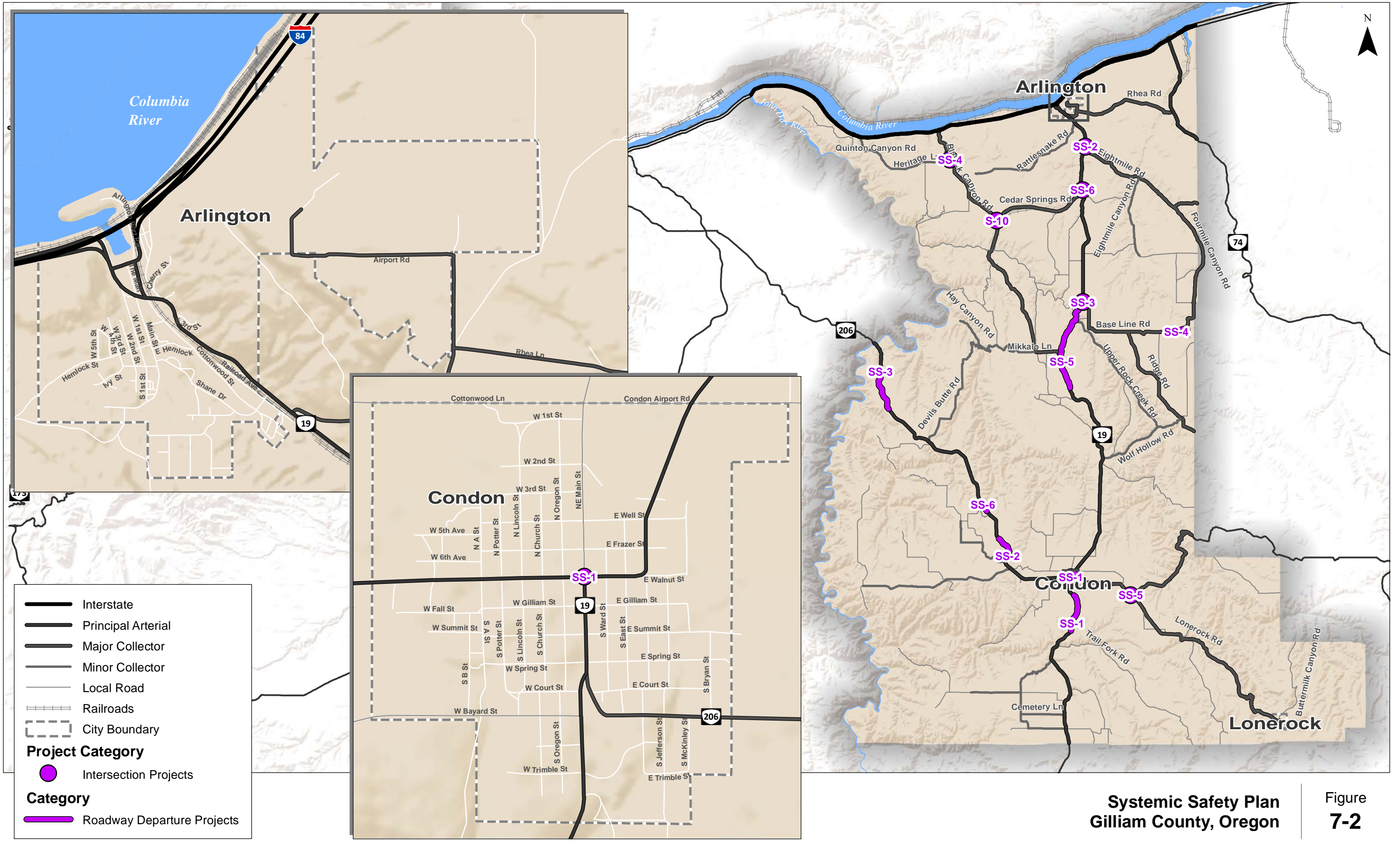


**TABLE 7-7 SYSTEMIC SAFETY COUNTERMEASURE TOOLBOX FOR RURAL ROADWAYS**

Systemic Safety Countermeasure	Description	Documented Effectiveness
<p><b>Milled Rumble Strip – Centerline</b></p>  <p>Photo: ODOT</p>	<p>Rumble strips are grooves in the roadway placed on the roadway in such a manner that, as the tires of a vehicle contact them, they produce sound (noise) and vibration. The noise and vibration produced by rumble strips is intended to alert inattentive drivers that they have departed from their lane. They</p>	<p>38 to 50 percent reduction in injury crashes resulting from head-on and opposite direction sideswipe crashes on rural two-lane roads.                      (Source: NCHRP Report 641)</p>
<p><b>Milled Rumble Strip – Shoulder or Edgeline</b></p> 	<p>can be placed on the shoulder (if adequate paved shoulder is available) or on the centerline.</p>	<p>26 to 46 percent reduction in single-vehicle run-off-road injury crashes on two-lane rural roads                      (Source: NCHRP Report 641)</p>
<p><b>Horizontal Curve Signage</b></p>  <p>Photo: Speed Concepts: Informational Guide, FHWA</p>	<p>Provide Static Combination Horizontal Alignment/Advisory Curve Warning Sign, Install RECOMMENDED Chevron Signs on Rural Horizontal Curves</p>	<p>13 to 16 percent reduction in run-off-road injury crashes rural two-lane roads.                      Source: <i>Manual for Selecting Safety Improvements on High Risk Rural Roads</i>                      (FHWA-SA-14-075)</p>

**TABLE 7-8 SYSTEMIC SAFETY COUNTERMEASURE TOOLBOX FOR RURAL INTERSECTIONS**

Systemic Safety Countermeasure	Description	Documented Effectiveness
<p><b>Basic Set of Unsignalized Intersection Sign and Marking Improvements</b></p>  <p>Photo: Low-Cost Safety Enhancements for Stop-Controlled and Signalized Intersections, FHWA</p>	<p>Install one or more of the signage or striping improvements included in the basic set of signs/markings from the ODOT Intersection Safety Implementation Plan. These include: double up oversized warning signs, double STOP signs, mountable curb on stop approach (if feasible), street name signs, and stop bars.</p>	<p>40 percent reduction in intersection crashes at rural stop controlled intersections.</p> <p>Source: <i>Low-Cost Safety Enhancements for Stop-Controlled and Signalized Intersections</i> (FHWA-SA-09-020)</p>



**Legend**

- Interstate
- Principal Arterial
- Major Collector
- Minor Collector
- Local Road
- Railroads
- City Boundary

**Project Category**

- Intersection Projects
- Roadway Departure Projects

**Systemic Safety Plan  
Gilliam County, Oregon** | Figure 7-2

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## IMPLEMENTATION PLAN

This section outlines specific transportation system improvement projects as well as near-term and long-term prioritization. The prioritization presented reflects the relative time period in which it may be foreseeable for the County and Cities to implement the project; it is not intended to limit the selection of a project or the order in which projects will be implemented. The County will need to periodically update its TSP and will review the need and timing of improvements during those updates.

Long-term projects may or may not be feasible within the twenty-year planning horizon, for reasons of both need and resources. However, they represent a vision for an efficient transportation system in the future, and they have been identified to support the preservation of the opportunities as future conditions may warrant them.

The construction of roads, water, sewer, and electrical facilities in conjunction with local development activity should be coordinated if the County is to develop in an orderly and efficient way. Consequently, the planned improvements identified should be considered in light of developing infrastructure sequencing plans, and may need to be modified accordingly.

The planned transportation improvement alternatives in Gilliam County include those identified to address various types of transportation issues, which generally include:

- *Operations:* These projects provide the roadway capacity needed to accommodate future traffic flows and reduce delay.
- *Safety:* These projects consider opportunities to improve existing facilities to reduce probability and severity of crashes. These projects include those identified as part of the Systemic Safety Plan for the County.
- *Pedestrian and Bicycle Enhancements:* These projects improve existing facilities or create new facilities that provide greater connectivity and increase access to pedestrian and bicycle routes.
- *Heavy Maintenance:* These projects address the needs identified by the County that relate to roadway, roadside, or drainage and cannot be conducted as part of regular maintenance activities.
- *Full Reconstruction:* These projects include reconstruction of the roadway including removal of existing roadway and placement of aggregate base and asphalt pavement.
- *Feasibility Studies:* These projects have identified the need for some level of long-term improvements to different roadway segments or intersections. Given the size and complexity, a more detailed evaluation of potential improvements has been identified that is beyond the scope of the TSP.
- *Pilot Projects:* Pilot projects are innovative projects that can be done on an interim basis and can be reversed if needed.
- *Programs/Policies:* The programs and policies reflect changes to County or City operations or code that has an impact on the transportation system.



While site-specific projects, such as adding turn lanes at an existing intersection, have been included to improve conditions at individual locations, the alternatives collectively reflect a broader goal which is to develop an efficient transportation network that will reduce reliance on the state highways and limit potential for motor vehicle crashes while encouraging economic activity.

### **Roadway Transportation Improvements**

The preferred near- and long-term transportation improvements within unincorporated areas of Gilliam County are listed in Table 7-9. The table includes a project letter for reference to the project location illustrated in Figure 7-3. Additionally, the table includes preliminary cost estimates with 30-percent contingency for the projects, excluding right-of-way. Potential non-binding funding sources were also identified for each project and are subject to negotiation at the time of project execution. Projects that were identified but not expected to receive funding within the TSP horizon were identified as *Vision Projects*. *Project prospectus sheets, documenting concepts for each alternative, are provided in Appendix B.*

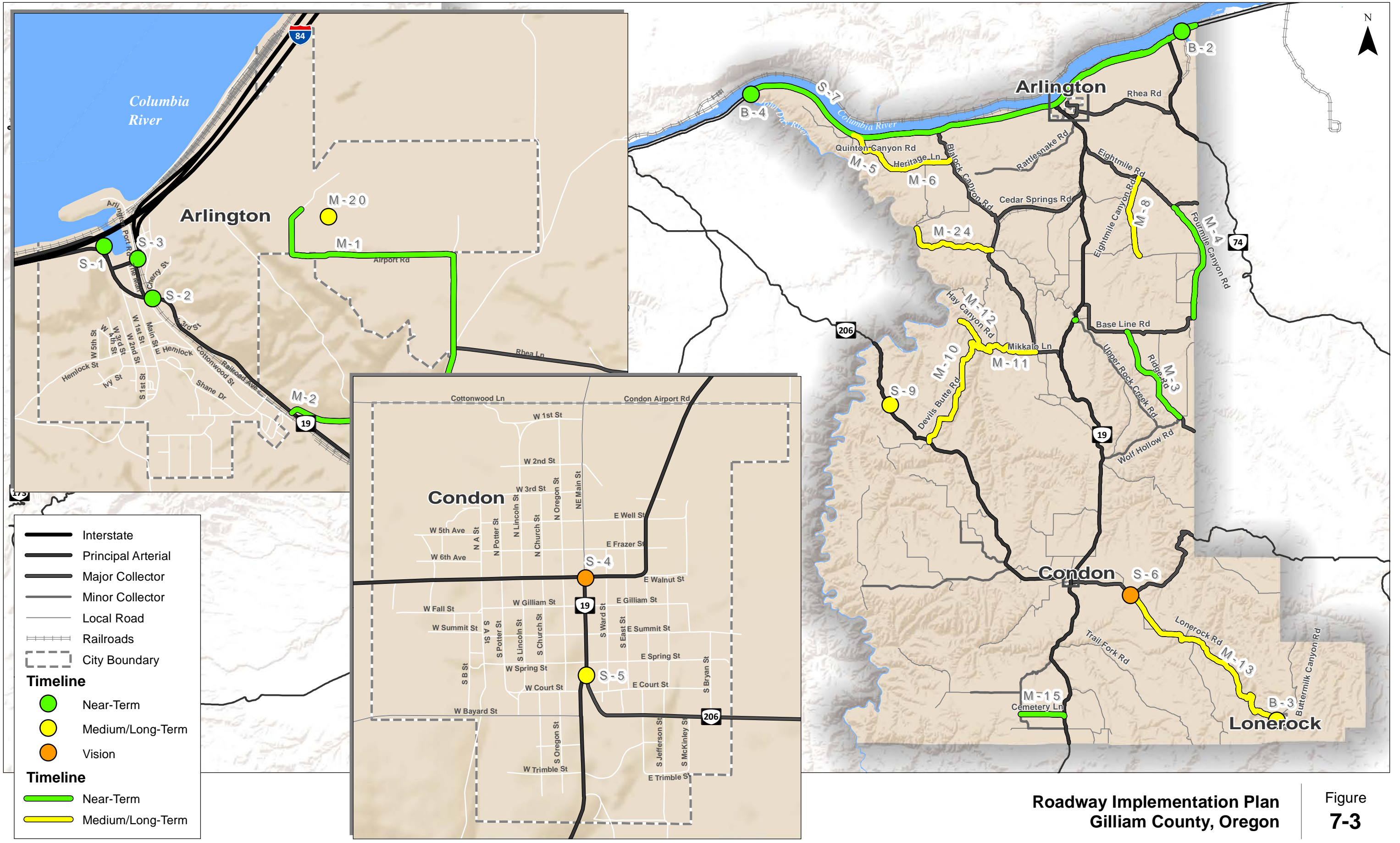
The implementation plan incorporates the preferred financing plan that indicates a limited amount of money will be available to fund projects. As a result, only improvements that are planned for implementation and are expected to have funding are shown in the near-term time frame. The long-term project timeline reflects the fact that some projects are not needed immediately and that it will take time to accumulate the funds to build those projects.

**TABLE 7-9 PLANNED ROADWAY IMPROVEMENTS IN GILLIAM COUNTY**

ID	Name	Description	Category	Cost Estimate <sup>1</sup>	Potential Funding Source			
					ODOT/State	County	Cities	Private
<b>Short-Term Projects</b>								
B-2	I-84 EB Bridge	Widen the I-84 eastbound bridge at MP 148.6 (Willow Creek) to meet current standards.	Bridge	\$160,000	X			
B-4	I-84: John Day River Bridge Deck Overlay	Bridge deck overlay on I-84 from MP 114.45 to 114.75. Preliminary engineering scheduled for 2016, and construction scheduled for 2018.	Bridge	\$2,482,000	X			
M-1	Airport Road	Overlay Airport Road with 2 inches of asphalt and add 2-foot gravel shoulders from the intersection of Rhea Road to the end of the Arlington Mesa industrial park. Airport Road was previously widened several years ago. This project will be completed in conjunction with Rhea Lane (M-2).	Heavy Maintenance	\$109,200	X	X	X	X
M-2	Rhea Lane	Overlay with 5 inches of recycled asphalt and the addition of 2-ft gravel shoulders from OR 19 to Airport Road to serve the higher truck volumes associated with the Arlington Mesa Industrial Park. This project will be done in conjunction with Airport Road (M-1).	Heavy Maintenance	\$837,330	X	X	X	X
M-3	Ridge Road	Upgrade roadway to Major Collector standards from Baseline Road to County limits to support the freight traffic that uses this route to transport hay, cattle, and wheat from Gilliam and SW Morrow County to I-84. The project includes 2 inches of overlay on existing asphalt and paving the currently unpaved section. Two foot gravel shoulders will be added where possible.	Heavy Maintenance	\$1,177,735		X		
M-4	Fourmile Canyon Road	Upgrade roadway to Major Collector standards from Fairview Lane to Baseline Road by paving the road and adding 2-foot gravel shoulders where possible to support the truck traffic that carries wheat out of Morrow and Gilliam County.	Full Reconstruction	\$1,015,820		X		
M-15	Cemetery Road	Upgrade Road to Minor Collector to serve the wheat area as part of Wehrli Canyon loop. Project includes paving the surface. Widening has already been completed.	Heavy Maintenance	\$100,000		X		
S-1	I-84 Westbound On-Ramp in Arlington	Replace existing sign with larger sign and add pavement markings to indicate correct direction for drivers.	Operations	\$3,000	X			
S-8	Systemic Safety Projects	Install systemic safety treatments at the locations identified in the Systemic Safety Plan to reduce roadway departure crashes and intersection crashes.	Safety	\$10,000	X	X	X	
S-7	I-84 ITS Warning System throughout County	Evaluate effectiveness and feasibility of ITS treatments to provide warnings to drivers when roadway conditions are icy.	Feasibility Study	\$15,000	X			
<b>Medium and Long-Term Projects</b>								
B-3	Lonerock Road Bridge Replacement	Replace Lonerock Road bridge if it cannot be repaired.	Bridge	\$2,000,000		X		
M-5	Quinton Canyon Road	Upgrade roadway to Minor Collector standards from Heritage Lane to I-84 interchange to serve the wind farms on the bluff and agricultural land. Project includes widening from the current 18' roadway width to 20' and paving the second from I-84 to the top of the hill. Widening requires significant cost due to rock bluff.	Heavy Maintenance	\$1,000,000		X		X
M-6	Heritage Lane	Upgrade roadway to Minor Collector standards from Blalock Canyon Road to Quinton Canyon Road to serve wind farms and agricultural land. Project includes removing S-curves and paving the west end of the road.	Heavy Maintenance	\$325,000		X		
M-8	Eightmile Canyon Road	Upgrade roadway to Minor Collector standards to support the increased truck traffic using this route due to the new irrigated farming in the area and the traffic associated with homes. Project includes paving the	Heavy Maintenance	\$1,015,846		X		

ID	Name	Description	Category	Cost Estimate <sup>1</sup>	Potential Funding Source			
					ODOT/ State	County	Cities	Private
		road and adding 2' gravel shoulders where possible.						
M-10	Devils Butte Rd	Upgrade roadway to a Minor Collector to serve State Park traffic from Hay Canyon Road to OR 206. Project includes culvert extensions, widening shoulders, and improving sight lines for trucks and vehicles pulling boat trailers.	Heavy Maintenance	\$156,000	X	X		X
M-11	Mikkalo Ln	Upgrade roadway to a Minor Collector to serve State Park traffic from Hay Canyon Road to OR 19. Project includes culvert extensions, widening shoulders, and sight improvements.	Heavy Maintenance	\$61,100	X	X		
M-12	Hay Canyon Rd	Upgrade roadway to a Minor Collector to serve State Park traffic from Devils Butte Road to the Cottonwood Canyon State Park. Project includes road realignment and reconstruction to avoid eroding road adjacent to river.	Full Reconstruction	\$2,752,422	X	X		
M-13	Lonerock Road	Upgrade from Minor Collector to Major Collector from OR 206 to City of Lonerock to support the cattle and hay operations and serve the Lonerock community. Project includes some grade improvements on the east side of the Ericson grade.	Heavy Maintenance	\$500,000				
M-24	Lower Rock Creek Road	Improve roadway (widen, add shoulders, curve signage, etc.) due to high recreational traffic associated with river access.	Operations	\$400,000		X		
S-5	E Bayard Street/Main Street Intersection Reconfiguration	Reconfigure intersection to two-way stop-controlled intersection to improve sight distance for westbound approach.	Safety / Operations	\$106,000	X		X	
S-9	Snow Drifts on OR 206	Evaluate the occurrence of snow drifts on OR 206 near milepost 22	Study	\$1,000	X	X		
<b>Vision Projects</b>								
S-4	Main Street/Walnut Street Intersection Reconfiguration	Reconfigure the intersection to a two-way stop-controlled intersection to provide a traffic control scenario that does not violate driver expectancy.	Project	\$10,000	X		X	
S-6	Lonerock Road/OR 206 Intersection	Reconfigure the intersection to bring the eastern leg of OR 206 to a stop perpendicular to Lonerock Road to increase sight distance at this intersection.	Project	\$150,000	X	X		

<sup>1</sup>Cost estimate is planning level only. Does not include right-of-way costs.



**Roadway Implementation Plan  
Gilliam County, Oregon**

**Figure  
7-3**

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The total cost of projects, policies, programs, and feasibility studies shown in Table 7-9 that are expected to be implemented in the near-term is approximately \$6,000,000. This includes a \$2.5 million bridge deck overlay project that will be completed by ODOT and the upgrade of multiple County roadways to meet standards by widening and adding paved shoulders. In addition, several low-cost systemic safety projects are included in the near-term projects, including edgeline rumble strips on state highways and enhanced signing and striping to improve safety, as identified by the criteria in the Systemic Safety Plan.

## **PEDESTRIAN AND BICYCLE SYSTEM PLAN**

The future population growth in the incorporated areas of Arlington and Condon will increase the need to expand the existing sidewalks in the Cities and to provide new paths in and around the incorporated areas to encourage residents and visitors to ride bicycles for transportation. Providing a connected network of pedestrian and bicycle facilities is important for:

- Serving shorter trips from neighborhoods to area activity centers, such as schools, churches, and neighborhood commercial uses;
- Providing access to regional park and ride lots to enhance intermodal connections; and
- Meeting residents' and visitors' recreational needs, further promoting economic activity in the County.

In rural Gilliam County, bicycle and pedestrian design standards provide paved shoulders on arterials and minimum two-foot paved or unpaved shoulders on all other, lower volume roads to facilitate pedestrian and bicycle travel. Table 7-10 includes a feasibility study and pilot project to identify opportunities for bike rest areas at strategic locations along OR 206 where cyclists can rest, get water, and have access to bicycle tools. These bicycle rest areas may also provide opportunities for local businesses to advertise and provide wayfinding signage to direct tourists to local businesses. Exhibit 7-7 provides an example of a bicycle rest area. The cities of Arlington and Condon should also add bicycle parking within their downtown areas. Exhibit 7-8 shows an example of a decorative bicycle rack that can be used in the downtown areas and add to the main street character.

Within the cities, the standards for arterials include a bike lane to provide space for bicyclists to ride separate from vehicles. Bicyclists are expected to share the road with vehicles on the other local roads in the cities due to the low speeds and low volumes. Arterials, collectors, and local streets should include sidewalks as they are developed within the city limits. A complete connected sidewalk network will encourage walking as a mode of transportation within the City. Sidewalk construction projects that fill gaps in the existing sidewalk infrastructure and repair existing sidewalk are identified in Figure 7-4 and included in Table 7-10.



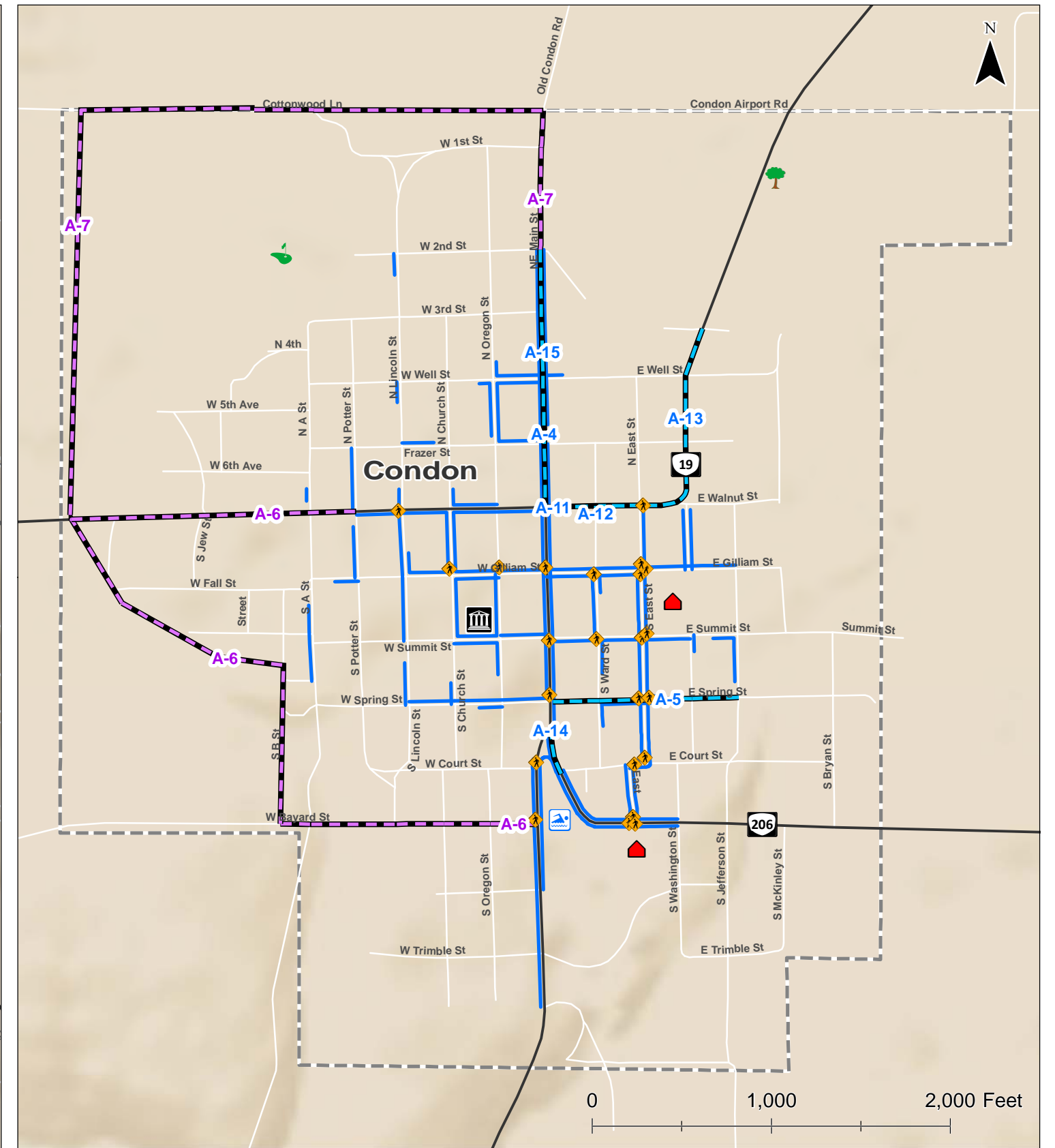
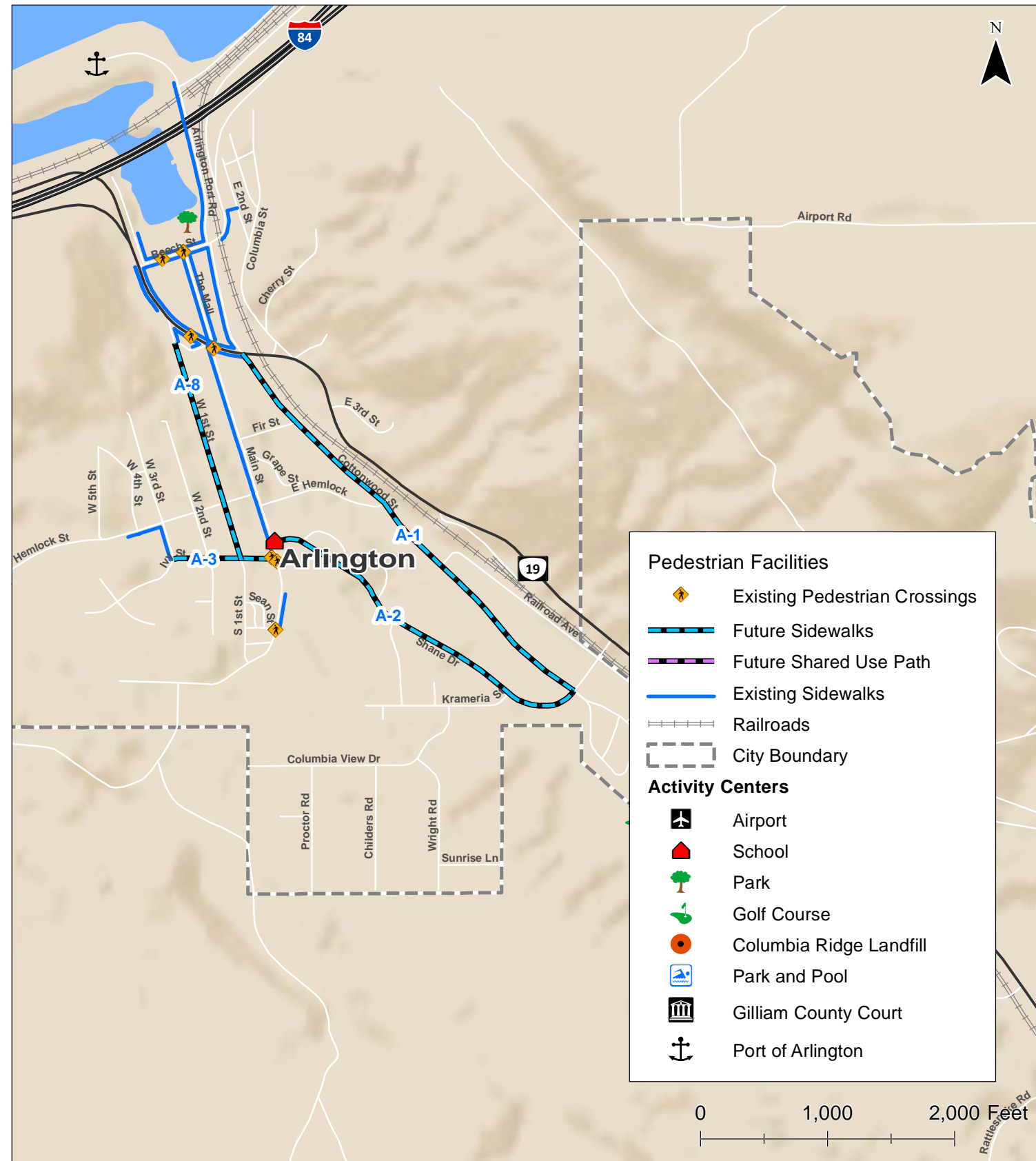
Exhibit 7-7. Example of bicycle rest area



Exhibit 7-8. Example of decorative bicycle parking

**TABLE 7-10 PLANNED PEDESTRIAN AND BICYCLE IMPROVEMENTS IN GILLIAM COUNTY**

ID	Name	Description	Category	Cost Estimate <sup>1</sup>	Potential Funding Source			
					ODOT/ State	County	Cities	Private
<b>Short-Term Projects</b>								
A-3	Ivy Street Sidewalks (Arlington)	Install sidewalks from 3rd Street to Main Street in Arlington, connecting to the Columbia Hills Manor Independent Living Center	Ped/Bike	\$147,000			X	
A-4	Sidewalks on East Side of Main Street (Condon)	Replace sidewalks on the east side of Main Street from E Well Street to OR 206/Walnut Street in Condon.	Ped/Bike	\$50,000			X	
A-5	Sidewalks on E Spring Street	Install sidewalks from S East Street to S Jefferson Street, connecting to ball fields	Ped/Bike	\$25,000			X	
A-9	OR 206 Cyclist Rest Areas	Evaluate feasibility and cost of providing bicyclist rest areas with water stations and bike tools at strategic locations along OR 206 in the County. Implement as pilot project.	Feasibility Study / Pilot Project	\$5,000	X	X		X
A-10	Bicycle Parking	Add bicycle parking in downtown areas of Condon and Arlington	Ped/Bike	\$3,500			X	
A-11	OR 19 Sidewalks	Add sidewalks from Main Street to N East Street in Condon.	Ped/Bike	\$100,000	X		X	
<b>Medium- &amp; Long-Term Projects</b>								
A-1	Cottonwood Street Sidewalks (Arlington)	Install sidewalks from Shane Drive to OR 19	Ped/Bike	\$508,000			X	
A-2	Shane Drive Sidewalks (Arlington)	Install sidewalks from Main Street to Cottonwood Street	Ped/Bike	\$414,000			X	
A-6	Inner Pedestrian Recreational Route West of Condon	Create recreational unpaved walking path east of Condon for residents from W Bayard Street/Potter Street to OR 206	Ped/Bike	\$87,750		X	X	
A-7	Outer Pedestrian Recreational Route West of Condon	Create recreational unpaved walking path east of Condon for residents from W Bayard Street to Cottonwood Street/Main Street	Ped/Bike	\$109,200		X	X	
A-8	W 1st Street Sidewalks	Install sidewalks from Cedar Street to Ivy Street	Ped/Bike	\$277,000			X	
A-12	Pedestrian crossings in Condon	Provide an enhanced pedestrian crossing of OR 19 as it enters town, east of Main Street	Ped/Bike	\$10,000	X		X	
A-13	OR 19 Sidewalks (East)	Add sidewalks from N East Street to the Fairgrounds driveway in Condon.	Ped/Bike	\$200,000	X		X	
A-14	E Bayard Street Sidewalks	Add sidewalks to complete gap on east side of E Bayard Street between E Court Street and Main Street.	Ped/Bike	\$25,000	X		X	
A-15	Sidewalks on east side of Main Street (north)	Complete sidewalk gaps on the east side of Main Street between E Well Street and W 2 <sup>nd</sup> Street in Condon.	Ped/Bike	\$30,000			X	



Pedestrian System Implementation Plan  
Gilliam County, Oregon

Figure  
7-4

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## **PUBLIC TRANSPORTATION PLAN**

Gilliam County Special Transportation (GCST) operates a dial-a-ride transit service for the County. The service provides approximately 10,000 trips each year and can be used by the general public for any use. About 80 percent of the trips serve seniors or people with disabilities. Residents call in advance to schedule their rides any time Monday through Friday from 7:00 am to 6:00 pm. Currently, all rides are provided by volunteer drivers. GCST is funded through grants, donations, and medical mileage reimbursement programs but currently has a need for additional funding to cover driver salaries, vehicle maintenance and capital costs, and training programs.

Gilliam County is an Oregon Special Transportation Fund Agency and is therefore responsible for developing a Human Services – Public Transportation Coordinated Plan (“Coordinated Plan”) that must be updated every five years. This plan identifies transit projects, focusing on addressing the needs for three target populations: older adults, people with disabilities, and people with low incomes. It is intended to help focus regional resources on strategies with the greatest benefit to the target populations and transportation service providers. Gilliam County will be updating its Coordinated Plan with a grant from ODOT in 2015 and 2016.

## **AIR SERVICE**

Two airports serve Gilliam County. The Condon State Airport is located just outside the City of Condon. It is owned and operated by the State of Oregon Department of Aviation (ODA) and is included in the National Plan of Integrated Airport Systems (NPIAS), making it eligible for federal funding. The airport plays a supportive role in the current transportation system, providing geographic coverage and access to the state’s airport system. The airport also serves as a base for agricultural spraying operations. To encourage future airport development, the City of Condon is planning to provide water service to the airport. A study is recommended to determine if upgrades are needed for any of the airport facilities to serve the future growth and activity.



The Arlington Municipal Airport is located adjacent to the Arlington Mesa Industrial Park, in the Enterprise Zone within the City Limits of Arlington. The airport’s runway is a gravel and dirt/turf surface that was reported in poor condition in 2013. The Arlington Municipal Airport has municipal water and sewer available on the adjacent Arlington Mesa Industrial Park along with Fiber Optic Conduit. Based on the opportunities available for industrial uses and the existing industrial uses at the airport, a feasibility study is recommended to determine the cost to pave and maintain the runway at the Arlington Airport.

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## **MARINE SYSTEM PLAN**

Gilliam County is located on the Columbia River, a major water transportation route. The Port of Arlington manages river cargo and marina operations. The Port has a Barge Facility available for river access and a grain silo. Farmers in the region use the Port to export grain, which is an important economic activity for the County. From the Columbia River, the grain can travel to Portland and be exported internationally.

The marina also provides access to the river for recreational purposes and is in the process of adding a fuel dock to its amenities.

## **RAIL SERVICE**

Union Pacific (UP) provides freight rail service through Gilliam County. There is currently no passenger rail service in the County. UP Rail lines follow I-84 and the Columbia River and provide access to Portland and the Hinkle Railyard in Hermiston.

Rail service is also available between Arlington and the Columbia Ridge Landfill and Recycling Center, located approximately 10 miles south of the primary Columbia River line in Arlington, as shown in Exhibit 7-9. The landfill receives solid waste by rail from major metropolitan areas up and down the west coast. All trains on the branch are operated by Watco Companies through their Palouse River and Coulee City Railroad. The Watco line is a Class III or short-line railroad with annual operated revenue of less than 20 million dollars (1991 dollars). Class III railroads are typically local short-line railroads serving a small number of towns and industries or hauling cars for one or more larger railroads. Six unit trains run on this branch per week. The train speed from I-84 to the end of the line at the Columbia Ridge Landfill and Recycling Center is 25 mph. The track is in good condition and is regularly maintained. New rail crossovers should be added in the near-term at Shutler Station to support rail operations.

There are two crossings of the Watco line within the City of Arlington and two along Cedar Springs Road. The City, County, and Waste Management should maintain coordination with UP and Watco to minimize delay and maintain emergency vehicle access.





Exhibit 7-9. Existing Watco Rail Line and Shutter Station

## PIPELINE AND TRANSMISSION SYSTEM PLAN

Pipeline transportation within the Gilliam County area includes numerous substations and transmission lines, which are currently being upgraded. These transmission lines are maintained by Pacific Gas Transmission and provide access to the main power grid at multiple locations.

Future extension of a high-speed broadband service is planned from Idaho along the Columbia River. Gilliam County may be able to provide broadband services to its citizens through this line. A broadband internet connection could allow for implementation of Intelligent Transportation Solutions along I-84 that could have a positive effect on transportation safety and mobility. Other benefits of this added service could spur economic development.

**Section 8**  
Transportation Finance  
Element



## Transportation Finance Element

Funding for transportation projects is increasingly in short supply as existing infrastructure ages and transportation demands increase. This section provides a means for evaluating the likelihood that projects can be funded within the timelines identified in the TSP and defines priorities based on available funding opportunities.

The TPR requires that the Gilliam County TSP address transportation funding, including the following elements:

- A list of planned transportation facilities and major improvements;
- A general estimate of the timing for planned transportation facilities and major improvements;
- Determination of rough cost estimates for the transportation facilities and major investments identified in the TSP; and,
- A discussion of existing and potential financing sources for each transportation facility and major improvement (which can be described in terms of guidelines or local policies).

### ***Current Gilliam County Transportation Funding Revenues***

Gilliam County's annual revenue has been approximately \$1.3 million per year over the past ten years. As shown in Exhibit 8-1, this funding comes from a variety of sources. The largest portions come from the property tax assessments, the Special County Allotment, and the State Highway Fund Apportionment.

Exhibit 8-2 shows that the County has spent the majority of its revenue each year over the past four years, with the expenditures exceeding the revenue in fiscal years 2011 and 2012. As shown in Exhibit 8-3, the majority of the transportation expenditures were used for maintenance activities, leaving little funding left over to complete capital improvement projects. The County Roadmaster indicated that he typically includes at least one improvement project per year in his budget and work schedule, such as paving a new road.

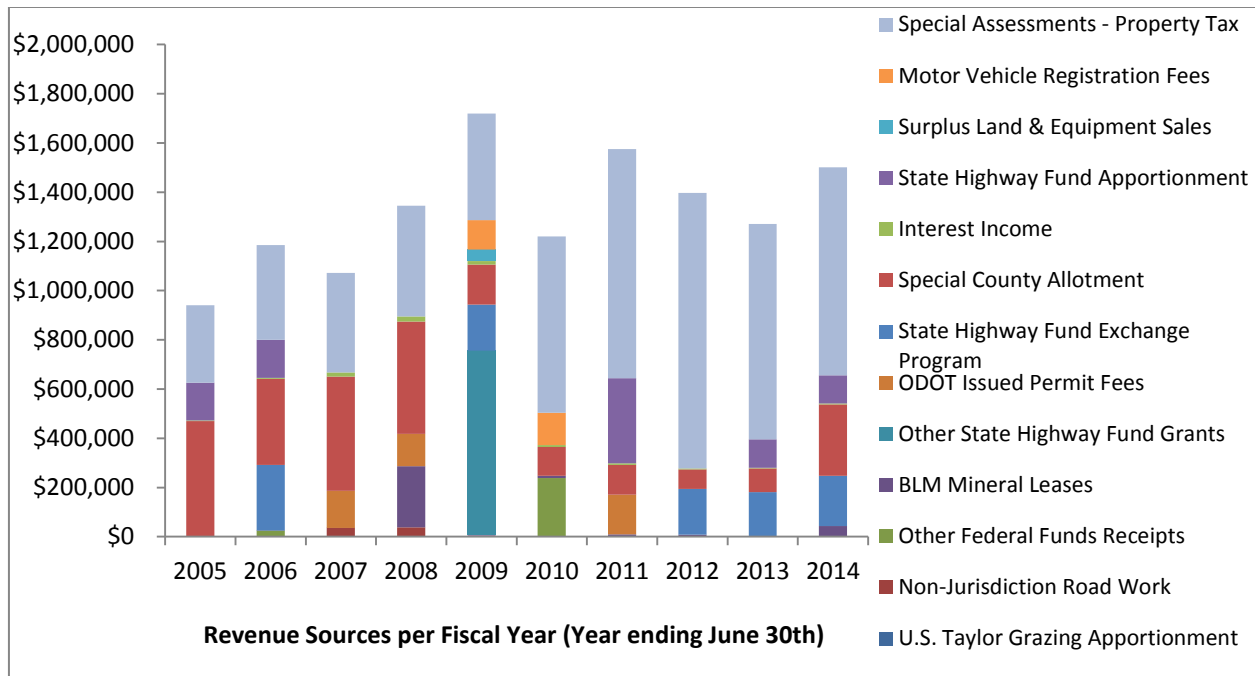


Exhibit 8-1. Gilliam County Transportation Revenue Sources (2005 – 2014)

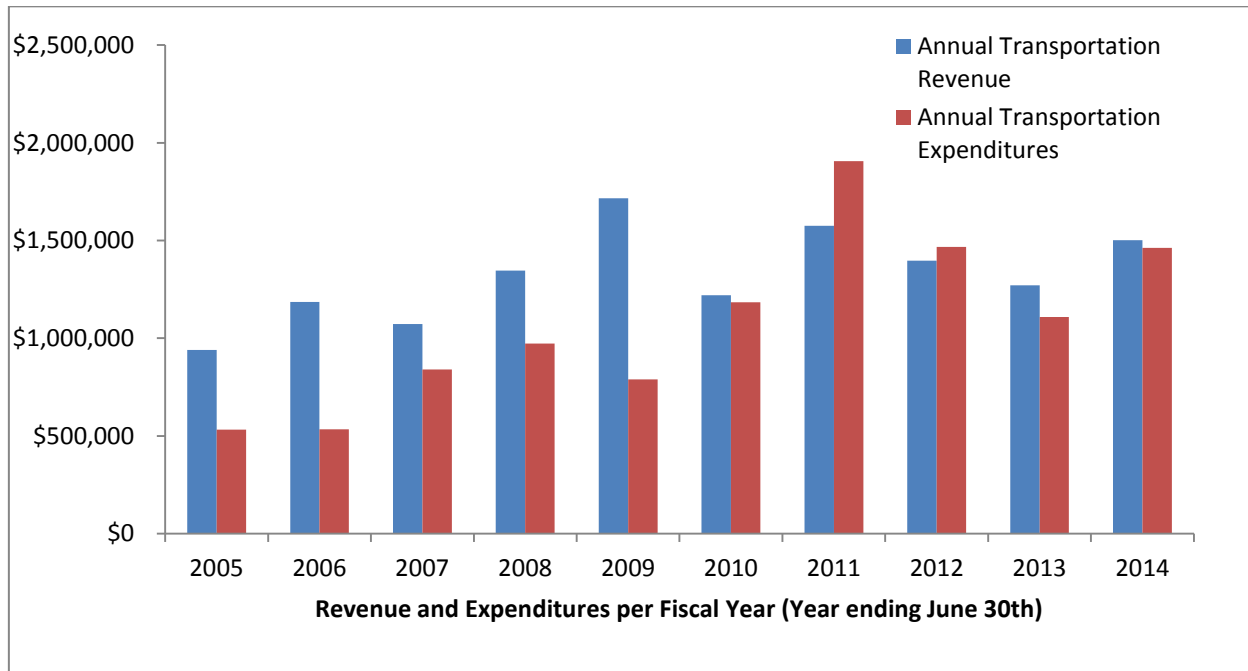


Exhibit 8-2. Gilliam County Transportation Revenue Compared to Transportation Expenditures (2005 – 2014)

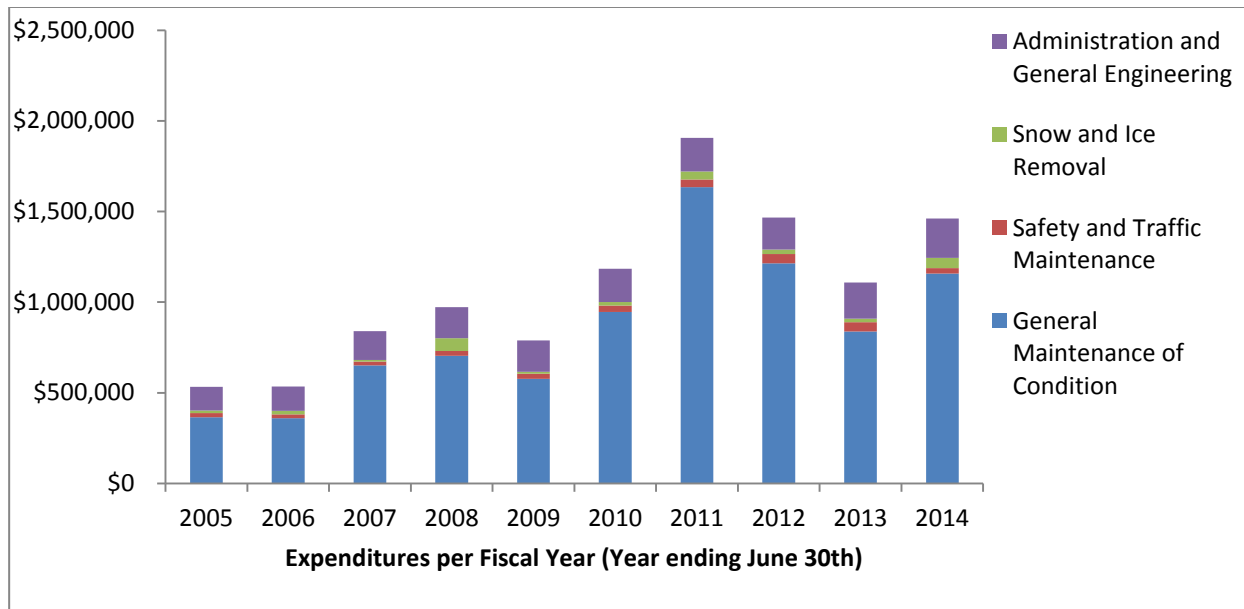


Exhibit 8-3. Gilliam County Transportation Expenditures (2005 – 2014)

### Transportation Funding Options

Gilliam County faces two inter-related financing issues: how to finance operations and maintenance and how to finance capital projects. Presently, all public works funding is devoted to operations and maintenance; there is no funding for capital projects. The total funding needed to accomplish all of the near-term alternatives summarized in this plan approaches \$7,000,000.

Potential strategies for addressing these needs in Gilliam County may generally be grouped into three categories: secure more external funding, identify public/private sponsorship opportunities, and raise local revenue through user fees and taxes. Observations on the use of these strategies are discussed below. They are not all mutually exclusive.

#### Identify Additional Grant Opportunities

ODOT offers multiple grant opportunities to support transportation projects. The County and Cities should identify grants from those summarized in Table 8-1 that are applicable to their projects. Some of these programs require a local match. The County and Cities should begin identifying these programs early in order to allocate funding necessary to satisfy a local match. Using local dollars as a match for a grant opportunity is a strategy to stretch the local funding even farther.

**TABLE 8-1 GRANT OPPORTUNITIES**

Source ID	Source Title	Award Cycle	Intended Use	Applicable Project Types	Administration Agency	Deadline	Local Match	Website
1	Rivers, Trails, and Conservation Assistance Program	Annual	Technical assistance for recreation and conservation projects.	Shared-use paths	National Park Service	August	None	<a href="http://www.nps.gov/ncrc/programs/rtca/contactus/cu_apply.html">http://www.nps.gov/ncrc/programs/rtca/contactus/cu_apply.html</a>
2	Highway Safety Improvement Program	Annual	Address safety issues on highways and High Risk Rural Roads	All	ODOT	Varies	10%	<a href="http://www.oregon.gov/ODOT/HWY/TRAFFIC-ROADWAY/highway_safety_program.shtml">www.oregon.gov/ODOT/HWY/TRAFFIC-ROADWAY/highway_safety_program.shtml</a>
3	Oregon Parks and Recreation Local Government Grants	Annual	Primary use is recreation; transportation allowed. Construction limited to outside road right-of-way, only in public parks or designated recreation areas	Shared-use paths	OPRD	Varies	20%	<a href="http://www.oregon.gov/OPRD/GRANTS/local.shtml">http://www.oregon.gov/OPRD/GRANTS/local.shtml</a>
4	Recreational Trails Program	Annual	Recreational trail-related projects, such as hiking, running, bicycling, off-road motorcycling, and all-terrain vehicle riding.	Shared-use paths	OPRD	Varies	20%	<a href="http://www.oregon.gov/OPRD/GRANTS/trails.shtml">http://www.oregon.gov/OPRD/GRANTS/trails.shtml</a>
5	Land and Water Conservation Fund	Annual	Acquire land for public outdoor recreation or develop basic outdoor recreation facilities	Shared-use paths, bikeways, sidewalks	OPRD	Varies	50%	<a href="http://www.oregon.gov/OPRD/GRANTS/lwcf.shtml">http://www.oregon.gov/OPRD/GRANTS/lwcf.shtml</a>
6	Statewide Transportation Improvement Program	Biennial	Multi-year, statewide, intermodal program of transportation projects	Sidewalk, bikeways, crossing improvements	ODOT	Varies	Varies	<a href="http://www.oregon.gov/ODOT/HWY/STIP/">http://www.oregon.gov/ODOT/HWY/STIP/</a>
7	ATV Grant Program	Annual	Operation and maintenance, law enforcement, emergency medical services, land acquisition, leases, planning, development, and safety education in Oregon's OHV (off-highway vehicle) recreation areas	Shared-use paths	OPRD	February / April	20%	<a href="http://www.oregon.gov/oprd/ATV/pages/grants.aspx">http://www.oregon.gov/oprd/ATV/pages/grants.aspx</a>
8	Immediate Opportunity Funds	Biennial	Support primary economic development through the construction and improvement of street and roads.	All	ODOT	On-going	50%	<a href="http://www.oregon.gov/ODOT/TD/EA/reports/IOF_PolicyGuidelines2015%20doc.pdf">http://www.oregon.gov/ODOT/TD/EA/reports/IOF_PolicyGuidelines2015%20doc.pdf</a>
9	Enhance (STIP)	Biennial	Activities that enhance, expand, or improve the transportation system. Projects that improve or enhance the state's multimodal transportation system.	All	ODOT	August	10%	<a href="http://www.oregon.gov/ODOT/TD/STIP/Pages/WhatsChanged.aspx">http://www.oregon.gov/ODOT/TD/STIP/Pages/WhatsChanged.aspx</a>
10	ConnectOregon	Biennial	Non-highway transportation projects that promote economic development in Oregon.	Non-highway modes	ODOT	November	20%	<a href="http://www.oregon.gov/ODOT/TD/TP/pages/connector.aspx">http://www.oregon.gov/ODOT/TD/TP/pages/connector.aspx</a>
11	All Roads Transportation Safety (ARTS)	Biennial	Address safety needs on all public roads in Oregon; reduce fatal and serious injury crashes.	All hot spot and systemic safety projects	ODOT	Varies	8%	<a href="http://www.oregon.gov/ODOT/HWY/TRAFFIC-ROADWAY/Pages/ARTS.aspx">http://www.oregon.gov/ODOT/HWY/TRAFFIC-ROADWAY/Pages/ARTS.aspx</a>

#### Public/Private Sponsorship Opportunities

Public/Private sponsorships involve a private entity such as a local business owner working with the public agency to fund a project. In return for their investment in the community, these business owners often have recognition for their role, providing a marketing venue for the business. In Gilliam County, one potential opportunity for this type of partnership is the pilot project for bicycle rest areas. Private organizations that sponsor a rest area should have the opportunity to provide an advertisement and map at these locations directing cyclists to their community and business.

#### Local Taxes and User Fees

Many types of user fees and taxes may be collected to finance road construction and operations. On that premise, it is assumed that the County will need to develop local revenue sources to supplement or replace federal resources if it hopes to maintain current levels of service and assuming that changes in state of federal financing, coupled with efficiency measures are not enough to close the funding gap. Table 8-2 lists options that the County and Cities may wish to consider for funding local roads. The sources include a mix of fees and taxes, some of which if implemented would have implications for other aspects of the County and City budgets. Some of these fees could also be used to provide a local match to obtain greater federal or state funding, further stretching local dollars.

#### Development Code Updates

In order to fund sidewalk projects, a change to the development code may be beneficial to local jurisdictions. The development code identifies the requirements that a developer must meet before obtaining permission to build. Local jurisdictions may choose to require developers to complete sidewalks in locations where they are identified in the TSP and enforce the completion through the development code. The jurisdiction may also choose to collect a payment in lieu of sidewalk construction from the developers and then use the money to construct complete sections of sidewalk when enough is collected to create efficiencies.

**TABLE 8-2 LOCAL TAXES AND USER FEE OPTIONS**

Source	Description	Comments
General Fund	Property taxes from the <b>county's permanent tax rate.</b>	Diverting general fund revenue to the Road Fund would have significant consequences for other county services.
Supplemental 5-year Serial Levy	Voter approved property tax levied in addition to the <b>county's permanent tax rate.</b>	A road fund serial levy would have to be approved by voters every five years. A one-time approval would buy time for the county to develop other options. This method could fund operations and capital programs, some of which might reduce future maintenance requirements.
Road Utility Fee	Monthly user fee with revenue dedicated to road operations. May be enacted legislatively but could be challenged and brought to a vote.	This type of fee is becoming more common in cities but would require substantial investment in rate studies, administrative staffing, software and computer systems to enable the county to collect the revenue. This source is generally better suited to funding operations than for capital improvements, but it may free up existing resources for capital projects.
Vehicle Registration Fee	An extra fee on all registered motor vehicles in the county. May be authorized legislatively but could be challenged and brought to a vote.	State must be willing to act as a collection agent for the county, otherwise would be easy to implement. This source could fund operations or capital programs.
Motor Vehicle Title Fee	Require that all motor vehicles registered in the county also have their title recorded as personal property with the County.	This would generate two sources of revenue: from the fee itself and from personal property taxes levied on motor vehicles. This could be problematic for renters and would increase taxable property that the Assessor must account for.
County Gas Tax	May be enacted legislatively but could be challenged and brought to a vote.	A local-option fuel tax would be easy to collect because the infrastructure is already in place. Would generate revenue for the county from motorists passing through the county. This method could fund operations and capital programs.

**Section 9**  
Implementation  
Ordinances

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# Implementation Ordinances



**Appendix A**  
Public Involvement  
Process for TSP  
Development

## Appendix A - Public Involvement Process

The Gilliam County Transportation System Plan benefited from an effective public process, facilitating the identification of transportation system deficiencies as well as potential solutions. The following table summarizes the public involvement meetings and open houses, and the dates on which they occurred.

**TABLE A-1 PUBLIC INVOLVEMENT MEETINGS AND OPEN HOUSE SUMMARY**

Event	Location	Date
PAC Meeting #1	Condon, OR	December 3, 2014
Public Presentation #1	Condon, OR	December 3, 2014
PAC Meeting #2	Arlington, OR	March 18, 2015
Public Presentation #2	Arlington, OR	March 18, 2015
PAC Meeting #3	Condon, OR	May 7, 2015
PAC Meeting #4	Concurrent Meetings in Arlington, OR and Condon, OR	July 8, 2015

As shown in Table A-1, a total of four meetings were held with the PAC members over an 8-month period beginning in December 2014. Two open houses were held, one in Arlington, one in Condon. The open house locations were chosen in order to provide more convenient locations for residents that live in or around the two largest cities in the County.

Each meeting and open house agenda is attached for reference.

**Appendix B**  
Transportation  
Improvement Project  
Prospectus Sheets